

65° REF
[16.5mm]

DESIGNER'S GUIDE



2.87" REF. [72.9mm]

BRAD HARRISON[®]
From Woodhead Connectivity

65° REF
[16.5mm]
30° REF
[33.0mm]
mPm[™]

**A dynamic new entity has emerged...
Woodhead Connectivity.**

The leading industrial communications and connectivity brands, Brad Harrison, mPm, and SST, are now united with a single vision – to be the preferred global resource for industrial automation, communications and connectivity.

Delivering innovative solutions for complete connectivity, Woodhead Connectivity combines the products, expertise, and service to address the unique and evolving demands of industry. Our worldwide distribution and support infrastructure is committed to your success, with product-centric solutions that fulfill myriad industrial requirements and custom-designed applications to satisfy the more uncommon situations that arise.

The products behind the Woodhead Connectivity name are widely recognized for innovation and reliability. For nearly 30 years Brad Harrison has been the leading connector brand worldwide, offering the first and broadest selection of quick disconnect solutions. And mPm, in addition to being the world leader for output connectivity solutions for solenoids and valves, offers easy to use, cost-effective molded DIN connectors. Together, mPm molded DIN connectors and molded Brad Harrison connectors can plug into Multi-port interconnection systems for a complete, economical, plug-and-play input and output interwiring solution.

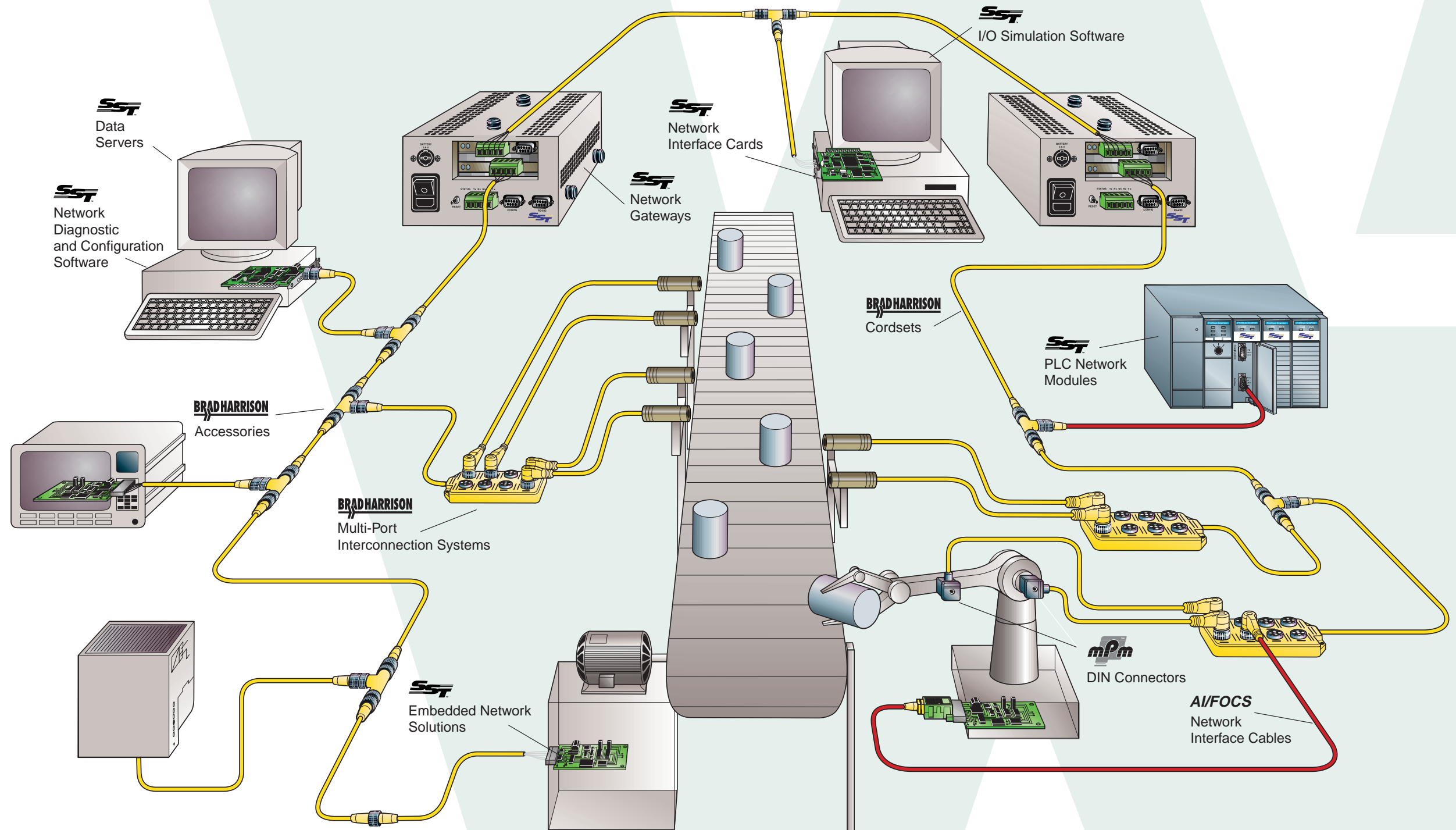
SST provides solutions for network connectivity to the ever-expanding number of industrial communication protocols. SST brings the expertise and superior reputation of the world's leading independent supplier of industrial communications technology to Woodhead Connectivity.

As demand increases for Brad Harrison and mPm products, we are striving to make it easier to do business with Woodhead Connectivity. Within the Designer's Guide we have introduced a simplified part numbering system to more clearly designate the type of specialty cordset or DIN molded product you specify. Our local area distributors, the cornerstone to effectively delivering Woodhead Connectivity products worldwide, are working hard to ensure the products you need are conveniently available. And, at the core of our operation is a well-stocked and flexible manufacturing operation striving to meet your delivery requirements for catalogued products.

By uniting for your success, Woodhead Connectivity is focused on being the preferred global resource for industrial automation, communications and connectivity.

Woodhead Connectivity

A Dynamic Force in Industrial Automation and Controls





You design it, we'll connect it

With over 30 years in the industrial connector business, the Brad Harrison® and mPm® brands have probably provided a solution for your “unique” application requirements. While these specialty applications have, in many cases, become standard catalog items, they are too numerous to include in a single publication. Whether you need a specialty cable requiring EMI/RFI shielding at GHz frequencies or a brand-labeling solution, Woodhead Connectivity, encompassing Brad Harrison® and mPm® brand names has the experience to solve your connector application needs.

Experienced designers using advanced design tools are at your disposal

Our specials engineers, dedicated to getting you the answers you need, are at your service. Quick turnaround capabilities such as three-dimensional modeling and rapid prototype tooling make for a quick answer to machine or design concept prototyping needs. In addition to AutoCAD® design tools and PRO-E modeling software, our specials engineering group can then take these concepts and rapidly turn them into SLA, SLS, LDM or FDM models. Advanced communication systems, such as videoconferencing and E-mail, make communications direct and fast. We challenge you to tap into this design resource!



Overmolding of existing sensors and output devices

Brad Harrison® offers several capabilities of which OEM manufacturers of input or output devices can take advantage. Brad-Harrison can tailor an overmolding program to suit your needs on proximity, UV, pressure, flow and other types of sensors. Send us your pre-leaded sensor and your quick-disconnect pin out requirements, and we'll send you a cost estimate followed by an approval print as well as molded samples. This capability allows you to take advantage of the business opportunities presented in the food, beverage and automotive markets – markets where the Brad-Harrison name is well known and the concept of quick disconnects is well accepted.

Custom Capabilities

Brad Harrison and mPm custom product engineering capabilities extend further by providing a full team of design and manufacturing engineers to assist you in “connectorizing” your unique input and output devices. Specialty cable requirements from halogen-free to outdoor-rated can extend the types of equipment which can have a “quick-disconnect” feature. Specialty connector requirements such as pin configurations to prevent mis-mating or combining several connection points together into an environmentally secure overmolded system are possible. Specialty Multi-port configurations, such as series-wired safety devices and light curtains can eliminate the hassle, cost and potential miss-wiring associated with junction boxes.

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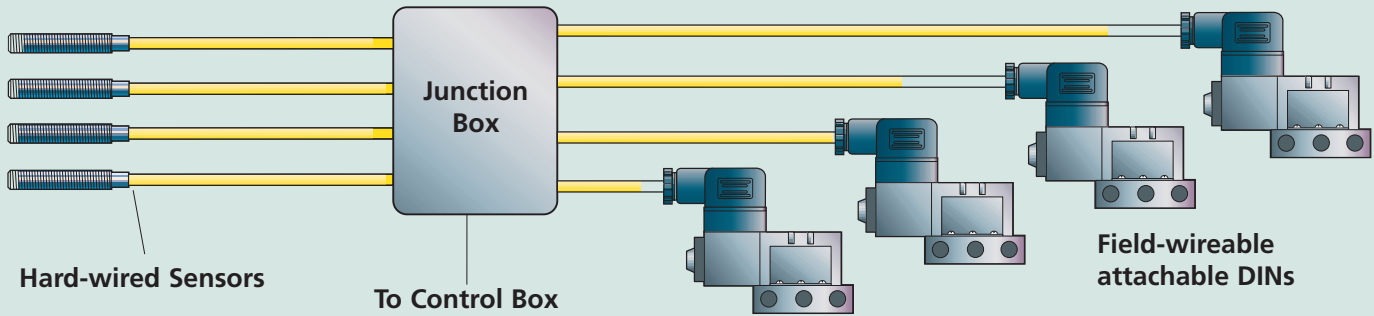
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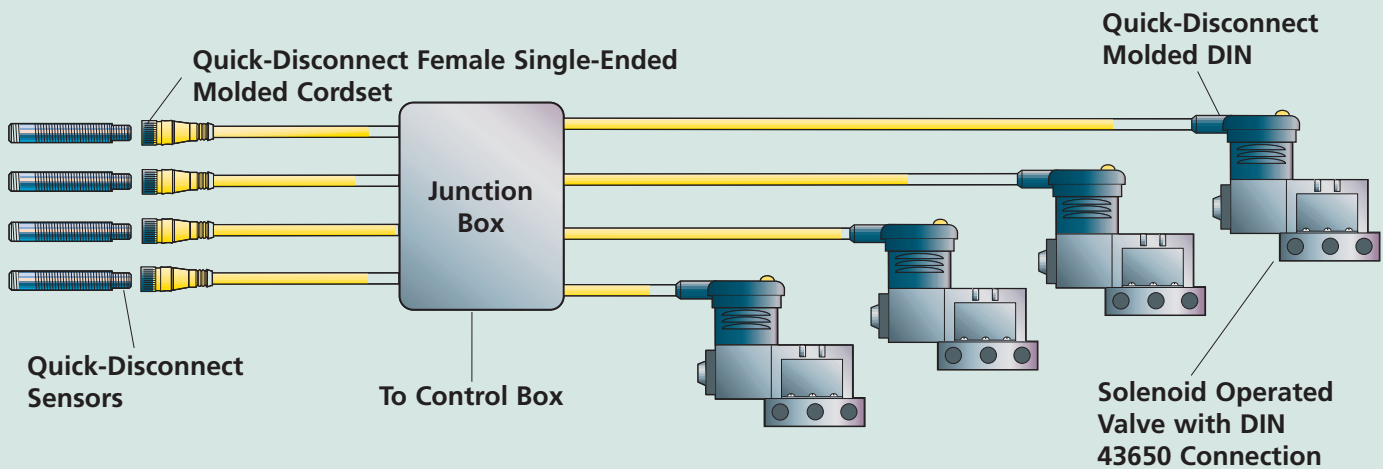
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SOFT WIRING – A REVOLUTION IN INDUSTRIAL CONTROL WIRING



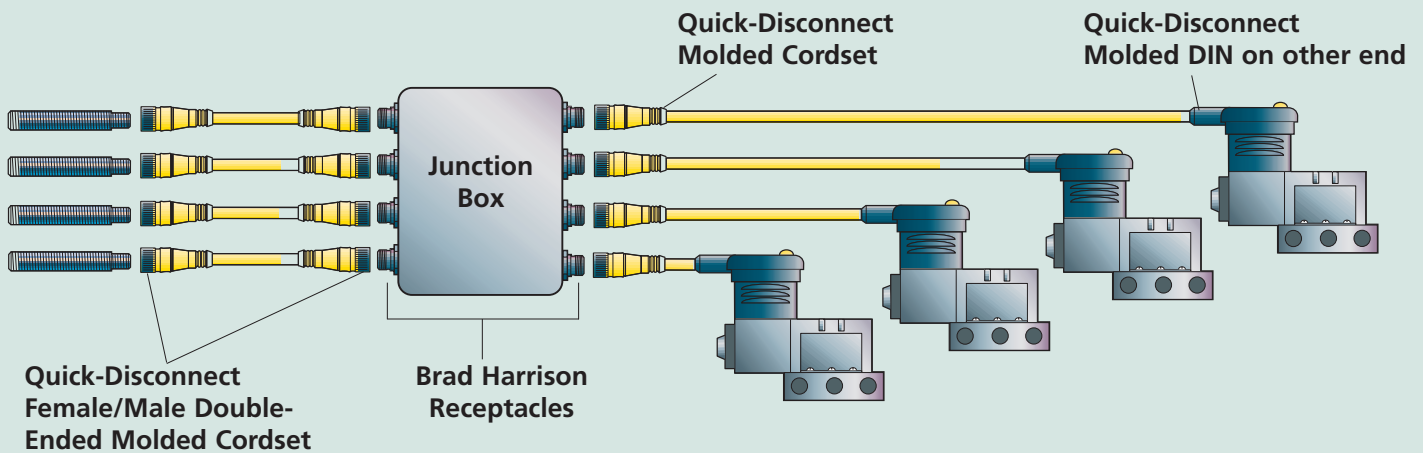
HARD-WIRING

- Time-consuming installation
- Longest down-time to rewire failed inputs or outputs



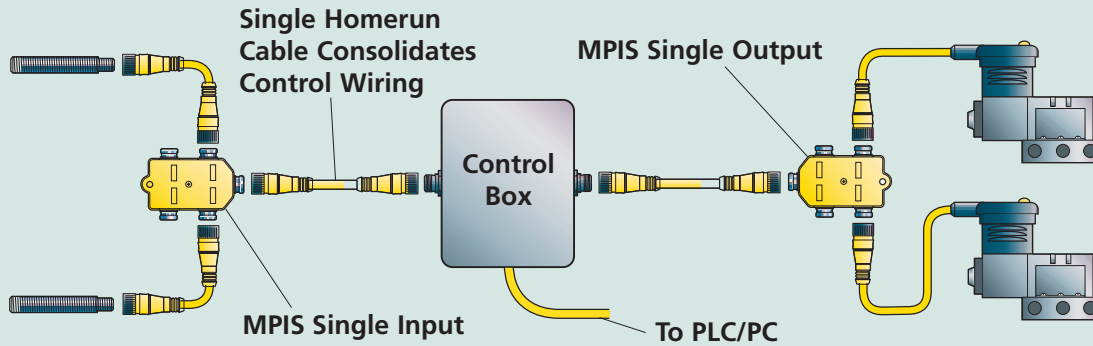
QUICK-DISCONNECTS ON INPUTS AND OUTPUTS

- Time savings on installation
- Quick-disconnect for faster time to replace failed inputs or outputs
- Cable failures/breaks are time consuming to replace



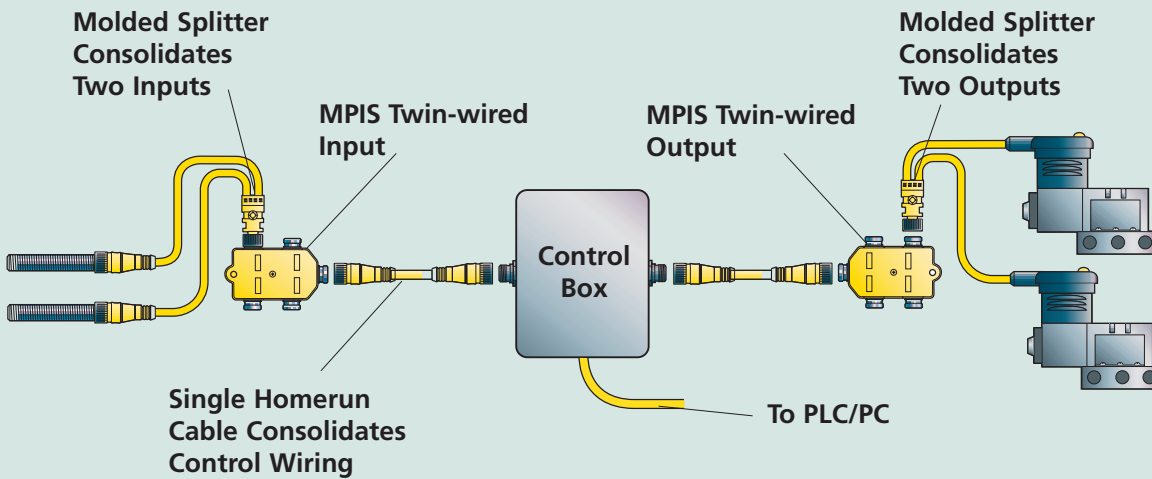
QUICK-DISCONNECTS: BOTH ENDS

- Saves further time during installation
- Quick-disconnects for either input/output or cable failure
- Saves time replacing either inputs or outputs



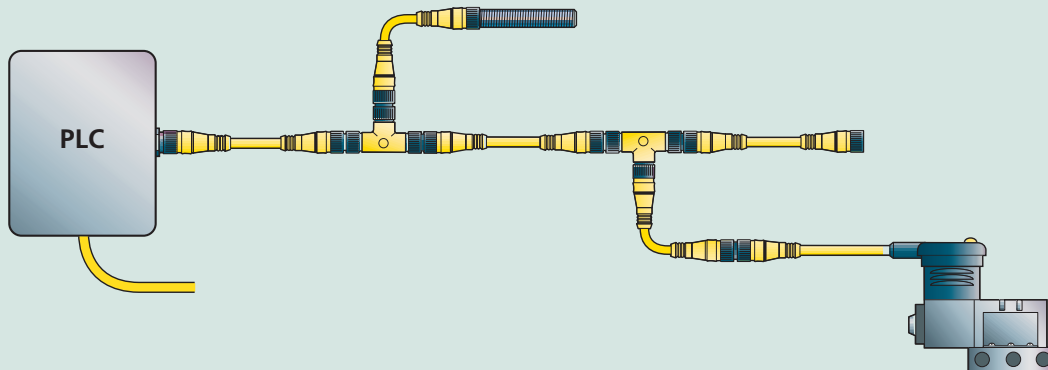
QUICK-DISCONNECT MULTI-PORTS WIRE CONSOLIDATION

- ° Saves time on installation – especially wiring errors associated with increased I/O complexity
- ° Single “homerun” cable rating simplifies installation



DUAL INPUTS/OUTPUTS FURTHER WIRE CONSOLIDATING

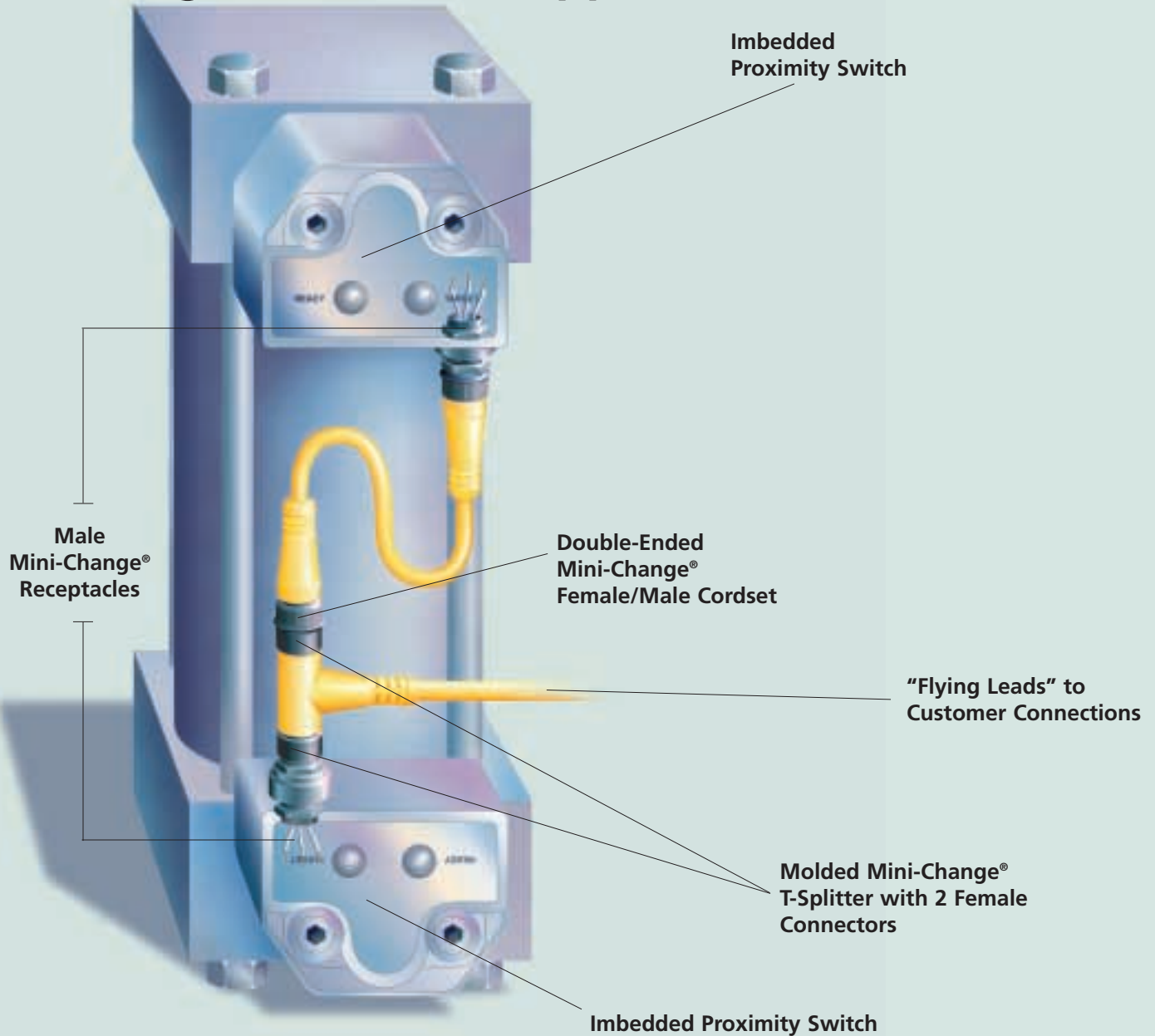
- ° Saves further space, installed cost/material, and labor as number of inputs/outputs per port is doubled
- ° Saves additional MPIS costs



SENSOR BUS NETWORKS

- ° Single bus cable system further reduces system components
- ° Status monitoring and signaling of each point available for simpler, more meaningful diagnostic indication

Mini-Change® Connector Applications

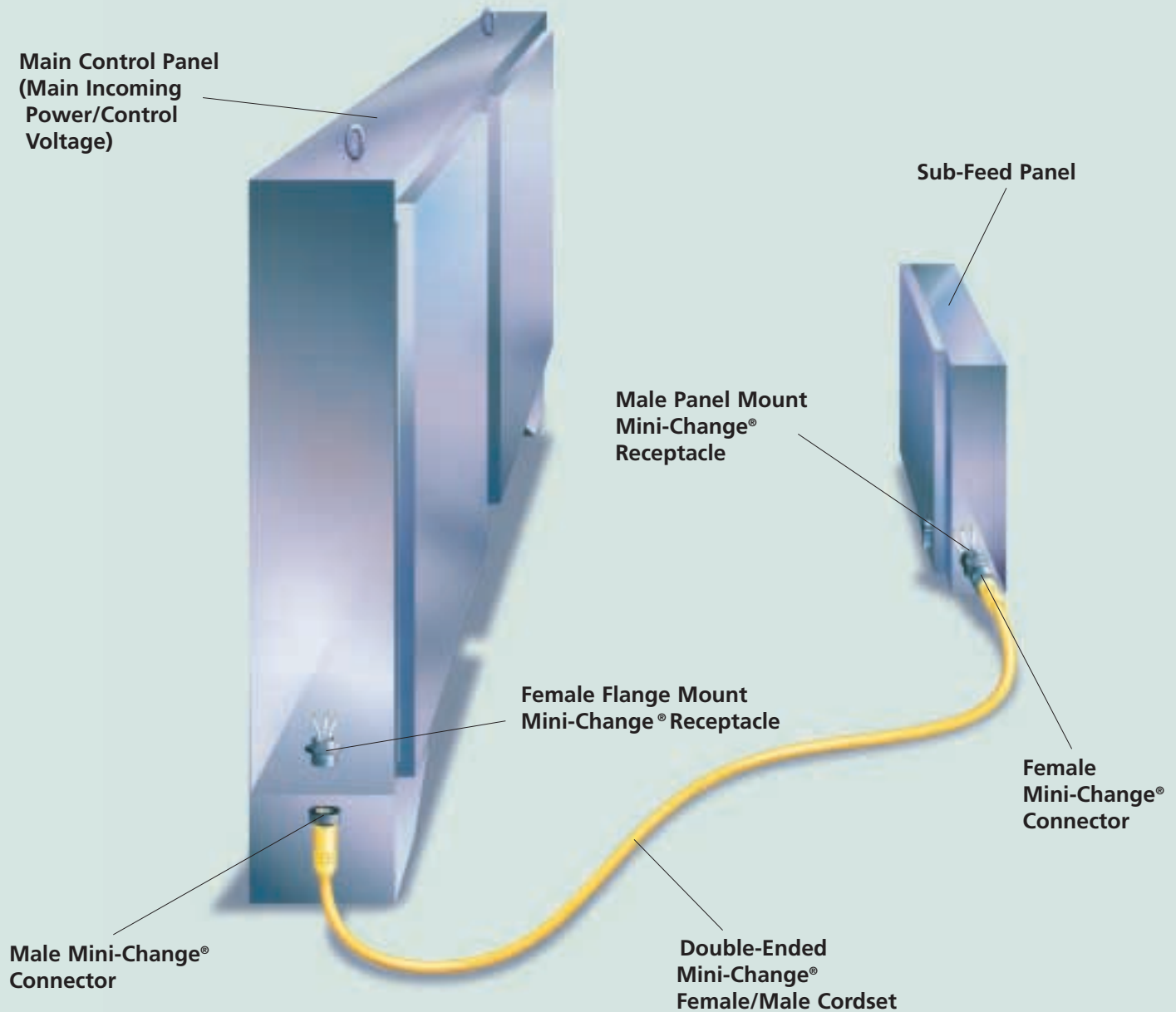


Wiring Consolidation and Fast Change Outs in Cylinder Proximity Switches

Clamp cylinder proximity switches are generally located in tough environments where corrosive hot chips and cutting fluids exist on CNC milling centers. Mini-Change connectors are designed for such environments. A Mini-Change “T” device connects two clamp cylinder proximity switches to a single user input thereby consolidating machine wiring. This allows the machine to be quickly built while at the same time allowing maintenance and troubleshooting to be quickly accomplished – a must for any piece of capital equipment. If any of the cabling is accidentally severed, any of the quick change components can be simply unmated and replaced, optimizing machine uptime.

Quickly installed and continuously reliable, Mini-Change connectors are well suited for such harsh industrial applications. Cable options available in the Mini-Change connector family include a TPE “universal” cable, which is highly resistant to today’s toughest cutting fluids as well as weld slag. There are several features of the Mini-Change which makes its reliability unquestioned. For instance the nickel-palladium gold contacts provide the ultimate in low contact resistance even after hundreds of mating/unmating cycles. The Brad-Harrison® patented Quad Beam™ contact is a spring-loaded contact which assures mating forces are kept optimal and contact resistance is kept low. This is especially crucial as input signal integrity is critical on today’s serial-linked bus network systems. Fast interconnections are assured as the hardened connector face keyway makes contact alignment simple and fast. In addition an alignment arrow, which is molded right into the head of the connector, helps you align the keyway even in “blind locations”.

Mini-Change® Applications



Mini-Change® Connector Solutions for Power and Control Sub-Feed to Sub Panels

Mini-Change connectors are used extensively in a variety of automation environments, including automotive assembly lines. The on-going maintenance of the line becomes more simple through the use of quick-disconnects. Mini-Change connectors allow the system designer faster automation line commissioning and debugging. Machine debugging and maintenance are simple with pre-wired overmolded connectors, as sub-panel fed machines can be easily disconnected prior to servicing. Machinery can be more easily commissioned as the designer can quickly debug machine operation during the critical acceptance phase of the project. Errors are eliminated as the pre-wired, tested connections are assured. After breakdown and shipment to the production line, the various panels and subpanels can be re-connected at the user's site with the assurance of a fast start-up.

The reliable and fast interconnection of the Mini-Change product family makes them well-suited for harsh environments found on material handling lines in automotive assembly areas. The ruggedness of the system elements, such as the cable jacketing and overmolding materials, allows the user to be continually assured of the proper interconnection of panels to sub-panels even in the presence of corrosive machinery coolants and weld slag. Mini-Change connectors feature a variety of design features which benefit the user in terms of uncompromising reliability. The nickel-palladium gold contacts provide the ultimate in low contact resistance even after several hundred mating/unmating cycles. E-coated coupling nuts prevent connector corrosion while resisting the build-up of weld slag. The uncompromising quality and fast mating and unmating of the industry-standard Mini-Change makes it the harsh-duty connector of choice for both control and power connections in these types of environments.

Micro-Change®/DIN 43650 Connector Applications

Junction Box
(Mounted on Plant Wall)

Molded DIN 43650 with
LED Indication and VDR
Surge Protection

Solenoid-operated
Butterfly Valve

Female
Micro-Change®
(m12) Receptacle

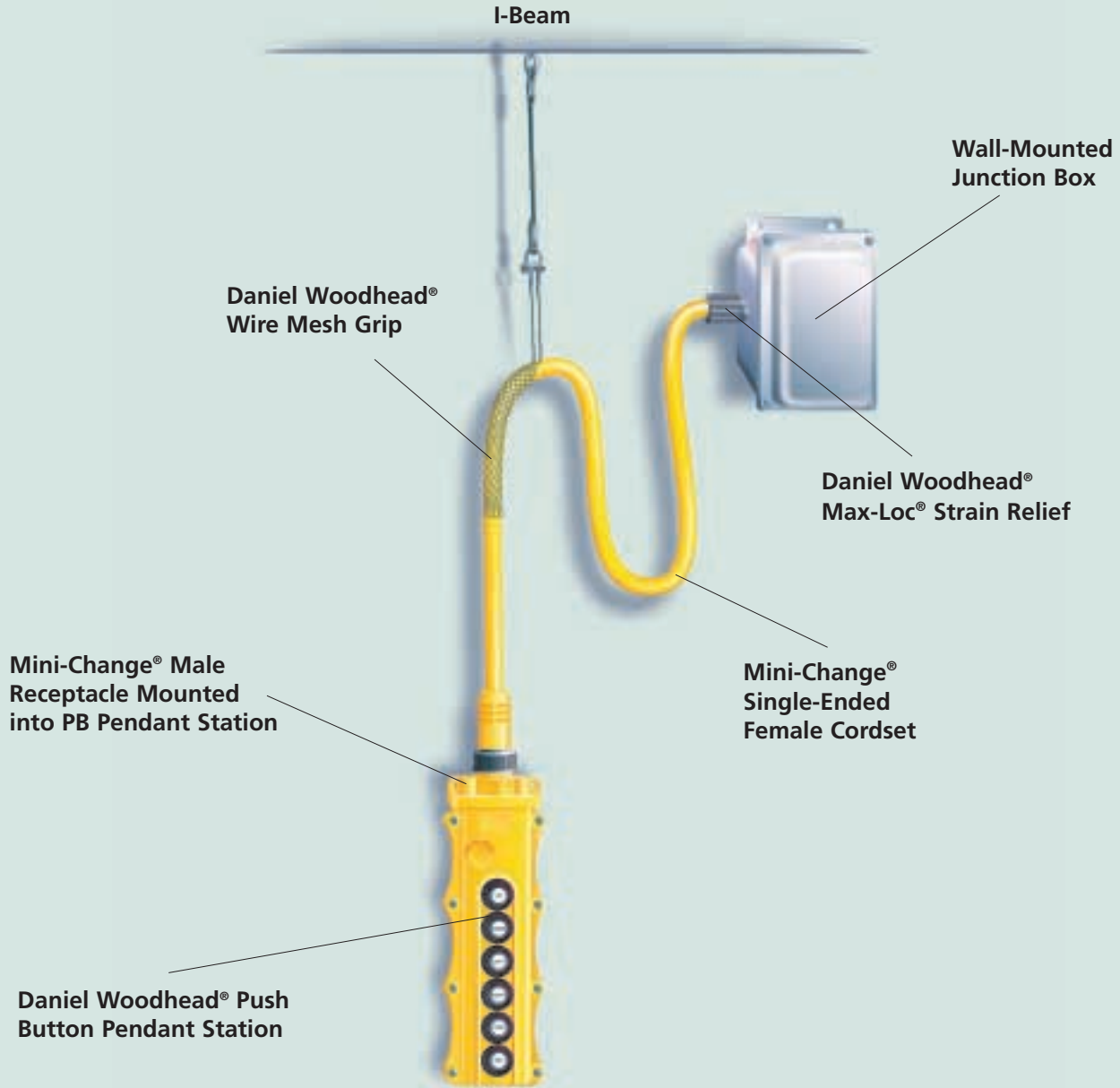
Male
Micro-Change®
(m12) Connector

Molded DIN 43650 Saves Installation Time, Prevents Miss-wiring of Automatically Operated Valves

In many solenoid operated valves, the use of a quick-disconnect on both the valve as well as on the upstream connection points saves installation time. Fully molded pre-wired DIN 43650 valves save installation time. Field-attachable DIN connectors, where the user needs to wire the cable connection points can be time consuming. When there are a multitude of these connectors which need to be terminated, this can be a time-consuming part of wiring several outputs. Not only do they come out of the bag as "plug-and-play" connections, but they are wired then tested for correct connections, thereby eliminating field-wiring errors. By specifying an industry-standard molded m12 control connector molded onto the opposite end of the DIN, similar labor and time savings result at both connection points. Molded cordsets also provide the environmental protection needed for many industrial applications.

The mPm® DIN connectors are produced, tested and shipped to the same high quality standards as the Brad Harrison® circular line of quick-disconnect products. There are several mPm DIN 43650 features that provide the end user with the highest degree of interconnection quality. The VDR protection circuit provides for a fast response to surges thereby protecting the valve solenoid and insuring a long-lived product. Replaceable gaskets provide the environmental protection of the connector from outside grease and contaminants, even after the valve has been replaced. With its proven design, the mPm DIN 43650 style of connector has proven to be a reliable source of DIN style connectors for over 30 years.

Mini-Change® Connector Applications

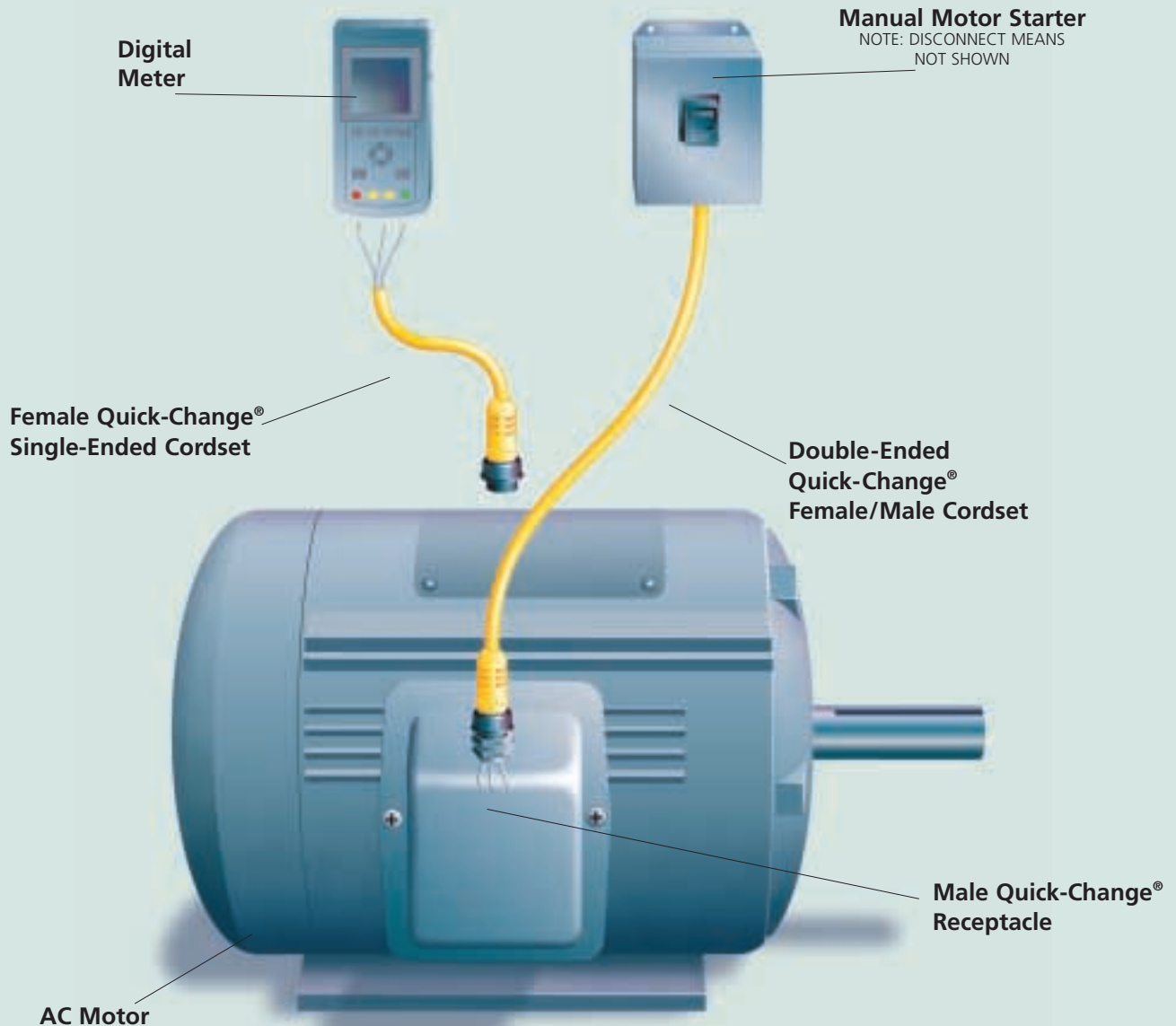


Mini-Change Power Connectors Allow Pendant Stations to be Quickly and Easily Stored Out of Operator's Way for Safety

A variety of Woodhead L. P. products, including Mini-Change style quick-disconnects, along with wire mesh grips and Max-Loc® strain relief grips, can be used to make the installation of high usage hanging electrical equipment working in heavy-duty industrial environments. By using a mated pair of Mini-Change connectors for the control connections on a hanging pushbutton pendant station, it can be easily connected and re-connected and be moved out of way of operators. These heavy-duty connectors are well-suited for rugged environments, such as hot and extremely dirty steel mills. The additional usage of a Daniel Woodhead® wire mesh grip prevents the cable from being unduly strained. Furthermore, the Max-Loc® strain relief grip makes sure that Watertite® connection integrity is made to the junction box while providing a further measure of strain relief.

Fast and continuously reliable, the Mini-Change connectors are well suited for harsh industrial applications, such as steel processing environments. Fast interconnections are assured, as the hardened connector face keyway makes contact alignment simple and fast. In addition, an alignment arrow, which is molded right into the head of the connector, helps you align the keyway even in "blind" locations. There are several features of these connectors which makes their reliability unquestioned. Proven cable and overmold materials, such as PVC, resist moisture. The overmold on the Mini-Change connector allows for cable strain relief even in inverted usage applications. Mini-Change connectors have a variety of design features which benefit the user in terms of uncompromising reliability. The nickel-palladium gold contacts provide the ultimate in low contact resistance, even after hundreds of mating/unmating cycles.

Quick-Change® Connector Applications

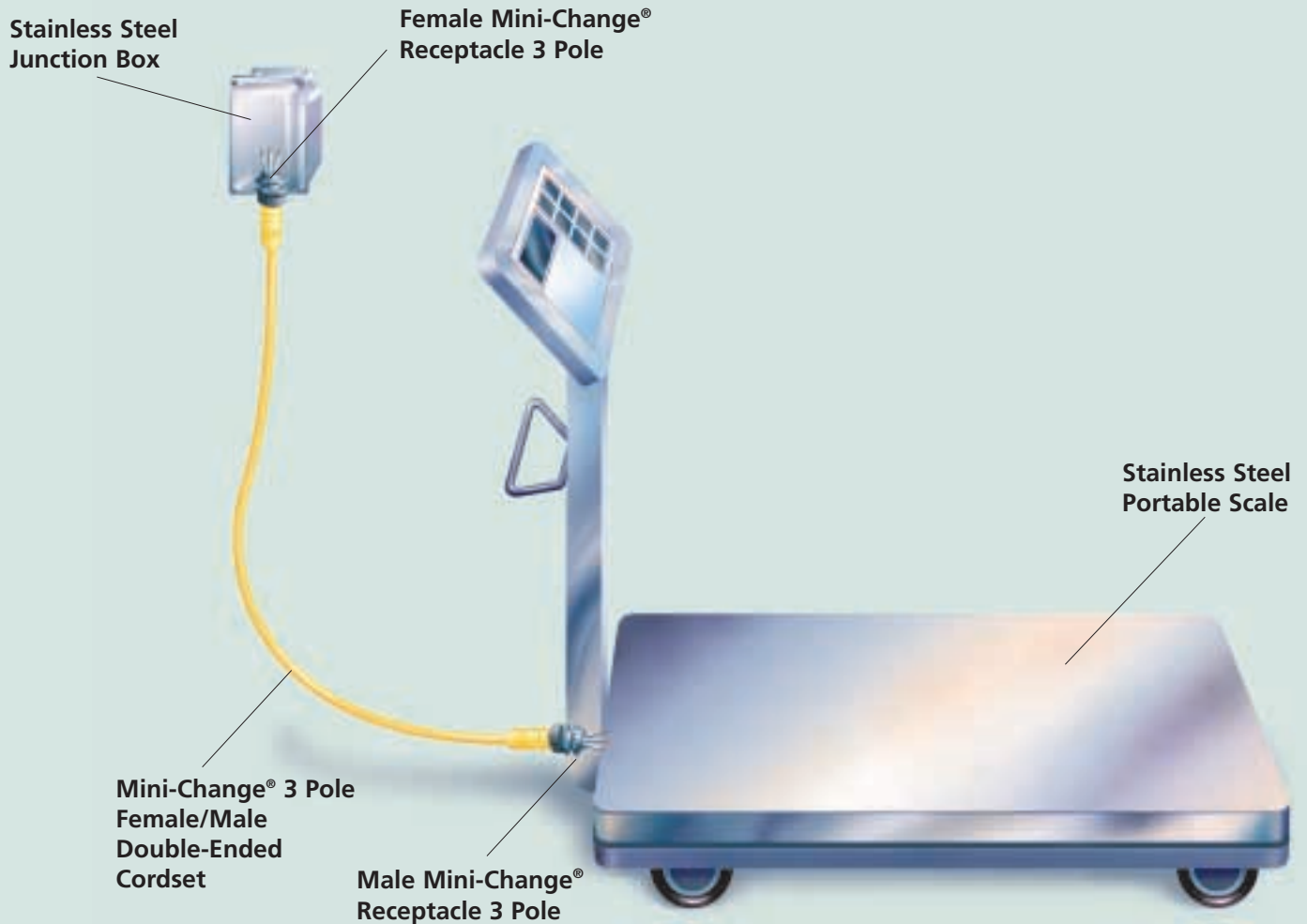


Quick-Change Connectors for Motor Quick-Disconnects Makes Wiring Faster and More Reliable

In order to quickly and easily disconnect motors which need constant monitoring and servicing, the Quick-Change family of quick-disconnect solutions is the answer. Quick-Change was designed with heavy-duty applications in mind, as it can withstand exposure to harsh base/acidic chemical solutions as well as high temperature, high pressure washdowns used in sanitation techniques found in food processing applications. By mounting a male receptacle into the incoming junction box of the motor, it can be quickly and easily disconnected when service is required on the motor, or in cases where it needs to be moved frequently between locations. As the connector is pre-wired, no problems due to miss-wiring can occur. Its washdown IP68 rating and rubber-jacketed SOOW cable allow the connection to be made indoors, such as in food processing facilities, or outdoors, such as on a rooftop fan unit. Once the receptacle is installed, motors can be simply checked for operating characteristics in seconds, as a single-ended cordset can now be plugged into a digital meter without having to go into the motor junction box.

The Quick-Change family of power quick-disconnects is well suited for food processing environments. Non-metallic coupling nuts do not become corroded over many washings. Both the connector faces' rubber overmolding as well as its rubber-jacketed cable resist moisture allowing the product to be continuously used in these harsh-duty and outdoor environments. The "cork and bottle" seal (you can actually hear a "pop" during unmating) around the pins gives the knowledge of a secure connection at the electrical interface by preventing water ingress. Built to last, the overmold provides point of cable strain relief during the mating/unmating cycles.

Mini-Change® Connector Applications

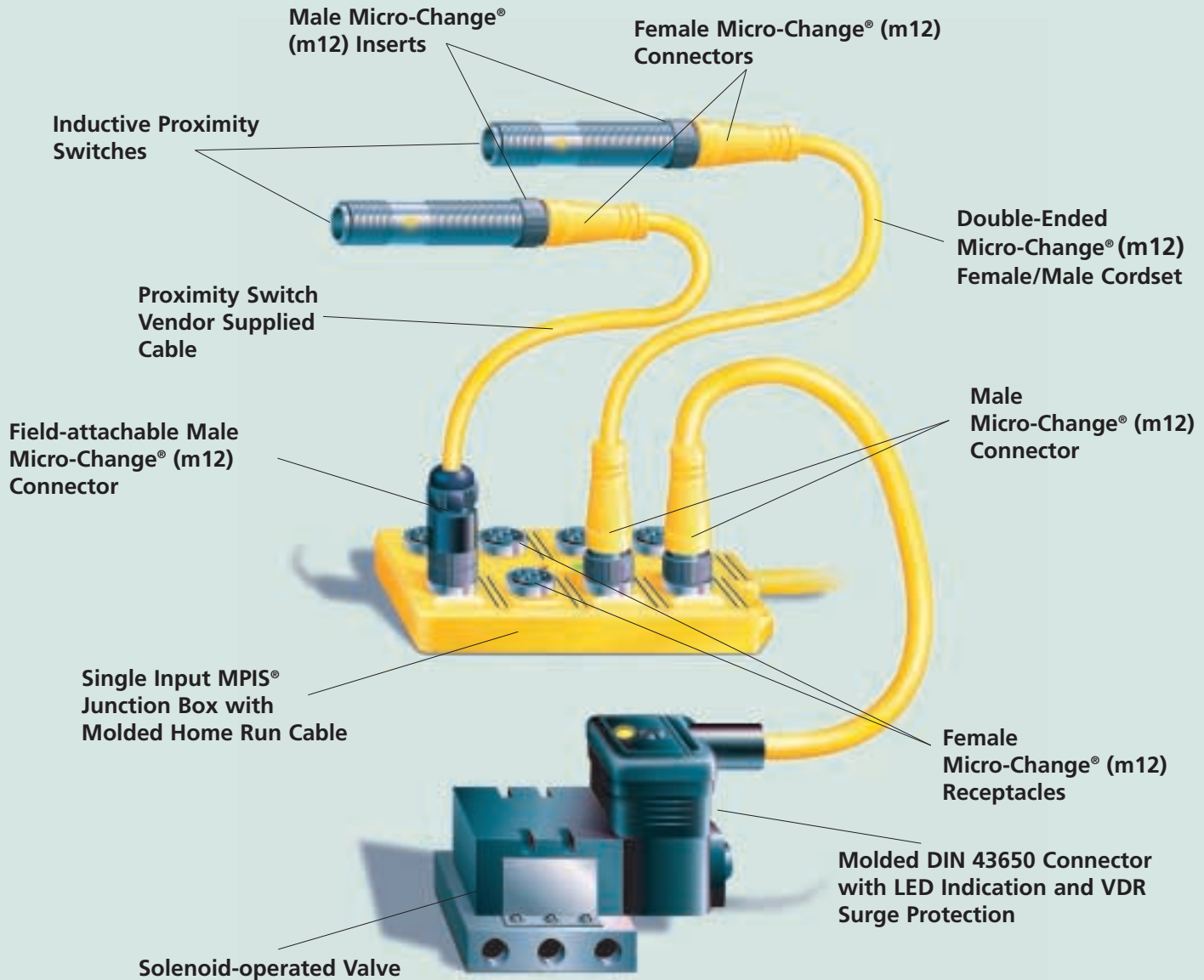


Mini-Change Connectors Allow Flexibility in the Location of Portable Scales in Food Processing Plants

The Mini-Change connector is used in a variety of food processing industries such as poultry, dairy and meat processing. Mini-Change connectors allow the user flexibility of machine location while giving the machinery builder a quick disconnect advantage in machinery design. A food processing facility may have several areas where raw materials, processed foods or byproducts of the processing line require weighing. By installing several watertight, stainless steel NEMA 4x junction boxes in these areas, the user has created several points where the portable scale may be plugged in with a Mini-Change cordset. The portable scale may now be wheeled around to plant areas where the weighing needs to be done by simply plugging into these junction boxes. Not only does this connector offer this flexibility, but the user does not have to be concerned with damaging the connector or destroying the electrical integrity as caustic washdown materials, high pressure water and dirt will not damage the interconnection. While these advantages are there for the user, the machine builder, with an integrated connector, can offer a more flexible usage scale for a variety of targeted markets. The Mini-Change connector form factor is well accepted in a variety of industries, such as the automotive, machine tool, material handling and food processing.

The fast interconnection and reliability of the Mini-Change product family makes it perfect for harsh duty environments such as the food processing industry. The fast mating and unmating of the industry-standard Mini-Change make it the harsh-duty connector of choice, quickly connecting common area machines as well as quickly swapping out failed input or output devices. Mini-Change connectors feature a variety of design features which benefit the user in terms of uncompromising reliability. The nickel-palladium gold contacts provide the ultimate in low contact resistance even after several hundred mating/unmating cycles. The anti-vibration feature on the coupling nut prevents connections from coming loose-even in very high vibration environments. Mini-Change connectors have been designed and proven to withstand the rigors of MIL testing standards including vibration, salt spray and pressure testing.

Micro-Change®/DIN 43650 Connector Applications

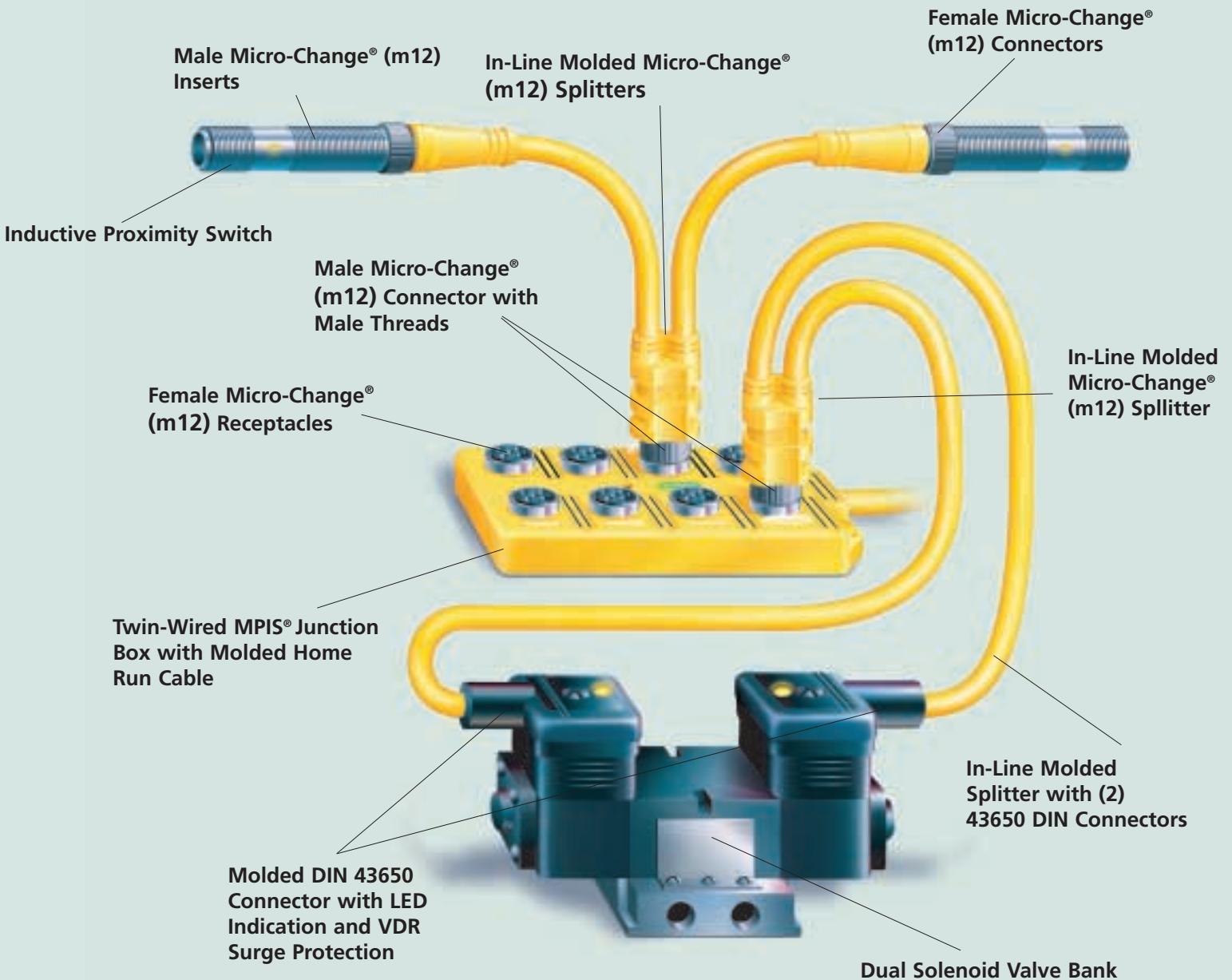


Molded Junction Box (MPIS®) Consolidates Wiring, Results in Fast Error-free Wiring

Many times machinery or packaging equipment with high-density I/O points are consolidated in a given location. These consolidated I/O points are often "hard wired" to a junction box. A more efficient and flexible solution to this consolidation of inputs and outputs is a molded junction box or Multi-port (MPIS). The MPIS gives the machinery designer cost savings as the wiring and mounting costs associated with point-to-point hard wiring as well as the costs associated with miss-wiring or re-wiring during machinery and debugging are eliminated. In the presence of cutting fluids there is an added benefit of electrical integrity and mechanical rigidity as it is a fully encapsulated junction box. Changes to the machine control in the form of upgrades are an easy migration path as the new inputs or outputs are simply "plug and play" elements into the MPIS. By using a connectorized MPIS, the main homerun control cable can be quickly disconnected and the junction box can be plugged into or out of operation. Industry standard m12, m8 or Mini style connections into the MPIS makes a variety of differing circuit configurations available to the designer for maximum flexibility.

The newly redesigned Brad Harrison® top mount Micro-Change MPIS has been upgraded to give you even more protection in harsh-duty environments while assuring unparalleled reliability. A new housing material allows even the most corrosive cutting oils to be sprayed onto the MPIS without any resulting losses in sealing integrity. O-rings and potting materials have been similarly upgraded to be more resilient to these new types of cutting fluids thereby insuring a long-lived junction box. With these product enhancements you continue to get the high quality you have come to expect from Brad Harrison – at no additional cost. High quality LEDs, with 100,000 hours of operational life, gold over palladium-nickel contacts for a high integrity, low resistance contact continue to be part of its design insuring that your machinery will be running for years to come.

Micro-Change®/DIN 43650 Connector Applications

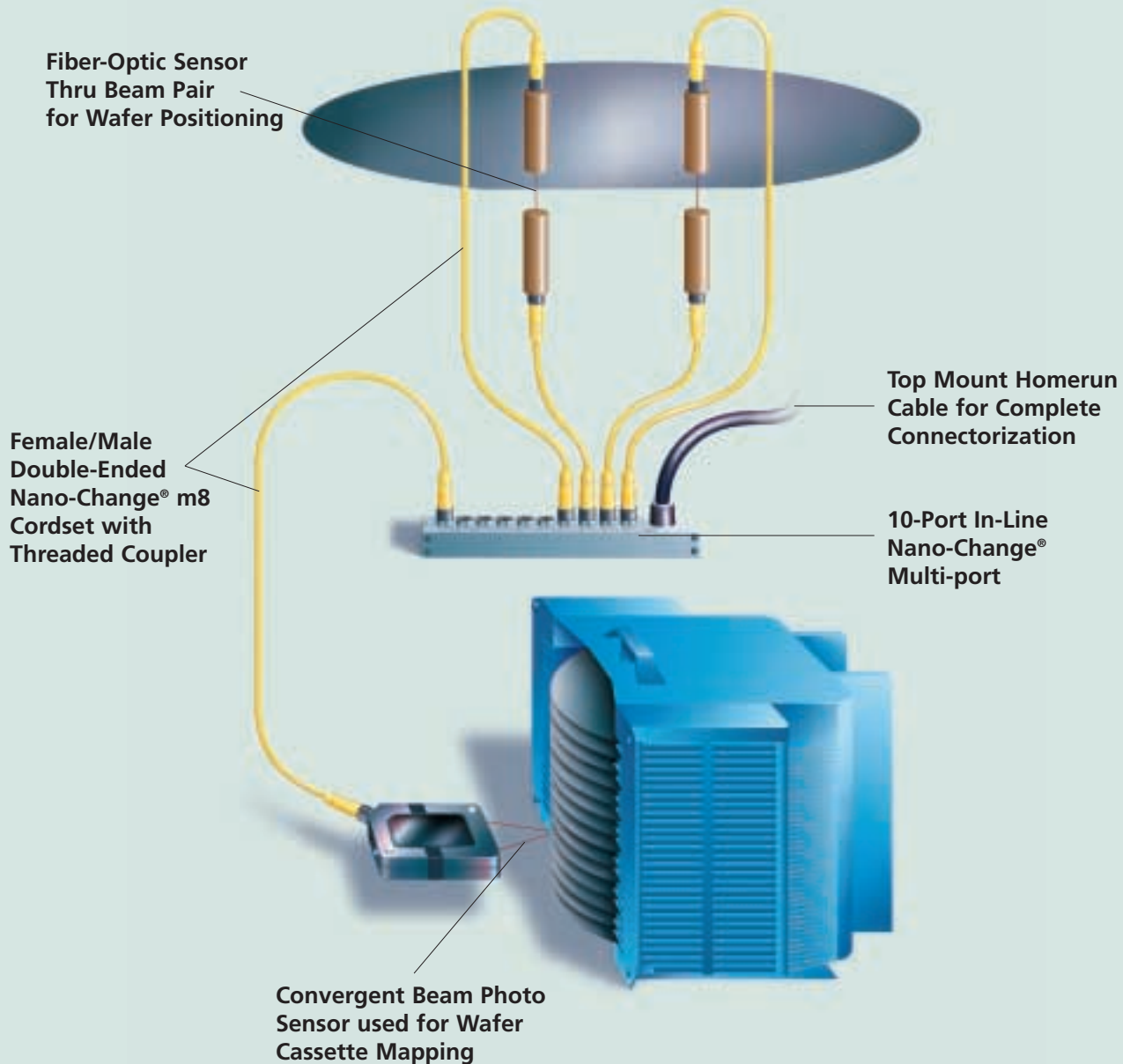


Twin-Wired Molded Junction Box (MPIS®) Maximizes Wire Consolidation, Saves Component Costs

In high-density I/O sections of a control scheme, twin-wired Multi-ports and the associated componentary give the machine design a variety of benefits. These design benefits include a reduction in number of elements which must be mounted, a reduction in the number of wiring errors and the ability to maximize wiring density. The number of inputs and outputs which can be connected to a single MPIS unit is effectively doubled with a twin-wired MPIS. Where previously two inputs or outputs consumed individual ports a single port now does the same. As all of the connections are pre-wired and tested wiring errors are eliminated. Where two MPIS units had to be mounted and the associated home-run cables had to be terminated, now only a single MPIS has to be mounted and a single cable terminated. Molded splitters, which come in a variety of configurations, essentially multiplex the inputs or outputs into a single port of the MPIS unit. Changes to the machine control in the form of upgrades is an easy migration path as the new inputs or outputs are simply "plugged and played" into the MPIS.

The new Brad Harrison® family of top mount twin-wired Micro-Change MPIS units continue the highly reliable connection scheme you have come to expect. High quality LEDs, with 100,000 hours of operational life, gold over palladium-nickel contacts for high integrity, low resistance contact continue to be part of the design, thereby insuring your machinery will be running for years to come. In addition, a variety of configurations, including the innovative field-attachable homerun cable version, allow you to attach specialty cables to the MPIS and allows the cable length and type be determined at the last minute.

Nano-Change® Connector (m8) Applications



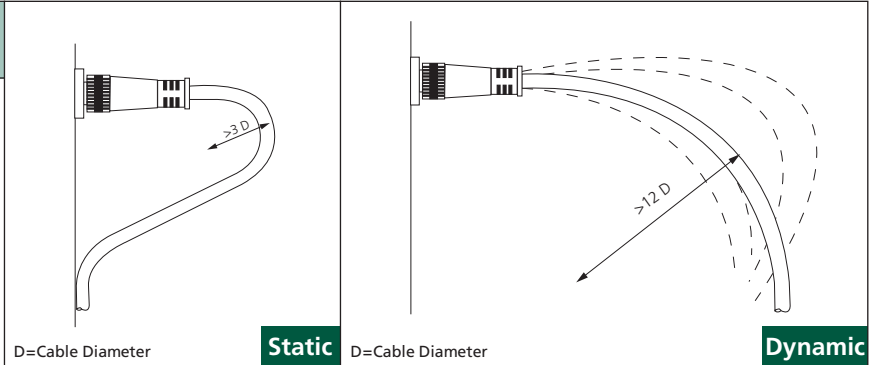
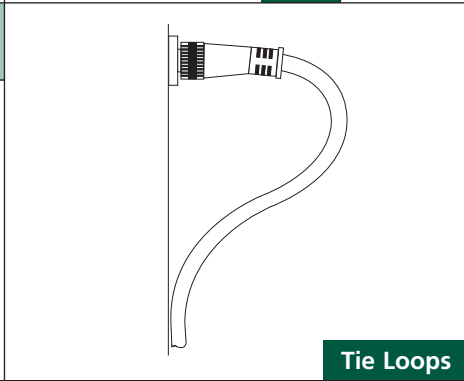
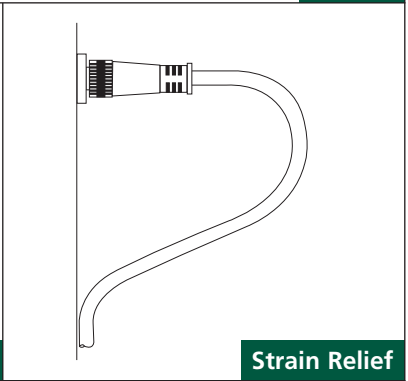
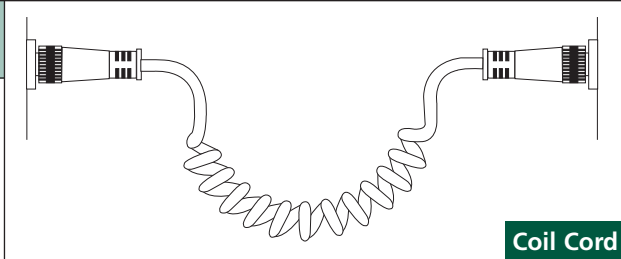
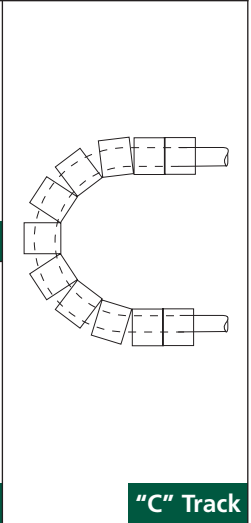
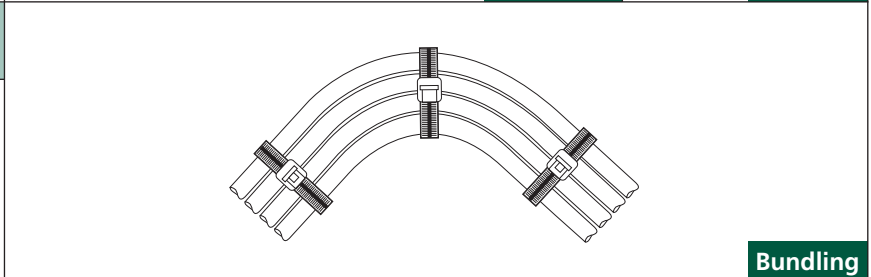
Nano-Change Connectors for Use in Semiconductor Processing and Electronics Assembly

The Nano-Change interconnect products used in wafer processing machines offer several advantages to both the machine designer as well as the end user. For the OEM, the wide variety of connector choices in the Nano-Change connector family allows a variety of inputs and outputs to be connected. The high vibration requirements of the wafer cassette mapping sensor require the security of the coupling nut version. The Multi-port reduces the machine commissioning time while reducing wiring errors. End users benefit from a “connectorized” machine as they have the ability to quickly change out failed input and output components thereby keeping the expensive machinery running.

The connector’s small size allows a multitude of input sensors, process controls such as pressure sensors and outputs to be brought together in a very small footprint. The industry-renowned Nano-Change connector family is known for its high reliability. The double-crimped connections and the gold-plated contacts of the Nano-Change connectors make them well suited for the critical uptime requirements of high valued operations in semiconductor processing such as etching and photolithography. Snap style Nano-Change connector family also make them well suited for highly automated electronics and semiconductor processing machines. Optional fast disconnection of failed components is critical to keep the capital-intensive machinery of this industry running with as little downtime as possible.

Cable Mounting, Routing and Dressing - Application Suggestions

We recommend the following application and installation guidelines for a successful, long-lived cordset installation.

<p>PROPER BEND RADIUS</p>		
<p>STRESS POINT ELIMINATION AND CABLE DRESSING</p> <p>Installing cables to allow for adequate stress loops and freedom of motion increases the cable life. Brad Harrison® cordsets incorporate molded strain reliefs that will assist in cable strain relief.</p>	 <p>Tie Loops</p>	 <p>Strain Relief</p>
<p>MOTION APPLICATIONS</p> <p>Where cabling is subjected to linear, angular, or rotational motion between two points, always allow for adequate cable length to absorb the energy imparted by the motion. Secure the cable just after the overmolded strain relief in flexing applications in order for the cable to absorb the flexing motion energy. Proper specification of the cable in high stress applications, namely high flex cable, will allow for the longest possible cable life. The use of coiled cords, proper flex-rated cabling, mechanical support mechanisms or large well supported cable loops will maximize cable life.</p>	 <p>Coil Cord</p>	 <p>"C" Track</p>
<p>CABLE BUNDLING TECHNIQUES</p> <p>When bundling several cables together, always keep the bundle loose enough to move within itself. Tightly tied bundles create both compression and tension stresses when the bundle is moved.</p>	 <p>Bundling</p>	

Application Guide

PRODUCT	CONNECTED TO:	APPLICATIONS
Mini-Change® Molded Cordsets	18 and 30mm proximity switches Pressure and limit switches Rectangular photoelectric sensors Solenoids Fractional HP motors	Conveyors Pneumatic/hydraulic valves Packaging and food processing equipment Material handling systems Transfer and assembly lines
Micro-Change® Molded Cordsets M12 Single Keyway 1/2" – 20 UNF Dual Keyway	12 and 18mm tubular proximity switches Tubular photoelectric sensors Modular controls Safety light curtains and floor mats Pressure switches	Pneumatic/hydraulic valves Conveyors Pick-n-place machines Transfer and assembly lines
Nano-Change® Molded Cordsets M8	8m and smaller proximity switches Miniature photoelectric and other controls Temperature probes and sensors Printed circuit boards	Robotic End-of-arm tooling Gear tooth sensing Conveyors
Quick-Change® Molded Cordsets	Up to 5HP motors Lighting Power lines	Conveyors Mixers, grinders and choppers Pumps Industrial saws
mPm® DIN 43650 Connectors	Actuators Solenoid and coils Pressure switches	Packaging equipment Diverters on conveyor lines Pneumatic and hydraulic manifolds
Multi-Port Interconnection Systems	Proximity switches Various other sensors Solenoids	Wire consolidation
Control Connectors	Press controls/run button bars Process controls	Stamping presses Automated assembly lines
Safety Plugs	Die blocks Safety fences and gates	Stamping presses Robotic welding presses
Dual Round Connectors	Press controls/run button bars Process controls	Stamping presses Automated assembly lines

Family Descriptions

Mini-Change® Cordsets: Best selection, best choice.

The Brad Harrison® Mini-Change® connector family is the standard by which all other miniature connectors are measured. Brad Harrison pioneered the market for miniature connectors, presenting the first quick-disconnect alternative to hardwiring. Today, Brad Harrison continues to be the recognized leader for quality and durability in design, embodied in the widest selection of miniature connectors on the market.

Micro-Change® Cordsets: Small space? Big solution.

When space and time are in short supply, look no further than Brad Harrison for the best ready-made m12 connector solutions. For fast, compact migration towards softwiring, Brad Harrison Micro-Change m12 connectors are ideal connectivity solutions for 12mm to 18mm sensors and switches. For applications requiring an increased pin count in a standard m12 configuration, the Brad Harrison 8-pin Micro-Change connector family is there. A variety of Micro-Change connector configurations are available, such as DC and both American and European standard AC form factors.

Nano-Change® Cordsets m8: Compact in design, large in performance.

The industry's broadest selection of space-saving m8 molded industrial connectors is available in the Brad Harrison Nano-Change family. Nano-Change m8 cordsets, receptacles, inserts, splitters and molded junction boxes are engineered for use in industrial applications where space is limited and rugged performance is required. Nano-Change products are quick to connect/disconnect, especially the snap design which is simply snapped or unsnapped from their mate. For a complete connector solution that minimizes wiring, maintenance, and downtime — while also minimizing space requirements — choose from the full selection of Nano-Change miniature quick-disconnects.

mPm® DIN 43650 Connectors: Rugged and secure alternative to hardwiring.

When it comes to output connectivity, mPm® DIN connectors are the world's leading solution provider for connectors for industrial automation equipment. For remote actuation of solenoid valves on the factory floor, no one offers a more reliable and robust "quick disconnect" alternative to hardwiring. These connectors also offer the largest selection of field-attachable DIN, molded DIN, and DIN accessories. mPm DIN devices include DIN connectors and lighted adapters/surge protectors for the 18, 11, 10, 9.4, and 8.0 mm classes of DIN 43650 standard valve designs. Connection and protection have never been easier or more cost-effective than with mPm field level DIN Devices.

Multi-port Interconnection Systems: Consolidating wiring with flexibility and ease.

Brad Harrison Multi-port Interconnection Systems (MPIS®) provide a simple, efficient solution for consolidating wiring within a control system. MPIS systems reduce up to 16 distinct connections into one single, pre-wired cable, while eliminating the need for knockouts, terminal strips and separate enclosures. Choose one of the Brad Harrison MPIS systems, and control system wiring and maintenance will never be simpler...or more flexible. MPIS junction boxes can be found installed on anything from portable lighting systems, where the natural elements are at work, to machining centers where they are under the constant spray of harsh cutting fluids.

Quick-Change® Cordsets: Rugged performance for demanding power applications.

Harsh industrial environments, such as washdown areas in food processing plants, high temperature steel mills and highly humid, caustic paper mills that present heavy-duty power requirements, demand rugged connector products. Brad Harrison Quick-Change connectors are constructed to deliver years of uninterrupted performance in power circuit quick-disconnect applications. Positive key alignment greatly reduces the possibility of mismating, thereby ensuring reverse phase protection of critical motors. Quick-Change Connectors are equipped to withstand hose-down pressures up to 1,000 psi, especially key in food processing environments. In addition, these connectors are designed to withstand up to 105°C operating temperatures while being installed in either high humidity or washdown areas.

Other Molded: Connector Products: Heavy-duty, rugged and proven.

Brad-Harrison has been providing application-specific molded connectors for a variety of harsh environments for many years. The Control Connector family designed in 3-12pole configurations, is typically used on stamping and forging presses. Safety Plugs provide electrical lockouts during maintenance while Dual Round connectors are designed to be used on press controls where a power/control connection which cannot be mismated.

New Product Highlights

Woodhead Connectivity continues to introduce innovative new products to help keep you connected. Across the connectivity marketplace, no products are better known than Brad Harrison® and mPm® connectors for their rugged reliable, patented and innovative designs. Some of the newest products are featured within this designer's guide and are highlighted on the following (4) pages:



SINGLE- AND DOUBLE-ENDED CORDSETS WITH LED INDICATION

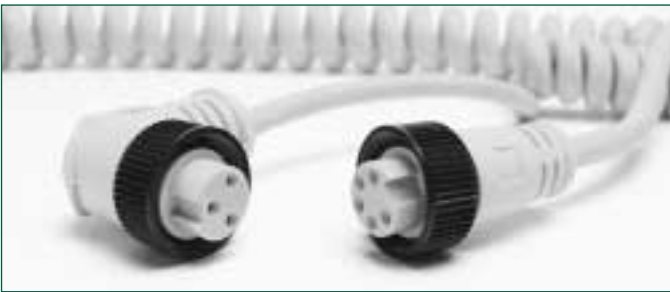
Mini-Change® Cordsets

Single- and Double-Ended Cordsets with LED Indication: Diagnostics are situated on the connector head for better troubleshooting; LED indication is bright providing visibility 360° and designed to last through 100,000+ hours of operation.



19-POLE SINGLE- AND DOUBLE-ENDED CORDSETS AND RECEPTACLES

19-Pole Single- and Double-Ended Cordsets: The pin count for the popular Mini-Change connector family has been extended to 19P; making it well suited for valve banks, and other high pin count applications, with molded, single and double-ended pre-wired cordsets. These cordsets feature: 18-gauge power and 22-gauge control conductors, oil and abrasion resistant black PUR jacket and mating receptacles are available in male and female configurations.



COIL CORDSETS

Coil Cordsets: New 3 and 5 pole Mini-Change cordsets designed for continuous flex duty applications, such as robotics, pick-place systems and grippers. For high flex operations, cord design ensures non-stop operation and high reliability in continuous-motion applications.



UNIVERSAL CORDSETS

Look for new features and options that enhance existing Mini-Change Products:

Universal Cordsets: Cordsets with TPE-jacketed cable are designed to withstand the harshest environments, including corrosive cutting fluid and weld slag. Universal cable for both welding and machine cutting environments is standard issue, reducing the need to specify different cables for different rugged automotive environments. Available in 3- and 5-pole configurations.

New Product Highlights



COIL CORDSETS



8-POLE DC SINGLE-ENDED CORDSETS AND RECEPTACLES



FULLY SHIELDED 360° CORDSETS



UNIVERSAL CORDSETS



FULLY SHIELDED 360° CORDSETS

Micro-Change® Cordsets and Receptacles

Coil Cordsets: New 4 pole single key DC cordsets are designed for continuous flex duty applications – such as robotics, pick-place systems and grippers. 22 or 18 gauge yellow PUR cable jacket is oil and abrasion resistant. These cordsets are rated for 4 million cycle operations.

8-Pole DC Single-Ended Cordsets and Receptacles:

Compact design increases the density of signals within industry-standard m12 single-ended cordsets and receptacles. Enables tighter cable routing and cleaner dressing for 8-conductor, 22-gauge wiring. Includes straight and 90 degree molded single-ended cordsets and male and female receptacles. Molded cordsets are supplied with a PUR cable jacket to withstand chemicals and provide abrasion and cut resistance.

Look for New Features and Options that Enhance Existing Micro-Change Products:

Fully Shielded Cordsets: Fully shielded 360° cordsets in both dual and single key versions provide protection in operations exposed to RF and EMI signals, including welding and communication rich environments. The unique, patented 360° conductive molded connector body carries the shielding all the way through the cable and coupling nut, making them ideal for machine designs where the goal is CE machine certification.

Universal Cordsets: The Micro-Change family of Cordsets is now available with TPE-jacketed cable, cordsets designed to withstand the harshest environments, including corrosive cutting fluid and weld slag. Universal cable comes standard for both welding and machine cutting environments. These cordsets reduce the need to specify different cables for different rugged automotive environments. Available in 3- and 5-pole configurations.

3 Pole M12 Cordsets with LED: Cordsets with LED indication for power and output; body design is clear PVC, bringing indication right onto the cordset for easier troubleshooting. LED indication is visible 360 degrees and designed to last through 100,000+ hours of operation.

New Product Highlights



TWIN-WIRED MPIS WITH MOLDED HOME RUN CABLE



TWIN-WIRED MPIS WITH MOLDED HOME RUN CONNECTOR



TWIN-WIRED MPIS WITH FIELD-ATTACHABLE CONTROL CABLES



MICRO-CHANGE SPLITTERS



UPGRADED VERSION OF DC MICRO-CHANGE TOP MOUNT MPIS

Multi-Port Interconnection System (MPIS®)

Twin-Wired DC MPIS: Allows greater density of connections; up to 16 sensors connected through 8 input/output ports within one central junction box. Two configurations (4 and 8-port versions) include NPN and PNP circuit configurations and NO LED options. Units expand applications to include analog inputs and complementary-wired switches.

There are two versions included:

- Twin-wired per port with molded home run cable: Uses a molded PVC home run cable for subsequent field termination.
- Twin-wired per port with molded home run connector: Molded 19P home run Mini-Change connector provides flexibility in extending the “soft-wiring” concept back to the control panel, thereby reducing installation time/cost for fool-proof installation and eliminating wiring errors.

Twin-Wired with Field-Attachable Control Cables:

Flexibly satisfies dense wiring applications requiring twin-wiring with a field attachable connection on a home run terminal strip. Three configurations (4, 6, and 8-port versions) offer the flexibility of field attachable home run cables, easy cable routing and increased control wiring system density. By eliminating a molded connector, home run cables, including specialty cables, can be sized right to the last minute.

Micro-Change® Splitters: Combines two sensors into one input cable, thereby allowing direct connection to twin-wired DC Micro-Change MPIS ports. Splitters are available in a variety of configurations for maximum system flexibility.

Upgraded Version of DC Micro-Change® Top Mount MPIS Feature:

- Newly formulated, chemically “bullet-proof” housing material which resists the affects of chemically corrosive cutting fluids
- Upgraded Viton® o-rings help ensure harsh cutting fluid resistance to the connector/multi-port interface
- Improved potting compound strengthens chemical and moisture resistance, insuring IP 68/NEMA 6P integrity.

New Product Highlights



"Y" MOLDED SPLITTERS

Nano-Change® Splitters

"Y" Molded Splitters: These enhanced molded splitters connect two 3-wire DC sensors or switches with threaded m8 connection into a single male 4P m8 or m12 connection in one small footprint.



MOLDED JUNCTION BOXES

MPIS® Molded Junction Boxes

Molded Junction Boxes: The industry's most versatile m8 junction boxes are available in 4-16 port versions. Connectorized and molded cable versions with a variety of cable exit options extends the designer's options.



43650 DIN CONNECTORS AND FIELD ATTACHABLE DIN DEVICES

MPM® DIN PRODUCTS

43650 DIN Connectors and Field Attachable DIN Devices: For remote actuation of solenoid valves on the factory floor. Complete offering of field attachable DIN 43650 connectors connect to all DIN standard solenoid valves and pressure switches. Available in a variety of indication and surge suppression options.



MOLDED DIN CONNECTORS

Molded DIN Connectors: Extends the "soft wiring" concept back to the output connectors-reducing installation time, eliminating troubleshooting time and providing "plug and play functionality" during valve bank replacement, all the while, these DIN connectors ensure uninterrupted service and improved environmental rating. Connection is made to industry standard Mini-Change® and Micro-Change® m12 connectors as well as being supplied with leads only.

Other New Woodhead Connectivity Innovations

AutoCAD® CD-ROM: AutoCAD® productivity tool provides the framework for specifying Brad Harrison® and mPm® connector solutions quickly and accurately. This tool features a library of application-ready AutoCAD product blocks to be directly dropped into a machine design. This CD also features a library of files, enabling product and interconnection drawings to be directly downloaded for quickly generating a Design Drawing and Bill Of Material, more accurate job estimates and builds through the use of the Promise® layout software program.

Mini-Change® Cordset Family

Best Selection, Best Choice.

The Brad Harrison® Mini-Change® connector family is the standard by which all other miniature connectors are measured. To understand why Mini-Change connectors are the choice, simply look at their evolution. We pioneered the market for miniature connectors, presenting the first quick-disconnect alternative to hardwiring. Today, Brad Harrison connectors continue to be the recognized leader for quality and durability in design, embodied in the widest selection of miniature connectors on the market.

To continuing to broaden our innovative line, the 19-pole connector consolidates power and control wiring in a molded, prewired, water-tight package.

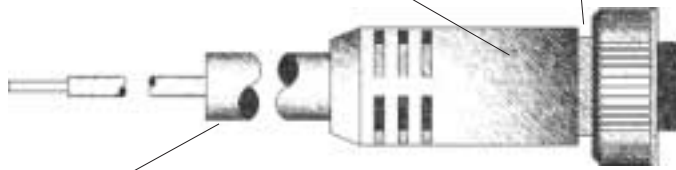
Applications

The Brad Harrison Mini-Change connector family provides connections for 12 and 18mm proximity sensors, photoelectric sensors, limit switches, and hydraulic valves commonly found in industrial applications involving conveyors, packaging equipment, material handling equipment, and automated assembly equipment.



Polarization key indicator tells you that the connector is properly aligned – a real plus when you are in poorly lit or hard-to-reach places

Quad Beam™ design assures consistent pressure is maintained over the life of the connector, assuring consistent, highly reliable performance



Wide variety of cable options: heavy-duty (PVC), special chemical and cut resistant (PUR) or "universal" cable options that can be used in either welding or cutting fluid applications

E-coated coupling nut for resistance to weld slag and corrosion. Anti-vibration feature prevents back-out.

Gold-plated over palladium nickel alloy contacts for highest reliability

Design and Quality

The Brad Harrison® Mini-Change® connector family is designed with a variety of configurations and advanced features to meet virtually every connector requirement. Available in 2- through 19-pole configurations, straight or 90 degree connectors and receptacles, lighted or non-lighted connectors, and more. High performance Brad Harrison Mini-Change connectors feature gold over palladium/nickel plating for a longer-lasting solution. Plus, only Brad Harrison Mini-Change Connectors are designed with an epoxy coated coupling nut, providing a minimum of 500 hours of corrosion resistance – no other miniature connector comes close.

Using Brad Harrison Mini-Change connector products, wiring will never be easier, or easier to maintain. To ensure optimal connectivity and a low-resistance connection, the Quad Beam™ female contact maintains constant pressure on the male pin. To keep away moisture, their moisture resistant design and seal construction provides NEMA 6P and IP 68 protection. An anti-vibration feature prevents the coupler from loosening, even under extreme vibration. And our Mini-Change connector products continue to evolve, so there will never be a better selection or choice than the Mini-Change connectors from Brad Harrison.

Mini-Change® Connector Section Quick Finder

A SIZE
PAGES 42 - 47
2P TO 6P

A SIZE
**PAGES 48 - 55,
58 - 59**
3P TO 5P

SINGLE-ENDED STRAIGHT
SINGLE-ENDED 90°
DOUBLE-ENDED STRAIGHT
DOUBLE-ENDED 90°
STOOV CABLE 16 AWG
MATING RECEPTACLE

SINGLE-ENDED STRAIGHT
SINGLE-ENDED 90°
DOUBLE-ENDED STRAIGHT
DOUBLE-ENDED 90°
SOO CABLE 16 AWG
STOOV CABLE 16 AWG
MATING RECEPTACLE

A SIZE
**PAGES 56 - 57,
60 - 63, 68 - 71**
3P & 5P

A SIZE
PAGES 64 - 67
3P TO 5P

SINGLE-ENDED STRAIGHT
SINGLE-ENDED 90°
SINGLE-ENDED 90° LED
DOUBLE-ENDED STRAIGHT
TPE CABLE 18 AWG
PUR CABLE 18 AWG
PUR COIL CORD 18 AWG
STOOV CABLE 16 AWG
MATING RECEPTACLES

SINGLE-ENDED STRAIGHT
SINGLE-ENDED 90°
AWM 2661 PVC CABLE
18 & 20 AWG
MATING RECEPTACLES

B SIZE
PAGES 72 - 77
6P TO 8P

C SIZE
PAGES 78 - 85
9P,10P,12P & 19P

SINGLE-ENDED STRAIGHT
SINGLE-ENDED 90°
DOUBLE-ENDED STRAIGHT
DOUBLE-ENDED 90°
STOOV CABLE 16 AWG
MATING RECEPTACLES

SINGLE-ENDED STRAIGHT
SINGLE-ENDED 90°
DOUBLE-ENDED STRAIGHT
DOUBLE-ENDED 90°
STOOV CABLE 16 AWG
PUR CABLE 18/20 AWG
19P ONLY
MATING RECEPTACLES

Look for these new Mini-Change® connector products



NEW

**Single- & Double-Ended Cordset
Auto Color Code with #18 AWG
PVC cable, 3P to 5P**



NEW

**Single- & Double-Ended Cordset
#18 AWG Oil- and Weld Slag-
resistant TPE Cable, 3P and 5P**



NEW

**Single- & Double-Ended Cordset
LED Cordsets**



NEW

**Single-Ended Coil Cordsets
3P and 5P**



NEW

**Single- & Double-Ended Cordsets
& Receptacles, 19P**



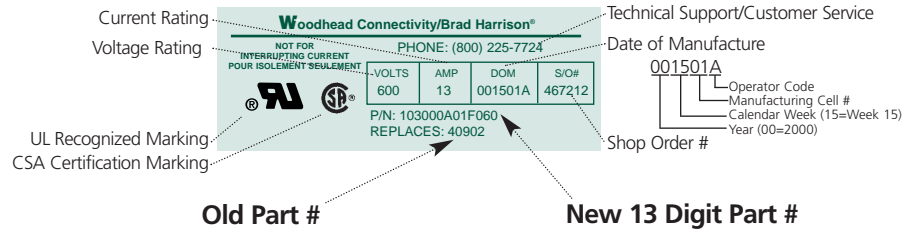
NEW

**Attachable Connectors
3P & 5P**

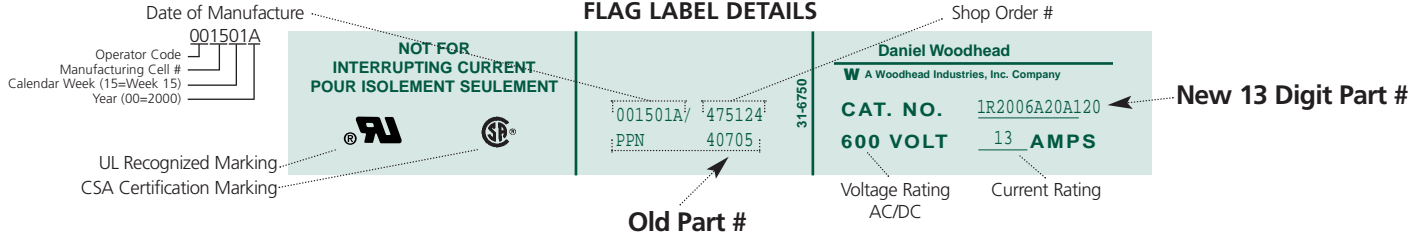
Mini-Change® Connector Cross-Reference

Old Part Number to New 13 Digit Part Number

MINI-CHANGE CORDSETS WRAP AROUND LABEL DETAILS



MINI-CHANGE RECEPTACLES FLAG LABEL DETAILS



Old Part #	13 Digit Part #	Item Description	Old Part #	13 Digit Part #	Item Description
40701	1R2004A20A120	MC 2P FR 12in. 16/1 PVC LDS	40710-90SS	102001A01F0301	MC 2P FP 3ft.90 DEG 16/2 PVC SST
40701N	1R2004A20A1202	MC 2P FR 12in. 16/1 PVC LDS N-	40710N	102000A01F0302	MC 2P FP 3ft. 16/2 PVC CORD N-
40701SS	1R2004A20A1201	MC 2P FR 12in. 16/1 PVC LDS S.S.	40710N-90	102001A01F0302	REPLACED BY 40710-90N
40702	1R2005A20A120	MC 2P FR 12in. 16/1 90D PVC LD	40710SS	102000A01F0301	MC 2P FP 3ft. 16/2 PVC, SST
40705	1R2006A20A120	MC 2P MR 12in. 16/1 PVC LDS	40711	102000A01F060	MC 2P FP 6ft. 16/2 PVC CORD
40705G	1R2006A20A120	MC 2P MR 12 16/1 PVC GOLD	40711-90	102001A01F060	MC 2P FP 6ft. 90D 16/2 PVC COR
40705N	1R2006A20A1202	MC 2P MR 12in. 16/1 PVC N-M	40711N	102000A01F0602	MC 2P FP 6ft. 16/2PVC CORD N-M
40705-NBK	1R2006A20A120	MC 2P MR 12 16/1 PVC LDS	40711SS	102000A01F0601	MC 2P FP 6ft. 16/2 PVC SS COUP
40705NYL	1R2006A20A1202	MC 2P MR 12 16/1 PVC NYLON	40712	102000A01F120	MC 2P FP 12ft. 16/2 PVC CORD
40705SS	1R2006A20A1201	MC 2P MR 12 16/1 PVC LDS SST	40712-90	102001A01F120	MC 2P FP 12ft. 90D 16/2 PVC CO
40706	1R2007A20A120	MC 2P MR 12in. 16/1 PVC 90D	40712-90N	102001A01F1202	MC 2P FP 12ft. 90D 16/2 PVC N-
40707	102002A01F030	MC 2P MP 3ft. 16/2 PVC CORD	40712N	102000A01F1202	MC 2P FP 12ft. 16/2 PVC CORD N
40707-90	102003A01F030	MC 2P MP 3ft. 90D 16/2 PVC COR	40712-NBK	102000A01F120	MC 2P FP 12ft. 16/2 PVC
40707N	102002A01F0302	MC 2P MP 3ft. 16/2 PVC N-M	40712SS	102000A01F1201	MC 2P FP 12ft. 16/2 PVC SST NUT
40707N-90	102003A01F0302	REPLACED BY 40707-90N	40712SS-90	102001A01F1201	MC 2P FP 12ft. 16/2 90D SST
40707SS	102002A01F0301	MC 2P MP 3ft. 16/2 PVC SST	40715	1R2004A20F030	MC 2P FR 3ft. 16/1 PVC LDS
40708	102002A01F060	MC 2P MP 6ft. 16/2 PVC CORD	40715SS	1R2004A20F0301	MC 2P FR 3ft. #16/1 PVC SS
40708-90	102003A01F060	MC 2P MP 6ft. 90D 16/2 PVC COR	40718	1020F0A20F060	MC 2P FP-LT 6ft. 16/1 PVC LDS
40708N	102002A01F0602	MC 2P MP 6ft. 16/2 PVC CORD	40725	112020A01F060	MC 2P MFE 6ft. 16/2 PVC CORD
40708SS	102002A01F0601	MC 2P MP 6ft. 16/2 PVC SST	40725N	112020A01F0602	MC 2P MFE 6ft. 16/2 PVC N-M
40709	102002A01F120	MC 2P MP 12ft. 16/2 PVC CORD	40730	112020A01F120	MC 2P MFE 12ft. 16/2 PVC CORD
40709-90	102003A01F120	MC 2P MP 12ft. 90 DEG 16/2 PVC	40730-90	112021A01F120	MC 2P MFE ST/90 12ft. 16/2 PVC
40709-90N	102003A01F1202	MC 2P MP 12ft. 90D 16/2 PVC N-M	40730N	112020A01F1202	REPLACED BY 112020A01F1202
40709N	102002A01F1202	MC 2P MP 12ft. 16/2 PVC CORD	40730SS	112020A01F1201	MC 2P MFE 12ft. 16/2 PVC S.S.
40709SS	102002A01F1201	MC 2P MP 12ft. 16/2 PVC SST	40731	102000A01F150	MC 2P FP 15ft. 16/2 PVC
40710	102000A01F030	MC 2P FP 3ft. 16/2 PVC CORD	40731-90	102001A01F150	MC 2P FP 90D 15ft. 16/2 PVC
40710-90	102001A01F030	MC 2P FP 3ft. 90D 16/2 PVC COR	40731SS	102000A01F1501	MC 2P FP 15ft. 16/2 PVC SST

Mini-Change® Connector Cross-Reference

Old Part Number to New 13 Digit Part Number

Old Part #	13 Digit Part #	Item Description	Old Part #	13 Digit Part #	Item Description
40731SS-90	102001A01F1501	MC 2P FP 90D 15ft. 16/2 PVC S.S.	40838SS	1R2004A20A1201	MC 2P FR 12ft. 16/1 PVC SST
40732	102000A01F300	MC 2P FP 30ft. 16/2 PVC	40863	1R2G04A20A120	MC 2P FR 12in. PVC FLANGED SHE
40732-90	102001A01F300	MC 2P FP 30ft. 90D 16/2 PVC CO	40865	1R2G06A20A120	MC 2P MR 12in. #16/1 FLANGED S
40732SS	102000A01F3001	MC 2P FP 30ft. 16/2 PVC SST	40876-0030	—	MC 2P M/MFE 3ft. 16/2 PVC CORD
40736	112020A01F300	MC 2P MFE 30ft. 16/2 PVC CORD	40876-0060	—	MC 2P M/MFE 6ft. 16/2 PVC CORD
40736SS	112020A01F3001	MC 2P MFE 30ft. 16/2 PVC SST	40876-0150	—	MC 2P M/MFE 15ft. 16/2 PVC CORD
40743	112020A01F200	MC 2P MFE 20ft. 16/2 PVC	40876-0200	—	MC 2P M/MFE 20ft. 16/2 PVC CORD
40743-90	112021A01F200	MC 2P MFE 90D FEM 20ft. 16/2 PVC	40876-0300	—	MC 2P M/MFE 30ft. 16 AWG CORD
40743N	112020A01F2002	MC 2P MFE 20ft. 16/2 PVC N-M	40885	1R2007A20F060	MC 2P MR 6ft. 16/1 PVC 90DEG
40748	102000A01F200	MC 2P FP 20ft. 16/2 PVC	40886	1R2005A20F060	MC 2P FR 6ft. 16/1 PVC 90DEG
40748-90	102001A01F200	MC 2P FP 20ft. 90D 16/2 PVC CO	40887	1R2G06A20F060	MC 2P MR 6ft. 16/1 PVC FLNGD S
40748N	102000A01F2002	MC 2P FP 20ft. 16/2 PVC N-M	40888	1R2G04A20F060	MC 2P FR 6ft. 16/1 PVC FLNGD S
40748SS	102000A01F2001	MC 2P FP 20ft. 16/2 PVC SST NUT	40901	103000A01F030	MC 3P FP 3ft. 16/3 PVC CORD
40750	102000A01F060	MC 2P FP 60ft. 16/2 PVC	40901-18	103000A03F030	MC 3P FP 3ft. 18/3 PVC STRAIGHT
40751	102002A01F150	MC 2P MP 15ft. 16/2 PVC	40901-1890	103003A03F030	MC 3P FP 90DEG 3ft. 18/3 PVC
40751-90	102003A01F150	MC 2P MP 15ft. 90D 16/2 PVC CO	40901-90	103001A01F030	MC 3P FP 3ft. 90 DEG 16/3 PVC
40751N	102002A01F1502	MC 2P MP 15ft. 16/2 PVC N-M	40901-90N	103001A01F0302	MC 3P FP 3ft. 90DEG 16/3 PVC N
40751SS	102002A01F1501	MC 2P MP 15ft. 16/2 PVC SST	40901-E	103000A06M010	MC 3P FP 1M 18/3 PVC CORD
40752	102002A01F200	MC 2P MP 20ft. 16/2 PVC CORD	40901-E-90	103001A06M010	MC 3P FP 90D 1M 18/3 PVC
40752-90	102003A01F200	MC 2P MP 20ft. 90D 16/2 PVC CO	40901N	103000A01F0302	MC 3P FP 3ft. 16/3 PVC CORD
40752N	102002A01F2002	MC 2P MP 20ft. 16/2 PVC N-M	40901N-18	103000A03F0302	MC 3P FP 3ft. 18/3 PVC NYLON
40752SS	102002A01F2001	MC 2P MP 20ft. 16/2 PVC S.S.	40901N-1890	103001A03F0302	MC 3P FP 90D 3ft. 18/3 PVC N-M
40758	102002A01F250	MC 2P MP 25ft. 16/2 PVC CORD	40901S	103000C01F0301	MC 3P FP 3ft. 16/3 SOO CORD
40758-90	102003A01F250	MC 2P MP 25ft. 90D 16/2 PVC CO	40901S-90	103001C01F0301	MC 3P FP 3ft. 90 DEG 16-3 SOO
40758-90N	102003A01F2502	MC 2P MP 25ft. 90D 16/2 PVC N-M	40901S-NBK	103000C01F030	MC 3P FP 3ft. 16/3 SOO CORD
40758N	102002A01F2502	MC 2P MP 25ft. 16/2 PVC N-M	40901SS	103000A01F0301	MC 3P FP 3ft. 16/3 PVC,SST COUP
40759	1R2004A20F060	MC 2P FR PANEL MT 6ft. 16/1 PVC	40901SS-90	103001A01F0301	MC 3P FP 3ft. 90 DEG 16/3 PVC SS
40776	1R2G06A20A060	MC 2P MR 6in. PVC FLANGED SHEL	40902	103000A01F060	MC 3P FP 6ft. 16/3 PVC CORD
40783	112020A01F030	MC 2P MFE 3ft. 16/2 STO CORD	40902-18	103000A03F060	MC 3P FP 6ft. 18/3 PVC STRAIGHT
40783N	112020A01F0302	MC 2P MFE 3ft. 16/2 STO N-M	40902-1890	103001A03F060	MC 3P FP 90DEG 6ft. 18/3 PVC
40794	102000A01F250	MC 2P FP 25ft. 16/2 PVC	40902-18SS	103000A03F0601	MC 3P FP 6ft. 18/3 PVC SS
40794-90	102001A01F250	MC 2P FP 25ft. 90D 16/2 PVC CO	40902-90	103001A01F060	MC 3P FP 6ft. 90DEG 16/3 PVC
40794N	102000A01F2502	MC 2P FP 25ft. 16/2 PVC N-M	40902-90E	103001A06M020	MC 3P FP 90D 2M 18/3 PVC
40794SS	102000A01F2501	MC 2P FP 25ft. 16/2 PVC SST	40902-90N	103001A01F0602	MC 3P FP 6ft. 90DEG 16/3 PVC N
40804	112020A01F250	MC 2P MFE 25ft. 16/2 PVC CORD	40902-E	103000A06M020	MC 3P FP 2M 18/3 PVC CORD
40804N	112020A01F2502	MC 2P MFE 25ft. 16/2 PVC N-M	40902N	103000A01F0602	MC 3P FP 6ft. 16/3 PVC CORD
40804SS	112020A01F2501	MC 2P MFE 25ft. 16/2 PVC SST	40902N-18	103000A03F0602	MC 3P FP 6ft. 18/3 PVC N-M
40823	102002A01F300	MC 2P MP 30ft. 16/2 PVC	40902N-1890	103001A03F0602	MC 3P FP 90D 6ft. 18/3 PVC NYL
40823-90	102003A01F300	MC 2P MP 30ft. 90D 16/2 PVC	40902-NBK	103000A01F060	MC 3P FP 6ft. 16/3 PVC CORD
40826	112020A01F150	MC 2P MFE 15ft. 16/2 PVC CORD	40902N-E	103000A06M020	MC 3P FP 2M 18/3 PVC CORD N-M
40832	1R2004A20F060	MC 2P FR 6ft. 16/1 PVC LDS	40902S	103000C01F060	MC 3P FP 6ft. 16/3 SOO CORD
40832N	1R2004A20F0602	MC 2P FR 6ft. 16/1 PVC N-M	40902S-90	103001C01F060	MC 3P FP 6ft. 90 DEG 16-3 SOO
40832SS	1R2004A20F0601	MC 2P FR 6ft. 16/1 PVC LDS S.S.	40902S-90-NBK	103001C01F060	MC 3P FP 6ft. 90D 16/3 SOO
40837	1R2006A20F060	MC 2P MR 6ft. 16/1 PVC LDS	40902S-NBK	103000C01F060	MC 3P FP 6ft. 16/3 SOO CORD
40837N	1R2006A20F0602	MC 2P MR 6ft. 16/1 PVC N-M	40902SS	103000A01F0601	MC 3P FP 6ft. 16/3 PVC,SST COUP
40838N	1R2004A20F1202	MC 2P FR 12ft. 16/1 PVC LDS N-M	40902SS-90	103001A01F0601	MC 3P FP 90D 6ft. 16/3C SST
40838NYL	1R2004A20F1202	MC 2P FR 12ft. 16/1 PVC NYLON	40903	103000A01F120	MC 3P FP 12ft. 16/3 PVC CORD

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Old Part #	13 Digit Part #	Item Description	Old Part #	13 Digit Part #	Item Description
40903-18	103000A03F120	MC 3P FP 12ft. 18/3 PVC STRAIGHT	409055	103002C01F060	MC 3P MP 6ft. 16/3 SOO
40903-1890	103001A03F120	MC 3P FP 90DEG 12ft. 18/3 PVC	409055S	103002A01F0601	MC 3P MP 6ft. 16/3 PVC,SST COUP
40903-1890SS	103001A03F1201	MC 3P FP 90D 12ft. 18/3 PVC SST	409055S-18	103002A03F0601	MC 3P MP 6ft. 18/3 PVC,SST COUP
40903-18G	103000A03F120	MC 3P FP 12ft. 18/3PVC STRT GOLD	40906	103002A01F120	MC 3P MP 12ft. 16/3 PVC CORD
40903-18SS	103000A03F1201	MC 3P FP 12ft. 18/3 PVC SS	40906-18	103002A03F120	MC 3P MP 12ft. 18/3 PVC CORD
40903-90	103001A01F120	MC 3P FP 12ft. 90DEG 16/3 PVC	40906-90	103003A01F120	MC 3P MP 12ft. 90 DEG 16/3 PVC
40903-90N	103001A01F1202	MC 3P FP 12ft. 90DEG 16/3 N-M	40906-E	103002A06M050	MC 3P MP 5M 18/3 PVC CORD
40903-90-NBK	103001A01F120	MC 3P FP 12ft. 90D 16/3 PVC CORD	40906N	103002A01F1202	MC 3P MP 12ft. 16/3 PVC CRD N-
40903-90SS	103001A01F1201	MC 3P FP 12ft. 90D 16/3 PVC SST	40906-NBK	103002A01F120	MC 3P MP 12ft. 16/3 PVC
40903-E	103000A06M050	MC 3P FP 5M 18/3 PVC CORD	40906SS	103002A01F1201	MC 3P MP 12ft. 16/3 PVC,SST COUP
40903-E-90	103001A06M050	MC 3P FP 90D 5M 18/3 PVC	40906SS-18	103002A03F1201	MC 3P MP 12ft. 18/3 PVC SST
40903-ESS	103000A06M0501	MC 3P FP 5M 18/3 PVC SST	40906SS-90	103003A01F1201	MC 3P MP 90D 12ft. 16/3 PVC SST
40903N	103000A01F1202	MC 3P FP 12ft. 16/3 PVC CORD	40908	1R3007A20A120	MC 3P MR 12in. 16/1 90DEG PVC
40903N-18	103000A03F1202	MC 3P FP 12ft. 18/3 PVC N-M	40908-NBK	1R3007A20A120	MC 3P MR 12in. 16/1 90DEG PVC LD
40903N-1890	103001A03F1202	MC 3P FP 90D 12ft.18/3 PVC N-M	40909	1R3006A20A120	MC 3P MR 12in. 16/1 PVC LDS
40903-NBK	103000A01F120	MC 3P FP 12ft. 16/3 PVC CORD	40909-13.5	1R3D06A25A120	MC 3P MR 305MM PG13.5
40903N-E	103000A06M0502	MC 3P FP 5M 18/3 PVC CORD N-M	40909N	1R3006A20A1202	MC 3P MR 12in. 16/1 PVC N-M
40903S	103000C01F120	MC 3P FP 12ft. 16/3 SOO CORD	40909-NBK	1R3006A20A120	MC 3P MR 12in. 16/1 PVC LDS
40903S-90	103001C01F120	MC 3P FP 12ft. 90 DEG 16-3 SOO	40909SS	1R3006A20A1201	MC 3P MR 12in. 16/1 PVC LDS SST
40903S-90-NBK	103001C01F120	MC 3P FP 12ft. 90D 16/3 SOO	40910	1R3004A20A120	MC 3P FR 12in. 16/1 PVC LDS
40903SN	103000C01F1202	MC 3P FP 12ft. 16/3 SOO NYLON	40910-13.5	1R3D04A25A120	MC 3P FR 305MM PG13.5
40903S-NBK	103000C01F120	MC 3P FP 12ft. 16/3 SOO CORD	40910N	1R3004A20A1202	MC 3P FR 12in. 16/1 PVC N-M
40903SS	103000A01F1201	MC 3P FP 12ft. 16/3 PVC,SST COUP	40910-NBK	1R3004A20A120	MC 3P FR 12in. 16/1 PVC LDS
40903SS-90	103001A01F1201	MC 3P FP 12ft. 90D 16/3 PVC SS	40910SS	1R3004A20A1201	MC 3P FR 12in. 16/1 PVC LDS SST
40904	103002A01F030	MC 3P MP 3ft. 16/3 PVC CORD	40911	1R3005A20A120	MC 3P FR 12in. 16/1 90DEG PVC
40904-18	103002A03F030	MC 3P MP 3ft. 18/3 PVC CORD	40922	1R3004A20F030	MC 3P FR 3ft. 16/1 PVC LDS
40904-1890	103003A03F030	MC 3P MP 3ft. 90 DEG 18/3 PVC	40922G	1R3004A20F030	MC 3P FR 3ft. 16/1 PVC GOLD
40904-18SS	103002A03F0301	MC 3P MP 3ft. 18/3 PVC SS	40925	1030F0A20F060	MC 3P FP-LT 6ft. 16/1 PVC LDS
40904-90	103003A01F030	MC 3P MP 3ft. 90 DEG 16/3 PVC	40933-E	103002A05M010	MC 3P MP 1M PVC IEC CC
40904-E	103002A06M010	MC 3P MP 1M 18/3 PVC CORD	40935	103000A01F250	MC 3P FP 25ft. 16/3 PVC
40904N	103002A01F0302	MC 3P MP 3ft. 16/3 PVC CRD N-M	40935-1890	103001A03F120	MC 3P FP 90D 12ft. 18/3 PVC CORD
40904N-18	103002A03F0302	MC 3P MP 3ft. 18/3 PVC NON-MET	40935-90	103001A01F250	MC 3P FP 90D 25ft. 16/3 PVC
40904N-1890	103003A03F0302	MC 3P MP 3ft. 90D 18/3 PVC N-M	40935N	103000A01F2502	MC 3P FP 25ft. 16/3 N-M
40904N-90	103003A01F0302	REPLACED BY 103003A01F0302	40935N-90	103001A01F2502	REPLACED BY 40935-90N
40904S	103002C01F030	MC 3P MP 3ft. 16/3 SOO CORD	40935SS-90	103001A01F2501	MC 3P FP 25ft. 90D 16/3 PVC SST
40904SS	103002A01F0301	MC 3P MP 3ft. 16/3 PVC SS COUP	40938	1R3004A20F060	MC 3P FR 6ft. 16/1 PVC LDS
40904SS-90	103003A01F0301	MC 3P MP 90D 3ft. 16/3 PVC SST	40944	103000A01F300	MC 3P FP 30ft. 16/3 PVC
40905	103002A01F060	MC 3P MP 6ft. 16/3 PVC CORD	40944-90	103001A01F300	MC 3P FP 30ft. 16/3 PVC 90DEG
40905-18	103002A03F060	MC 3P MP 6ft. 18/3 PVC CORD	40944N	103000A01F3002	MC 3P FP 30ft. 16/3 PVC N-M
40905-1890	103003A03F060	MC 3P MP 6ft. 90D 18/3 PVC CORD	40944SS	103000A01F3001	MC 3P FP 30ft. 16/3 PVC SS
40905-90	103003A01F060	MC 3P MP 6ft. 90 DEG 16/3 PVC	40944SS-90	103001A01F3001	MC 3P FP 90D 30ft. 16/3 PVC SST
40905-90N	103003A01F0602	MC 3P MP 6ft. 90 DEG 16/3 PVC	40945	113020A01F200	MC 3P MFE 20ft. 16/3 PVC CORD
40905-E	103002A06M020	MC 3P MP 2M 18/3 PVC CORD	40945-18	113020A03F200	MC 3P MFE 20ft. 18/3 PVC GOLD
40905-E-90	103003A06M020	MC 3P MP 90D 2M PVC CORD	40945-90	113021A01F200	MC 3P MFE ST/90D 20ft. 16/3 PVC
40905-ESS	103002A06M0201	MC 3P MP 2M PVC CORD SS	40945N	113020A01F2002	MC 3P MFE 20ft. 16/3 PVC N-M
40905N	103002A01F0602	MC 3P MP 6ft. 16/3 PVC CRD N-M	40945S	113020C01F200	MC 3P MFE 20ft. 16/3 SOO CBL
40905N-18	103002A03F0602	MC 3P MP 6ft. 18/3 PVC NON-MET	40945SS	113020A01F2001	MC 3P MFE 20ft. 16/3 PVC SST

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Old Part #	13 Digit Part #	Item Description	Old Part #	13 Digit Part #	Item Description
40946	113020A01F120	MC 3P MFE 12ft. 16/3 PVC	40974-18	103000A03F200	MC 3P FP 20ft. 18/3 PVC
40946-18	113020A03F120	MC 3P MFE 12ft. 18/3 PVC	40974-1890	103001A03F200	MC 3P FP 20ft. 18/3 PVC 90 D
40946-1890	113021A03F120	MC 3P MFE 12ft. 18/3 PVC	40974-18SS	103000A03F2001	MC 3P FP 20ft. #18/3 PVC SST
40946-18G	113020A03F120	MC 3P MFE 12ft. 18/3 PVC GOLD	40974-90	103001A01F200	MC 3P FP 20ft. 16/3 PVC 90DEG
40946-90	113021A01F120	MC 3P MFE 90 12ft. 16/3 PVC	40974N	103000A01F2002	MC 3P FP 20ft. 16/3 PVC N-M
40946N	113020A01F1202	MC 3P MFE 12ft. 16/3 PVC N-M	40974N-90	103001A01F2002	REPLACED BY 103001A01F2002
40946S	113020C01F120	MC 3P MFE 12ft. 16/3 SOO CBL	40974-NBK	103000A01F200	MC 3P FP 20ft. 16/3 PVC
40946S-90	113021C01F120	MC 3P MFE 90 12ft. 16/3 SOO	40974S	103000C01F200	MC 3P FP 20ft. 16/3 SOO CBL
40946SS	113020A01F1201	MC 3P MFE 12ft. 16/3 PVC SST	40974S-90	103001C01F200	MC 3P FP 20ft. 16/3 SOO CBL 90
40948	103000A01F150	MC 3P FP 15ft. 16/3 PVC	40974S-NBK	103000C01F200	MC 3P FP 20ft. 16/3 SOO
40948-90	103001A01F150	MC 3P FP 90D 15ft. 16/3 PVC	40974SS	103000A01F2001	MC 3P FP 20ft. 16/3 PVC S.S.
40948-90N	103001A01F1502	MC 3P FP 90D 15ft. 16/3 PVC N-	40974SS-90	103001A01F2001	MC 3P FP 90D 20ft. 16/3 PVC SST
40948N	103000A01F1502	MC 3P FP 15ft. #16/3 PVC N-M	40974SSS	103000C01F2001	MC 3P FP 20ft. 16/3 SOO CBL SST
40948SS	103000A01F1501	MC 3P FP 15ft. 16/3 PVC SST	40979	1R3004A20F120	MC 3P FR 12ft. 16/1 PVC LDS
40948SS-90	103001A01F1501	MC 3P FP 15ft. 90D 16/3 PVC S.S.	40979N	1R3004A20F1202	MC 3P FR 12ft. 16/1 PVC N-M
40951-E	103002A05M020	MC 3P MP 2M PVC IEC CC	40979NYL	1R3004A20F1202	MC 3P FR 12ft. 16/1 PVC NYLON
40951-ESS	103002A05M0201	MC 3P MP 2M PVC SPEC CC SST	40979SS	1R3004A20A1201	MC 3P FR 12ft. 16/1 PVC SST
40957	1R3006A24A120	MC 3P MR 12in. 16/1 PVC 2R1G	40982	103002A01F200	MC 3P MP 20ft. 16/3 PVC
40957N	1R3006A24A1202	MC 3P MR 12in. 16/1PVC LDS N-M	40982-18	103002A03F200	MC 3P MP 20ft. 18/3 PVC
40957SS	1R3006A24A1201	MC 3P MR 12in. 16/1 PVC 2R1G SST	40982-90	103003A01F200	MC 3P MP 20ft. 90D 16/3 PVC
40958	103000A02F030	MC 3P FP 3ft. 16/3 PVC 2R1G-AU	40982N	103002A01F2002	MC 3P MP 20ft. 16/3 PVC CRD N-
40958-90	103001A02F030	MC 3P FP 90D 3ft. 16/3 PVC AUT	40982-NBK	103002A01F200	MC 3P MP 20ft. 16/3 PVC
40959	103000A02F060	MC 3P FP 6ft. 16/3 PVC 2R1G-AU	40982SS	103002A01F2001	MC 3P MP 20ft. 16/3 PVC SST
40959-18	103000A03F060	MC 3P FP 6ft. 18/3PVC 2R1G-AUTO	40982SS-90	103003A01F2001	MC 3P MP 20ft. 90D 16/3 PVC SST
40959-1890	103001A03F060	MC 3P FP 90DEG 6ft.18/3 AUTO	40987-E	103000A05M010	MC 3P FP 1M 18/3 PVC IEC CC
40959-90	103001A02F060	MC 3P FP 90 6ft. 16/3 PVC AUT	40988-E	103000A05M020	MC 3P FP 2M 18/3 PVC IEC CC
40959N	103000A02F0602	MC 3P FP 6ft. 16/3 PVC 2R1G-AUTO	40989-E	103000A05M050	MC 3P FP 5M 18/3 PVC IEC CC
40959SS	103000A02F0601	MC 3P FP 6ft. 16/3C 2R1G SS	40996	1R3004A24A120	MC 3P FR 12in. 16/1 PVC LDS
40960	103000A02F120	MC 3P FP 12ft. 16/3 2R1G-AUTO	41002	113020A01F250	MC 3P MFE 25ft. 16/3 PVC
40960-18	103000A03F120	MC 3P FP 12ft. 18/3 2R1G-AUTO ST	41002N	113020A01F2502	MC 3P MFE 25ft. 16/3 PVC N-M
40960-1890	103001A03F120	MC 3P FP 90DEG 12ft.18/3 AUTO	41002SS	113020A01F2501	MC 3P MFE 25ft. 16/3 PVC SST
40960-18G	103000A03F120	MC 3P FP 12ft. 18/3 PVC GOLD	41018	113020A01F060	MC 3P MFE 6ft. 16/3 PVC
40960-90	103001A02F120	MC 3P FP 90 12ft. 16/3 PVC AU	41018-18	113020A03F060	MC 3P MFE 6ft. 18/3 PVC
40960-90SS	103001A02F1201	MC 3P FP 90 12ft. 16/3 PVC AU SS	41018-1890	113021A03F060	MC 3P M/MFE EX ST/90D 6ft. 18/3
40960SS	103000A02F1201	MC 3P FP 12ft. 16/3 2R1G SS	41018-18G	113020A03F060	MC 3P MFE 6ft. 18/3 PVC GOLD
40961	1R3007A24A120	MC 3P MR 12in. 16/1 PVC 90D 2R	41018-90	113021A01F060	MC 3P MFE 90 6ft. 16/3 PVC AUT
40963-13.5	1R3D04A16A120	MC 3P FR 305MM PG13.5	41018-90G	113021A01F060	MC 3P MFE 90D 6ft. 16/3 PVC GOLD
40972-E	103002A05M050	MC 3P MP 5M PVC IEC CC	41018G	113020A01F060	MC 3P MFE 6ft. 16/3 PVC GOLD
40973	113020A01F030	MC 3P MFE 3ft. 16/3 PVC	41018N	113020A01F0602	MC 3P MFE 6ft. 16/3 N-M
40973-18	113020A03F030	MC 3P MFE 3ft. 18/3 PVC	41018S	113020C01F060	MC 3P MFE 6ft. 16/3 SOO CBL
40973-1890	113021A03F030	MC 3P MFE 3ft. 90D FEM #18/3 PVC	41018S-90	113021C01F060	MC 3P MFE 90 6ft. 16/3 SOO
40973-18G	113020A03F030	MC 3P MFE 3ft. 18/3 PVC GOLD	41018S-NBK	113020C01F060	MC 3P MFE 6ft. 16/3 SOO CBL
40973-90	113021A01F030	MC 3P MFE 90D 3ft. 16/3 PVC	41018SS	113020A01F0601	MC 3P MFE 6ft. 16/3PVC SST
40973N	113020A01F0302	MC 3P MFE 3ft. #16/3C N-M	41038	103002A01F250	MC 3P MP 25ft. 16/3 PVC
40973S	113020C01F030	MC 3P MFE 3ft. 16/3 SOO CBL	41038-90	103003A01F250	MC 3P MP 25ft. 90D 16/3 PVC CO
40973SS	113020A01F0301	MC 3P MFE 3ft. 16/3 PVC SST	41038SS	103002A01F2501	MC 3P MP 25ft. 16/3 PVC SST
40974	103000A01F200	MC 3P FP 20ft. 16/3 PVC	41078	103000A02F200	MC 3P FP 20ft. 16/3 2R1G-AUTO

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Old Part #	13 Digit Part #	Item Description	Old Part #	13 Digit Part #	Item Description
41078-18	103000A03F200	MC 3P FP 20ft. 18/3 2R1G-AUTO	41108S-90	104001C01F060	MC 4P FP 6ft. 90D 16/4 SOO
41078-1890	103001A03F200	MC 3P FP 20ft.90D 18/3 2R1G-AUTO	41108SS	104000A01F0601	MC 4P FP 6ft. 16/4 PVC,SST COUP
41078-90	103001A02F200	MC 3P FP 20ft.90D 16/3 2R1G AU	41108SS-90	104001A01F0601	MC 4P FP 90D 6ft. 16/4 PVC SST
41082	103002A01F300	MC 3P MP 30ft. 16/3 PVC	41109	104000A01F120	MC 4P FP 12ft. 16/4 PVC CORD
41082-90	103003A01F300	MC 3P MP 30ft. 90D 16/3 PVC	41109-18	104000A03F120	MC 4P FP 12ft. 18/4 PVC CORD
41082N	103002A01F3002	MC 3P MP 30ft. 16/3 PVC N-M	41109-1890	104001A03F120	MC 4P FP 90DEG 12ft. 18/4 PVC
41082-NBK	103002A01F300	MC 3P MP 30ft. 16/3 PVC	41109-18N	104000A03F1202	MC 4P FP 12ft. 18/4 PVC CORD
41082SS	103002A01F3001	MC 3P MP 30ft. 16/3 PVC SST	41109-18SS	104000A03F1201	MC 4P FP 12ft. 18/4 PVC CORD SST
41096	1R3G06A31A060	MC 3P MR 6in. 22/1 PVC FLNGD S	41109-90	104001A01F120	MC 4P FP 90 12ft. 16/4 PVC
41099-13.5	1R3D06A16A120	MC 3P MR 305MM PG13.5	41109-90N	104001A01F1202	MC 4P FP 90 12ft. 16/4 PVC N-M
41101	1R4007A20A120	MC 4P MR 12in. 16/1 90DEG PVC	41109-90SS	104001A01F1201	MC 4P FP 90 12ft. 16/4 PVC SST
41103	1R4006A20A120	MC 4P MR 12in. 16/1 PVC LDS	41109-E	104000A05M050	MC 4P FP 5M 18/4 PVC CORD
41103-13.5	1R4D06A25A120	MC 4P MR 305MM PG13.5	41109-E-90	104001A05M050	MC 4P FP 5M 90D 18/4 PVC
41103G	1R4006A20A120	MC 4P MR 12in. 16/1 PVC GOLD	41109-ESS	104000A05M0501	MC 4P FP 5M 18/4 PVC CORD SST
41103N	1R4006A20A1202	MC 4P MR 12in. 16/1 PVC N-M	41109N	104000A01F1202	MC 4P FP 12ft. 16/4 PVC N-M
41103-NBK	1R4006A20A120	MC 4P MR 12in. 16/1 PVC LDS	41109N-18	104000A03F1202	MC 4P FP 12ft. 18/4 PVC N-M
41103SS	1R4006A20A1201	MC 4P MR 12in. 16/1 PVC LDS SST	41109N-1890	104001A03F1202	MC 4P FP 90D 12ft. 18/4 PVC N-M
41104	1R4004A20A120	MC 4P FR 12in. 16/1 PVC LDS	41109N-E	104000A05M0502	MC 4P FP 5M 18/4 PVC CORD N-M
41104-13.5	1R4D04A25A120	MC 4P FR 305MM PG13.5	41109S	104000C01F120	MC 4P FP 12ft. 16/4 SOO CORD
41104N	1R4004A20A1202	MC 4P FR 12in. 16/1 PVC LDS N-	41109S-90	104001C01F120	MC 4P FP 12ft. 90D 16/4 SOO
41104SS	1R4004A20A1201	MC 4P FR 12in. 16/1 PVC SS LT	41109S-NBK	104000C01F120	MC 4P FP 12ft. 16/4 SOO CORD
41105	1R4005A20A120	MC 4P FR 12in. 16/1 90DEG PVC	41109SS	104000A01F1201	MC 4P FP 12ft. 16/4 PVC,SST COUP
41107	104000A01F030	MC 4P FP 3ft. 16/4 PVC CORD	41110	104002A01F030	MC 4P MP 3ft. 16/4 PVC CORD
41107-18	104000A03F030	MC 4P FP 3ft. 18/4 PVC CORD	41110-18	104002A03F030	MC 4P MP 3ft. 18/4 PVC
41107-1890	104001A03F030	MC 4P FP 90DEG 3ft. 18/4 PVC	41110-18SS	104002A03F0301	MC 4P MP 3ft. 18/4 PVC,SST COUP
41107-1890N	104001A03F0302	MC 4P FP 90DEG 3ft. 18/4 PVC N-M	41110-90	104003A01F030	MC 4P MP 3ft. 90 DEG 16/4 PVC
41107-90	104001A01F030	MC 4P FP 90 3ft. 16/4 PVC	41110-E	104002A05M010	MC 4P MP 1M PVC CORD
41107-90SS	104001A01F0301	MC 4P FP 3ft. 90D 16/4 PVC SST	41110N	104002A01F0302	MC 4P MP 3ft. 16/4 PVC N-M
41107-E	104000A05M010	MC 4P FP 1M 18/4 PVC CORD	41110N-18	104002A03F0302	MC 4P MP 3ft. 18/4 PVC N-M
41107N	104000A01F0302	MC 4P FP 3ft. 16/4 PVC CORD N-	41110N-90	104003A01F0302	REPLACED BY 41110-90N
41107N-90	104001A01F0302	MC 4P FP 90D 3ft. 16/4 N-M	41110NYL	104002A01F0302	MC 4P MP 3ft. 16/4 PVC NYLON
41107S	104000C01F030	MC 4P FP 3ft. 16/4 SOO CORD	41110S	104002C01F030	MC 4P MP 3ft. 16/4 SOO CORD
41107S-90	104001C01F030	MC 4P FP 3ft. 90D 16/4 SOO	41110SS	104002A01F0301	MC 4P MP 3ft. 16/4 PVC,SST COUP
41107SS	104000A01F0301	MC 4P FP 3ft. 16/4 PVC SST NUT	41111	104002A01F060	MC 4P MP 6ft. 16/4 PVC CORD
41108	104000A01F060	MC 4P FP 6ft. 16/4 PVC CORD	41111-18	104002A03F060	MC 4P MP 6ft. 18/4 PVC CORD
41108-18	104000A03F060	MC 4P FP 6ft. 18/4 PVC CORD	41111-1890	104003A03F060	MC 4P MP 6ft. 90 DEG 18/4 PVC
41108-1890	104001A03F060	MC 4P FP 90DEG 6ft. 18/4 PVC	41111-1890SS	104003A03F0601	MC 4P MP 90D 6ft. 18/4 PVC SST
41108-18SS	104000A03F0601	MC 4P FP 6ft. 18/4 PVC SS	41111-18SS	104002A03F0601	MC 4P MP 6ft. 18/4 PVC SST
41108-90	104001A01F060	MC 4P FP 90 6ft. 16/4 PVC	41111-90	104003A01F060	MC 4P MP 6ft. 90 DEG 16/4 PVC
41108-90N	104001A01F0602	MC 4P FP 90 6ft. 16/4 PVC N-M	41111-E	104002A05M020	MC 4P MP 2M PVC CORD
41108-E	104000A05M020	MC 4P FP 2M 18/4 PVC CORD	41111-E-90	104003A05M020	MC 4P MP 90D 2M PVC CORD
41108-E-90	104001A05M020	MC 4P FP 2M 90D 18/4 PVC	41111N	104002A01F0602	MC 4P MP 6ft. 16/4 PVC-N-M
41108-ESS	104000A05M0201	MC 4P FP 2M 18/4 PVC SST	41111N-18	104002A03F0602	MC 4P MP 6ft. 18/4 PVC N-M
41108N	104000A01F0602	MC 4P FP 6ft. 16/4 PVC N-M	41111S-90	104003C01F060	MC 4P MP 6ft. 90D 16/4 SOO
41108-NBK	104000A01F060	MC 4P FP 6ft. 16/4 PVC CORD	41111SS	104002A01F0601	MC 4P MP 6ft. 16/4 PVC,SST COUP
41108N-E	104000A05M0202	MC 4P FP 2M 18/4 PVC CORD N-M	41112	104002A01F120	MC 4P MP 12ft. 16/4 PVC CORD
41108S	104000C01F060	MC 4P FP 6ft. 16/4 SOO CORD	41112-18	104002A03F120	MC 4P MP 12ft. 18/4 PVC CORD

Mini-Change® Connector Cross-Reference

Old Part Number to New 13 Digit Part Number

Old Part #	13 Digit Part #	Item Description	Old Part #	13 Digit Part #	Item Description
41112-1890	104003A03F120	MC 4P MP 12ft. 90 DEG 18/4 PVC	41153N-90	104001A01F2502	REPLACED BY 104001A01F2502
41112-1890SS	104003A03F1201	MC 4P MP 90D 12ft. 18/4 PVC SST	41153-NBK	104000A01F250	MC 4P FP 25ft. 16/4 PVC
41112-18SS	104002A03F1201	MC 4P MP 12ft. 18/4 PVC CORD SST	41153SS	104000A01F2501	MC 4P FP 25ft. 16/4 PVC SST
41112-90	104003A01F120	MC 4P MP 12ft. 90 DEG 16/4 PVC	41156	114020A01F250	MC 4P MFE 25ft. 16/4 PVC
41112-90N	104003A01F1202	MC 4P MP 12ft. 90 DEG 16/4 PVC	41156N	114020A01F2502	MC 4P MFE 25ft. 16/4 PVC N-M
41112-90SS	104003A01F1201	MC 4P MP 12ft. 90D 16/4 SST	41156SS	114020A01F2501	MC 4P MFE 25ft. 16/4 PVC SST
41112-E	104002A05M050	MC 4P MP 5M PVC CORD	41163	104002A01F250	MC 4P MP 25ft. 16/4 PVC
41112N	104002A01F1202	MC 4P MP 12ft. 16/4 PVC N-M	41163-90	104003A01F250	MC 4P MP 25ft. 90D 16/4 PVC
41112N-18	104002A03F1202	MC 4P MP 12ft. 18/4 PVC N-M	41163N	104002A01F2502	MC 4P MP 25ft. 16/4 PVC N-M
41112-NBK	104002A01F120	MC 4P MP 12ft. 16/4 PVC	41165	1R4004A20F060	MC 4P FR 6ft. 16/1 PVC LDS
41112NYL	104002A01F1202	MC 4P MP 12ft. 16/4 PVC NYLON	41165SS	1R4004A20F0601	MC 4P FR 6ft. 16/1 PVC LDS SS LT
41112S	104002C01F120	MC 4P MP 12ft. 16/4 SOO CORD	41170	1R4007A20F060	MC 4P MR 6ft. 16/1 90DEG PVC L
41112SS	104002A01F1201	MC 4P MP 12ft. 16/4 PVC,SST COUP	41177	104000A01F200	MC 4P FP 20ft. 16/4 PVC
41115	114020A01F120	MC 4P MFE 12ft. 16/4 PVC	41177-18	104000A03F200	MC 4P FP 20ft. 18/4 PVC
41115-90	114021A01F120	MC 4P MFE 90 12ft. 16/4 PVC	41177-1890	104001A03F200	MC 4P FP 90DEG 20ft. #18/4 PVC
41115N	114020A01F1202	MC 4P MFE 12ft. 16/4 PVC N-M	41177-18SS	104000A03F2001	MC 4P FP 20ft. 18/4 PVC SST
41115SS	114020A01F1201	MC 4P MFE 12ft. 16/4 PVC,SS COUP	41177-90	104001A01F200	MC 4P FP 20ft. 16/4 PVC 90DEG
41118	114020A01F200	MC 4P MFE 20ft. 16/4 PVC	41177-90N	104001A01F2002	MC 4P FP 20ft. 16/4 PVC 90D N-
41118-90	114021A01F200	MC 4P MFE ST/90 20ft. 16/4 PVC	41177N	104000A01F2002	MC 4P FP 20ft. 16/4 PVC N-M
41118N	114020A01F2002	MC 4P MFE 20ft. 16/4 PVC N-M	41177-NBK	104000A01F200	MC 4P FP 20ft. 16/4 PVC
41118SS	114020A01F2001	MC 4P MFE 20ft. 16/4 PVC SST	41177S	104000C01F200	MC 4P FP 20ft. 16/4 SOO CORD
41119	114020A01F030	MC 4P MFE 3ft. 16/4 PVC	41177S-NBK	104000C01F200	MC 4P FP 20ft. 16/4 SOO CORD
41119-18	114020A03F030	MC 4P MFE 3ft. 18/3 PVC	41177SS	104000A01F2001	MC 4P FP 20ft. 16/4 PVC SST
41119-90	114021A01F030	MC 4P MFE 90 3ft. 16/4 PVC	41177SSS	104000C01F2001	MC 4P FP 20ft. 16/4 SOO SST
41119N	114020A01F0302	MC 4P MFE 3ft. 16/4 PVC N-M	41186	104000A01F150	MC 4P FP 15ft. 16/4 PVC
41119S	114020C01F030	MC 4P MFE 3ft. 16/4 SOO CBL	41186-90	104001A01F150	MC 4P FP 90 DEG 15ft. 16/4 PVC
41119S-90	114021C01F030	MC 4P MFE 90D 3ft. 16/4 SOO	41186-90N	104001A01F1502	MC 4P FP 15ft. 16/4 90D NON-MET
41119SS	114020A01F0301	MC 4P MFE 3ft. 16/4 PVC S.S.	41186-90SS	104001A01F1501	MC 4P FP 90D 15ft. 16/4 PVC SST
41120	114020A01F060	MC 4P MFE 6ft. 16/4 PVC	41186N	104000A01F1502	MC 4P FP 15ft. 16/4 PVC
41120-18	114020A03F060	MC 4P MFE 6ft. 18/4 PVC	41186N-90	104001A01F1502	REPLACED BY 41186-90N
41120-90	114021A01F060	MC 4P MFE 90 6ft. 16/4 PVC	41186SS	104000A01F1501	MC 4P FP 15ft. 16/4 PVC SST
41120N	114020A01F0602	MC 4P MFE 6ft. 16/4 PVC N-M	41189	104000A01F300	MC 4P FP 30ft. 16/4 PVC
41120N-18	114020A03F0602	MC 4P MFE 6ft. 18/4 PVC N-M	41189-90	104001A01F300	MC 4P FP 30ft. 90D 16/4 PVC CO
41120S	114020C01F060	MC 4P MFE 6ft. 16/4 SOO	41189N	104000A01F3002	MC 4P FP 30ft. 16/4 PVC N-M
41120S-90	114021C01F060	MC 4P MFE 90D 6ft. 16/4 SOO	41189-NBK	104000A01F300	MC 4P FP 30ft. 16/4 PVC
41120SS	114020A01F0601	MC 4P MFE 6ft. 16/4 PVC S.S.	41189SS	104000A01F3001	MC 4P FP 30ft. 16/4 PVC SST
41132	1040F0A20F060	MC 4P FP-LT 6ft. 16/1 PVC LDS	41233	104002A01F300	MC 4P MP 30ft. 16/4 PVC
41134	104002A01F200	MC 4P MP 20ft. 16/4 PVC	41233-90	104003A01F300	MC 4P MP 90D 30ft. 16/4 PVC
41134-18SS	104002A03F2001	MC 4P MP 20ft. 18/4 PVC SST	41233-NBK	104002A01F300	MC 4P MP 30ft. 16/4 PVC
41134-90	104003A01F200	MC 4P MP 20ft. 90D 16/4 PVC	41233SS	104002A01F3001	MC 4P MP 30ft. 16/4 PVC SST
41134N	104002A01F2002	MC 4P MP 20ft. 16/4 PVC N-M	41234	1R4G06A20A060	MC 4P MR 6in. PVC FLNGD SHEL
41134SS	104002A01F2001	MC 4P MP 20ft. 16/4 PVC S.S.	41254	1R4G06A20A120	MC 4P MR 12in.16/1 PVC FLNGD S
41134SS-90	104003A03F2001	MC 4P MP 90D 20ft. 16/4 PVC SST	41254SS	1R4G06A20A1201	MC 4P MR 12in. 16/1 PVC FLNG SST
41144	1R4006A20F060	MC 4P MR 6ft. 16/1 PVC LDS	41258	114020A01F300	MC 4P MFE 30ft.16/4 PVC
41153	104000A01F250	MC 4P FP 25ft. 16/4 PVC	41258N	114020A01F3002	MC 4P MFE 30ft. 16/4 PVC NON-MET
41153-90	104001A01F250	MC 4P FP 25ft. 90D 16/4 PVC	41258SS	114020A01F3001	MC 4P MFE 30ft. 16/4 PVC SST
41153N	104000A01F2502	MC 4P FP 25ft. 16/4 PVC N-M	41306	105000A01F030	MC 5P FP 3ft. 16/5 PVC CORD

Mini-Change® Connector Cross-Reference

Old Part Number to New 13 Digit Part Number

Old Part #	13 Digit Part #	Item Description	Old Part #	13 Digit Part #	Item Description
41306-18	105000A03F030	MC 5P FP 3ft. 18/5 PVC STRAIGHT	41310B	1R5006A20A120	MC 5P MR 12in. #16/1 PVC
41306-1890	105001A03F030	MC 5P FP 90DEG 3ft. 18/5 PVC	41310G	1R5006A20A120	MC 5P MR 12in. 16/1 PVC GOLD
41306-90	105001A01F030	MC 5P FP 3ft. 90DEG 16/5 PVC	41310N	1R5006A20A1202	MC 5P MR 12in. 16/1 PVC N-M
41306-E	105000A07M010	MC 5P FP 1M 20/5 PVC CORD	41310-NBK	1R5006A20A120	MC 5P MR 12in. #16/1 PVC LEADS
41306-E-90	105001A07M010	MC 5P FP 1M 90D 20/5 PVC	41310NYL	1R5006A20A1202	MC 5P MR 12in. 16/1 PVC NYLON
41306N	105000A01F0302	MC 5P FP 3ft. 16/5 PVC CORD	41310SS	1R5006A20A1201	MC 5P MR 12in. 16/1 PVC LDS SST
41306N-90	105001A01F0302	REPLACED BY 41306-90N	41311	1R5007A20A120	MC 5P MR 12in. 16/1 90DEG PVC
41306S	105000C01F030	MC 5P FP 3ft. 16/5 SOO CORD	41313	1R5004A20A120	MC 5P FR 12in. 16/1 PVC LDS
41306S-90	105001C01F030	MC 5P FP 3ft. 90 DEG 16-5 SOO	41313-13.5	1R5D04A25A120	MC 5P FR 305MM PG13.5
41306SS	105000A01F0301	MC 5P FP 3ft. 16/5 PVC,SST COUP	41313G	1R5004A20A120	MC 5P FR 12in. 16/1 PVC GOLD
41306SSS	105000C01F0301	MC 5P FP 3ft. 16/5 SOO SST	41313N	1R5004A20A1202	MC 5P FR 12in. 16/1 PVC N-M
41307	105000A01F060	MC 5P FP 6ft. 16/5 PVC CORD	41313SS	1R5004A20A1201	MC 5P FR 12in. 16/1 PVC LDS SST
41307-18	105000A03F060	MC 5P FP 6ft. 18/5 PVC STRAIGHT	41314	1R5005A20A120	MC 5P FR 12in. 16/1 90DEG PVC
41307-1890	105001A03F060	MC 5P FP 90DEG 6ft. 18/5 PVC	41315	105002A01F030	MC 5P MP 3ft. 16/5 PVC CORD
41307-90	105001A01F060	MC 5P FP 6ft. 90DEG 16/5 PVC	41315-18	105002A03F030	MC 5P MP 3ft. 18/5 PVC CORD
41307-90N	105001A01F0602	MC 5P FP 6ft. 90DEG 16/5 PVC N	41315-1890	105003A03F030	MC 5P MP 3ft. 90 DEG 18/5 PVC
41307-E	105000A07M020	MC 5P FP 2M 20/5 PVC CORD	41315-18SS	105002A03F0301	MC 5P MP 3ft. 16/5 PVC SST
41307-E-90	105001A07M020	MC 5P FP 2M 90 D 20/5 PVC	41315-90	105003A01F030	MC 5P MP 3ft. 90 DEG 16/5 PVC
41307N	105000A01F0602	MC 5P FP 6ft. 16/5 PVC CORD	41315-E	105002A07M010	MC 5P MP 1M PVC CORD
41307N-18	105000A03F0602	MC 5P FP 6ft. 18/5 4R1G PVC	41315N	105002A01F0302	MC 5P MP 3ft. 16/5 PVC N-M
41307N-E	105000A07M0202	MC 5P FP 2M 20/5 PVC NYL	41315N-18	105002A03F0302	MC 5P MP 3ft. 18/5PVC N-M
41307S	105000C01F060	MC 5P FP 6ft. 16/5 SOO CORD	41315N-1890	105003A03F0302	3C 5P MP 3ft. 90D 18/5 N-M
41307S-90	105001C01F060	MC 5P FP 6ft. 90 DEG 16-5 SOO	41315S	105002C01F030	MC 5P MP 3ft. 16/5 SOO CORD
41307S-90-NBK	105001C01F060	MC 5P FP 6ft. 90 DEG 16-5 SOO	41315SS	105002A01F0301	MC 5P MP 3ft. 16/5 PVC SST
41307S-NBK	105000C01F060	MC 5P FP 6ft. 16/5 SOO CORD	41315SSS	105002C01F0301	MC 5P MP 3ft. 16/5 SOO SST
41307SS	105000A01F0601	MC 5P FP 6ft. 16/5 PVC,SST COUP	41316	105002A01F060	MC 5P MP 6ft. 16/5 PVC CORD
41307SS-90	105001A01F0601	MC 5P FP 6ft. 90DEG 16/5 PVC SS	41316-18	105002A03F060	MC 5P MP 6ft. 18/5 PVC CORD
41308	105000A01F120	MC 5P FP 12ft. 16/5 PVC CORD	41316-1890	105003A03F060	MC 5P MP 6ft. 90 DEG 18/5 PVC
41308-18	105000A03F120	MC 5P FP 12ft. 18/5 PVC STRAIGHT	41316-90	105003A01F060	MC 5P MP 6ft. 90 DEG 16/5 PVC
41308-1890	105001A03F120	MC 5P FP 90DEG 12ft. 18/5 PVC	41316-E	105002A07M020	MC 5P MP 2M PVC CORD
41308-1890SS	105001A03F1201	MC 5P FP 90DEG 12ft. 18/5 SST	41316-E-90	105003A07M020	MC 5P MP 90D 2M PVC CORD
41308-90	105001A01F120	MC 5P FP 12ft. 90DEG 16/5 PVC	41316N	105002A01F0602	MC 5P MP 6ft. 16/5 PVC N-M
41308-90N	105001A01F1202	MC 5P FP 12ft. 90DEG 16/5 PVC	41316N-18	105002A03F0602	MC 5P MP 6ft. 18/5PVC N-M
41308-E	105000A07M050	MC 5P FP 5M 20/5 PVC CORD	41316N-1890	105003A03F0602	MC 5P MP 6ft. 90D 18/5 PVC N-M
41308-E-90	105001A07M050	MC 5P FP 5M 90 D 20/5 PVC	41316S	105002C01F060	MC 5P MP 6ft. 16/5 SOO CORD
41308N	105000A01F1202	MC 5P FP 12ft. 16/5 PVC CORD	41316SS	105002A01F0601	MC 5P MP 6ft. 16/5 PVC SST
41308N-18	105000A03F1202	MC 5P FP 12ft. 18/5 4R1G PVC	41316SS-90	105003A01F0601	MC 5P MP 6ft. 90D 16/5 PVC SST
41308N-1890	105001A03F1202	MC 5P FP 12ft.90D 18/5 PVC N-M	41317	105002A01F120	MC 5P MP 12ft. 16/5 PVC CORD
41308S	105000C01F120	MC 5P FP 12ft. 16/5 SOO CORD	41317-18	105002A03F120	MC 5P MP 12ft. 18/5 PVC CORD
41308S-90	105001C01F120	MC 5P FP 12ft. 90 DEG 16-5 SOO	41317-18G	105002A03F120	MC 5P MP 12ft. 18/5PVC STRT GOLD
41308S-NBK	105000C01F120	MC 5P FP 12ft. 16/5 SOO CORD	41317-90	105003A01F120	MC 5P MP 12ft. 90D 16/5 PVC
41308SS	105000A01F1201	MC 5P FP 12ft. 16/5 PVC,SST COUP	41317-E	105002A07M050	MC 5P MP 5M PVC CORD
41308SS-90	105001A01F1201	MC 5P FP 12ft. 90DEG 16/5 SST	41317N	105002A01F1202	MC 5P MP 12ft. 16/5 PVC N-M
41308SS-90E	105001A07M0501	MC 5P FP 5M 90D 20/5 PVC SST	41317NYL	105002A01F1202	MC 5P MP 12ft. 16/5 PVC NYLON
41308SSS	105000C01F1201	MC 5P FP 12ft. 16/5 SOO SST	41317S	105002C01F120	MC 5P MP 12ft. 16/5 SOO CORD
41310	1R5006A20A120	MC 5P MR 12in #16/1 PVC LEADS	41317SS	105002A01F1201	MC 5P MP 12ft. 16/5 PVC,SST COUP
41310-13.5	1R5D06A25A120	MC 5P MR 305MM PG13.5	41317SSS	105002C01F1201	MC 5P MP 12ft. 16/5 SOO SST

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Old Part Number to New 13 Digit Part Number

Old Part #	13 Digit Part #	Item Description	Old Part #	13 Digit Part #	Item Description
41319	115020A01F030	MC 5P MFE 3ft. 16/5 PVC CORD	41343N	115020A01F1202	MC 5P MFE 12ft. 16/5 PVC N-M
41319-18	115020A03F030	MC 5P MFE 3ft. 18/5 PVC GOLD	41343S	115020C01F120	MC 5P MFE 12ft. 16-5 SOO CORD
41319-18G	115020A03F030	MC 5P MFE 3ft. 18/5 PVC GOLD	41343S-90	115021C01F120	MC 5P MFE 90 12ft. 16/5 SOO
41319-90	115021A01F030	MC 5P MFE90 3ft. 16/5 PVC	41343SS	115020A01F1201	MC 5P MFE 12ft. 16/5 PVC SST
41319N	115020A01F0302	MC 5P MFE 3ft. 16/5 PVC N-M	41343SSS	115020C01F1201	MC 5P MFE 12ft. 16/5 SOO SST
41319S	115020C01F030	MC 5P MFE 3ft. 16-5 SOO CORD	41344	1050F0A20F060	MC 5P FP-LT 6ft. 16/1 PVC LDS
41319SS	115020A01F0301	MC 5P MFE 3ft. 16/5 PVC CORD SS	41347	115020A01F150	MC 5P MFE 15ft. 16/5 PVC CORD
41320	115020A01F060	MC 5P MFE 6ft. 16/5 PVC CORD	41347N	115020A01F2002	MC 5P MFE 15ft. 16/5 PVC N-M
41320-18	115020A03F060	MC 5P MFE 6ft. 18/5 PVC	41347SS	115020A01F1501	MC 5P MFE 15ft. 16/5 PVC SST
41320-1890	115021A01F060	MC 5P MFE ST/90 6ft. 18/5 PVC	41352	1R5004A24A120	MC 5P FR 12in. 16/1 PVC 4R1G
41320-18G	115020A03F060	MC 5P MFE 6ft. 18/5 PVC GOLD	41352SS	1R5004A24A1201	MC 5P FR 12in. 16/1 PVC 4R1G
41320-90	115021A01F060	MC 5P MFE 90 6ft. 16/5 PVC	41354	105000A02F120	MC 5P FP 12ft. 4R1G 16/5 PVC
41320N	115020A01F0602	MC 5P MFE 6ft. 16/5 PVC N-M	41354-18	105000A03F120	MC 5P FP 12ft. 18/5 PVC 4R1G
41320S	115020C01F060	MC 5P MFE 6ft. 16-5 SOO CORD	41354-1890	105001A03F120	MC 5P FP 90DEG 12ft. 18/5 AUTO
41320S-90	115021C01F060	MC 5P MFE 90 6ft. 16/5 SOO	41354-18G	105000A03F120	MC 5P FP 12ft. 18/5 AUTO GOLD
41320SS	115020A01F0601	MC 5P MFE 6ft. 16/5 PVC SS	41354-90	105001A02F120	MC 5P FP 90 12ft. 16/5 PVC AUT
41322	105000A01F200	MC 5P FP 20ft. 16/5 PVC	41355	105002A02F060	MC 5P MP 6ft. 16/5 PVC 4R1G
41322-18	105000A03F200	MC 5P FP 20ft. 18/5 PVC	41356	105002A02F120	MC 5P MP 12ft. 16/5 4R1G PVC
41322-1890	105001A03F200	MC 5P FP 90D 20ft. 18/5 PVC	41360	105000A02F060	MC 5P FP 6ft. 4R1G 16/5 PVC CO
41322-1890SS	105001A03F2001	MC 5P FP 90D 20ft. 18/5 PVC SST	41360-18	105000A03F060	MC 5P FP 6ft. 18/5 PVC 4R1G
41322-18G	105000A03F200	MC 5P FP 20ft. 18/5 GLD	41360-1890	105001A03F060	MC 5P FP 90DEG 6ft.18/5 AUTO
41322-90	105001A01F200	MC 5P FP 20ft. 90D 16/5 PVC	41360-18G	105000A03F060	MC 5P FP 6ft. 18/5 AUTO GOLD
41322N	105000A01F2002	MC 5P FP 20ft. 16/5 PVC N-M	41360-90	105001A02F060	MC 5P FP 90 6ft. 16/5 PVC AUTO
41322N-18	105000A03F2002	MC 5P FP 20ft. 18/5 PVC N-M	41360N	105000A02F0602	MC 5P FP 6ft. 4R1G 16/5 PVC N-M
41322N-90	105001A01F2002	REPLACED BY 105001A01F2002	41370	115020A01F250	MC 5P MFE 25ft. 16/5 PVC CORD
41322S	105000C01F200	MC 5P FP 20ft. 16/5 SOO CBL	41370SS	115020A01F2501	MC 5P MFE 25ft. 16/5 PVC SST
41322S-90	105001C01F200	MC 5P FP 20ft. 16/5 SOO CBL 90	41372	105000A01F150	MC 5P FP 15ft. 16/5 PVC
41322SS	105000A01F2001	MC 5P FP 20ft. 16/5 PVC,SST COUP	41372-90	105001A01F150	MC 5P FP 15ft. 90 DEG 16/5 PVC
41322SSS	105000C01F2001	MC 5P FP 20ft. 16/5 SOO SST	41372-90N	105001A01F1502	MC 5P FP 15ft. 90 DEG 16/5 PVC
41325	105000A01F300	MC 5P FP 30ft. 16/5 PVC	41372N	105000A01F1502	MC 5P FP 15ft. 16/5 PVC N-M
41325-90	105001A01F300	MC 5P FP 90D 30ft. 16/5 PVC	41372SS	105000A01F1501	MC 5P FP 15ft. 16/5 PVC,SST COUP
41325-NBK	105000A01F300	MC 5P FP 30ft. 16/5 PVC	41372SS-90	105001A01F1501	MC 5P FP 90D 15ft. 16/5 PVC SST
41325SS	105000A01F3001	MC 5P FP 30ft. 16/5 PVC,SST COUP	41375	105000A01F250	MC 5P FP 25ft. 16/5 PVC
41332	105002A01F200	MC 5P MP 20ft. 16/5 PVC	41375-90	105001A01F250	MC 5P FP 25ft. 90DEG 16/5 PVC
41332-90	105003A01F200	MC 5P MP 20ft. 90D 16/5 PVC	41375N	105000A01F2502	MC 5P FP 25ft. 16/5 PVC N-M
41332N	105002A01F2002	MC 5P MP 20ft. 16/5 PVC N-M	41375N-90	105001A01F2502	MC 5P FP 25ft. 16/5 PVC NYL CPLR
41332SS	105002A01F2001	MC 5P MP 20ft. 16/5 PVC S.S.	41375SS	105000A01F2501	MC 5P FP 25ft. 16/5 PVC,SST COUP
41332SSS	105002C01F2001	MC 5P MP 20ft. 16/5 SOO SST	41375SS-90	105001A01F2501	MC 5P FP 90D 25ft. 16/5 PVC SST
41338	1R5006A24A120	MC 5P MR 12in. 16/1 PVC LDS 4R	41381	105000A02F030	MC 5P FP 3ft. 4R1G 16/5 PVC CO
41338N	1R5006A24A1202	MC 5P MR 12in. 16/1 PVC N-M	41381-18	105000A03F030	MC 5P FP 3ft. 4R1G 18/5 PVC
41338SS	1R5006A24A1201	MC 5P MR 12in. 16/1PVC 4R1G SST	41381-1890	105001A03F030	MC 5P FP 90DEG 3ft.18/5 AUTO
41339	1R5007A24A120	MC 5P MR 12in. 16/1 PVC 90D 4R	41381-18G	105000A03F030	MC 5P FP 3ft. 18/5 AUTO GOLD
41343	115020A01F120	MC 5P MFE 12ft. 16/5 PVC CORD	41381-90	105001A02F030	MC 5P FP 90 3ft. 16/5 PVC AUT
41343-18	115020A03F120	MC 5P MFE 12ft. 18/5 PVC CORD	41387	105002A01F300	MC 5P MP 30ft. 16/5 PVC
41343-18G	115020A03F120	MC 5P MFE 12ft.18/5 PVC GOLD	41387-90	105003A01F300	MC 5P MP 30ft. 90D 16/5 PVC
41343-90	115021A01F120	MC 5P MFE 12ft. 16/5PVC 90D FEM.	41387N	105002A01F3002	MC 5P MP 30ft. 16/5 PVC N-M
41343G	115020A01F120	MC 5P MFE 12ft.16/6 PVC GOLD	41387-NBK	105002A01F300	MC 5P MP 30ft. 16/5 PVC

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Old Part Number to New 13 Digit Part Number

Old Part #	13 Digit Part #	Item Description	Old Part #	13 Digit Part #	Item Description
41387SS	105002A01F3001	MC 5P MP 30ft. 16/5 PVC SST	41607G	1R6004A20A120	MC 6P FR 12in. 16/1 PVC GLD
41403	1R5004A24F060	MC 5P FR 6ft. 16/1 PVC LDS	41607N	1R6004A20A1202	MC 6P FR 12in. 16/1 PVC N-M
41403N	1R5004A20F0602	MC 5P FR 6ft. 16/1 PVC N-M	41607SS	1R6004A20A1201	MC 6P FR 12in. 16/1 PVC LDS S.S.
41482	1R5004A20F030	MC 5P FR 3ft. 16/1 PVC LDS	41608	106002A01F030	MC 6P MP 3ft. 16/6 PVC CORD
41482G	1R5004A20F030	MC 5P FR 3ft. 16/1 PVC GOLD	41608-90	106003A01F030	MC 6P MP 3ft. 90 DEG 16/6 PVC
41512	1R5G06A20A060	MC 5P MR 6in. PVC FLNGD SHEL	41608N	106002A01F0302	MC 6P MP 3ft. 16/6 PVC N-M
41519	105000A02F200	MC 5P FP 20ft. 4R1G 16/5 PVC	41609	106002A01F060	MC 6P MP 6ft. 16/6 PVC CORD
41519-18	105000A03F200	MC 5P FP 20ft. 18/5 PVC STRAIGHT	41609-90	106003A01F060	MC 6P MP 6ft. 90D 16/6 PVC COR
41519-90	105001A02F200	MC 5P FP 90D 20ft. 4R1G 16/5 P	41609N	106002A01F0602	MC 6P MP 6ft. 16/6 PVC CORD N-
41529	115020A01F200	MC 5P MFE 20ft. 16/5 PVC CORD	41609N-90	106003A01F0602	REPLACED BY 106003A01F0602
41529-90	115021A01F200	MC 5P MFE ST/90 20ft. 16/5 PVC	41609SS	106002A01F0601	MC 6P MP 6ft. 16/6 PVC SST
41529N	115020A01F2002	MC 5P MFE 20ft. 16/5 PVC N-M	41610	106002A01F120	MC 6P MP 12ft. 16/6 PVC CORD
41529SS	115020A01F2001	MC 5P MFE 20ft. 16/5 PVC SST	41610-90	106003A01F120	MC 6P MP 12ft. 90 DEG 16/6 PVC
41537	1R5G06A20A120	MC 5P MR 12in. 16/1 FLANGED SH	41610-90N	106003A01F1202	MC 6P MP 12ft. 90D 16/6 PVC N-M
41584	1R5004A24F060	MC 5P FR 6ft. 16/1 PVC 4R1G	41610N	106002A01F1202	MC 6P MP 12ft. 16/6 PVC N-M
41587	105002A02F030	MC 5P MP 3ft. 16/5 PVC 4R1G	41610SS	106002A01F1201	MC 6P MP 12ft. 16/6 PVC CORD S.S
41590	105002A01F250	MC 5P MP 25ft. 16/5 PVC CORD	41614	106002A01F200	MC 6P MP 20ft. 16/6 in.Ain. SI
41590-90	105003A01F250	MC 5P MP 25ft. 90D 16/5 PVC	41614-90	106003A01F200	MC 6P MP 20ft. 90D 16/6 PVC
41590SS	105002A01F2501	MC 5P MP 25ft. 16/5 PVC CORD SS	41614N	106002A01F2002	MC 6P MP 20ft. 16/6 PVC N-M
41596	105002A01F150	MC 5P MP 15ft. 16/5 PVC CORD	41614SS	106002A01F2001	MC 6P MP 20ft. 16/6 "A" SIZE SS
41596-90	105003A01F150	MC 5P MP 15ft. 90D 16/5 PVC	41620	116020A01F030	MC 6P MFE 3ft. 16/6 PVC A-SIZ
41596N	105002A01F1502	MC 5P MP 15ft. 16/5 PVC N-M	41620G	116020A01F030	MC 6P MFE 3ft. 16/6 PVC GOLD
41596SS	105002A01F1501	MC 5P MP 15ft. 16/5 PVC SST	41620N	116020A01F0302	MC 6P MFE 3ft. 16/6 PVC N-M
41597	115022A01F030	MC 5P MFE 3ft. 16/5 M 90DEG	41620SS	116020A01F0301	MC 6P MFE 3ft. 16/6 PVC SST A-SZ
41601	106000A01F030	MC 6P FP 3ft. 16/6 PVC A SIZE	41621	116020A01F060	MC 6P MFE 6ft. 16/6 PVC A-SIZ
41601-90	106001A01F030	MC 6P FP 3ft. 90DEG 16/6 PVC	41621SS	116020A01F0601	MC 6P MFE 6ft. 16/6 PVC STS CPL
41601N	106000A01F0302	MC 6P FP 3ft. 16/6 PVC N-M	41622	116020A01F120	MC 6P MFE 12ft. 16/6 PVC A-SIZ
41601N-90	106001A01F0302	REPLACED BY 41601-90N	41622G	116020A01F120	MC 6P MFE 12ft. 16/6 PVC GOLD
41601SS	106000A01F0301	MC 6P FP 3ft. 16/6 PVC CORD SS	41622L	116020A01F120	MC 6P MFE 12ft. 16/6 PVC
41602	106000A01F060	MC 6P FP 6ft. 16/6 PVC A SIZE	41622N	116020A01F1202	MC 6P MFE 12ft. 16/6 PVC N-M
41602-90	106001A01F060	MC 6P FP 6ft. 16/6 PVC in.Ain.	41623	106000A01F200	MC 6P FP 20ft. 16/6 PVC A-SIZ
41602-90N	106001A01F0602	MC 6P FP 6ft. 16/6 PVC in.Ain.	41623-90	106001A01F200	MC 6P FP 20ft. 90DEG 16/6 PVC
41602N	106000A01F0602	MC 6P FP 6ft. 16/6 PVC N-M	41623SS	106000A01F2001	MC 6P FP 20ft. 16/6 PVC SST
41602SS	106000A01F0601	MC 6P FP 6ft. 16/6 PVC CORD SS	41624	106G06A31A060	MC 6P MR 6in. 22/1 PVC FLNGD S
41603	106000A01F120	MC 6P FP 12ft. 16/6 PVC A SIZE	41625	116020A01F200	MC 6P MFE 20ft. 16/6 PVC
41603-90	106001A01F120	MC 6P FP 12ft. 90DEG 16/6 PVC	41625G	116020A01F200	MC 6P MFE 20ft. 16/6 PVC GOLD
41603-90N	106001A01F1202	MC 6P FP 12ft. 90D 16/6 PVC N-	41625SS	116020A01F2001	MC 6P MFE 20ft. 16/6 PVC S.S.
41603N	106000A01F1202	MC 6P FP 12ft. 16/6 N-M	41632	106002A01F150	MC 6P MP 15ft. 16/6 PVC
41603SS	106000A01F1201	MC 6P FP 12ft. 16/6 PVC CORD SS	41632-90	106003A01F150	MC 6P MP 15ft. 90D 16/6 PVC
41603SS-90	106001A01F1201	MC 6P FP 12ft. 90D 16/6 PVC SST	41632N	106002A01F1502	MC 6P MP 15ft. 16/6 PVC N/M
41604	1R6007A20A120	MC 6P MR 12in. 16/1 90DEG PVC	41632SS	106002A01F1501	MC 6P MP 15ft. 16/6 PVC SST
41605	1R6006A20A120	MC 6P MR 12in. 16/1 PVC LDS	41633	106002A01F250	MC 6P MP 25ft. 16/6 PVC in.Ain
41605G	1R6006A20A120	MC 6P MR 12in. 16/1 PVC GOLD	41633-90	106003A01F250	MC 6P MP 25ft. 90D 16/6 PVC
41605N	1R6006A20A1202	MC 6P MR 12in. 16/1 LEADS N-M	41633N	106002A01F2502	MC 6P MP 25ft. 16/6 PVC N-M
41605SS	1R6006A20A1201	MC 6P MR 12in. 16/1 PVC LDS SS	41633SS-90	106003A01F2501	MC 6P MP 25ft. 90D 16/6 PVC SST
41606	1R6005A20A120	MC 6P FR 12in. 16/1 90DEG PVC	41634	106002A01F300	MC 6P MP 30ft. 16/6 PVC in.Ain
41607	1R6004A20A120	MC 6P FR 12in. 16/1 PVC LDS	41634-90	106003A01F300	MC 6P MP 30ft. 90D 16/6 PVC

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Old Part #	13 Digit Part #	Item Description	Old Part #	13 Digit Part #	Item Description
41634N	106002A01F3002	MC 6P MP 30ft. 16/6 PVC NYLON	42603-90	206001A01F120	MC 6P FP 12ft. 16/6 90D PVC CO
41634SS	106002A01F3001	MC 6P MP 30ft. 16/6 PVC SST	42603SS	206000A01F1201	MC 6P FP 12ft.16/6PVC "B" S.S.
41635	106000A01F150	MC 6P FP 15ft. 16/6 PVC A-SIZ	42605	2R6006A20A120	MC 6P MR 12in. 16/1 PVC
41635-90	106001A01F150	MC 6P FP 15ft.90 DEG 16/6 PVC	42605SS	2R6006A20A1201	MC 6P MR 12in. 16/1 PVC S.S.
41635N	106000A01F1502	MC 6P FP 15ft. 16/6 PVC N-M	42607	2R6004A20A120	MC 6P FR 12in. 16/1 PVC LDS
41636	106000A01F250	MC 6P FP 25ft. 16/6 PVC A-SIZ	42607SS	2R6004A20A1201	MC 6P FR 12in. 16/1 PVC LDS S.S.
41636-90	106001A01F250	MC 6P FP 25ft. 90D 16/6 PVC	42608	206002A01F030	MC 6P MP 3ft.16/6 PVC CORD in.
41636SS	106000A01F2501	MC 6P FP 25ft. 16/6 PVC SST A-SZ	42608-90	206003A01F030	MC 6P MP 3ft. 16/6 PVC 90D
41637	106000A01F300	MC 6P FP 30ft. 16/6 PVC A-SIZ	42608SS	206002A01F0301	MC 6P MP 3ft. 16/3 PVC SST "B"
41637-90	106001A01F300	MC 6P FP 30ft. 90DEG #16/6 PVC	42609	206002A01F060	MC 6P MP 6ft. 16/6 PVC CORD in
41637SS	106000A01F3001	MC 6P FP 30ft. 16/6 PVC SST A-SZ	42609-90	206003A01F060	MC 6P MP 6ft. 16/6 90D PVC COR
41639	116020A01F150	MC 6P MFE 15ft. 16/6 PVC A-SIZ	42609SS	206002A01F0601	MC 6P MP 6ft. 16/6 PVC SST
41639G	116020A01F150	MC 6P MFE 15ft. 16/6 PVC GOLD	42609SS-90	206003A01F0601	MC 6P MP 6ft. 16/6 PVC 90D SS
41639SS	116020A01F1501	MC 6P MFE 15ft. 16/6 PVC SST	42610	206002A01F120	MC 6P MP 12ft. 16/6 PVC CORD
41643	116020A01F250	MC 6P MFE 25ft.16/6 PVC A-SIZE	42610-90	206003A01F120	MC 6P MP 12ft. 16/6 PVC 90D
41643N	116020A01F2502	MC 6P MFE 25ft. 16/6 PVC N-M	42610SS	206002A01F1201	MC 6P MP 12ft. 16/6 PVC SST
41643SS	116020A01F2501	MC 6P MFE 25ft. 16/6 PVC SST	42611	226020A01F060	MC 6P MFE 6ft. 16/6 PVC CORD i
41644	116020A01F300	MC 6P MFE 30ft.16/6 PVC A-SIZE	42627	206002A01F200	MC 6P MP 20ft. 16/6 PVC CORD i
41644-90	116021A01F300	MC 6P MFE ST/90 30ft. 16/6 PVC	42627-90	206003A01F200	MC 6P MP 20ft. 90 DEG 16/6 PVC
41644SS	116020A01F3001	MC 6P MFE 30ft. 16/6 PVC SST	42627SS	206002A01F2001	MC 6P MP 20ft.16/6 PVC SST "B"
41646	1R6006A20F060	MC 6P MR 6ft. 16/1 PVC LDS	42628	226020A01F120	MC 6P MFE 12ft. 16/6 PVC
41646SS	1R6006A20F0601	MC 6P MR 6ft. 16/1 PVC LDS SST	42628-90	226021A01F120	MC 6P MFE ST/90 12ft. 16/6 PVC
41647	116020A01F250	MC 6P MFE 25ft. 16/6 PVC	42652	2R6G06A31A060	MC 6P MR 6in. FLANGE MT #22 PV
41648	116020A01F300	MC 6P MFE 30ft. 16/6 PVC	42660	226020A01F200	MC 6P MFE 20ft.16/6 PVC
41653	106000A04M050	MC 6P FP 5M 22/6 PVC	42671	226020A01F030	MC 6P MFE 3ft. 16/6 PVC
41654	106000A04M100	MC 6P FP 10M 22/6 PVC	42685	206000A01F200	MC 6P FP 20ft. 16/6 PVC CORD
41655	106020A04M050	MC 6P MFE 5M 22/6 PVC	42685-90	206001A01F200	MC 6P FP 20ft. 90 DEG 16/6 PVC
41656	106020A04M100	MC 6P MFE 10M 22/6 PVC	42685SS	206000A01F2001	MC 6P FP 20ft. 16/1 PVC SST B-SZ
41657	1R6004A19A120	MC 6P FR 12in.	42706	2R6006A20F060	MC 6P MR 6ft. 16/1 PVC
41660	1R6004A20F060	MC 6P FR 6ft. 16/1 PVC in.Ain.	42708	2R6004A20F060	MC 6P FR 6ft. 16/1 PVC in.Bin.
41660SS	1R6004A20F0601	MC 6P FR 6ft. 16/1 PVC LDS S.S.	42708SS	2R6004A20F0601	MC 6P FR 6ft. 16/1 PVC SST
41677	116023A01F120	MC 6P MFE 12ft.16/6 90/90 A-Size	42709	2R6004A20F030	MC 6P FR 3ft. 16/1 PVC
41739	1R6G04A20A120	MC 6P FR 12in. PVC FLANGED SHE	42801	207000A01F030	MC 7P FP 3ft. 16/7 PVC CORD in
41739SS	1R6G04A20A1201	MC 6P FR 12in. PVC FLNGD SHL SST	42801-90	207001A01F030	MC 7P FP 3ft. 16/7 90D PVC COR
41740	1R6004A20F030	MC 6P FR 3ft. 16/1 PVC	42801SS	207000A01F0301	MC 7P FP 3ft. 16/7 PVC SST
41751	1R6G06A20A120	MC 6P MR 12in.16/1 PVC FLNGD S	42802	207000A01F060	MC 7P FP 6ft. 16/7 PVC CORD in
41765	1R6007A20F060	MC 6P MR 6ft. 16/1 PVC 90DEG	42802-90	207001A01F060	MC 7P FP 6ft. 16/7 90D PVC COR
41766	1R6005A20F060	MC 6P FR 6ft. 16/1 PVC 90DEG	42802G	207000A01F060	MC 7P FP 6ft. 16/7 PVC GOLD
41767	1R6G06A20F060	MC 6P MR 6ft. 16/1 PVC FLNGD S	42802SS	207000A01F0601	MC 7P FP 6ft. 16/7 PVC S.S.
41768	1R6G04A20F060	MC 6P FR 6ft. 16/1 PVC FLNGD S	42802SS-90	207001A01F0601	MC 7P FP 90D 6ft. 16/7 PVC S.S.
42601	206000A01F030	MC 6P FP 3ft. 16/6 PVC CORD in	42803	207000A01F120	MC 7P FP 12ft. 16/7 PVC CORD i
42601-90	206001A01F030	MC 6P FP 3ft. 90D 16/6 PVC COR	42803-90	207001A01F120	MC 7P FP 12ft. 16/7 90D PVC CO
42601SS	206000A01F0301	MC 6P FP 3ft. 16/6 PVC SS	42803-90SS	207001A01F1201	MC 7P FP 12ft. 16/7 PVC 90D SST
42602	206000A01F060	MC 6P FP 6ft.16/6 PVC CORD in.	42803SS	207000A01F1201	MC 7P FP 12ft. 16/7 PVC CORD SS
42602-90	206001A01F060	MC 6P FP 6ft. 90D 16/6 PVC COR	42803SS-90	207001A01F1201	MC 7P FP 12ft. 90D 16/7 PVC SS
42602SS	206000A01F0601	MC 6P FP 6ft. 16/6 PVC SST	42805	2R7006A20A120	MC 7P MR 12in 16/1 PVC LDS
42603	206000A01F120	MC 6P FP 12ft. 16/6 PVC B SIZE	42805G	2R7006A20A120	MC 7P MR 12in. 16/1 PVC GOLD

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Old Part #	13 Digit Part #	Item Description	Old Part #	13 Digit Part #	Item Description
42805SS	2R7006A20A1201	MC 7P MR 12in. 16/1 PVC LDS S.S.	43003SS	208000A01F1201	MC 8P FP 12ft. 16/8 PVC SS
42807	2R7004A20A120	MC 7P FR 12in. 16/1 PVC LDS	43003SS-90	208001A01F1201	MC 8P FP 12ft. 16/8 PVC 90D SST
42807SS	2R7004A20A1201	MC 7P FR 12in. 16/1 PVC LDS S.S.	43005	2R8006A20A120	MC 8P MR 12in. 16/1 PVC LDS
42808	207002A01F030	MC 7P MP 3ft. 16/7 PVC CORD	43005G	2R8006A20A120	MC 8P MR 12in. 16/1 PVC GOLD
42808-90	207003A01F030	MC 7P MP 3ft. 16/7 90D PVC COR	43005SS	2R8006A20A1201	MC 8P MR 12in. 16/1 PVC S.S.
42808SS	207002A01F0301	MC 7P MP 3ft. 16/7 PVC SST	43007	2R8004A20A120	MC 8P FR 12in. 16/1 PVC LDS
42809	207002A01F060	MC 7P MP 6ft. 16/7 PVC CORD	43007G	2R8004A20A120	MC 8P FR 12in. 16/1 PVC GLD
42809-90	207003A01F060	MC 7P MP 6ft. 16/7 PVC 90D	43007SS	2R8004A20A1201	MC 8P FR 12in. 16/1 PVC SS
42809SS	207002A01F0601	MC 7P MP 6ft. 16/7 PVC SST	43008	208002A01F030	MC 8P MP 3ft. 16/8 PVC CORD
42810	207002A01F120	MC 7P MP 12ft.16/7 PVC CORD	43008-90	208003A01F030	MC 8P MP 3ft. 16/8 90D PVC COR
42810-90	207003A01F120	MC 7P MP 12ft. 16/7 90D PVC CO	43008SS	208002A01F0301	MC 8P MP 3ft. 16/8 PVC SST
42810SS	207002A01F1201	MC 7P MP 12ft.16/7 PVC CORD S.S.	43009	208002A01F060	MC 8P MP 6ft.16/8 PVC CORD
42819	227020A01F060	MC 7P MFE 6ft. 16/7 PVC CORD	43009-90	208003A01F060	MC 8P MP 6ft. 16/8 90D PVC COR
42819SS	227020A01F0601	MC 7P MFE 6ft. 16/7 PVC SST	43009SS	208002A01F0601	MC 8P MP 6ft. 16/8 PVC SST. CPL
42820	227020A01F120	MC 7P MFE 12ft. 16/7 PVC	43010	208002A01F120	MC 8P MP 12ft. 16/8 PVC CORD
42820SS	227020A01F1201	MC 7P MFE 12ft. 16/7 PVC SST	43010-90	208003A01F120	MC 8P MP 12ft. 16/8 90D PVC CO
42821	207000A01F200	MC 7P FP 20ft. 16/7 PVC CORD	43010SS	208002A01F1201	MC 8P MP 12ft.16/8 PVC S.S.
42821-90	207001A01F200	MC 7P FP 20ft. 90 DEG 16/7 PVC	43010SS-90	208003A01F1201	MC 8P MP 12ft. 16/8 PVC 90D SST
42821SS	207000A01F2001	MC 7P FP 20ft. 16/7 PVC CORD SS	43015	228020A01F060	MC 8P MFE 6ft. 16/8 PVC CORD
42834	207000A01F250	MC 7P FP 25ft. 16/7 PVC CORD i	43015-90	228021A01F060	MC 8P MFE ST/90 6ft. 16/8 PVC
42848	2R7G06A31A060	MC 7P MR 6in. #22 PVC FLANGE M	43015G	228020A01F060	MC 8P MFE 6ft.16/8 PVC GOLD
42850	207000A01F300	MC 7P FP 30ft. 16/7 PVC CORD	43015SS	228020A01F0601	MC 8P MFE 6ft. 16/8 PVC CORD
42856	227020A01F300	MC 7P MFE 30ft. 16/7 PVC	43056	228020A01F030	MC 8P MFE 3ft. 16/8 PVC CORD
42862	227020A01F030	MC 7P MFE 3ft. 16/7 PVC CORD	43056-90	228021A01F030	MC 8P MFE ST/90 3ft. 16/8 PVC
42866	227020A01F200	MC 7P MFE 20ft. 16/7 PVC CORD	43056SS	228020A01F0301	MC 8P MFE 3ft. 16/8 PVC SST
42866SS	227020A01F2001	MC 7P MFE 20ft. 16/7 PVC SST	43060	208000A01F250	MC 8P FP 25ft. 16/8 PVC CORD i
42867	227020A01F250	MC 7P MFE 25ft. 16/7 PVC	43062	208000A01F200	MC 8P FP 20ft. 16/8 PVC CORD i
42872	207002A01F200	MC 7P MP 20ft.16/7 PVC CORD	43062-90	208001A01F200	MC 8P FP 20ft. 90 DEG 16/8 PVC
42872-90	207003A01F200	MC 7P MP 20ft. 90 DEG 16/7 PVC	43062SS	208000A01F2001	MC 8P FP 20ft.16/6 PVC CORD "B"
42872SS-90	207003A01F2001	MC 7P MP 20ft. 90DEG 16/7 PVC SS	43062SS-90	208001A01F2001	MC 8P FP 90D 20ft. 16/8 PVC SST
42873	227023A01F060	MC 7P MFE 90/90 6ft. 16/7 PVC	43066	208002A01F200	MC 8P MP 20ft. 16/8 PVC CORD
42901	2R7006A20F030	MC 7P MR 3ft. #16/1 PVC LDS	43066-90	208003A01F200	MC 8P MP 20ft. 90 DEG 16/8 PVC
42908	2R7004A20F060	MC 7P FR 6ft. 16/1 PVC	43066SS	208002A01F2001	MC 8P MP 20ft. 16/8 PVC SST
42908SS	2R7004A20F0601	MC 7P FR 6ft. 16/1 PVC SST	43067	228020A01F120	MC 8P MFE 12ft. 16/8 PVC CORD
42910	227022A01F030	MC 7P MFE 3ft. 90/ST 16/7 PVC	43067G	228020A01F120	MC 8P MFE 12ft. 16/6 PVC GOLD
42911	2R7006A20F060	MC 7P MR 6ft. 16/1 PVC LEADS	43067SS	228020A01F1201	MC 8P MFE 12ft. 16/8 PVC SST
42913-0060	227020A01F060	MC 7P MFE 6ft. 16/7 PVC	43072	208000A01F300	MC 8P FP 30ft. 16/8 PVC CORD i
42913-0200	227020A01F200	MC 7P MFE 20ft. 16/7 PVC	43073	228020A01F200	MC 8P MFE 20ft. 16/8 PVC CORD
43001	208000A01F030	MC 8P FP 3ft.16/8 PVC CORD in.	43073-90	228021A01F200	MC 8P MFE ST/90 20ft. 16/8 PVC
43001-90	208001A01F030	MC 8P FP 3ft. 16/8 90D PVC COR	43073G	228020A01F200	MC 8P MFE 20ft. 16/8 PVC GOLD
43001SS	208000A01F0301	MC 8P FP 3ft. 16/8 PVC SST	43074	228020A01F250	MC 8P MFE 25ft. 16/8 PVC CORD
43002	208000A01F060	MC 8P FP 6ft.16/8 PVC CORD in.	43075	208000A04M050	MC 8P FP 5M 22/8 PVC
43002-90	208001A01F060	MC 8P FP 6ft. 16/8 90D PVC COR	43076	208000A04M100	MC 8P FP 10M 22/8 PVC
43002G	208000A01F060	MC 8P FP 6ft. 16/8 PVC GOLD	43077	228020A04M050	MC 8P MFE 5M 22/8 PVC
43002SS	208000A01F0601	MC 8P FP 6ft. 16/8 PVC SST	43078	228020A04M100	MC 8P MFE 10M 22/8 PVC
43003	208000A01F120	MC 8P FP 12ft.16/8 PVC CORD	43079	228020A01F300	MC 8P MFE 30ft. 16/8 PVC CORD
43003-90	208001A01F120	MC 8P FP 12ft. 16/8 90D PVC CO	43080	2R8004A19A120	MC 8P FR 12in.

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Item #	Replaced By	Item Description	Item #	Replaced By	Item Description
43082	2R8004A20F060	MC 8P FR 6ft. 16/1 PVC LDS	47054	339020A01F250	MC 9P MFE 25ft. 16/9 PVC
43082SS	2R8004A20F0601	MC 8P FR 6ft. 16/1 PVC SST	47055	339020A01F300	MC 9P MFE 30ft. 16/9 PVC
43092	228022A01F060	MC 8P MFE 90D M 6ft. 16/8 PVC	47057	309002A01F200	MC 9P MP 20ft. 16/9 PVC CORD
43131	2R8004A20F030	MC 8P FR 3ft. 16/1 PVC	47057-90	309003A01F200	MC 9P MP 20ft. 16/9 PVC 90DEG
43142	228023A01F060	MC 8P MFE 90/90 6ft. 16/8 PVC	47057SS	309002A01F2001	MC 9P MP 20ft. 16/9 PVC SST
43148	2R8006A20F060	MC 8P MR 6ft. 16/1 PVC	47072	339023A01F060	MC 9P MFE 6ft. 16/9 90/90
43150	2R8006A20F030	MC 8P MR 3ft. #16/1 PVC LDS	47074	3R9006A20F030	MC 9P MR 3ft. 16/1 PVC
47001	309000A01F030	MC 9P FP 3ft. 16/9 PVC CORD	47077	3R9004A20F060	MC 9P FR 6ft. 16/1 PVC
47001-90	309001A01F030	MC 9P FP 3ft. 16/9 PVC 90D	47077SS	3R9004A20F0601	MC 9P FR 6ft. 16/1 PVC SST
47002	309000A01F060	MC 9P FP 6ft. 16/9 PVC CORD	47079	3R9006A20F060	MC 9P MR 6ft. 16/1 PVC LEADS
47002-90	309001A01F060	MC 9P FP 6ft. 16/9 PVC 90D	47201	301000A01F030	MC 10P FP 3ft. 16/10 PVC CORD
47002-90SS	309001A01F0601	MC 9P FP 6ft. 16/9 PVC 90D SST	47201-90	301001A01F030	MC 10P FP 3ft. 16/10 PVC 90DE
47002SS	309000A01F0601	MC 9P FP 6ft. 16/9 PVC S.S.	47201SS	301000A01F0301	MC 10P FP 3ft. 16/10 PVC SST
47003	309000A01F120	MC 9P FP 12ft. 16/9 PVC CORD	47202	301000A01F060	MC 10P FP 6ft. 16/10 PVC CORD
47003-90	309001A01F120	MC 9P FP 12ft. 16/9 90D PVC CO	47202-90	301001A01F060	MC 10P FP 6ft. 16/10 90D PVC
47003SS	309000A01F1201	MC 9P FP 12ft. 16/9 PVC SST	47202-90SS	301001A01F0601	MC 10P FP 6ft. 16/10 PVC 90D SST
47003SS-90	309001A01F1201	MC 9P FP 90D 12ft. 16/9 PVC SST	47202SS	301000A01F0601	MC 10P FP 6ft. 16/10 PVC SST
47005	3R9006A20A120	MC 9P MR 12in. 16/1 PVC LDS	47203	301000A01F120	MC 10P FP 12ft. 16/10 PVC CORD
47005SS	3R9006A20A1201	MC 9P MR 12in. 16/1 PVC SS	47203-90	301001A01F120	MC 10P FP 12ft. 16/10 PVC 90D
47007	3R9004A20A120	MC 9P FR 12in. 16/1 PVC LDS	47203-90SS	301001A01F1201	MC 10P FP 12ft. 90D 16/10 PVC SS
47007SS	3R9004A20A1201	MC 9P FR 12in. 16/1 PVC SST	47203SS	301000A01F1201	MC 10P FP 12ft. 16/10 PVC SST
47008	309002A01F030	MC 9P MP 3ft. 16/9 PVC CORD	47205	3R1006A20A120	MC 10P MR 12in 16/1 PVC LDS
47008-90	309003A01F030	MC 9P MP 3ft. 16/9 PVC 90D	47205SS	3R1006A20A1201	MC 10P MR 1in. 16/1 PVC SST
47008SS	309002A01F0301	MC 9P MP 3ft. 16/9 PVC SST	47207	3R1004A20A120	MC 10P FR 12in. 16/1 PVC LDS
47009	309002A01F060	MC 9P MP 6ft. 16/9 PVC CORD	47207SS	3R1004A20A1201	MC 10P FR 12in. 16/1PVC LDS S.S.
47009-90	309003A01F060	MC 9P MP 6ft. 16/9 90D PVC COR	47208	301002A01F030	MC 10P MP 3ft. 16/10 PVC CORD
47009SS	309002A01F0601	MC 9P MP 6ft. 16/9 PVC SST	47208-90	301003A01F030	MC 10P MP 3ft. 16/10 90D PVC
47010	309002A01F120	MC 9P MP 12ft. 16/9 PVC CORD	47208SS	301002A01F0301	MC 10P MP 3ft. 16/10 PVC S.S.
47010-90	309003A01F120	MC 9P MP 12ft. 16/9 90D PVC CO	47209	301002A01F060	MC 10P MP 6ft. 16/10 PVC CORD
47010SS	309002A01F1201	MC 9P MP 12ft. 16/9 PVC SST	47209-90	301003A01F060	MC 10P MP 6ft. 16/10 90D PVC
47011	309000A01F250	MC 9P FP 25ft. 16/9 PVC CORD	47209SS	301002A01F0601	MC 10P MP 6ft. 16/10PVC CORD S.S.
47023	3R9004A20F030	MC 9P FR 3ft. 16/1 PVC	47210	301002A01F120	MC 10P MP 12ft. 16/10 PVC CORD
47025	339020A01F200	MC 9P MFE 20ft. 16/9 PVC	47210-90	301003A01F120	MC 10P MP 12ft. 16/10 90D PVC
47025SS	339020A01F2001	MC 9P MFE 20ft. 16/9 PVC SST	47210SS	301002A01F1201	MC 10P MP 12ft. 16/10 PVC
47029	339020A01F030	MC 9P MFE 3ft. 16/9 PVC CORD	47212	331020A01F200	MC 10P MFE 20ft. 16/10 PVC
47029-90	339021A01F030	MC 9P MFE 3ft. 16/9 PVC 90D FEM	47212-90	331021A01F200	MC 10P MFE ST/90 20ft. 16/10 PVC
47043	309000A01F200	MC 9P FP 20ft. 16/9 PVC CORD	47212SS	331020A01F2001	MC 10P MFE 20ft. 16/10 PVC SST
47043-90	309001A01F200	MC 9P FP 20ft. 16/9 PVC 90DEG	47221	3R1004A20F030	MC 10P FR 3ft. 16/1 PVC
47043-90SS	309000A01F2001	MC 9P FP 20ft. 16/9 PVC 90DSS	47224	331020A01F060	MC 10P MFE 6ft. 16/10 PVC CORD
47043SS	309000A01F2001	MC 9P FP 20ft. 16/9 PVC S.S.	47224-90	331021A01F060	MC 10P MFE ST/90 6ft. 16/10 PVC
47051	339020A01F060	MC 9P MFE 6ft. 16/9 PVC	47224SS	331020A01F0601	MC 10P MFE 6ft. 16/10 PVC SST
47051-90	339021A01F060	MC 9P MFE 6ft. 16/9 PVC 90DEG F	47235	301002A01F200	MC 10P MP 20ft. 16/10 PVC
47051SS	339020A01F0601	MC 9P MFE 6ft. 16/9 PVC SST	47235-90	301003A01F200	MC 10P MP 20ft. 16/10 90D PVC
47052	339020A01F120	MC 9P MFE 12ft. 16/9 PVC	47235SS	301002A01F2001	MC 10P MP 20ft. 16/10 PVC SST
47052-90	339021A01F120	MC 9P MFE 12ft. 16/9 PVC 90DEG F	47237	3R1004A20F060	MC 10P FR 6ft. 16/1 PVC
47052SS	339020A01F1201	MC 9P MFE 12ft. 16/9 PVC SST	47239	301000A01F200	MC 10P FP 20ft. 16/10 PVC CORD
47053	309000A01F300	MC 9P FP 30ft. 16/9 PVC CORD	47239-90	301001A01F200	MC 10P FP 90D 20ft. 16/10 PVC

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Old Part #	13 Digit Part #	Item Description	Old Part #	13 Digit Part #	Item Description
47239-90SS	301001A01F2001	MC 10P FP 90D 20ft. 16/10 PVC SS	47413G	332020A01F060	MC 12P MFE 6ft. 16/12 PVC GOLD
47239SS	301000A01F2001	MC 10P FP 20ft. 16/10 PVC SST	47413SS	332020A01F0601	MC 12P MFE 6ft. 16/12 PVC SST
47243	301000A01F250	MC 10P FP 25ft. 16/10 PVC CORD	47424	332020A01F200	MC 12P MFE 20ft. 16/12 PVC
47247	301000A04M050	MC 10P FP 5M 22/10 PVC	47424G	332020A01F200	MC 12P MFE 20ft. 16/12 PVC GOLD
47248	301000A04M100	MC 10P FP 10M 22/10 PVC	47424SS	332020A01F2001	MC 12P MFE 20ft. 16/12 PVC SST
47249	301000A01F300	MC 10P FP 30ft. 16/10 PVC CORD	47425	302002A01F200	MC 12P MP 20ft.16/12 PVC CORD
47250	331020A01F120	MC 10P MFE 12ft. 16/10 PVC	47425-90	302003A01F200	MC 12P MP 90D 20ft. 16/12 PVC
47250-90	331021A01F120	MC 10P MFE ST/90 12ft. 16/10 PVC	47425SS	302002A01F2001	MC 12P MP 20ft. 16/12 PVC SST
47250G	331020A01F120	MC 10P MFE 12ft. 16/10 PVC GOLD	47431	302000A01F250	MC 12P FP 25ft.16/12 PVC CORD
47250SS	331020A01F1201	MC 10P MFE 12ft. 16/10 PVC SST	47433	3R2004A20F030	MC 12P FR 3ft. 16/1 PVC
47251	331020A01F250	MC 10P MFE 25ft. 16/10 PVC	47446	332020A01F120	MC 12P MFE 12ft. 16/12 PVC
47252	331020A01F300	MC 10P MFE 30ft. 16/10 PVC	47446-90	332021A01F120	MC 12P MFE ST/90 12ft. 16/12 PVC
47253	331020A01F030	MC 10P MFE 3ft. 16/10 PVC	47446G	332020A01F120	MC 12P MFE 12ft. 16/12PVC GOLD
47253-90	331021A01F030	MC 10P MFE ST/90 3ft.16/10 PVC	47446SS	332020A01F1201	MC 12P MFE 12ft. 16/12 PVC SST
47254	331020A04M050	MC 10P MFE 5M 22/10 PVC	47449	302000A01F200	MC 12P FP 20ft. 16/12 PVC CORD
47255	331020A04M100	MC 10P MFE 10M 22/10 PVC	47449-90	302001A01F200	MC 12P FP 90D 20ft. 16/12 PVC
47256	3R1004A19A120	MC 10P FR 12in.	47449-90SS	302001A01F2001	MC 12P FP 90D 20ft. 16/12 PVC SS
47352	3R1006A20F060	MC 10P MR 6ft. 16/1 PVC	47454	3R2006A20F030	MC 12P MR 3ft. 16/1 PVC
47401	302000A01F030	MC 12P FP 3ft. 16/12 PVC CORD	47456	3R2006A20F060	MC 12P MR 6ft.16/1 PVC
47401-90	302001A01F030	MC 12P FP 3ft. 16/12 90D PVC	47456SS	3R2006A20F0601	MC 12P MR 6ft. 16/1 PVC LDS SSTL
47401SS	302000A01F0301	MC 12P FP 3ft. 16/12 PVC SST	47467	332020A01F300	MC 12P MFE 30ft. 16/12 PVC
47402	302000A01F060	MC 12P FP 6ft.16/12 PVC CORD	47479	332020A01F030	MC 12P MFE 3ft. 16/12 PVC
47402-90	302001A01F060	MC 12P FP 6ft.16/12 PVC 90DE	47479SS	332020A01F0301	MC 12P MFE 3ft. 16/12 PVC S.S.
47402SS	302000A01F0601	MC 12P FP 6ft. 16/12 PVC SST	47480	302000A01F300	MC 12P FP 30ft.16/12 PVC CORD
47403	302000A01F120	MC 12P FP 12ft.16/12 PVC CORD	47481	332020A01F250	MC 12P MFE 25ft.16/12 PVC CORD
47403-90	302001A01F120	MC 12P FP 12ft.16/12 PVC 90D	47482	332023A01F120	MC 12P MFE 90/90 12ft. 16/12 PVC
47403-90SS	302001A01F1201	MC 12P FP 12ft. 16/12 PVC SST	47482SS	332023A01F1201	MC 12P MFE 90/90 12ft. 16/12 SST
47403SS	302000A01F1201	MC 12P FP 12ft. 16/12 SO	47489	332023A01F060	MC 12P MFE 90/90 6ft. 16/12 PVC
47403SSG	302000A01F1201	MC 12P FP 12ft. 16/12C S.S. GOLD	47496	332022A01F060	MC 12P MFE 6ft. 90/ST 16/12 PVC
47405	3R2006A20A120	MC 12P MR 12in. 16/1 PVC LDS	47497	332022A01F120	MC 12P MFE 12ft. 90/ST 16/12 PVC
47405R	3R2006A20A120	MC 12P MR 12in. 16/1 PVC LDS	47515	3R2004A20F060	MC 12P FR 6ft. 16/1 PVC
47405SS	3R2006A20A1201	MC 12P MR 12in. 16/1 PVC SS	47515SS	3R2004A20F0601	MC 12P FR 6ft. 16/1 PVC SST
47407	3R2004A20A120	MC 12P FR 12in. 16/1 PVC LDS	47527	302000A04M050	MC 12P FP 5M
47407R	3R2004A20A120	MC 12P FR 12in. 16/1 PVC LDS	47527-90	302001A04M050	MC 12P FP 5M 90 DEG
47407SS	3R2004A20A1201	MC 12P FR 12in. 16/1 PVC SST	47528	302000A04M100	MC 12P FP 10M
47408	302002A01F030	MC 12P MP 3ft.16/12 PVC CORD	47528-90	302001A04M100	MC 12P FP 10M 90D
47408-90	302003A01F030	MC 12P MP 3ft.16/12 PVC 90DE	47529	332020A04M050	MC 12P MFE 5M
47408SS	302002A01F0301	MC 12P MP 3ft. 16/12 PVC SST	47530	332020A04M100	MC 12P MFE 10M
47409	302002A01F060	MC 12P MP 6ft.16/12 PVC CORD	47532	332021A04M050	MC 12P MFE 5M STR/90
47409-90	302003A01F060	MC 12P MP 6ft. 16/12 90D PVC	47533	332021A04M100	MC 12P MFE 10M STR/90
47409SS	302002A01F0601	MC 12P MP 6ft. 16/12 PVC SST	47534	3R2004A19A120	MC 12P FR 12in. 18/1
47410	302002A01F120	MC 12P MP 12ft.16/12 PVC CORD	50925	1R3005A20F060	MC 3P FR 6ft. 16/1 PVC 90DEG
47410-90	302003A01F120	MC 12P MP 12ft. 16/12 90D PVC	50926	1R3G06A20F060	MC 3P MR 6ft. 16/1 PVC FLNGD S
47410SS	302002A01F1201	MC 12P MP 12ft.16/12 PVC S.S.	50927	1R3G04A20F060	MC 3P FR 6ft. 16/1 PVC FLNGD S
47410SS-90	302003A01F1201	MC 12P MP 90D 12ft. 16/12 PVC SS	50928	1R3006A24F060	MC 3P MR 6ft. 16/1 PVC 2R1G
47413	332020A01F060	MC 12P MFE 6ft. 16/12 PVC CORD	50929	1R3007A24F060	MC 3P MR 6ft. 16/1 PVC 90D 2R1
47413-90	332021A01F060	MC 12P MFE 6ft. ST/90 16/12 PVC	51110	1R4005A20F060	MC 4P FR 6ft. 16/1 PVC 90DEG

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Item #	Replaced By	Item Description	Item #	Replaced By	Item Description
51111	1R4G06A20F060	MC 4P MR 6ft. 16/1 PVC FLNGD S	61278-0200	114030A01F200	MC 4P M/MFE 20 FT 16 AWG CORD
51112	1R4G04A20F060	MC 4P FR 6ft. 16/1 PVC FLNGD S	61278-0300	114030A01F300	MC 4P M/MFE 30 FT 16 AWG CORD
51317	1R5005A20F060	MC 5P FR 6ft. 16/1 PVC 90DEG	61298-13.5SS	1R4D06A16A1201	MC 4P MR 12in. PG13.5 SST 18/1
51318	1R5G06A20F060	MC 5P MR 6ft. 16/1 PVC FLNGD S	61301	115022A01F015	MC 5P MFE 18in. 90/STR 16/5 PV
51319	1R5G04A20F060	MC 5P FR 6ft. 16/1 PVC FLNGD S	61302	115022A01F030	MC 5P MFE 3ft. 90/STR 16/5 PVC
51320	1R5007A24F060	MC 5P MR 6ft. 16/1 PVC 90D 4R1	61303	115022A01F060	MC 5P MFE 6ft. 90/STR 16/5 PVC
60997	113022A01F030	MC 3P MFE 3ft. 90/STR 16/3 PVC	61304	115022A01F120	MC 5P MFE 12ft. 90/STR 16/5 PVC
60997-18	113022A03F030	MC 3P MFE 3ft. 90/STR 18/3 PVC	61322SS	105000A01F1201	MC 5P FP 12ft. 16/5 PVC,SST COUP
60997-18G	113022A03F030	MC 3P MFE 3ft. 90DEG ML 18GA GLD	61332	115020A01F300	MC 5P MFE 30ft. 16/5 PVC CORD
60999	113022A01F060	MC 3P MFE 6ft. 90/STR 16/3 PVC	61332-90	115021A01F300	MC 5P MFE ST/90 30ft. 16/5 PVC
60999-18	113022A03F060	MC 3P MFE 6ft. 90/STR 18/3 PVC	61332SS	115020A01F3001	MC 5P MFE 30ft. 16/5 PVC SST
60999-18G	113022A03F060	MC 3P MFE 6ft. 90DEG ML 18GA GLD	61340	115020A01F015	MC 5P MFE 18in. 16/5 PVC CORD
61004	113023A01F060	MC 3P MFE 6ft. 90/90 16/3 PVC	61390	1R5007A20F060	MC 5P MR 6ft. 16/1 PVC 90DEG
61005	113023A01F030	MC 3P MFE 3ft. 90/90 16/3 PVC	61509	1R5G06A20A120	MC 5P MR 12in. 16/1 PVC
61011	1R3007A20F030	MC 3P MR 3ft. 16/1 90D	61516	1R5004A17A120	MC 5P FR 12in. 18/1 AUTO GOLD
61055	113023A01F120	MC 3P MFE 12ft. 90/90 16/3 PVC	61516G	1R5004A17A120	MC 5P FR 12in. 18/1 AUTO GOLD
61059	1R3004A24F060	MC 3P FR 6ft. 16/1 2R1G	61522	115022A01F200	MC 5P MFE 20ft. 90/ST 16/5 PVC
61060	1R3G04A20A120	MC 3P FR 12in. PVC FLANGED SHE	61530	115023A01F120	MC 5P MFE 90/90 12ft. 16/5 PVC
61060SS	1R3G04A20A1201	MC 3P FR 12in. 16/1 PVC FLNG SST	61538	1R5006A20F060	MC 5P MR 6ft. 16/1 PVC
61082	1R3006A20F030	MC 3P MR 3ft. #16/1 PVC LDS	61557	1R5G04A20A120	MC 5P FR 12in. PVC FLANGED SHE
61090	1R3G06A20A120	MC 3P MR 12in.16/1 PVC FLNGD S	61558	1R5006A20F030	MC 5P MR 3ft. 16/1 PVC
61090SS	1R3G06A20A1201	MC 3P MR 12in. 16/1 PVC FLNGD SS	61584-0030	115030A01F030	MC 5P M/MFE 3 FT 16 AWG CORD
61095-0060	113030A01F060	MC 3P M/MFE 6ft. 16/3 PVC CORD	61584-0060	115030A01F060	MC 5P M/MFE 6 FT 16 AWG CORD
61095-0120	113030A01F120	MC 3P M/MFE 12ft. 16/3 PVC CORD	61584-0150	115030A01F150	MC 5P M/MFE 15 FT 16 AWG CORD
61095-0150	113030A01F150	MC 3P M/MFE 15ft. 16/3 PVC CORD	61584-0200	115030A01F200	MC 5P M/MFE 20 FT 16 AWG CORD
61112	104002A01F150	MC 4P MP 15ft. #16/4 PVC	61584-0300	115030A01F300	MC 5P M/MFE 30 FT 16 AWG CORD
61112-90	104003A01F150	MC 4P MP 15ft. 90D 16/4 PVC	61598	1R5006A24F060	MC 5P MR 6ft. 16/1 PVC 4R1G
61114	114020A01F150	MC 4P MFE 15ft. 16/4 PVC CORD	61928	103002A01F150	MC 3P MP 15ft. 16/3 PVC CORD
61114N	114020A01F1502	MC 4P MFE 15ft. 16/4 PVC N-M	61928-90	103003A01F150	MC 3P MP 15ft. 90D 16/3 PVC
61114SS	114020A01F1501	MC 4P MFE 15ft. 16/4 PVC SST	61928-90N	103003A01F1502	MC 3P MP 15ft. 90D 16/3 PVC N-
61114SS-90	114021A01F1501	MC 4P MFE ST/90 15ft. 16/4 SST	61928N	103002A01F1502	MC 3P MP 15ft. 16/3 PVC N-M
61121	114022A01F015	MC 4P MFE 18in. 90/STR 16/4 PV	61928SS	103002A01F1501	MC 3P MP 15ft. 16/3 PVC SST
61122	114022A01F030	MC 4P MFE 3ft. 90/STR 16/4 PVC	61930	113022A01F120	MC 3P MFE 12ft. 90DEG M.16AWG
61122-18	114022A03F030	MC 4P MFE 3ft. 90/STR 18/4 PVC	61931	113022A01F200	MC 3P MFE 20ft. 90DEG M.16AWG
61123	114022A01F060	MC 4P MFE 6ft. 90/STR 16/4 PVC	61936	113020A01F150	MC 3P MFE 15ft. 16/3 PVC CORD
61123-18	114022A03F060	MC 4P MFE 6ft. 90/ST 18/4 PVC	61936N	113020A01F1502	MC 3P MFE 15ft. 16/4 PVC N-M
61123SS	114022A01F0601	MC 4P MFE 6ft. 90/ST 16/4 SST	61936SS	113020A01F1501	MC 3P MFE 15ft. 16/3 PVC SST
61159N	104000A03F2002	MC 4P FP 20ft. 18/4 PVC N-M	61937	113020A01F300	MC 3P MFE 30ft. 16/3 PVC CORD
61193	114022A01F030	MC 4P MFE 90/ST 3ft. 16/4 PVC	61937N	113020A01F3002	MC 3P MFE 30ft. 16/3 PVC NYLON
61212	114023A01F030	MC 4P MFE 3ft. 90/90 16/4 PVC	61945	113020A01F015	MC 3P MFE 18in. 16/3 PVC
61242	1R4G04A20A120	MC 4P FR 12in. PVC FLANGED SHE	61974	1R3006A20F060	MC 3P MR 6ft. 16/1 PVC LDS
61242SS	1R4G04A20A1201	MC 4P FR 12in. PVC FLNGD SHL SST	61974N	1R3006A20F0602	MC 3P MR 6ft. 16/1 PVC N-M
61243	1R4006A20F030	MC 4P MR 3ft. 16/1 PVC	61987	1R3007A20F060	MC 3P MR 6ft. 16/1 90DEG PVC
61266N-90	104001A01F0602	MC 4P FP 90D 6ft. 16/4 PVC SPCL	61991	113023A01F250	MC 3P MFE 90/90 25ft. 16/3 PVC
61278-0030	114030A01F030	MC 4P M/MFE 3 FT 16 AWG CORD			
61278-0060	114030A01F060	MC 4P M/MFE 6 FT 16 AWG CORD			
61278-0150	114030A01F150	MC 4P M/MFE 15 FT 16 AWG CORD			

Receptacle Catalog Number Matrix

Use these Catalog Number Matrices to generate a custom or existing part number. From each grouping of specifications choose the corresponding code to create a single 13 character alpha/numeric part number for ordering. Below is an example of a properly constructed Receptacle part number and how it translates to an actual part.

3R2004A20A1201

12 Pole Female Straight Receptacle with 12" leads, 16 AWG, PVC, U.S. Color Code, Optional Stainless Steel Shell

3 R 2 0 0 4 A 2 0 A 1 2 0 1

										<p>LENGTH</p> <p>1st Digit 10 X Length 2nd Digit 1 X Length 3rd Digit .1 X Length</p>	
										<p>UNIT OF MEASURE</p> <p>A Inches F Feet Note: use feet for length greater than 1 foot</p>	
										<p>WIRE TYPE</p> <p>A16 18 AWG PVC UL 1015 IEC DC Color Code 3P & 4P A17 18 AWG PVC UL 1061 AUTO Color Code 3P-5P A20 16 AWG PVC UL 1015 U.S. Color Code 2P-12P A24 16 AWG PVC UL 1015 AUTO Color Code 3P & 5P A25 18 AWG PVC UL 1015 IEC AC Color Code 3P & 5P</p>	
										<p>RECEPTACLE TYPE</p> <p>004 Female Straight, ½" - 14NPT Mounting Thread 005 Female 90°, ½" - 14NPT Mounting Thread 2-6 Pole A-size only 006 Male Straight, ½" - 14NPT Mounting Thread 007 Male 90°, ½" - 14NPT Mounting Thread 2-6 Pole A-size only D04 Female Straight, PG13.5 Mounting Thread, 3-5 Pole only D06 Male Straight, PG13.5 Mounting Thread, 3-5 Pole only G04 Female Straight Flange Mount 2-6 Pole A-size only G06 Male Straight Flange Mount 2-6 Pole A-size only</p>	
										<p>OPTIONAL SHELL MATERIAL (For receptacle type 004 and 006 only)</p> <p>Blank Zinc Diecast, epoxy coat 1 Stainless Steel, Type 303 2 Non-Metallic Nylon 6/6 (2P - 6P, A-size only)</p>	
										<p>NUMBER OF POLES</p> <p>X X Pole: 2 to 9 Pole 1 10 Pole C-size only 2 12 Pole C-size only</p>	
										<p>PRODUCT FAMILY (2 characters)</p> <p>1st Character 1 2 to 6 Pole (A-size) 2 6 to 8 Pole (B-size) 3 9, 10, 12 Pole (C-size)</p> <p>2nd Character R Receptacle</p>	

Connector Catalog Number Matrix

Below is an example of a properly constructed Connector part number and how it translates to an actual part.

113020A01F2001

Mini-Change® 3 Pole Female Straight to Male Straight Double-Ended Cordset with 20' of 16 AWG, ST00W-A, U.S. Color Code, Stainless Steel Coupling Nut

1 1 3 0 2 0 A 0 1 F 2 0 0 1

										LENGTH 1st Digit 10 X Length 2nd Digit 1 X Length 3rd Digit .1 X Length	
										UNIT OF MEASURE F Feet	
										CABLE TYPE A01 16 AWG Type ST00W U.S. Color Code 2P-12P A02 16 AWG Type ST00W AUTO Color Code 3P&5P A03 18 AWG PVC Jacket AUTO Color Code 3P-5P A05 18 AWG PVC Jacket IEC DC Color Code 3P&4P A06 18 AWG PVC Jacket IEC AC Color Code 3P A07 20 AWG PVC Jacket IEC AC Color Code 5P B13 18 AWG PUR Coil Cord AUTO Color Code 3P&5P C01 16 AWG Type SOO AUTO Color Code 3P-5P K02 18 AWG TPE Jacket AUTO Color Code 3P&5P	
										CONNECTOR TYPE Single-Ended Cordset 000 Female Straight 001 Female 90° 002 Male Straight 003 Male 90° Double-Ended Cordset 020 Female Straight - Male Straight 021 Female 90° - Male Straight 022 Female Straight - Male 90° 023 Female 90° - Male 90°	
										NUMBER OF POLES X X Pole: 2 to 9 Pole 1 10 Pole C-size only 2 12 Pole C-size only	
										COUPLING NUT Blank Zinc Diecast, epoxy coat 1 Stainless Steel, Type 303 2 Non-Metallic Nylon 6/6 (2P - 6P, A-size only)	
PRODUCT FAMILY (2 characters) 1 st Character 1 2 to 6 Pole 1" Coupler A-size 2 6 to 8 Pole 1½" Coupler B-size 3 9, 10, 12 Pole 1¼" Coupler C-size 2 nd Character 0 Single-Ended Cordset A, B & C sizes 1 Double-Ended Cordset A-size 2 Double-Ended Cordset B-size 3 Double-Ended Cordset C-size											



Single-Ended Cordsets

#16 AWG yellow ST00W cable – U.S. color code

Oil-resistant PVC jacket

Low-resistance contact design with gold/palladium nickel plating

	2P	3P	4P	5P	6P
FEMALE FACE VIEW					
COLOR CODE	1- white 2- black	1- green-gnd 2- black 3- white	1- black 3- red 2- white 4- green-gnd	1- white 4- orange 2- red 5- black 3- green-gnd	1- white 4- orange 2- red 5- black 3- green-gnd 6- blue
VOLTAGE	600V AC/DC	600V AC/DC	600V AC/DC	600V AC/DC	600V AC/DC
CURRENT	13A	13A	10A	8A	8A
CONDUCTOR	#16-2	#16-3	#16-4	#16-5	#16-6

FEMALE	FIG	SINGLE-ENDED CORDSETS WITH #16 AWG ST00W CABLE 3 FEET LONG				
STRAIGHT	1	102000A01F030	103000A01F030	104000A01F030	105000A01F030	106000A01F030
90°	2	102001A01F030	103001A01F030	104001A01F030	105001A01F030	106001A01F030
MATING RECEPTACLE*	5	1R2006A20A120	1R3006A20A120	1R4006A20A120	1R5006A20A120	1R6006A20A130
MALE	FIG	SINGLE-ENDED CORDSETS WITH #16 AWG ST00W CABLE 3 FEET LONG				
STRAIGHT	3	102002A01F030	103002A01F030	104002A01F030	105002A01F030	106002A01F030
90°	4	102003A01F030	103003A01F030	104003A01F030	105003A01F030	106003A01F030
MATING RECEPTACLE*	5	1R2004A20A120	1R3004A20A120	1R4004A20A120	1R5004A20A120	1R6004A20A120

CATALOG OPTIONS

*See Page 46 for additional Mating Receptacles

Use the following chart to modify your part's specifications

102000A01F0301

CABLE LENGTH

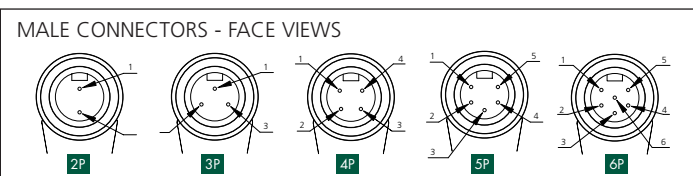
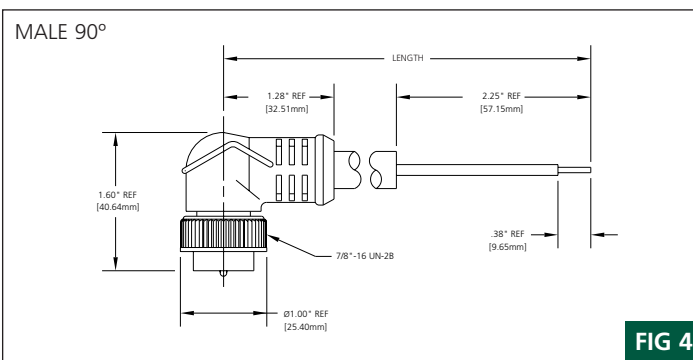
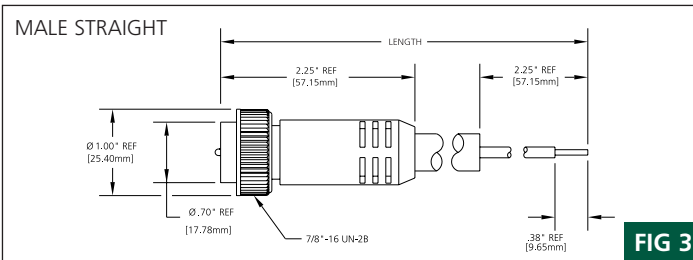
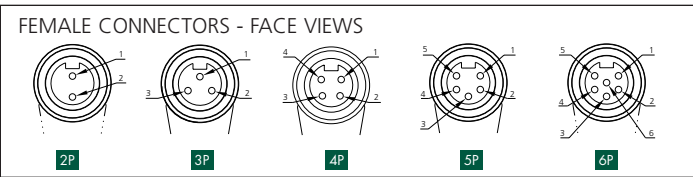
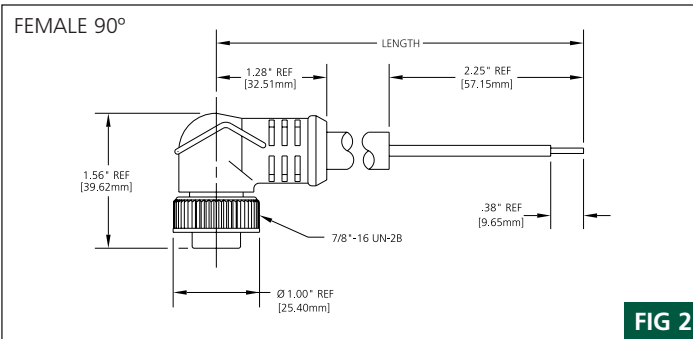
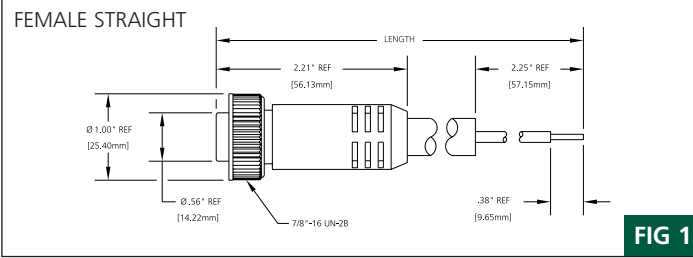
6'	060
12'	120
15'	150
20'	200
25'	250
30'	300

COUPLING NUT

STAINLESS STEEL	ADD 1
NON-METALLIC	ADD 2

Specifications

CONNECTOR DIMENSIONS



MECHANICAL
 CONNECTOR FACE: PVC - UL STD 94 - V0
 MOLDED BODY: PVC - UL STD 94 - V0
 COUPLING NUT: ZINC DIECAST W/ BLACK EPOXY

E-COAT, OPTIONAL STAINLESS STEEL TYPE 303 OR NON-METALLIC GRAY NYLON 6/6

CABLE: YELLOW, #16 AWG, PVC JACKET, PVC CONDUCTOR INSULATION OVER 65 X #34 COPPER STRANDING, UL ST00W CSA ST
CABLE DIAMETER:
 2P - .37" (9.4mm)
 3P - .41" (10.4mm)
 4P - .42" (10.7mm)
 5P - .50" (12.7mm)
 6P - .54" (13.7mm)

ELECTRICAL
 VOLTAGE RATING: 600V AC/DC
 AMPERAGE:

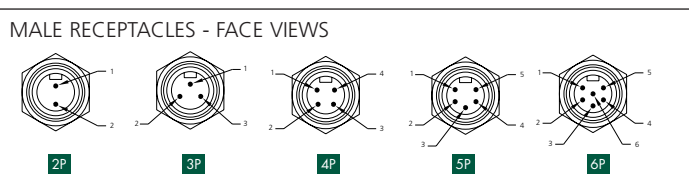
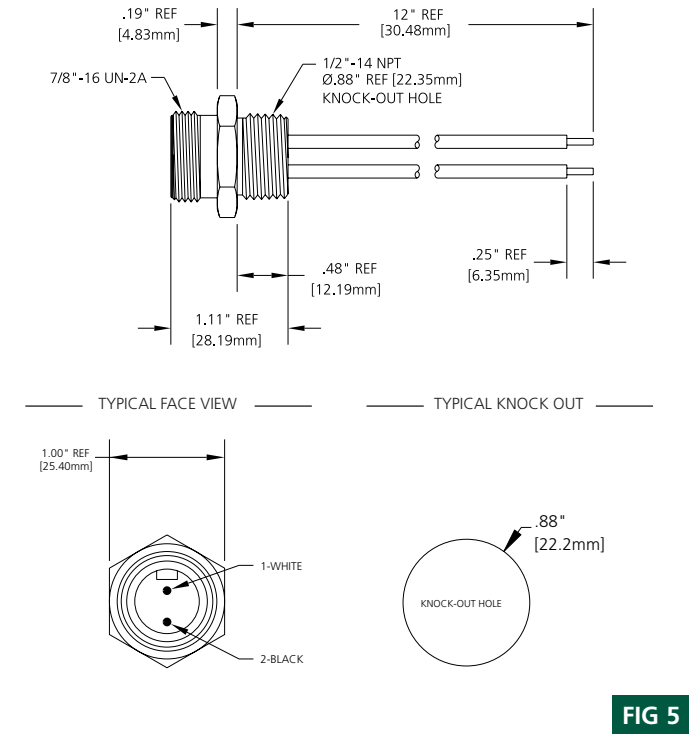
2P - 13A
 3P - 13A
 4P - 10A
 5P - 8A
 6P - 8A

ENVIRONMENTAL
 PROTECTION: IP 68 NEMA 6P
 AMBIENT OPERATING TEMP: -4° TO 221° F (-20° TO 105° C)

CERTIFICATIONS
 UL: UL RECOGNIZED, FILE NO. E46237
 CSA: CSA CERTIFIED, FILE NO. LR6837

RECEPTACLE DIMENSIONS

MALE RECEPTACLE WITH 1/2" - 14NPT THREADS
 FEMALE STRAIGHT WITH 1/2" - 14NPT THREADS
 SEE PAGE 46 FOR ADDITIONAL RECEPTACLES





Double-Ended Cordsets

#16 AWG yellow ST00W cable – U.S. color code
 Oil-resistant PVC jacket
 Low-resistance contact design with gold/palladium nickel plating

	2P	3P	4P	5P	6P
FEMALE FACE VIEW					
COLOR CODE	1- white 2- black	1- green-gnd 2- black 3- white	1- black 3- red 2- white 4- green-gnd	1- white 4- orange 2- red 5- black 3- green-gnd	1- white 4- orange 2- red 5- black 3- green-gnd 6- blue
VOLTAGE	600V AC/DC	600V AC/DC	600V AC/DC	600V AC/DC	600V AC/DC
CURRENT	13A	13A	10A	8A	8A
CONDUCTOR	#16-2	#16-3	#16-4	#16-5	#16-6

FEMALE/MALE	FIG	DOUBLE-ENDED CORDSETS WITH #16 AWG ST00W CABLE 3 FEET LONG				
STRAIGHT/STRAIGHT	1	112020A01F030	113020A01F030	114020A01F030	115020A01F030	116020A01F030
90°/STRAIGHT	2	112021A01F030	113021A01F030	114021A01F030	115021A01F030	116021A01F030
STRAIGHT/90°	3	112022A01F030	113022A01F030	114022A01F030	115022A01F030	116022A01F030
90°/90°	4	112023A01F030	113023A01F030	114023A01F030	115023A01F030	116023A01F030

CATALOG OPTIONS

Use the following chart to modify your part's specifications

112020A01F0301

CABLE LENGTH

6'	060
12'	120
15'	150
20'	200
25'	250
30'	300

COUPLING NUT

STAINLESS STEEL	ADD 1
NON-METALLIC	ADD 2

Specifications



MECHANICAL
 CONNECTOR FACE: PVC - UL STD 94 - V0
 MOLDED BODY: PVC - UL STD 94 - V0
 COUPLING NUT: ZINC DIECAST W/ BLACK EPOXY-COAT, OPTIONAL STAINLESS STEEL TYPE 303 OR NON-METALLIC GRAY NYLON 6/6

CABLE:
 YELLOW, PVC JACKET W/ PVC CONDUCTOR INSULATION, #16 AWG, 65 X #34 STRANDING, UL TYPE ST00W CSA ST

OUTSIDE DIAMETER:
 2P - .37" (9.4mm)
 3P - .41" (10.4mm)
 4P - .42" (10.7mm)
 5P - .50" (12.7mm)
 6P - .54" (13.7mm)

ELECTRICAL
 VOLTAGE RATING: 600V AC/DC
 AMPERAGE:
 2P - 13A
 3P - 13A
 4P - 10A
 5P - 8A
 6P - 8A

ENVIRONMENTAL
 PROTECTION: IP 68, NEMA 6P
 AMBIENT OPERATING TEMP: -4° TO 221° F (-20° TO 105° C)

CERTIFICATIONS
 UL: UL RECOGNIZED, FILE NO. E46237
 CSA: CSA CERTIFIED, FILE NO. LR6837

CONNECTOR DIMENSIONS

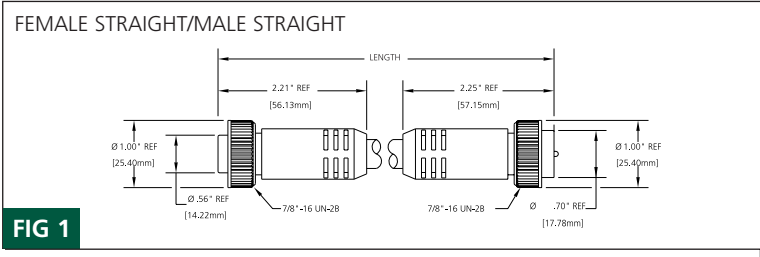


FIG 1

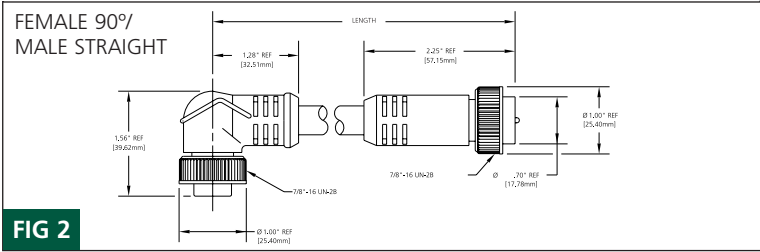


FIG 2

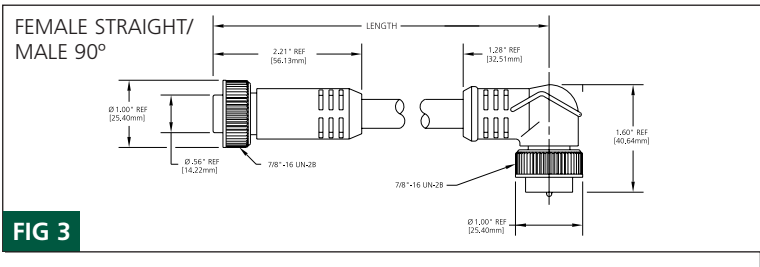


FIG 3

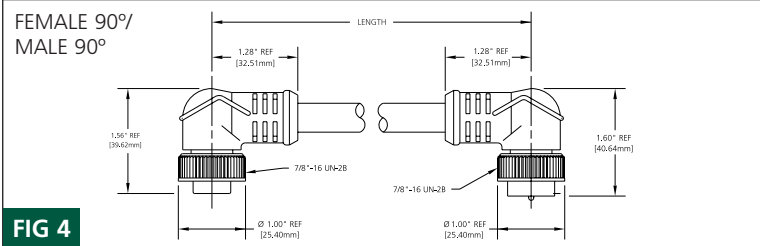
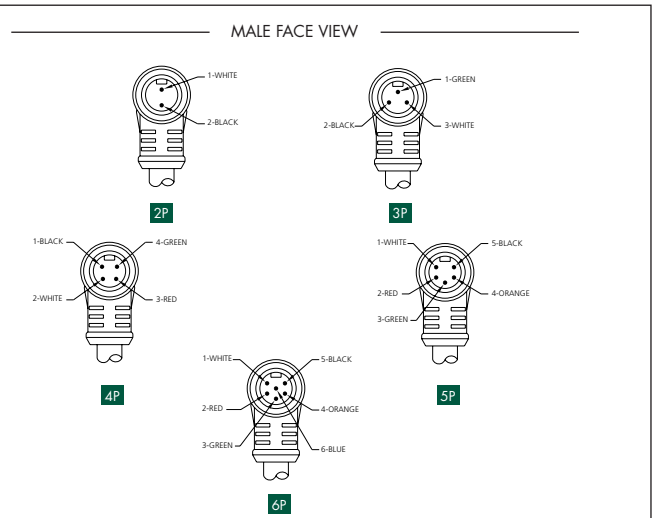
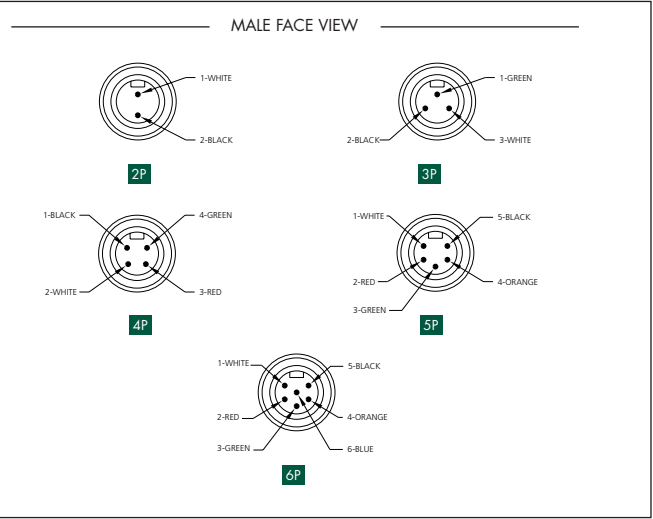


FIG 4





Receptacles

#16 AWG PVC 12-inch leads – U.S. color code, epoxy potted
 Straight, 90° and flange mount in male and female versions
 Low-resistance contact design with gold/palladium nickel plating

	2P	3P	4P	5P	6P
MALE FACE VIEW					
COLOR CODE	1- white 2- black	1- green-gnd 2- black 3- white	1- black 3- red 2- white 4- green-gnd	1- white 4- orange 2- red 5- black 3- green-gnd	1- white 4- orange 2- red 5- black 3- green-gnd 6- blue
VOLTAGE	600V AC/DC	600V AC/DC	600V AC/DC	600V AC/DC	600V AC/DC
CURRENT	13A	13A	10A	8A	8A
CONDUCTOR	#16-2	#16-3	#16-4	#16-5	#16-6

MALE	FIG	RECEPTACLES WITH #16 AWG PVC LEADS 12 INCHES LONG				
STRAIGHT	1	1R2006A20A120	1R3006A20A120	1R4006A20A120	1R5006A20A120	1R6006A20A120
90°	3	1R2007A20A120	1R3007A20A120	1R4007A20A120	1R5007A20A120	1R6007A20A120
FLANGE MOUNT	2	1R2G06A20A120	1R3G06A20A120	1R4G06A20A120	1R5G06A20A120	1R6G06A20A120
FEMALE	FIG	RECEPTACLES WITH #16 AWG PVC LEADS 12 INCHES LONG				
STRAIGHT	1	1R2004A20A120	1R3004A20A120	1R4004A20A120	1R5004A20A120	1R6004A20A120
90°	3	1R2005A20A120	1R3005A20A120	1R4005A20A120	1R5005A20A120	1R6005A20A120
FLANGE MOUNT	2	1R2G04A20A120	1R3G04A20A120	1R4G04A20A120	1R5G04A20A120	1R6G04A20A120

PART NO.	ACCESSORIES
5601	Locknut 1/2"-14NPT, zinc plated steel
5611	Gasket, black neoprene

CATALOG OPTIONS

Use the following chart to modify your part's specifications

1R2006A20A1201

CABLE LENGTH

3'	F030
6'	F060

SHELL

STAINLESS STEEL SHELL	.ADD 1
NON-METALLIC SHELL	.ADD 2
(AVAILABLE ON MALE & FEMALE STRAIGHT RECEPTACLES ONLY)	

Specifications



MECHANICAL

SHELL: ZINC DIECAST W/ BLACK EPOXY COAT, OPTIONAL STAINLESS STEEL TYPE 303 OR NON-METALLIC GRAY NYLON 6/6
 90°: ZINC DIECAST W/ BLACK E-COAT
 FLANGE MOUNT: GRAY ANODIZED ALUMINUM
 INSERT: PVC - UL STD 94 - V0
 CONDUCTORS: #16 AWG, PVC INSULATION OVER 26 X #30 COPPER STRANDING, 600V, UL STYLE I015 CSA TEW

ELECTRICAL

VOLTAGE RATING: 600 V AC/DC
 AMPERAGE: 2P - 13A
 3P - 13A
 4P - 10A
 5P - 8A
 6P - 8A

ENVIRONMENTAL

PROTECTION: IP 68, NEMA 6P
 AMBIENT OPERATING TEMP: -4° TO 221° F (-20° TO 105° C)

CERTIFICATIONS

UL: UL RECOGNIZED, FILE NO. E46237
 CSA: CSA CERTIFIED, FILE NO. LR6837

RECEPTACLE DIMENSIONS

MALE STRAIGHT WITH 1/2" - 14NPT THREADS
 FEMALE STRAIGHT WITH 1/2" - 14NPT THREADS

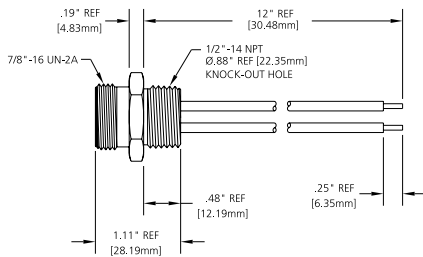
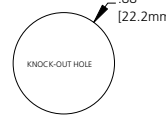
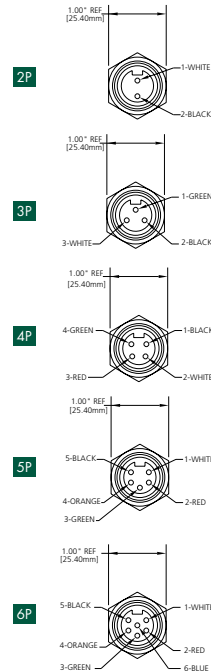


FIG 1

TYPICAL KNOCKOUT



FEMALE FACE VIEW



MALE FLANGE MOUNT
 FEMALE FLANGE MOUNT

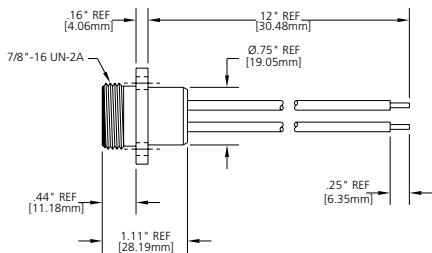
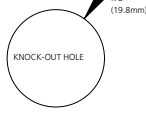
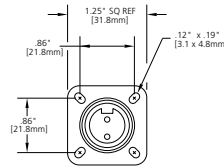


FIG 2

TYPICAL KNOCKOUT



MOUNTING DETAIL



MALE 90° WITH 1/2" - 14NPT THREADS
 FEMALE 90° WITH 1/2" - 14NPT THREADS

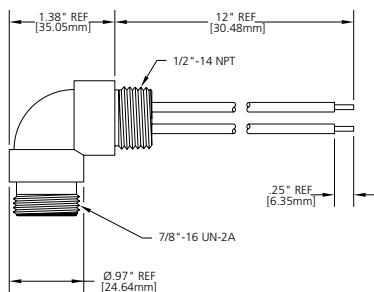
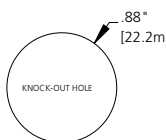
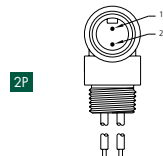


FIG 3

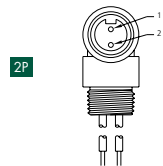
TYPICAL KNOCKOUT



TYPICAL MALE FACE VIEW



TYPICAL FEMALE FACE VIEW





Single-Ended Cordsets

AUTOMOTIVE

#16 AWG yellow type 500 cable – auto color code
 Oil-resistant NBR rubber jacket
 Low-resistance contact design with gold/palladium nickel plating

	3P	4P	5P
FEMALE FACE VIEW			
COLOR CODE	1- green-gnd 2- red w/ black trace 3- red w/ white trace	1- red w/ black trace 3- red 2- red w/ white trace 4- green-gnd	1- red w/ white trace 4- red w/ orange trace 2- red 5- red w/ black trace 3- green-gnd
VOLTAGE	600V AC/DC	600V AC/DC	600V AC/DC
CURRENT	13A	10A	8A
CONDUCTOR	#16-3	#16-4	#16-5

FEMALE	FIG	SINGLE-ENDED CORDSETS WITH #16 AWG TYPE 500 CABLE 3 FEET LONG		
STRAIGHT	1	103000C01F030	104000C01F030	105000C01F030
90°	2	103001C01F030	104001C01F030	105001C01F030
MATING RECEPTACLE*	5	1R3006A24A120	1R4006A20A120	1R5006A24A120
MALE	FIG	SINGLE-ENDED CORDSETS WITH #16 AWG TYPE 500 CABLE 3 FEET LONG		
STRAIGHT	3	103002C01F030	104002C01F030	105002C01F030
90°	4	103003C01F030	104003C01F030	105003C01F030
MATING RECEPTACLE*	5	1R3004A24A120	1R4004A20A120	1R5004A24A120

CATALOG OPTIONS

*See Pages 62 or 46 for additional Mating Receptacles

Use the following chart to modify your part's specifications

103000C01F0301

CABLE LENGTH

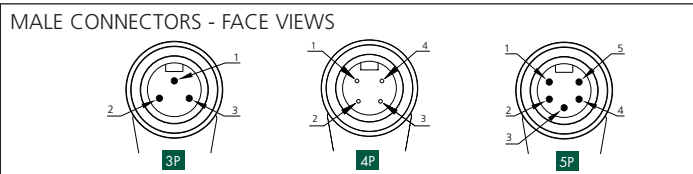
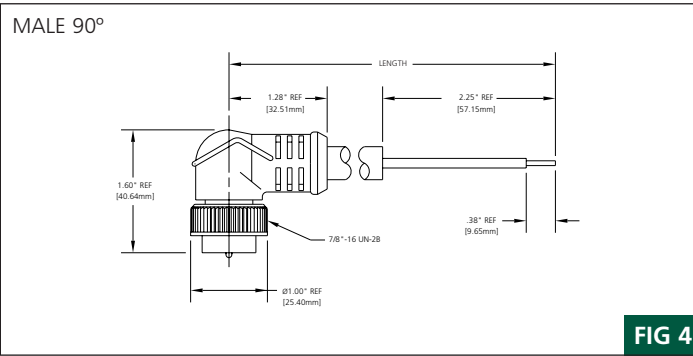
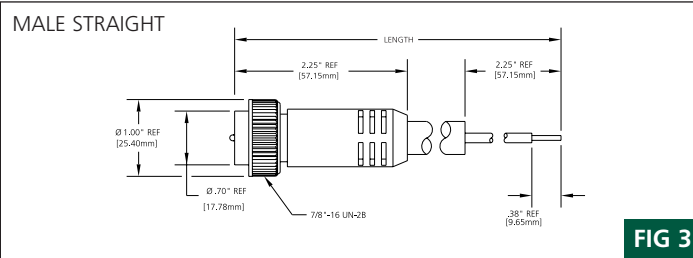
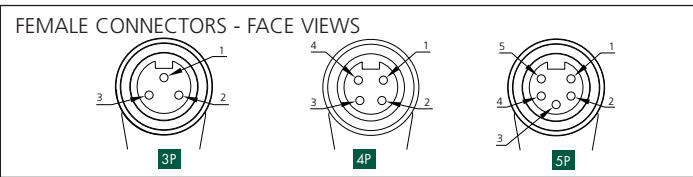
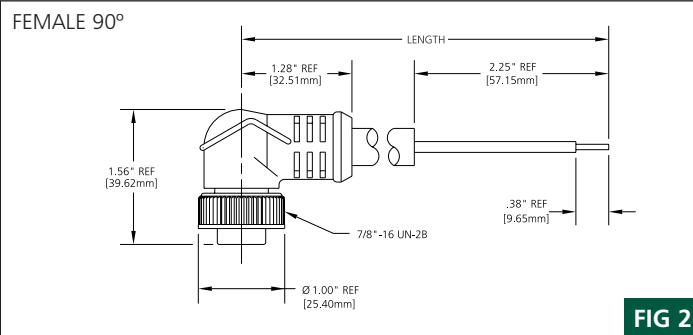
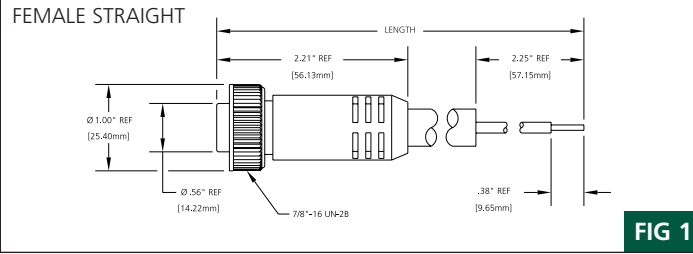
6'	060
12'	120
20'	200

COUPLING NUT

STAINLESS STEEL	...ADD 1
NON-METALLIC	...ADD 2

Specifications

CONNECTOR DIMENSIONS



MECHANICAL
 CONNECTOR FACE: PVC - UL STD 94 - V0
 MOLDED BODY: PVC - UL STD 94 - V0
 COUPLING NUT: ZINC DIECAST W/ BLACK EPOXY COAT, OPTIONAL STAINLESS STEEL NYLON 6/6

CABLE:
 YELLOW, #16 AWG, NITRILE RUBBER/PVC JACKET, HYPALON CONDUCTOR INSULATION OVER 65 X #34 COPPER STRANDING, 600V, UL TYPE S00 CSA 50

OUTSIDE DIAMETER:
 3P - .42" (10.7mm)
 4P - .45" (11.4mm)
 5P - .52" (13.2mm)

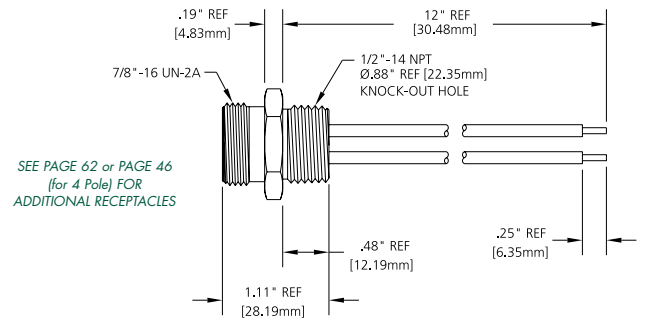
ELECTRICAL
 VOLTAGE RATING: 600V AC/DC
 AMPERAGE:
 3P - 13A
 4P - 10A
 5P - 8A

ENVIRONMENTAL
 PROTECTION: IP 68, NEMA 6P
 AMBIENT OPERATING TEMP: -4° TO 194° F (-20° TO 90° C)

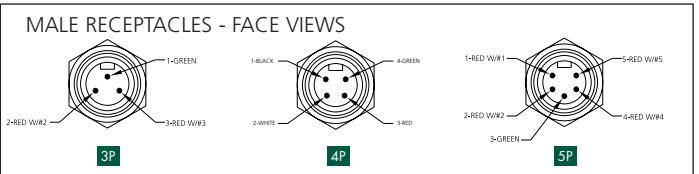
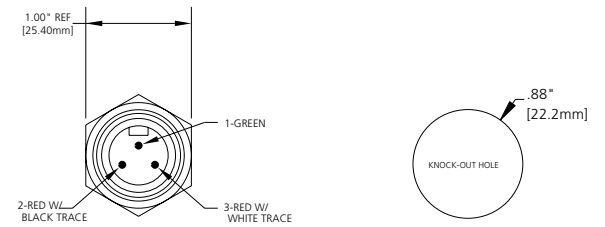
CERTIFICATIONS
 UL: UL RECOGNIZED, FILE NO. E46237
 CSA: CSA CERTIFIED, FILE NO. LR6837

RECEPTACLE DIMENSIONS

MALE STRAIGHT WITH 1/2" - 14NPT THREADS
 FEMALE STRAIGHT WITH 1/2" - 14NPT THREADS



—— TYPICAL FACE VIEW —— TYPICAL KNOCK OUT ——





Double-Ended Cordsets

#16 AWG yellow type 500 cable – auto color code
 Oil-resistant NPR rubber jacket
 Low-resistance contact design with gold/palladium nickel plating

	3P	4P	5P
FEMALE FACE VIEW			
COLOR CODE	1- green-gnd 2- red w/ black trace 3- red w/ white trace	1- red w/ black trace 3- red 2- red w/ white trace 4- green-gnd	1- red w/ white trace 4- red w/ orange trace 2- red 5- red w/ black trace 3- green-gnd
VOLTAGE	600V AC/DC	600V AC/DC	600V AC/DC
CURRENT	13A	10A	8A
CONDUCTOR	#16-3	#16-4	#16-5

FEMALE/MALE	FIG	DOUBLE-ENDED CORDSETS WITH #16 AWG TYPE 500 CABLE 3 FEET LONG		
STRAIGHT/STRAIGHT	1	113020C01F030	114020C01F030	115020C01F030
90°/STRAIGHT	2	113021C01F030	114021C01F030	115021C01F030
STRAIGHT/90°	3	113022C01F030	114022C01F030	115022C01F030
90°/90°	4	113023C01F030	114023C01F030	115023C01F030

CATALOG OPTIONS

Use the following chart to modify your part's specifications

113020C01F0301

CABLE LENGTH

6'	060
12'	120
20'	200

COUPLING NUT

STAINLESS STEEL	ADD 1
NON-METALLIC	ADD 2

Specifications

3P to 5P



MECHANICAL	
CONNECTOR FACE:	PVC - UL STD 94 - V0
MOLDED BODY:	PVC - UL STD 94 - V0
COUPLING NUT:	ZINC DIECAST W/ BLACK EPOXY COAT, OPTIONAL STAINLESS STEEL
	TYPE 303 OR NON-METALLIC GRAY NYLON 6/6
CABLE:	YELLOW, #16 AWG, NITRILE RUBBER/PVC JACKET & HYPALON CONDUCTOR INSULATION OVER 65 X #34 COPPER STRANDING, 600V, UL TYPE SOO CSA SO
OUTSIDE DIAMETER:	3P - .42" (10.7mm) 4P - .45" (11.4mm) 5P - .52" (13.2mm)
ELECTRICAL	
VOLTAGE RATING:	600 V AC/DC
AMPERAGE:	3P - 13A 4P - 10A 5P - 8A
ENVIRONMENTAL	
PROTECTION:	IP68, NEMA 6P
AMBIENT OPERATING TEMP:	-4° TO 194° F (-20° TO 90° C)
CERTIFICATIONS	
UL:	UL RECOGNIZED, FILE NO. E46237
CSA:	CSA CERTIFIED, FILE NO. LR6837

CONNECTOR DIMENSIONS

FEMALE STRAIGHT/MALE STRAIGHT

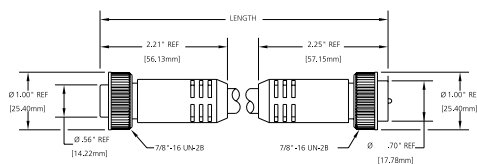
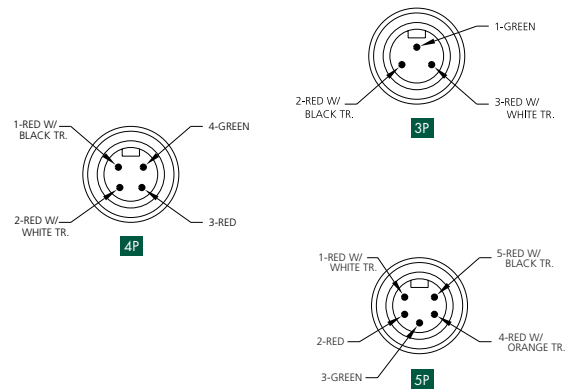


FIG 1

MALE FACE VIEW



FEMALE 90°/MALE STRAIGHT

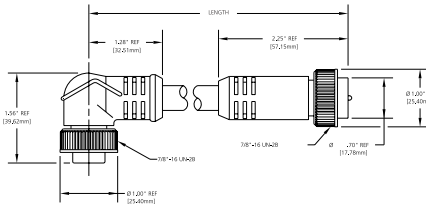


FIG 2

FEMALE STRAIGHT/MALE 90°

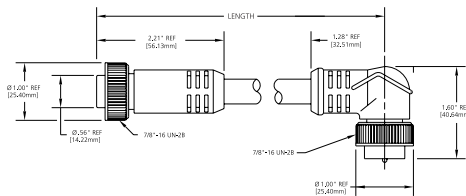
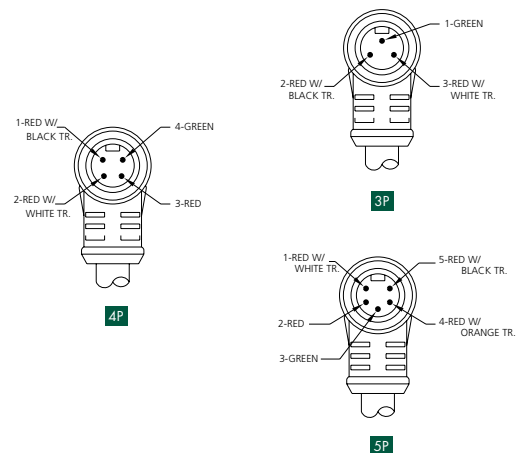


FIG 3

MALE FACE VIEW



FEMALE 90°/MALE 90°

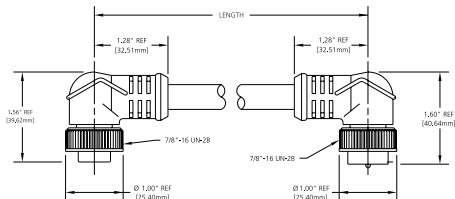


FIG 4



Single-Ended Cordsets

#18 AWG yellow AWM 2661 cable – auto color code
 Oil-resistant PVC jacket
 Low-resistance contact design with gold/palladium nickel plating

NEW	3P	4P	5P
FEMALE FACE VIEW			
COLOR CODE	1- green-gnd 2- red w/ black trace 3- red w/ white trace	1- red w/ black trace 3- red 2- red w/ white trace 4- green-gnd	1- red w/ white trace 4- red w/ yellow trace 2- red 5- red w/ black trace 3- green-gnd
VOLTAGE	300V AC/DC	300V AC/DC	300V AC/DC
CURRENT	10A	7A	5.6A
CONDUCTOR	#18-3	#18-4	#18-5

FEMALE	FIG	SINGLE-ENDED CORDSETS WITH #18 AWG PVC CABLE 3 FEET LONG		
STRAIGHT	1	103000A03F030	104000A03F030	105000A03F030
90°	2	103001A03F030	104001A03F030	105001A03F030
MATING RECEPTACLE*	5	1R3006A17A120	1R4006A17A120	1R5006A17A120
MALE	FIG	SINGLE-ENDED CORDSETS WITH #18 AWG PVC CABLE 3 FEET LONG		
STRAIGHT	3	103002A03F030	104002A03F030	105002A03F030
90°	4	103003A03F030	104003A03F030	105003A03F030
MATING RECEPTACLE*	5	1R3004A17A120	1R4004A17A120	1R5004A17A120

CATALOG OPTIONS

*See Page 58 for additional Mating Receptacles

Use the following chart to modify your part's specifications

103000A03F0301

CABLE LENGTH

6'	060
12'	120
20'	200

COUPLING NUT

STAINLESS STEEL	ADD 1
NON-METALLIC	ADD 2

Specifications

CONNECTOR DIMENSIONS

FEMALE STRAIGHT

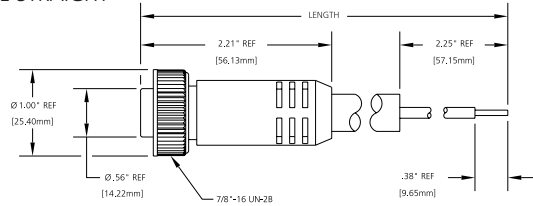


FIG 1

FEMALE 90°

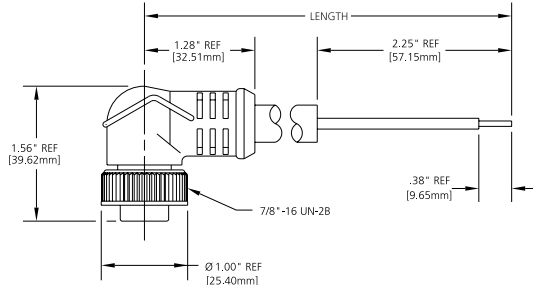
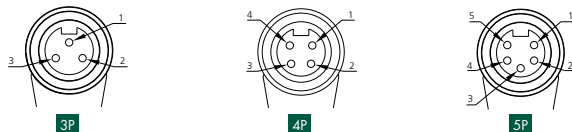


FIG 2

FEMALE CONNECTORS - FACE VIEWS



MALE STRAIGHT

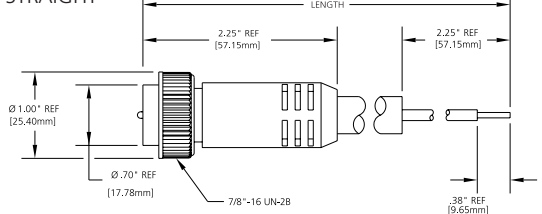


FIG 3

MALE 90°

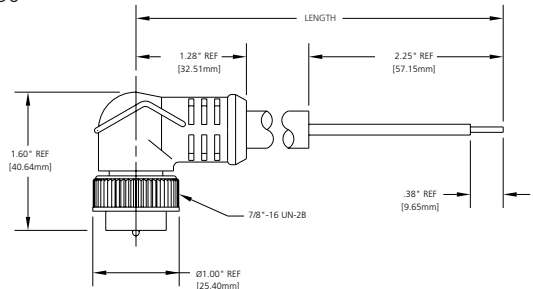
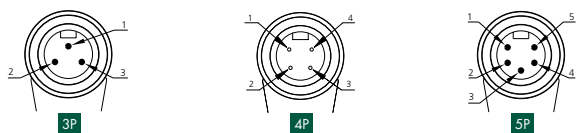


FIG 4

MALE CONNECTORS - FACE VIEWS



MECHANICAL
 CONNECTOR FACE: PVC - UL STD 94 - V0
 MOLDED BODY: PVC - UL STD 94 - V0
 COUPLING NUT: ZINC DIECAST W/ BLACK EPOXY

CABLE: COAT, OPTIONAL STAINLESS STEEL NYLON 6/6
 CABLE: YELLOW, #18 AWG, PVC JACKET & PVC CONDUCTOR INSULATION OVER 41 X #34 COPPER STRANDING, 300V, UL STYLE 2661 CSA AWM I/II A/B
 OUTSIDE DIAMETER: 3P - .28" (7.1mm)
 4P - .28" (7.1mm)
 5P - .28" (7.1mm)

ELECTRICAL
 VOLTAGE RATING: 300 V AC/DC
 AMPERAGE: 3P - 10A
 4P - 7A
 5P - 5.6A

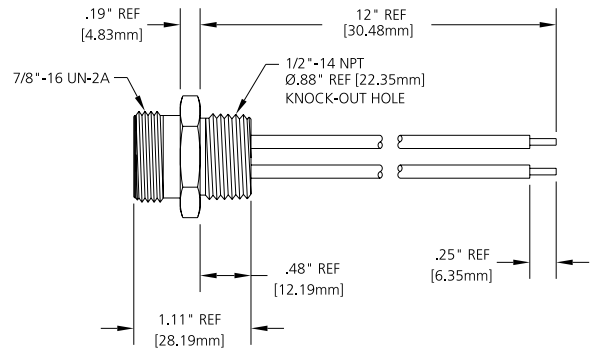
ENVIRONMENTAL
 PROTECTION: IP 68, NEMA 6P
 AMBIENT OPERATING TEMP: -4° TO 221° F (-20° TO 105° C)

CERTIFICATIONS
 UL: UL RECOGNIZED, FILE NO.E46237
 CSA: CSA CERTIFIED, FILE NO.LR6837

RECEPTACLE DIMENSIONS

MALE STRAIGHT WITH 1/2" - 14NPT THREADS FEMALE STRAIGHT WITH 1/2" - 14NPT THREADS

SEE PAGE 58 FOR ADDITIONAL RECEPTACLES



TYPICAL FACE VIEW TYPICAL KNOCK OUT

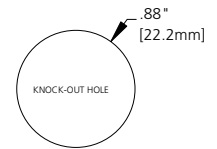
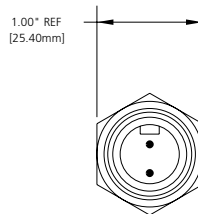
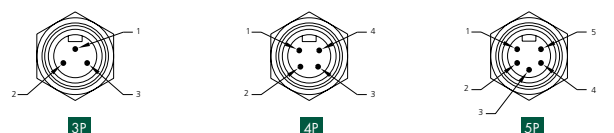


FIG 5

MALE RECEPTACLES - FACE VIEWS





Double-Ended Cordsets

#18 AWG yellow AWM 2661 cable – auto color code
 Oil-resistant PVC jacket
 Low-resistance contact design with gold/palladium nickel plating

NEW	3P	4P	5P
FEMALE FACE VIEW			
COLOR CODE	1- green-gnd 2- red w/ black trace 3- red w/ white trace	1- red w/ black trace 3- red 2- red w/ white trace 4- green-gnd	1- red w/ white trace 4- red w/ yellow trace 2- red 5- red w/ black 3- green-gnd
VOLTAGE	300V AC/DC	300V AC/DC	300V AC/DC
CURRENT	10A	7A	5.6A
CONDUCTOR	#18-3	#18-4	#18-5

FEMALE/MALE	FIG	DOUBLE-ENDED CORDSETS WITH #18 AWG PVC CABLE 3 FEET LONG		
STRAIGHT/STRAIGHT	1	113020A03F030	114020A03F030	115020A03F030
90°/STRAIGHT	2	113021A03F030	114021A03F030	115021A03F030
STRAIGHT/90°	3	113022A03F030	114022A03F030	115022A03F030
90°/90°	4	113023A03F030	114023A03F030	115023A03F030

CATALOG OPTIONS

Use the following chart to modify your part's specifications

113020A03F0301

CABLE LENGTH

6'	060
12'	120
20'	200

COUPLING NUT

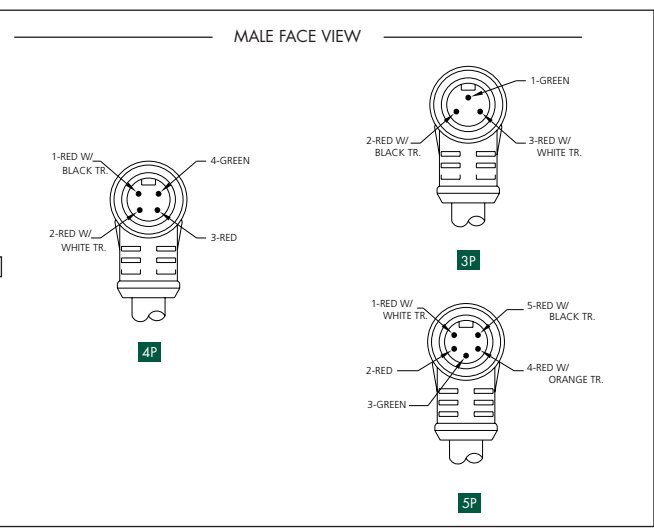
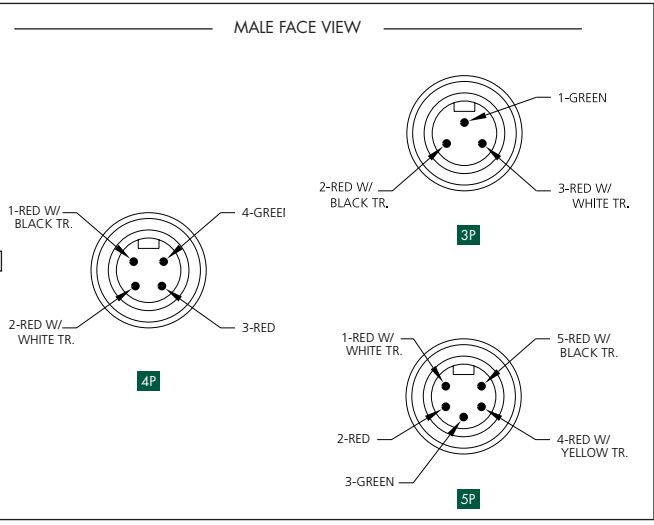
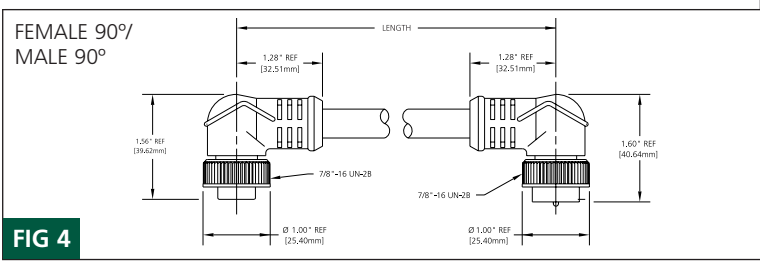
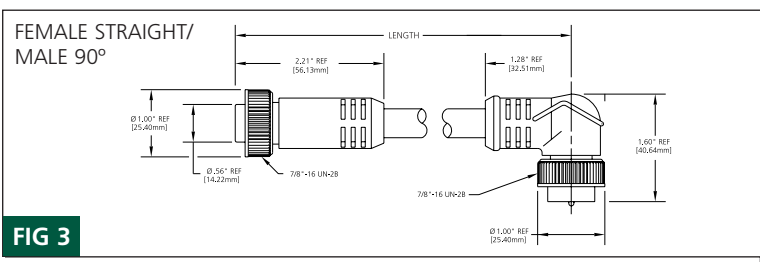
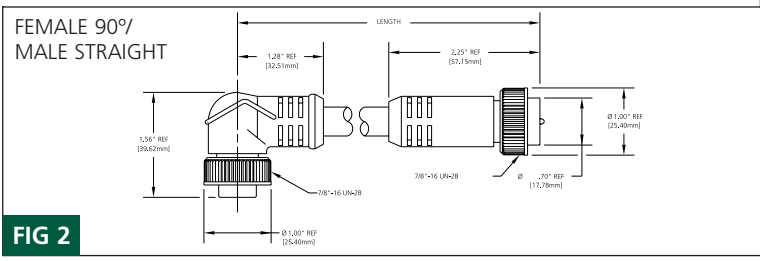
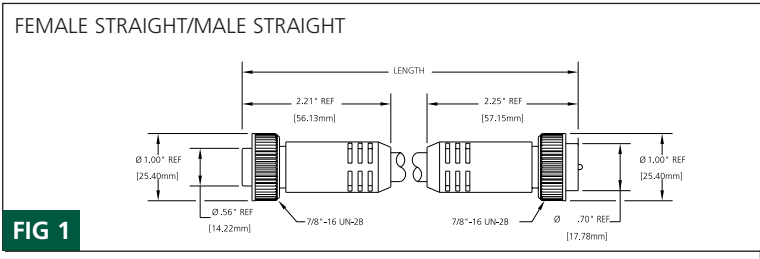
STAINLESS STEEL	ADD 1
NON-METALLIC	ADD 2

Specifications



- MECHANICAL**
 CONNECTOR FACE: PVC - UL STD 94 - V0
 MOLDED BODY: PVC - UL STD 94 - V0
 COUPLING NUT: ZINC DIECAST W/ BLACK EPOXY COAT, OPTIONAL STAINLESS STEEL TYPE 303 OR NON-METALLIC GRAY NYLON 6/6
- CABLE:**
 YELLOW, #18 AWG, PVC JACKET & PVC CONDUCTOR INSULATION OVER 41 X #34 COPPER STRANDING, 300V, UL STYLE 2661, CSA AWM VII A/B
- OUTSIDE DIAMETER:**
 3P - .28" (7.1mm)
 4P - .28" (7.1mm)
 5P - .28" (7.1mm)
- ELECTRICAL**
 VOLTAGE RATING: 300 V AC/DC
 AMPERAGE:
 3P - 10A
 4P - 7A
 5P - 5.6A
- ENVIRONMENTAL**
 PROTECTION: IP 68 NEMA 6P
 AMBIENT OPERATING TEMP: -4° TO 221° F (-20° TO 105° C)
- CERTIFICATIONS**
 UL: UL RECOGNIZED, FILE NO. E46237
 CSA: CSA CERTIFIED, FILE NO. LR6837

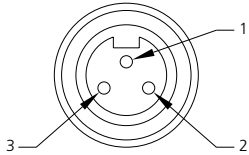
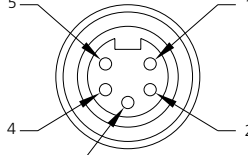
CONNECTOR DIMENSIONS





Single & Double-Ended Cordsets

#18 AWG yellow TPE universal high flex cable – auto color code
 Excellent chemical-, oil- and weld slag-resistance
 Low-resistance contact design with gold/palladium nickel plating

NEW	3P	5P
FEMALE FACE VIEW		
COLOR CODE	1- green-gnd 2- red w/ black trace 3- red w/ white trace	1- red w/ white trace 4- red w/ yellow trace 2- red 5- red w/ black trace 3- green-gnd
VOLTAGE	300V AC/DC	300V AC/DC
CURRENT	10A	5.6A
CONDUCTOR	#18-3	#18-5

FEMALE	FIG	SINGLE-ENDED CORDSETS WITH #18 AWG TPE CABLE 6 FEET LONG	
STRAIGHT	1	103000K02F060	105000K02F060
90°	2	103001K02F060	105001K02F060
MATING RECEPTACLE*	4	1R3006A17A120	1R5006A17A120
FEMALE/MALE	FIG	DOUBLE-ENDED CORDSETS WITH #18 AWG TPE CABLE 6 FEET LONG	
STRAIGHT/STRAIGHT	3	113020K02F060	115020K02F060

CATALOG OPTIONS

*See Page 58 for additional Mating Receptacles

Use the following chart to modify your part's specifications

103000K02F0601

CABLE LENGTH

12'	120
20'	200

COUPLING NUT

STAINLESS STEELADD 1
NON-METALLICADD 2

Specifications



CONNECTOR DIMENSIONS

FEMALE STRAIGHT

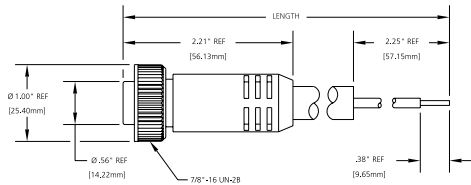


FIG 1

FEMALE 90°

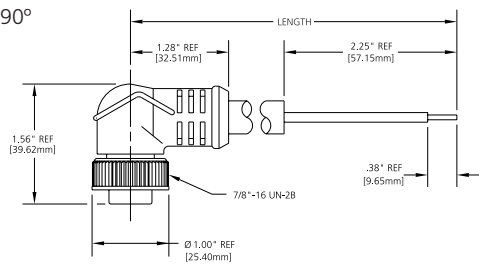
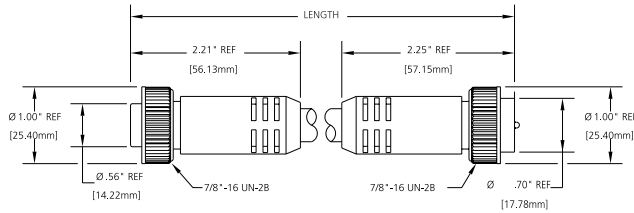


FIG 2

FEMALE STRAIGHT/MALE STRAIGHT



MALE FACE VIEW



FIG 3

MECHANICAL

CONNECTOR FACE: PVC - UL STD 94 - V0
 MOLDED BODY: PVC - UL STD 94 - V0
 COUPLING NUT: ZINC DIECAST W/ BLACK EPOXY COAT, OPTIONAL STAINLESS STEEL TYPE 303 OR NON-METALLIC GRAY NYLON 6/6
 CABLE: YELLOW, #18 AWG, TPE JACKET & PVC CONDUCTOR INSULATION OVER 41 X #34 COPPER STRANDING, 300V, UL STYLE 20626, CSA AWM I/II A/B
 OUTSIDE DIAMETER: 3P - .26" (6.6mm)
 5P - .30" (7.6mm)

ELECTRICAL

VOLTAGE RATING: 300 V AC/DC
 AMPERAGE: 3P - 10A
 5P - 5.6A

ENVIRONMENTAL

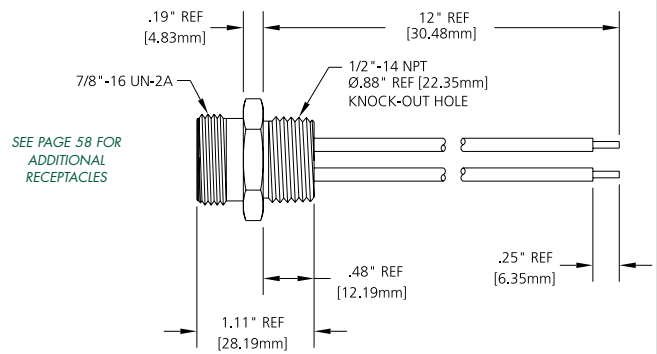
PROTECTION: IP 68, NEMA 6P
 AMBIENT OPERATING TEMP: -4° TO 221° F (-20° TO 105° C)

CERTIFICATIONS

UL: UL RECOGNIZED, FILE NO. E46237
 CSA: CSA CERTIFIED, FILE NO. LR6837

RECEPTACLE DIMENSIONS

MALE STRAIGHT WITH 1/2" - 14NPT THREADS



SEE PAGE 58 FOR ADDITIONAL RECEPTACLES

TYPICAL KNOCKOUT

MALE FACE VIEW

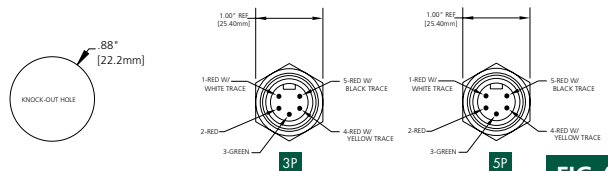


FIG 4

CHEMICAL & OIL-RESISTANCE CHART - TPE CABLE

ACIDS & BASES	PERFORMANCE	OILS & FUELS	PERFORMANCE
SULFURIC ACID 30%	EXCELLENT	ASTM OIL 1,2, OR 3	EXCELLENT
NITRIC ACID 10%	EXCELLENT	TRIMSOL	EXCELLENT
SODIUM HYDROXIDE 10%	EXCELLENT	SIMEOL	EXCELLENT
AMMONIUM HYDROXIDE 10%	EXCELLENT	MOBIL OIL DTE 24 OR 26	EXCELLENT
HYDROCHLORIC ACID 20%	EXCELLENT	KEROSENE	EXCELLENT
GLACIAL ACIDIC ACID	GOOD	TRANSFORMER OIL	GOOD



Receptacles

#18 AWG PVC 12-inch leads - auto color code – epoxy potted
 Straight male & female
 Low-resistance contact design with gold/palladium nickel plating

	3P	4P	5P
MALE FACE VIEW			
COLOR CODE	1- green-gnd 2- red w/ black trace 3- red w/ white trace	1- red w/ black trace 3- red 2- red w/ white trace 4- green-gnd	1- red w/ white trace 4- red w/ yellow trace 2- red 5- red w/ black trace 3- green-gnd
VOLTAGE	300V AC/DC	300V AC/DC	300V AC/DC
CURRENT	10A	7A	5.6A
CONDUCTOR	#18-3	#18-4	#18-5

MALE	FIG	RECEPTACLES WITH #18 AWG PVC LEADS 12 INCHES LONG		
STRAIGHT	1	1R3006A17A120	1R4006A17A120	1R5006A17A120
FEMALE	FIG	RECEPTACLES WITH #18 AWG PVC LEADS 12 INCHES LONG		
STRAIGHT	2	1R3004A17A120	1R4004A17A120	1R5004A17A120

PART NO.	ACCESSORIES
5601	Locknut 1/2 "-14NPT, zinc plated steel
5611	Gasket, black neoprene

CATALOG OPTIONS

Use the following chart to modify your part's specifications

1R3006A17A120

CABLE LENGTH

3'	F030
6'	F060

Specifications



MECHANICAL

SHELL: ZINC DIECAST W/ BLACK EPOXY COAT, OPTIONAL STAINLESS STEEL TYPE 303

INSERT: PVC - UL STD 94 - V0

CONDUCTORS: #18 AWG, PVC INSULATION OVER 16 X #30 COPPER STRANDING, 300V, UL STYLE 1061, CSA AWM SR

ELECTRICAL

VOLTAGE RATING: 300 V AC/DC

AMPLERAGE: 3P - 10A

4P - 7A

5P - 5.6A

ENVIRONMENTAL

PROTECTION: IP 68, NEMA 6P

AMBIENT OPERATING TEMP: -4° TO 176° F (-20° TO 80° C)

CERTIFICATIONS

UL: UL RECOGNIZED, FILE NO. E46237

CSA: CSA CERTIFIED, FILE NO. LR6837

RECEPTACLE DIMENSIONS

MALE STRAIGHT WITH 1/2" - 14NPT THREADS

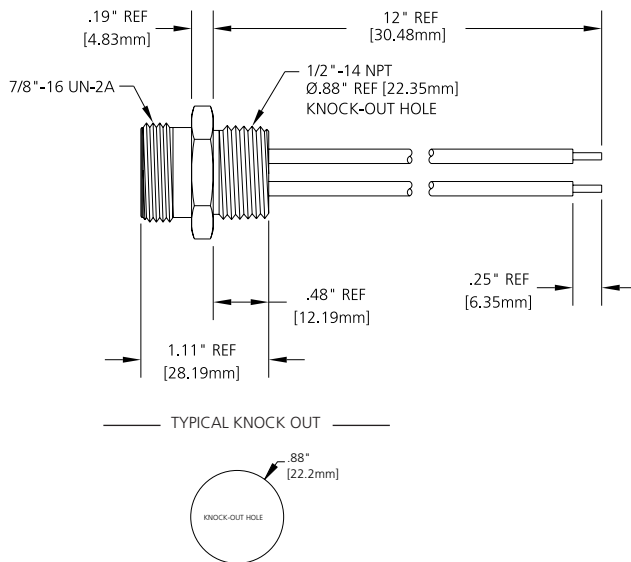


FIG 1

FEMALE STRAIGHT WITH 1/2" - 14NPT THREADS

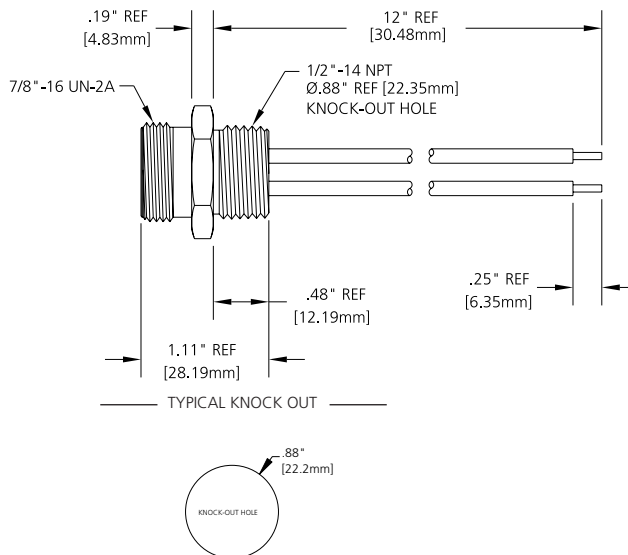
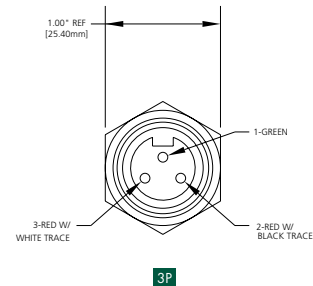
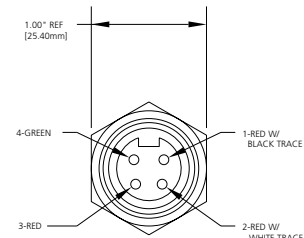


FIG 2

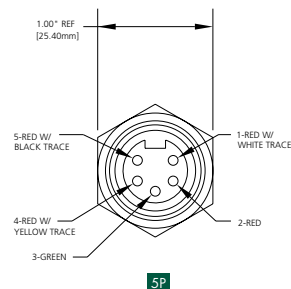
FEMALE FACE VIEW



3P



4P



5P



Single-Ended Cordsets

AUTOMOTIVE

#16 AWG yellow ST00W cable – auto color code
 Oil-resistant PVC jacket
 Low-resistance contact design with gold/palladium nickel plating

	3P	5P
FEMALE FACE VIEW		
COLOR CODE	1- green-gnd 2- red w/ #2 3- red w/ #3	1- red w/ #1 2- red w/ #2 3- green-gnd 4- red w/ #4 5- red w/ #5
VOLTAGE	600V AC/DC	600V AC/DC
CURRENT	13A	8A
CONDUCTOR	#16-3	#16-5

FEMALE	FIG	SINGLE-ENDED CORDSETS WITH #16 AWG ST00W CABLE 3 FEET LONG	
STRAIGHT	1	103000A02F030	105000A02F030
90°	2	103001A02F030	105001A02F030
MATING RECEPTACLE*	5	1R3006A24A120	1R5006A24A120
MALE	FIG	SINGLE-ENDED CORDSETS WITH #16 AWG ST00W CABLE 3 FEET LONG	
STRAIGHT	3	103002A02F030	1R5002A02F030
90°	4	103003A02F030	1R5003A02F030
MATING RECEPTACLE*	5	1R3004A24A120	1R5004A24A120

CATALOG OPTIONS

*See Page 62 for additional Mating Receptacles

Use the following chart to modify your part's specifications

103000A02F0301

CABLE LENGTH

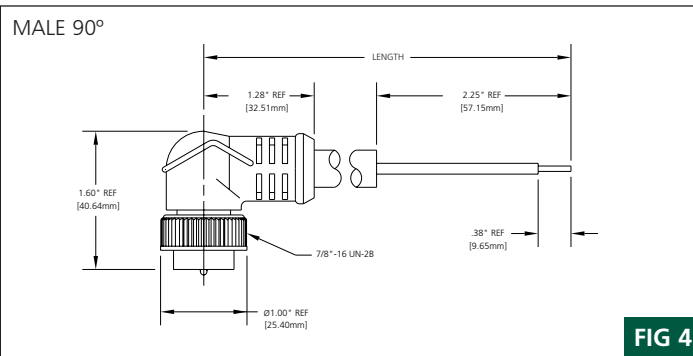
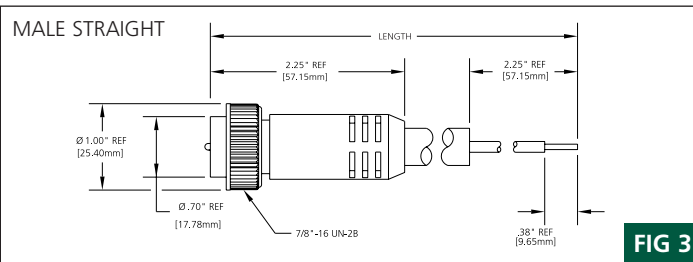
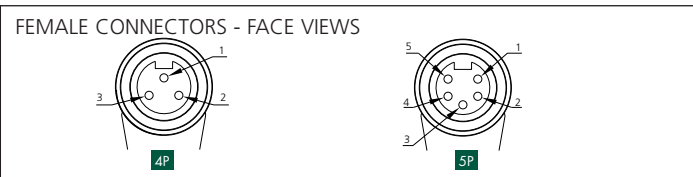
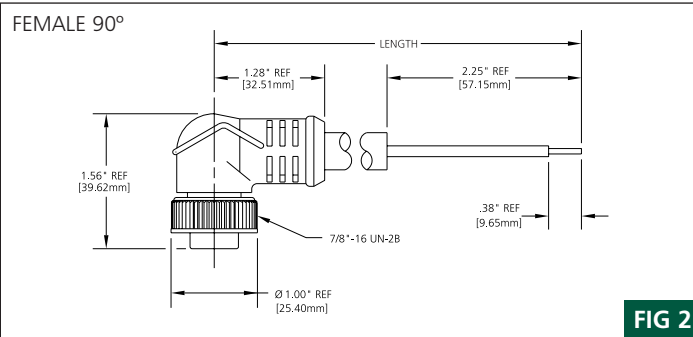
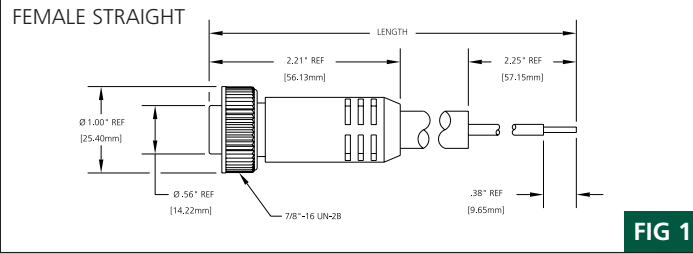
6'	060
12'	120
20'	200

COUPLING NUT

STAINLESS STEEL	ADD 1
NON-METALLIC	ADD 2

Specifications

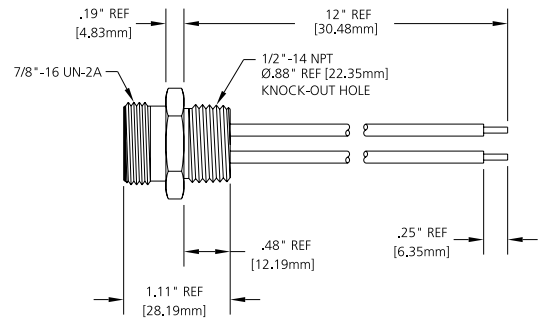
CONNECTOR DIMENSIONS



- MECHANICAL**
 CONNECTOR FACE: PVC - UL STD 94 - V0
 MOLDED BODY: PVC - UL STD 94 - V0
 COUPLING NUT: ZINC DIECAST W/ BLACK EPOXY COAT, OPTIONAL STAINLESS STEEL TYPE 303 OR NON-METALLIC GRAY NYLON 6/6
- CABLE:** YELLOW, #16 AWG, PVC JACKET & PVC CONDUCTOR INSULATION OVER 65 X #34 COPPER STRANDING, 600V, UL ST00W, CSA ST
- OUTSIDE DIAMETER:**
 3P - .41" (10.4mm)
 5P - .50" (12.7mm)
- ELECTRICAL**
 VOLTAGE RATING: 600 V AC/DC
 AMPERAGE:
 3P - 13A
 5P - 8A
- ENVIRONMENTAL**
 PROTECTION: IP 68, NEMA 6P
 AMBIENT OPERATING TEMP: -4° TO 221° F (-20° TO 105° C)
- CERTIFICATIONS**
 UL: UL RECOGNIZED, FILE NO. E46237
 CSA: CSA CERTIFIED, FILE NO. LR6837

RECEPTACLE DIMENSIONS

MALE STRAIGHT WITH 1/2" - 14NPT THREADS
 FEMALE STRAIGHT WITH 1/2" - 14NPT THREADS
 SEE PAGE 62 FOR ADDITIONAL RECEPTACLES



TYPICAL FACE VIEW TYPICAL KNOCK OUT

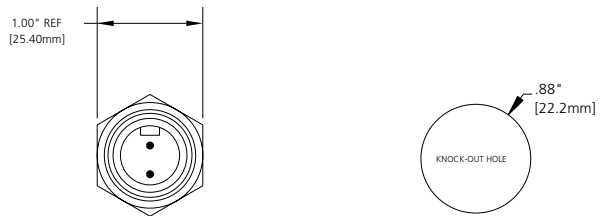


FIG 5

MALE RECEPTACLE - FACE VIEWS





Receptacles AUTOMOTIVE

#16 AWG PVC 12-inch leads – auto color code, epoxy potted
 Straight and 90° male – straight female
 Low-resistance contact design with gold/palladium nickel plating

	3P	5P
MALE FACE VIEW		
COLOR CODE	1- green-gnd 2- red w/ #2 3- red w/ #3	1- red w/ #1 2- red w/ #2 3- green-gnd 4- red w/ #4 5- red w/ #5
VOLTAGE	600V AC/DC	600V AC/DC
CURRENT	13A	8A
CONDUCTOR	#16-3	#16-5

MALE	FIG	RECEPTACLES WITH #16 AWG PVC LEADS 12 INCHES LONG	
STRAIGHT WITH 1/2" -14NPT	1	1R3006A24A120	1R5006A24A120
90° WITH 1/2" -14NPT	2	1R3007A24A120	1R5007A24A120

FEMALE	FIG	RECEPTACLES WITH #16 AWG PVC LEADS 12 INCHES LONG	
STRAIGHT WITH 1/2" -14NPT	3	1R3004A24A120	1R5004A24A120

PART NO.	ACCESSORIES
5601	Locknut 1/2" -14NPT, zinc plated steel
5611	Gasket, black neoprene

CATALOG OPTIONS

Use the following chart to modify your part's specifications

1R3006A24A1201

LEAD LENGTH

3'	F030
6'	F060

SHELL

STAINLESS STEEL SHELL .ADD 1
 (AVAILABLE ON STRAIGHT ONLY)

Specifications



MECHANICAL

SHELL: STRAIGHT & 90° ZINC DIECAST W/ BLACK EPOXY COAT, OPTIONAL STAINLESS STEEL TYPE 303 ON STRAIGHT SHELL DESIGN

INSERT: PVC - UL STD 94 - V0

CONDUCTORS: #16 AWG PVC INSULATION OVER 26 X #30 COPPER STRANDING, 600V, UL STYLE 1015, CSA TEW

ELECTRICAL

VOLTAGE RATING: 600 V AC/DC

AMPERAGE: 3P - 13A

5P - 8A

ENVIRONMENTAL

PROTECTION: IP 68, NEMA 6P

AMBIENT OPERATING TEMP: -4° TO 221° F (-20° TO 105° C)

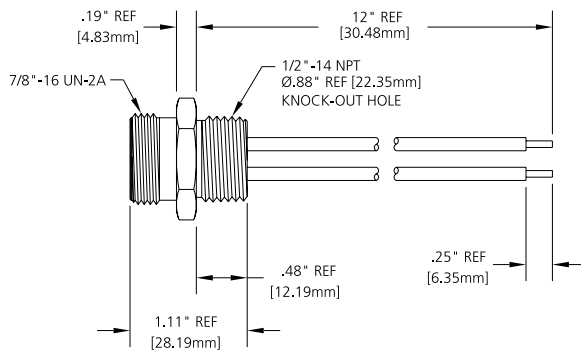
CERTIFICATIONS

UL: UL RECOGNIZED, FILE NO. E46237

CSA: CSA CERTIFIED, FILE NO. LR6837

RECEPTACLE DIMENSIONS

MALE STRAIGHT WITH 1/2" - 14NPT THREADS



TYPICAL KNOCKOUT

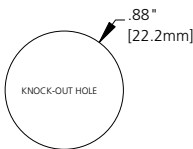
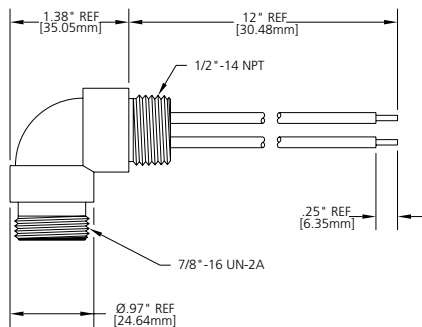
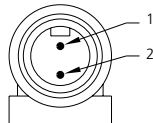


FIG 1

MALE 90° WITH 1/2" - 14NPT THREADS



TYPICAL MALE FACE VIEW



TYPICAL FEMALE FACE VIEW

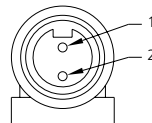
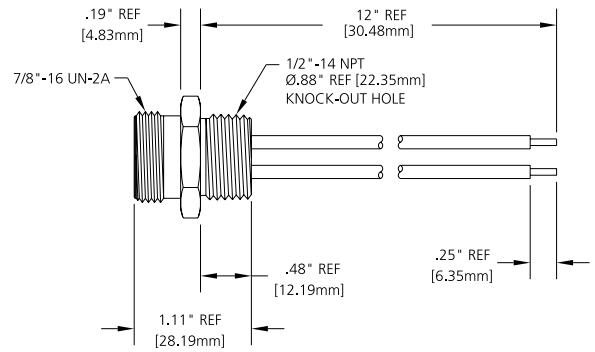
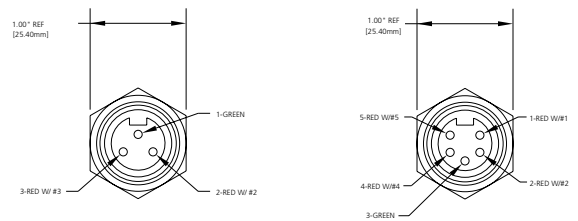


FIG 2

FEMALE STRAIGHT W/ 1/2" - 14NPT THREADS



FEMALE FACE VIEW



3P

5P

TYPICAL KNOCKOUT

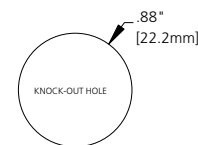


FIG 3



Single-Ended Cordsets

#18 and #20 AWG yellow PVC cable – IEC color code
 Oil-resistant PVC jacket
 Low-resistance contact design with gold/palladium nickel plating

	3P	3P	4P	5P
FEMALE FACE VIEW				
COLOR CODE	1- green/yellow-gnd 2- brown 3- blue	1- black 2- brown 3- blue	1- black 2- blue 3- brown 4- white	1- black 2- blue 3- green/yellow-gnd 4- brown 5- white
VOLTAGE	300V AC/DC	300V AC/DC	300V AC/DC	300V AC/DC
CURRENT	10A	7A	5.6A	4A
CONDUCTOR	18 AWG	18 AWG	18 AWG	20 AWG

FEMALE	FIG	SINGLE-ENDED CORDSETS WITH #18 OR #20 AWG PVC CABLE 1 METER LONG			
STRAIGHT	1	103000A06M010	103000A05M010	104000A05M010	105000A07M010
90°	2	103001A06M010	103001A05M010	104001A05M010	105001A07M010
MATING RECEPTACLE*	5	1R3D06A25A120	1R3D06A16A120	1R4D06A16A120	1R5D06A25A120
MALE	FIG	SINGLE-ENDED CORDSETS WITH #18 OR #20 AWG PVC CABLE 1 METER LONG			
STRAIGHT	3	103002A06M010	103002A05M010	104002A05M010	105002A07M010
90°	4	103003A06M010	103003A05M010	104003A05M010	105003A07M010
MATING RECEPTACLE*	5	1R3D04A25A120	1R3D04A16A120	1R4D04A16A120	1R5D04A25A120

CATALOG OPTIONS

*See Page 66 for additional Mating Receptacles

Use the following chart to modify your part's specifications

103000A06M0101

CABLE LENGTH

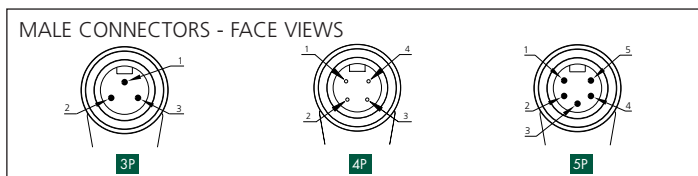
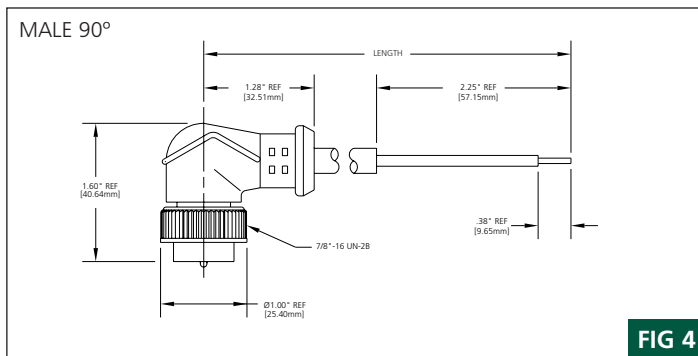
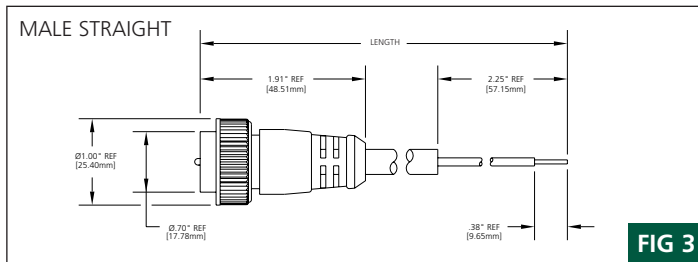
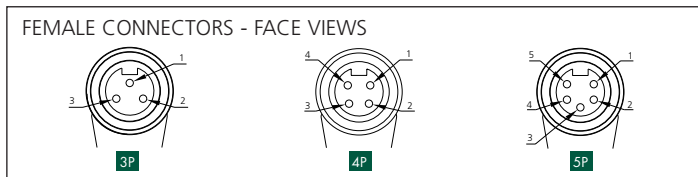
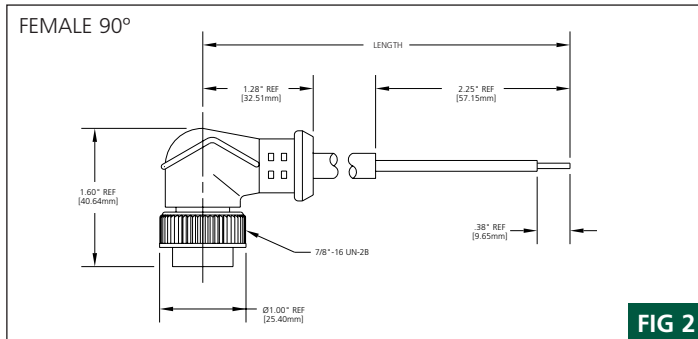
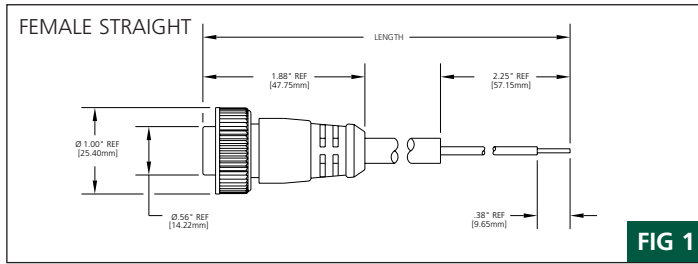
2 METERS	020
5 METERS	050

COUPLING NUT

STAINLESS STEEL	ADD 1
NON-METALLIC	ADD 2

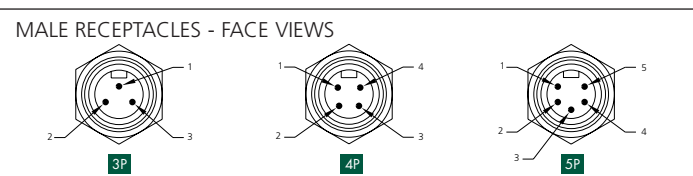
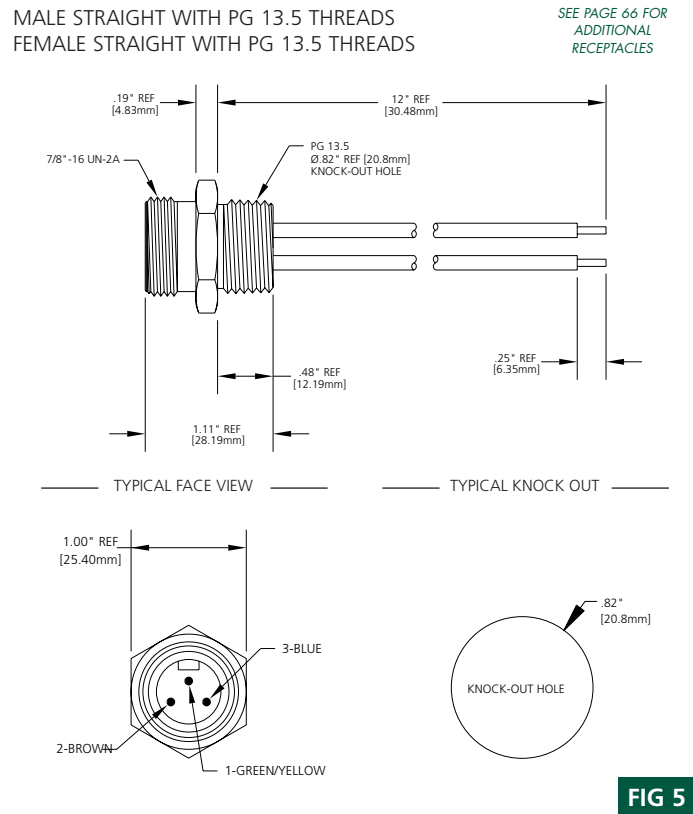
Specifications

CONNECTOR DIMENSIONS



- MECHANICAL**
 CONNECTOR FACE: PVC - UL STD 94 - V0
 MOLDED BODY: PVC - UL STD 94 - V0
 COUPLING NUT: ZINC DIECAST W/ BLACK EPOXY COAT, OPTIONAL STAINLESS STEEL TYPE 303 OR NON-METALLIC GRAY NYLON 6/6
- CABLE:**
 YELLOW, PVC JACKET & PVC CONDUCTOR INSULATION, 3P & 4P: #18 AWG, 41 X #34 COPPER STRANDING, 5P: #20 AWG, 26 X #34 COPPER STRANDING, 300V
- OUTSIDE DIAMETER:**
 2P + GRD - .21" (5.3mm)
 3P - .29" (7.4mm)
 4P - .28" (7.1mm)
 5P - .28" (7.1mm)
- ELECTRICAL**
 VOLTAGE RATING: 300 V AC/DC
 AMPERAGE: 2P + GRD - 10A
 3P - 7A
 4P - 5.6A
 5P - 4A
- ENVIRONMENTAL**
 PROTECTION: IEC IP 68, NEMA 6P
 AMBIENT OPERATING TEMP: -4° C to +221° C (-20 to 90° C)
- CERTIFICATIONS**
 UL: UL RECOGNIZED, FILE NO. E46237
 CSA: CSA CERTIFIED, FILE NO. LR6837

RECEPTACLE DIMENSIONS





Receptacles

#18 AWG PVC 12-inch leads – IEC color code, epoxy potted
 Anodized aluminum shell with PG 13.5 mounting thread
 Low-resistance contact design with gold/palladium nickel plating

	3P	3P	4P	5P
MALE FACE VIEW				
COLOR CODE	1- green/yellow-gnd 2- brown 3- blue	1- black 2- brown 3- blue	1- black 2- blue 3- brown 4- white	1- black 2- blue 3- green/yellow-gnd 4- brown 5- white
VOLTAGE	300V	300V	300V	300V
CURRENT	10A	7A	5.6A	5.6A
CONDUCTOR	#18-3	#18-3	#18-4	#18-5

MALE	FIG	RECEPTACLES WITH #18 AWG PVC LEADS 12 INCHES LONG			
STRAIGHT	1	1R3D06A25A120	1R3D06A16A120	1R4D06A16A120	1R5D06A25A120
FEMALE	FIG	RECEPTACLES WITH #18 AWG PVC LEADS 12 INCHES LONG			
STRAIGHT	2	1R3D04A25A120	1R3D04A16A120	1R4D04A16A120	1R5D04A25A120

CATALOG OPTIONS

Use the following chart to modify your part's specifications

1R3D06A25A120

CABLE LENGTH

1 METER	M010
2 METER	M020

Specifications



MECHANICAL

SHELL: GRAY ANODIZED ALUMINUM
 INSERT: PVC - UL STD 94 - V0
 CONDUCTORS: #18 AWG, PVC INSULATION OVER
 16 X #30 COPPER STRANDING, 600V,
 UL STYLE 1015, CSA TEW

ELECTRICAL

VOLTAGE RATING: 300 V AC/DC
 AMPERAGE: 2P + GRD - 10A
 3P - 7A
 4P - 5.6A
 5P - 5.6A

ENVIRONMENTAL

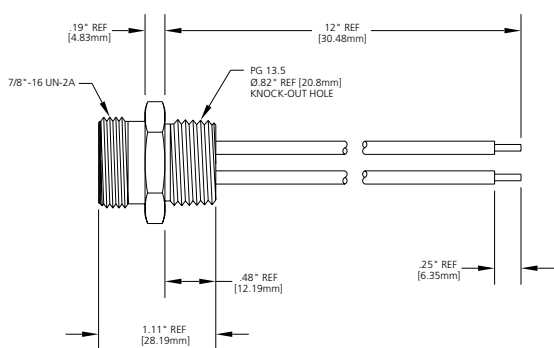
PROTECTION: IP 68, NEMA 6P
 AMBIENT OPERATING TEMP: -4° TO 221° F (-20° TO 105° C)

CERTIFICATIONS

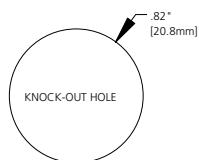
UL: UL RECOGNIZED, FILE NO. E46237
 CSA: CSA CERTIFIED, FILE NO. LR6837

RECEPTACLE DIMENSIONS

MALE STRAIGHT WITH PG 13.5 THREADS



TYPICAL KNOCKOUT



FEMALE FACE VIEW

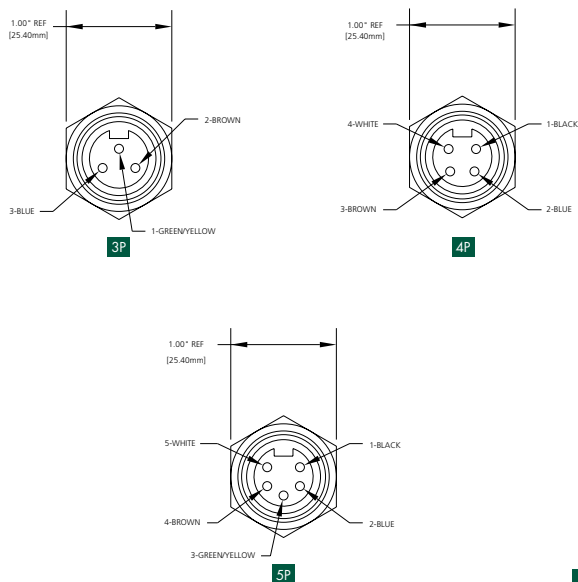
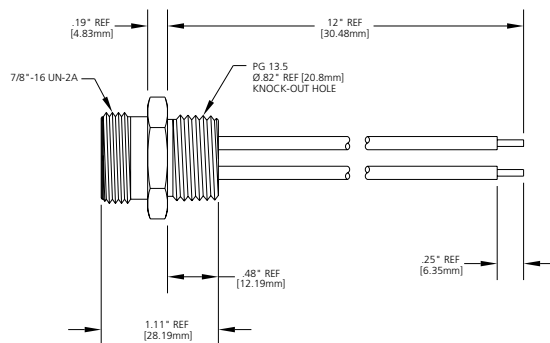


FIG 1

MALE STRAIGHT WITH PG 13.5 THREADS



TYPICAL KNOCKOUT

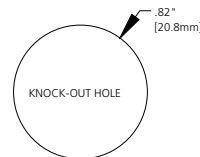


FIG 2



Single & Double-Ended LED Cordsets

Extended-life yellow LED – 100,000 hours continuous use
 Clear PVC body – female straight and 90°
 Provides output indication for AC sensors

NEW	3P with LED
FEMALE FACE VIEW	
COLOR CODE	1- green-gnd 3- red w/white-L1 2- red w/black-load red-L2
LED CIRCUIT DIAGRAM	
VOLTAGE	120V AC ± 10%
CURRENT	3A
CONDUCTOR	#18-4

FEMALE	FIG	SINGLE-ENDED CORDSETS WITH #18 AWG PVC CABLE 3 FEET LONG
STRAIGHT LED	1	1030A0A03F030
90° LED	2	1030A1A03F030
FEMALE/ MALE-4P	FIG	DOUBLE-ENDED CORDSETS WITH #18 AWG PVC CABLE 6 FEET LONG
STRAIGHT LED/ STRAIGHT	3	1130A2A03F060
90° LED/ STRAIGHT	4	1130A3A03F060
STRAIGHT LED/ 90°	5	1130A4A03F060
90° LED/ 90°	6	1130A5A03F060

CATALOG OPTIONS

Use the following chart to modify your part's specifications

1030A0A03F030

CABLE LENGTH

6'	060
12'	120
20'	200

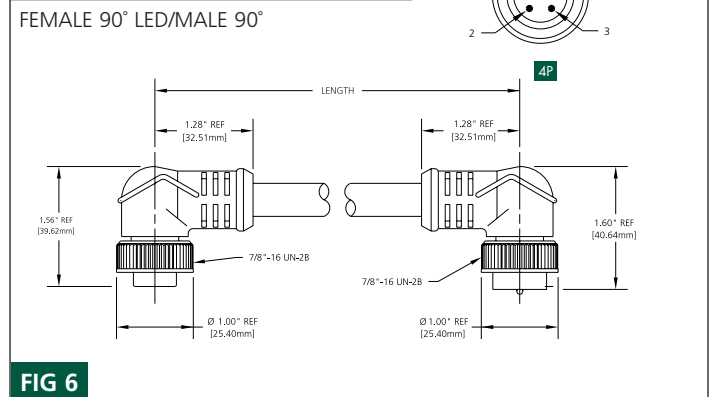
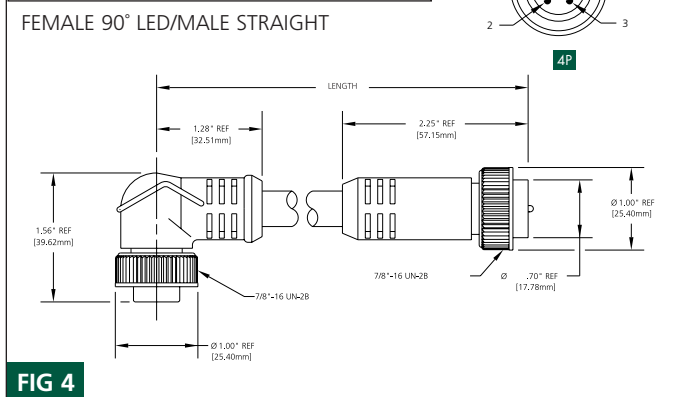
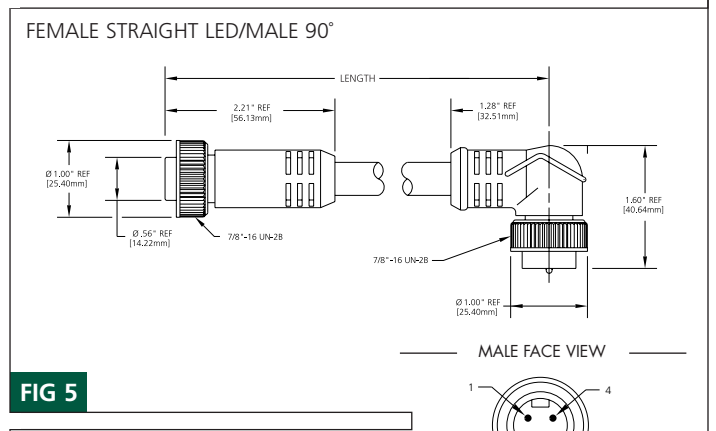
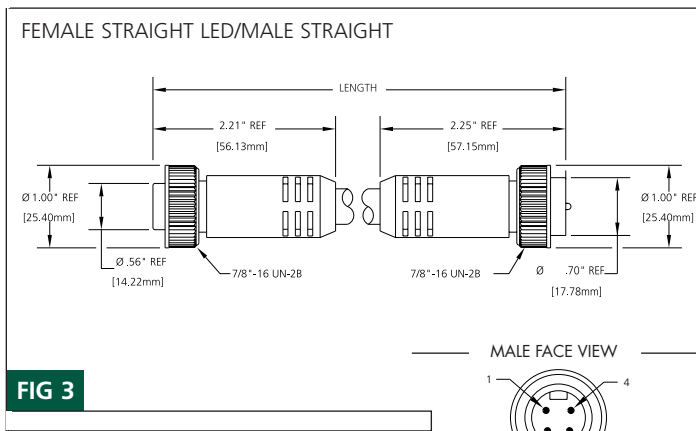
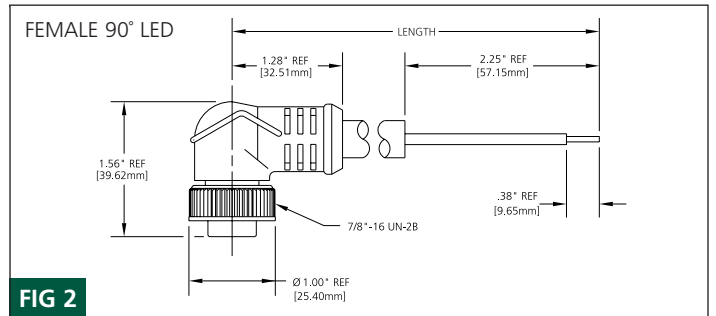
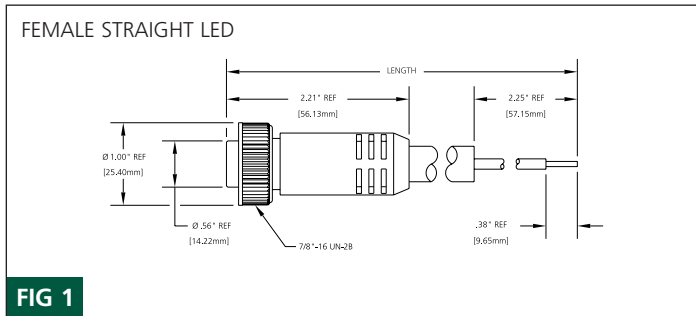
Specifications

3P



MECHANICAL	
CONNECTOR FACE:	PVC - UL STD 94 - V0
MOLDED BODY:	PVC - UL STD 94 - V0
COUPLING NUT:	ZINC DIECAST W/ BLACK EPOXY COAT
CABLE:	YELLOW, #18 AWG, PVC JACKET & PVC CONDUCTOR INSULATION OVER 41 X #34 COPPER STRANDING, 300V, UL STYLE Z661 CSA AWM III A/B 4P - .28" (7.1mm)
ELECTRICAL	
OUTSIDE DIAMETER:	
VOLTAGE RATING:	300 V AC/DC
AMPERAGE:	3P - 3A
ENVIRONMENTAL	
PROTECTION:	IP 68, NEMA 6P
AMBIENT OPERATING TEMP:	-4° to 221° F (-20° to 90° C)
CERTIFICATIONS	
UL:	UL RECOGNIZED, FILE NO. E46237
CSA:	CSA CERTIFIED, FILE NO. LR6837

CONNECTOR DIMENSIONS



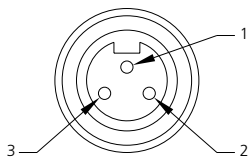
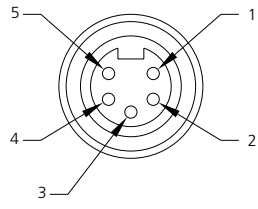


Single-Ended Coil Cordsets

#18 AWG yellow PUR cable – auto color code

Oil- and abrasion-resistant jacket

Low-resistance contact design with gold/palladium nickel plating

NEW	3P	5P
FEMALE FACE VIEW		
COLOR CODE	1- green-gnd 2- red w/ black trace 3- red w/ white trace	1- red w/ white trace 2- red 3- green-gnd 4- red w/ yellow trace 5- red w/ black trace
VOLTAGE	300V AC/DC	300V AC/DC
CURRENT	10A	5.6A
CONDUCTOR	#18-3	#18-5

SINGLE-ENDED CORDSETS WITH #18 AWG PUR CABLE - COIL CORD

FEMALE	FIG	1.5' Retracted 4.5' Extended	4' Retracted 12' Extended	1.5' Retracted 4.5' Extended	4' Retracted 12' Extended
STRAIGHT	1	103000B13F045	103000B13F120	105000B13F045	105000B13F120
90°	2	103001B13F045	103001B13F120	105001B13F045	105001B13F120
MATING RECEPTACLE*	5	1R3006A24A120		1R5006A24A120	

SINGLE-ENDED CORDSETS WITH #18 AWG PUR CABLE - COIL CORD

MALE	FIG	1.5' Retracted 4.5' Extended	4' Retracted 12' Extended	1.5' Retracted 4.5' Extended	4' Retracted 12' Extended
STRAIGHT	3	103002B13F045	103002B13F120	105002B13F045	105002B13F120
90°	4	103003B13F045	103003B13F120	105003B13F045	105003B13F120
MATING RECEPTACLE*	6	1R3004A24A120		1R5004A24A120	

*See Page 58 for additional Mating Receptacles

Specifications



MECHANICAL
 CONNECTOR FACE: PVC - UL STD 94 - V0
 MOLDED BODY: PVC - UL STD 94 - V0
 COUPLING NUT: ZINC DIECAST W/ BLACK EPOXY COAT
 CABLE: YELLOW, #18 AWG, PUR JACKET & POLYPROPYLENE CONDUCTOR INSULATION OVER 168 X #40 COPPER STRANDING, 300V, UL STYLE 20197 CSA AWM I/II A/B
 3P - .25" (6.4mm)
 5P - .30" (7.6mm)

ELECTRICAL
 VOLTAGE RATING: 300 V AC/DC
 AMPERAGE: 3P - 10A
 5P - 5.6A

ENVIRONMENTAL
 PROTECTION: IP 68, NEMA 6P
 AMBIENT OPERATING TEMP: -4° to 176° F (-20° to 80° C)

CERTIFICATIONS
 UL: UL RECOGNIZED, File No. E46237
 CSA: CSA CERTIFIED, File No. LR6837

CONNECTOR DIMENSIONS

FEMALE STRAIGHT

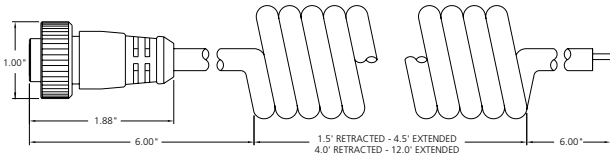


FIG 1

FEMALE 90°

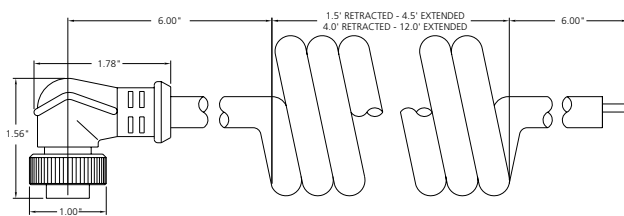


FIG 2

MALE STRAIGHT

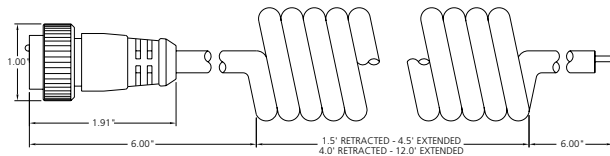


FIG 3

MALE 90°

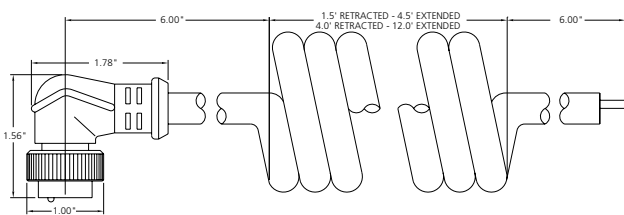
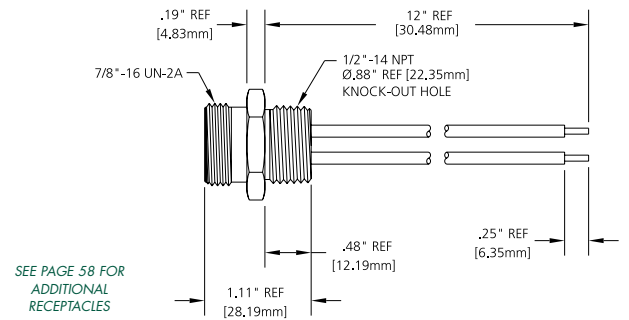


FIG 4

RECEPTACLE DIMENSIONS

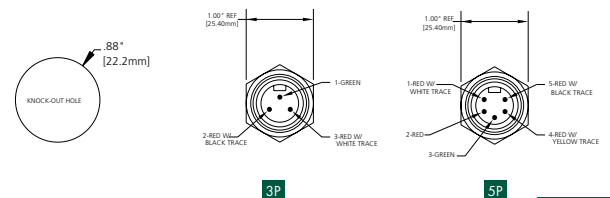
MALE STRAIGHT WITH 1/2" - 14NPT THREADS



SEE PAGE 58 FOR ADDITIONAL RECEPTACLES

TYPICAL KNOCKOUT

MALE FACE VIEW

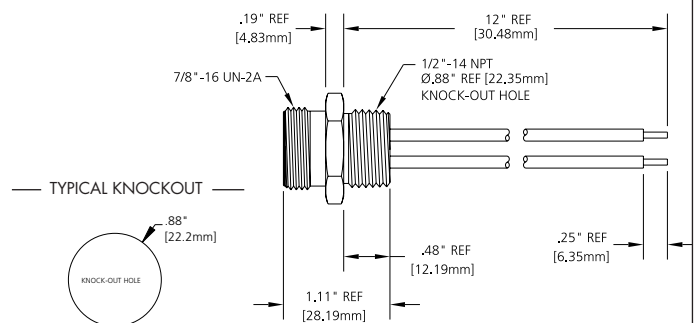


3P

5P

FIG 5

FEMALE STRAIGHT WITH 1/2" - 14NPT THREADS



TYPICAL KNOCKOUT

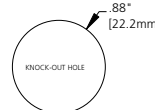


FIG 6



Single-Ended Cordsets

#16 AWG yellow ST00W cable – U.S. color code
 Oil-resistant PVC jacket
 Low-resistance contact design with gold/palladium nickel plating

	6P	7P	8P
FEMALE FACE VIEW			
COLOR CODE	1- orange 2- blue 3- black 4- white 5- red 6- green-gnd	1- white-black trace 2- black 3- white 4- red 5- orange 6- blue 7- green-gnd	1- orange 2- blue 3- white-black trace 4- black 5- white 6- red 7- green-gnd 8- red-black trace
VOLTAGE	600V AC/DC	600V AC/DC	600V AC/DC
CURRENT	8A	8A	7A
CONDUCTOR	#16-6	#16-7	#16-8

FEMALE	FIG	SINGLE-ENDED CORDSETS WITH #16 AWG ST00W CABLE 3 FEET LONG		
STRAIGHT	1	206000A01F030	207000A01F030	208000A01F030
90°	2	206001A01F030	207001A01F030	208001A01F030
MATING RECEPTACLE*	5	2R6006A20A120	2R7006A20A120	2R8006A20A120
MALE	FIG	SINGLE-ENDED CORDSETS WITH #16 AWG ST00W CABLE 3 FEET LONG		
STRAIGHT	3	206002A01F030	207002A01F030	208002A01F030
90°	4	206003A01F030	207003A01F030	208003A01F030
MATING RECEPTACLE*	5	2R6004A20A120	2R7004A20A120	2R8004A20A120

CATALOG OPTIONS

*See Page 76 for additional Mating Receptacles

Use the following chart to modify your part's specifications

206000A01F0301

CABLE LENGTH

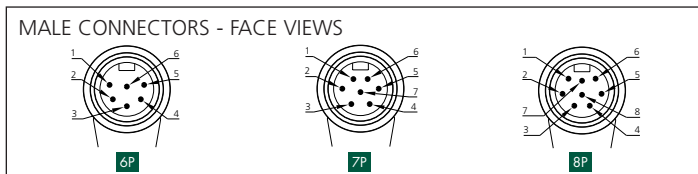
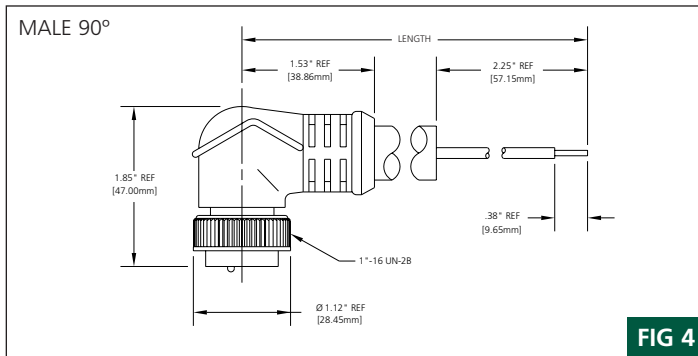
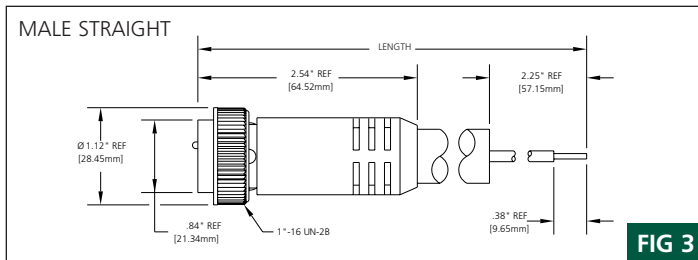
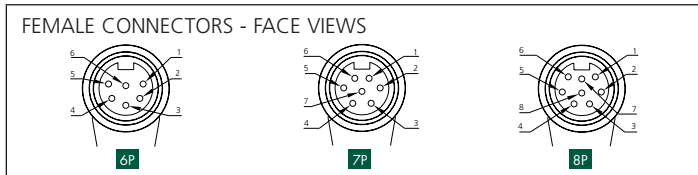
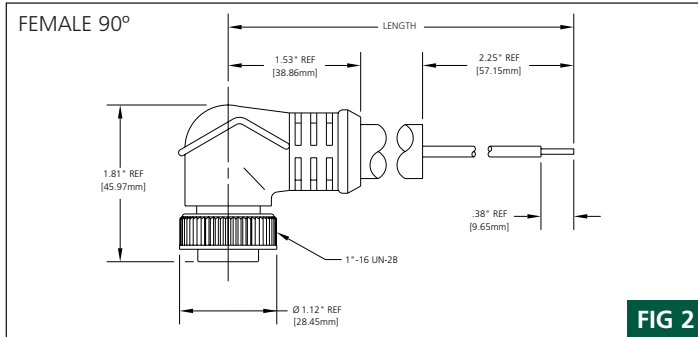
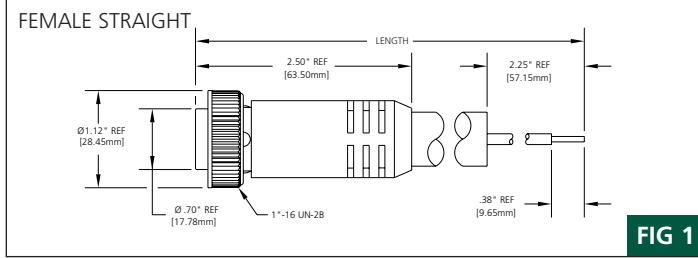
6'	060
12'	120
20'	200

COUPLING NUT

STAINLESS STEELADD 1

Specifications

CONNECTOR DIMENSIONS



MECHANICAL
 CONNECTOR FACE:
 MOLDED BODY:
 COUPLING NUT:

PVC - UL STD 94 - V0
 PVC - UL STD 94 - V0
 ZINC DIECAST W/ BLACK EPOXY
 COAT, OPTIONAL STAINLESS STEEL
 TYPE 303

CABLE: YELLOW, #16 AWG, PVC JACKET & PVC CONDUCTOR INSULATION OVER 65 X #34 COPPER STRANDING, 600V, UL ST00W CSA ST
OUTSIDE DIAMETER:
 6P - .54" (13.7mm)
 7P - .54" (13.7mm)
 8P - .61" (15.5mm)

ELECTRICAL
 VOLTAGE RATING:
 AMPERAGE:

600 V AC/DC
 6P - 8A
 7P - 8A
 8P - 7A

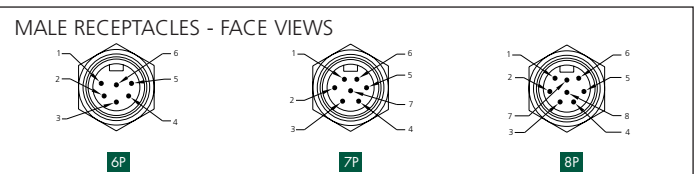
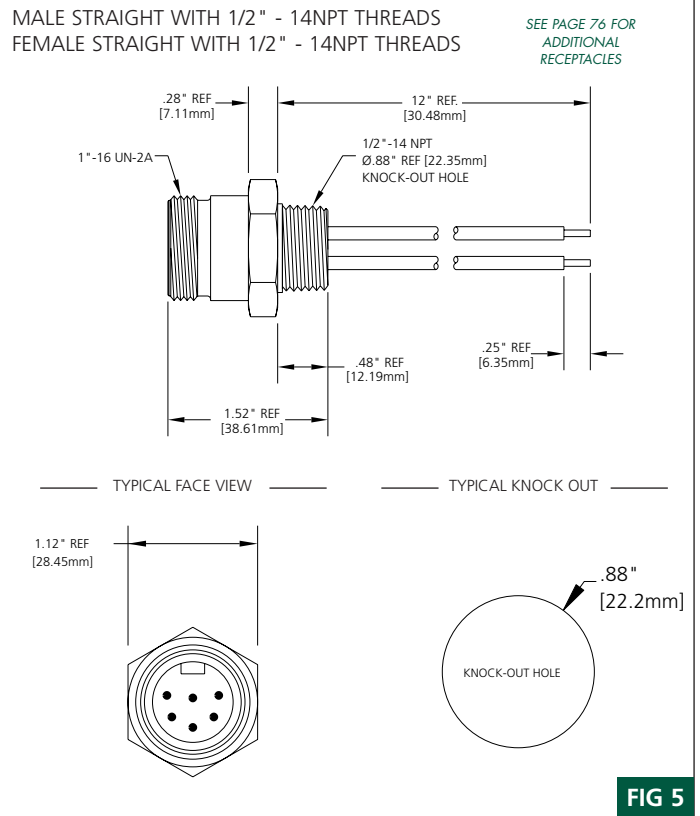
ENVIRONMENTAL
 PROTECTION:
 AMBIENT OPERATING TEMP:

IP 68, NEMA 6P
 -4° to 221° F (-20° to 105° C)

CERTIFICATIONS

UL: UL RECOGNIZED, File No. E46237
 CSA: CSA CERTIFIED, File No. LR6837

RECEPTACLE DIMENSIONS





Double-Ended Cordsets

#16 AWG yellow ST00W cable – U.S. color code
 Oil-resistant PVC jacket
 Low-resistance contact design with gold/palladium nickel plating

	6P	7P	8P
FEMALE FACE VIEW			
COLOR CODE	1- orange 2- blue 3- black 4- white 5- red 6- green-gnd	1- white-black trace 2- black 3- white 4- red 5- orange 6- blue 7- green-gnd	1- orange 2- blue 3- white-black trace 4- black 5- white 6- red 7- green-gnd 8- red-black trace
VOLTAGE	600V AC/DC	600V AC/DC	600V AC/DC
CURRENT	8A	8A	7A
CONDUCTOR	#16-6	#16-7	#16-8

FEMALE/MALE	FIG	DOUBLE-ENDED CORDSETS WITH #16 AWG ST00W CABLE 3 FEET LONG		
STRAIGHT/STRAIGHT	1	226020A01F030	227020A01F030	228020A01F030
90°/STRAIGHT	2	226021A01F030	227021A01F030	228021A01F030
STRAIGHT/90°	3	226022A01F030	227022A01F030	228022A01F030
90°/90°	4	226023A01F030	227023A01F030	228023A01F030

CATALOG OPTIONS

Use the following chart to modify your part's specifications

226020A01F0301

CABLE LENGTH

6'	060
12'	120
20'	200

COUPLING NUT

STAINLESS STEELADD 1

Specifications

6P to 8P



- MECHANICAL**
 CONNECTOR FACE: PVC - UL STD 94 - V0
 MOLDED BODY: PVC - UL STD 94 - V0
 COUPLING NUT: ZINC DIECAST W/ BLACK EPOXY-COAT, OPTIONAL STAINLESS STEEL TYPE 303
- CABLE: YELLOW, #16 PVC JACKET & PVC CONDUCTOR INSULATION OVER 65 X #34 COPPER STRANDING, UL ST00W CSA ST
- OUTSIDE DIAMETER:
 6P - .54" (13.7mm)
 7P - .54" (13.7mm)
 8P - .61" (15.5mm)
- ELECTRICAL**
 VOLTAGE RATING: 600V AC/DC
 AMPERAGE:
 6P - 8A
 7P - 8A
 8P - 7A
- ENVIRONMENTAL**
 PROTECTION: IP 68, NEMA 6P
 AMBIENT OPERATING TEMP: -4° TO 221° F (-20° TO 105° C)
- CERTIFICATIONS**
 UL: UL RECOGNIZED, FILE NO. E46237
 CSA: CSA CERTIFIED, FILE NO. LR6837

CONNECTOR DIMENSIONS

FEMALE STRAIGHT/MALE STRAIGHT

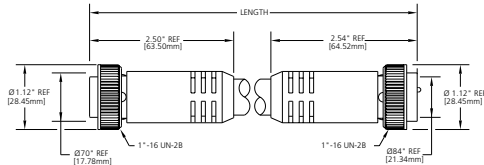


FIG 1

FEMALE 90°/MALE STRAIGHT

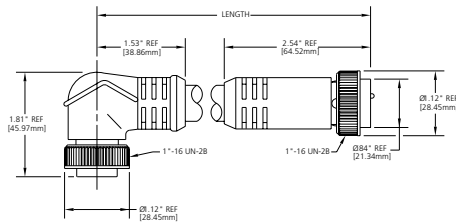


FIG 2

FEMALE STRAIGHT/MALE 90°

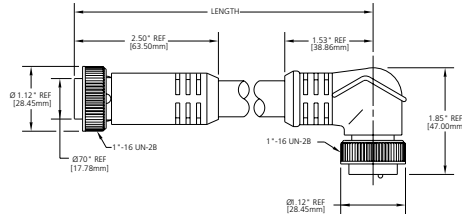


FIG 3

FEMALE 90°/MALE 90°

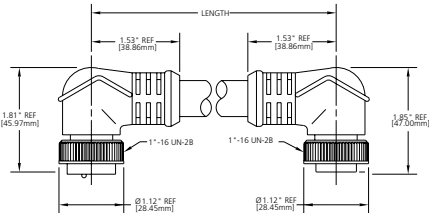
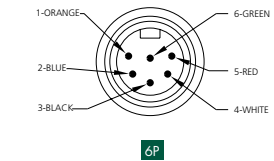
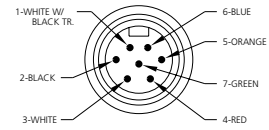


FIG 4

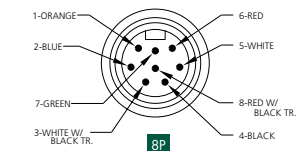
MALE FACE VIEW



6P

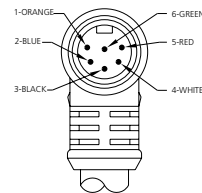


7P

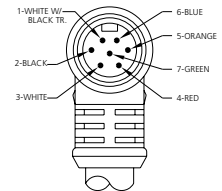


8P

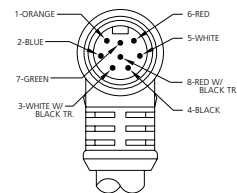
MALE FACE VIEW



6P



7P



8P



Receptacles

#16 AWG PVC 12-inch Leads – U.S. color code, epoxy potted
 Black epoxy coat zinc diecast shell design
 Use in control panels, junction boxes and sensors

	6P	7P	8P
MALE FACE VIEW			
COLOR CODE	1- orange 2- blue 3- black 4- white 5- red 6- green-gnd	1- white-black trace 2- black 3- white 4- red 5- orange 6- blue 7- green-gnd	1- orange 2- blue 3- white-black trace 4- black 5- white 6- red 7- green-gnd 8- red-black trace
VOLTAGE	600V AC/DC	600V AC/DC	600V AC/DC
CURRENT	8A	8A	7A
CONDUCTOR	#16-6	#16-7	#16-8

MALE	FIG	RECEPTACLES WITH #16 AWG PVC LEADS 12 INCHES LONG		
STRAIGHT WITH 1/2"-14NPT	2	2R6006A20A120	2R7006A20A120	2R8006A20A120
FEMALE	FIG	RECEPTACLES WITH #16 AWG PVC LEADS 12 INCHES LONG		
STRAIGHT WITH 1/2"-14NPT	1	2R6004A20A120	2R7004A20A120	2R8004A20A120

PART NO.	ACCESSORIES
5601	Lockout 1/2"-14NPT, zinc plated steel
5611	Gasket, black neoprene

CATALOG OPTIONS

Use the following chart to modify your part's specifications

2R6006A20A1201

LEAD LENGTH

3'	F030
6'	F060

SHELL

STAINLESS STEELADD 1

Specifications



MECHANICAL

SHELL: ZINC DIECAST W/ BLACK EPOXY COAT, OPTIONAL STAINLESS STEEL TYPE 303

INSERT: PVC - UL STD 94 - V0
 CONDUCTORS: #16 AWG PVC INSULATION OVER 26 X #30 COPPER STRANDING, 600V, UL STYLE 1015 CSA TEW

ELECTRICAL

VOLTAGE RATING: 600 V AC/DC
 AMPERAGE: 6P - 8A
 7P - 8A
 8P - 7A

ENVIRONMENTAL

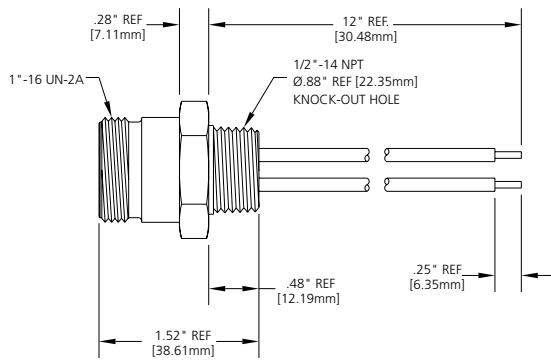
PROTECTION: IP 68, NEMA 6P
 AMBIENT OPERATING TEMP: -4° to 221° F (-20° to 105° C)

CERTIFICATIONS

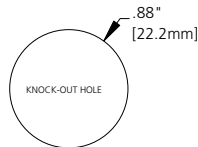
UL: UL RECOGNIZED, FILE NO. E46237
 CSA: CSA CERTIFIED, FILE NO. LR6837

RECEPTACLE DIMENSIONS

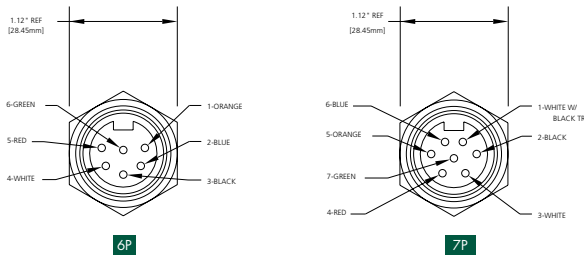
FEMALE STRAIGHT WITH 1/2" - 14NPT



TYPICAL KNOCKOUT

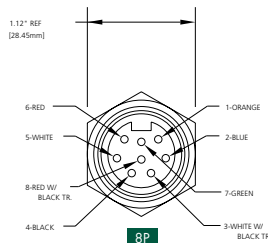


FEMALE FACE VIEW



6P

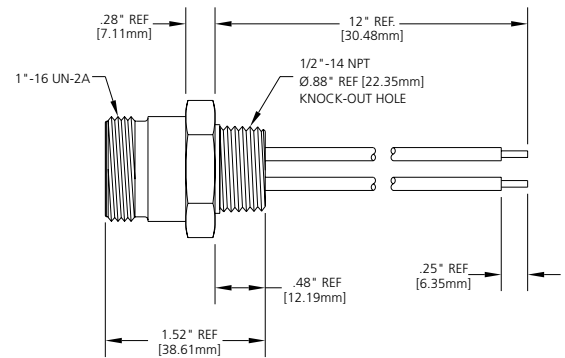
7P



8P

FIG 1

MALE STRAIGHT WITH 1/2" - 14NPT



TYPICAL KNOCKOUT

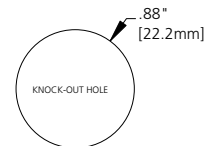


FIG 2



Single-Ended Cordsets

#16 AWG yellow ST00W cable – U.S. color code

Oil-resistant PVC jacket

Low-resistance contact design with gold/palladium nickel plating

	9P	10P	12P
FEMALE FACE VIEW			
COLOR CODE	1- orange 2- blue 3- red-black trace 4- green-black trace 5- white 6- red 7- green-gnd 8- white-black trace 9- black	1- orange 2- blue 3- white-black trace 4- red-black trace 5- green-black trace 6- orange-black trace 7- red 8- green-gnd 9- black 10- white	1- orange 2- blue 3- white-black trace 4- red-black trace 5- green-black trace 6- orange-black trace 7- blue-black trace 8- black-white trace 9- green-gnd 10- red 11- white 12- black
VOLTAGE	600V AC/DC	600V AC/DC	600V AC/DC
CURRENT	7A	7A	5A
CONDUCTOR	#16-9	#16-10	#16-12

FEMALE	FIG	SINGLE-ENDED CORDSETS WITH #16 AWG ST00W CABLE 3 FEET LONG		
STRAIGHT	1	309000A01F030	301000A01F030	302000A01F030
90°	2	309001A01F030	301001A01F030	302001A01F030
MATING RECEPTACLE*	5	3R9006A20A120	3R1006A20A120	3R2006A20A120
MALE	FIG	SINGLE-ENDED CORDSETS WITH #16 AWG ST00W CABLE 3 FEET LONG		
STRAIGHT	3	309002A01F030	301002A01F030	302002A01F030
90°	4	309003A01F030	301003A01F030	302003A01F030
MATING RECEPTACLE*	5	3R9004A20A120	3R1004A20A120	3R2004A20A120

CATALOG OPTIONS

*See Page 82 for additional Mating Receptacles

Use the following chart to modify your part's specifications

309000A01F0301

CABLE LENGTH

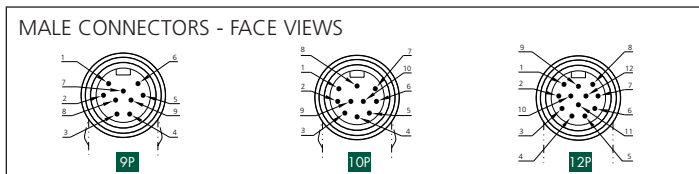
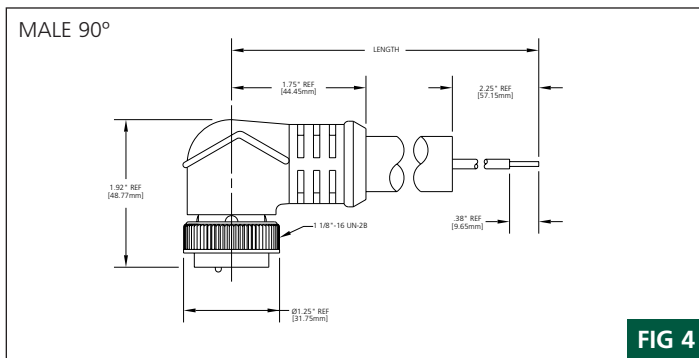
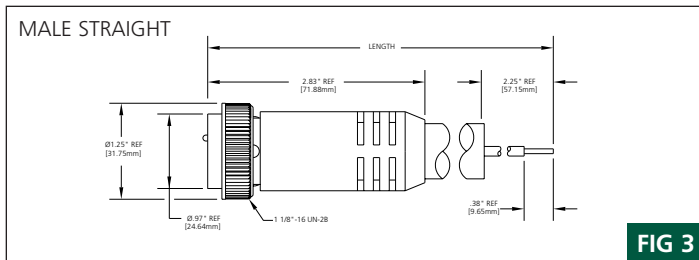
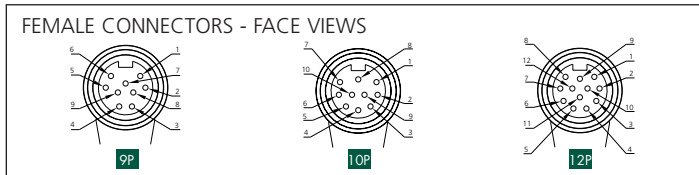
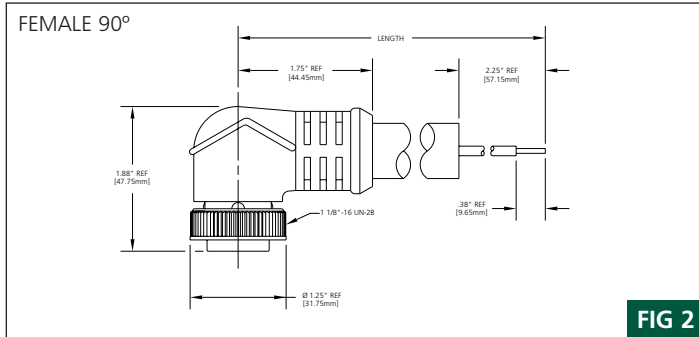
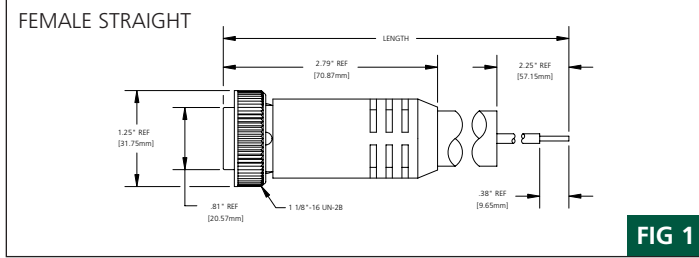
6'	060
12'	120
20'	200

COUPLING NUT

STAINLESS STEELADD 1

Specifications

CONNECTOR DIMENSIONS



MECHANICAL
 CONNECTOR FACE:
 MOLDED BODY:
 COUPLING NUT:

PVC - UL STD 94 - V0
 PVC - UL STD 94 - V0
 ZINC DIECAST W/ BLACK EPOXY
 COAT, OPTIONAL STAINLESS STEEL
 TYPE 303

CABLE:
 YELLOW, #16 AWG, PVC JACKET &
 PVC CONDUCTOR INSULATION
 OVER 65 X #34 COPPER STRANDING,
 600V, UL STYLE ST00W CSA ST

OUTSIDE DIAMETER:
 9P - .64" (16.3mm)
 10P - .66" (16.8mm)
 12P - .71" (18.0mm)

ELECTRICAL
 VOLTAGE RATING:
 AMPERAGE:

600 V AC/DC
 9P - 7A
 10P - 7A
 12P - 5A

ENVIRONMENTAL
 PROTECTION:
 AMBIENT OPERATING TEMP:

IP 68, NEMA 6P
 -4° to 221° F (-20° to 105° C)

CERTIFICATIONS

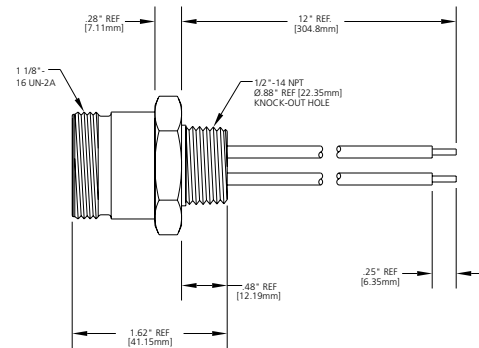
UL:
 CSA:

UL RECOGNIZED, File No. E46237
 CSA CERTIFIED, File No. LR6837

RECEPTACLE DIMENSIONS

MALE STRAIGHT WITH 1/2" - 14NPT THREADS
 FEMALE STRAIGHT WITH 1/2" - 14NPT THREADS

SEE PAGE 82 FOR
 ADDITIONAL
 RECEPTACLES



———— TYPICAL FACE VIEW ———— TYPICAL KNOCK OUT ————

1.25" REF
 [31.75mm]

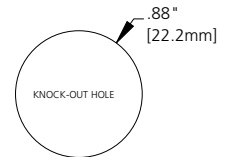
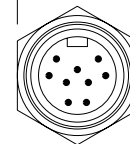
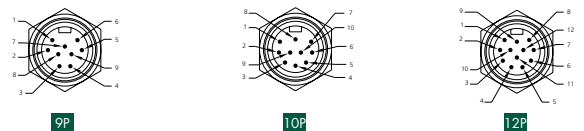


FIG 5

MALE RECEPTACLES - FACE VIEWS



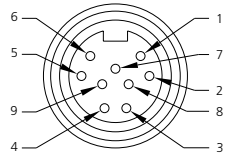
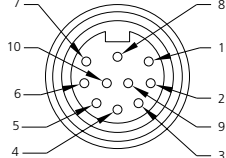
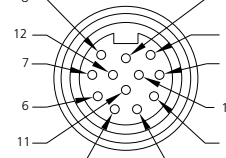


Double-Ended Cordsets

#16 AWG yellow ST00W cable – U.S. color code

Oil-resistant PVC jacket

Low-resistance contact design with gold/palladium nickel plating

	9P	10P	12P
FEMALE FACE VIEW			
COLOR CODE	1- orange 2- blue 3- red-black trace 4- green-black trace 5- white 6- red 7- green-gnd 8- white-black trace 9- black	1- orange 2- blue 3- white-black trace 4- red-black trace 5- green-black trace 6- orange-black trace 7- red 8- green-gnd 9- black 10- white	1- orange 2- blue 3- white-black trace 4- red-black trace 5- green-black trace 6- orange-black trace 7- blue-black trace 8- black-white trace 9- green-gnd 10- red 11- white 12- black
VOLTAGE	600V AC/DC	600V AC/DC	600V AC/DC
CURRENT	7A	7A	5A
CONDUCTOR	#16-9	#16-10	#16-12

FEMALE/MALE	FIG	DOUBLE-ENDED CORDSETS WITH #16 AWG ST00W CABLE 3 FEET LONG		
STRAIGHT/STRAIGHT	1	339020A01F030	331020A01F030	332020A01F030
90°/STRAIGHT	2	339021A01F030	331021A01F030	332021A01F030
STRAIGHT/90°	3	339022A01F030	331022A01F030	332022A01F030
90°/90°	4	339023A01F030	331023A01F030	332023A01F030

CATALOG OPTIONS

Use the following chart to modify your part's specifications

339020A01F0301

CABLE LENGTH

6'	060
12'	120
20'	200

COUPLING NUT

STAINLESS STEEL	ADD 1
---------------------------	-------

Specifications



MECHANICAL	
CONNECTOR FACE:	PVC - UL STD 94 - V0
MOLDED BODY:	PVC - UL STD 94 - V0
COUPLING NUT:	ZINC DIECAST W/ BLACK EPOXY COAT, OPTIONAL STAINLESS STEEL TYPE 303
CABLE:	YELLOW, #16 AWG, PVC JACKET & PVC CONDUCTOR INSULATION OVER 65 X #34 COPPER STRANDING, 600V, UL STYLE ST00W CSA ST
OUTSIDE DIAMETER:	9P - .64" (16.3mm) 10P - .66" (16.8mm) 12P - .71" (18.0mm)
ELECTRICAL	
VOLTAGE RATING:	600 V AC/DC
AMPERAGE:	9P - 7A 10P - 7A 12P - 5A
ENVIRONMENTAL	
PROTECTION:	IP 68, NEMA 6P
AMBIENT OPERATING TEMP:	-4° to 221° F (-20° to 105° C)
CERTIFICATIONS	
UL:	UL RECOGNIZED, FILE NO. E46237
CSA:	CSA CERTIFIED, FILE NO. LR6837

CONNECTOR DIMENSIONS

FEMALE STRAIGHT/MALE STRAIGHT

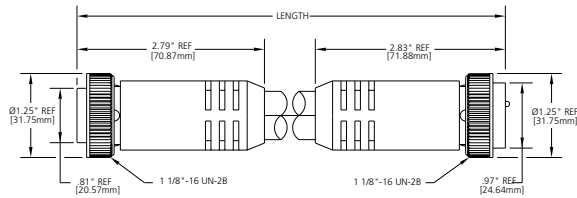


FIG 1

FEMALE 90°/MALE STRAIGHT

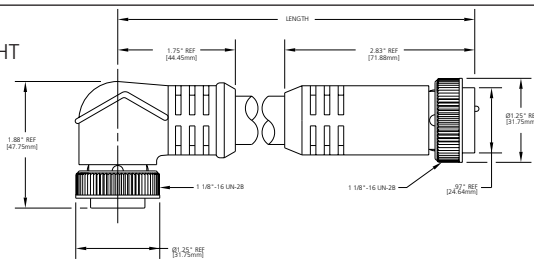


FIG 2

FEMALE STRAIGHT/MALE 90°

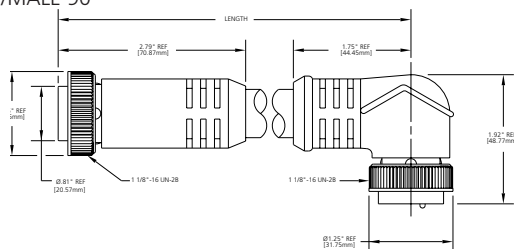


FIG 3

FEMALE 90°/MALE 90°

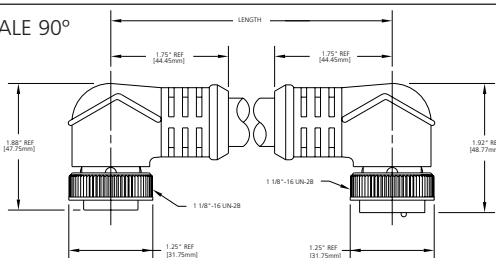
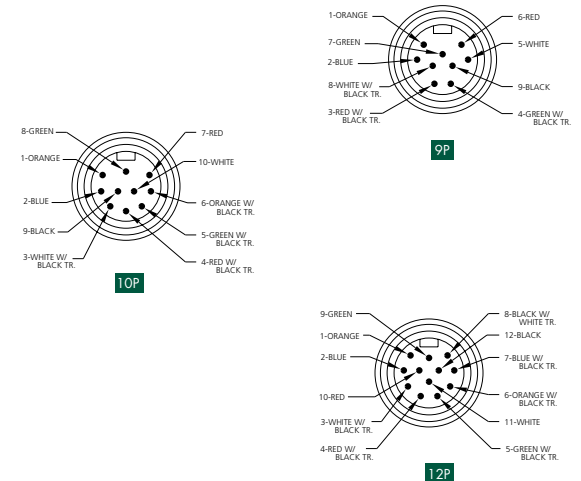


FIG 4

MALE FACE VIEW





Receptacles

#16 AWG PVC 12-inch leads - U.S. color code, epoxy potted
 Black epoxy coat zinc diecast shell design
 Use in control panels, junction boxes and sensors

	9P	10P	12P
MALE FACE VIEW			
COLOR CODE	1- orange 2- blue 3- red-black trace 4- green-black trace 5- white 6- red 7- green-gnd 8- white-black trace 9- black	1- orange 2- blue 3- white-black trace 4- red 5- green-black trace 6- orange-black trace 7- red 8- green-gnd 9- black 10- white	1- orange 2- blue 3- white-black trace 4- red-black trace 5- green-black trace 6- orange-black trace 7- blue-black trace 8- black-white trace 9- green-gnd 10- red 11- white 12- black
VOLTAGE	600V AC/DC	600V AC/DC	600V AC/DC
CURRENT	7A	7A	5A
CONDUCTOR	#16-9	#16-10	#16-12

MALE	FIG	RECEPTACLES WITH #16 AWG PVC LEADS 12 INCHES LONG		
STRAIGHT WITH 1/2" -14NPT	2	3R9006A20A120	3R1006A20A120	3R2006A20A120
FEMALE	FIG	RECEPTACLES WITH #16 AWG PVC LEADS 12 INCHES LONG		
STRAIGHT WITH 1/2" -14NPT	1	3R9004A20A120	3R1004A20A120	3R2004A20A120

PART NO.	ACCESSORIES
5601	Locknut 1/2" -14NPT, zinc plated steel
5611	Gasket, black neoprene

CATALOG OPTIONS

Use the following chart to modify your part's specifications

3R9004A20A1201

LEAD LENGTH

3'	F030
6'	F060

COUPLING NUT

STAINLESS STEEL SHELL .ADD 1

Specifications



MECHANICAL

SHELL: ZINC DIECAST W/ BLACK EPOXY COAT, OPTIONAL STAINLESS STEEL TYPE 303

INSERT: PVC - UL STD 94 - V0

CONDUCTORS: #16 AWG, PVC INSULATION OVER 26 X #30 COPPER STRANDING, 600V, UL STYLE 1015 CSA TEW

ELECTRICAL

VOLTAGE RATING: 600 V AC/DC

AMPERAGE: 9P - 7A

10P - 7A

12P - 5A

ENVIRONMENTAL

PROTECTION: IP 68, NEMA 6P

AMBIENT OPERATING TEMP: -4° TO 221° F (-20° TO 105° C)

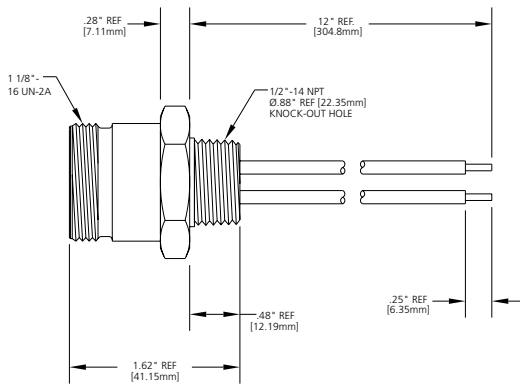
CERTIFICATIONS

UL: UL RECOGNIZED, FILE NO.E46237

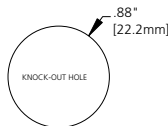
CSA: CSA CERTIFIED, FILE NO. LR6837

RECEPTACLE DIMENSIONS

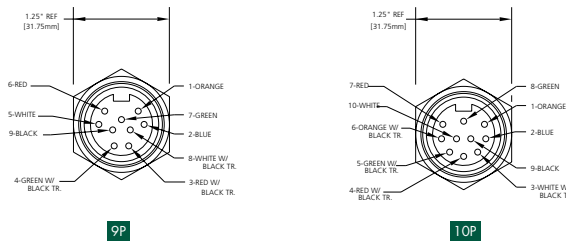
FEMALE STRAIGHT WITH 1/2" - 14NPT



TYPICAL KNOCKOUT

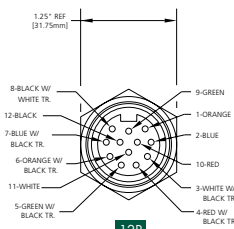


FEMALE FACE VIEW



9P

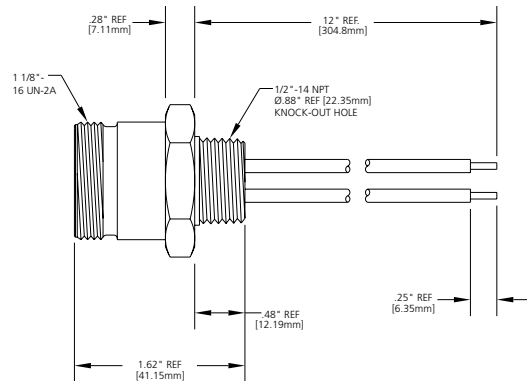
10P



12P

FIG 1

MALE STRAIGHT WITH 1/2" - 14NPT



TYPICAL KNOCKOUT

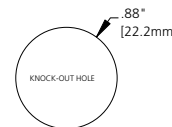


FIG 2



Single & Double-Ended Cordsets & Receptacles

#18 AWG power and #22 AWG control conductors
 Oil- and abrasion-resistant black polyurethane (PUR) jacket
 Mating receptacles available in male and female designs

NEW	19P		
FEMALE FACE VIEW		MALE FACE VIEW	
COLOR CODE	1- violet 2- red 3- gray 4- red/blue 5- blue (#18AWG)	6- green 7- brown (#18AWG) 8- white/green 9- white/yellow 10- white/gray	11- black 12- green/yellow-gnd (#18AWG) 13- yellow/brown 14- brown/green 15- white
VOLTAGE	300V		
CURRENT	3A / 2A		
CONDUCTOR	#18-3 / #22-16		

FEMALE	FIG	SINGLE-ENDED CORDSETS WITH #18 AWG/#22 AWG PVC CABLE 5 METERS LONG
STRAIGHT	1	303000P80M050
MATING MALE RECEPTACLE*	3	3R3N36E80C300
FEMALE/MALE	FIG	DOUBLE-ENDED CORDSETS WITH #18 AWG/#22 AWG PVC CABLE 5 METERS LONG
STRAIGHT/STRAIGHT	2	333030P80M050
MATING FEMALE RECEPTACLE*	4	3R3N30E80C300

CATALOG OPTIONS

Use the following chart to modify your part's specifications

303000P80M050

CABLE LENGTH

10 METER M100

Specifications



MECHANICAL

CONNECTOR FACE: PVC - UL STD 94 - V0
 MOLDED BODY: PVC - UL STD 94 - V0
 COUPLING NUT: ZINC DIECAST W/ BLACK EPOXY COAT
 CONTACT: GOLD PLATED BRASS
 CABLE: BLACK, #18 AWG (.75mm²) & #22 AWG (.34mm²), PUR JACKET & PVC CONDUCTOR INSULATION OVER, 42 X .15mm (#18) AND 42 X .10mm (#22) COPPER STRANDING

OUTSIDE DIAMETER: 19P - .45" (11.4mm)
 RECEPTACLE SHELL: GRAY ANODIZED ALUMINUM
 RECEPTACLE INSERT: PVC - UL STD 94 - V0
 RECEPTACLE CONDUCTORS: #22 AWG W/ PVC INSULATION #18 AWG W/ PVC INSULATION

ELECTRICAL

VOLTAGE RATING: 300V AC/DC
 AMPERAGE: 3A - 18AWG
 2A - 22AWG

ENVIRONMENTAL

PROTECTION: IP 68
 AMBIENT OPERATING TEMP: -4° TO 176° F (-20° TO 80° C)

CORDSET DIMENSIONS

FEMALE STRAIGHT

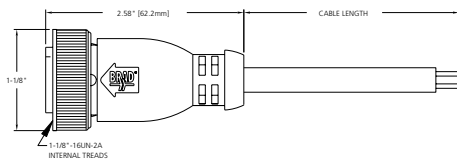


FIG 1

RECEPTACLE DIMENSIONS

MALE STRAIGHT WITH PG 16 MOUNTING THREAD

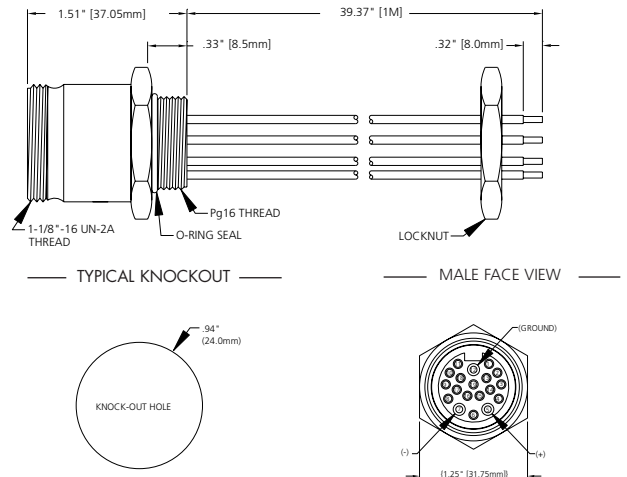


FIG 3

FEMALE STRAIGHT / MALE STRAIGHT

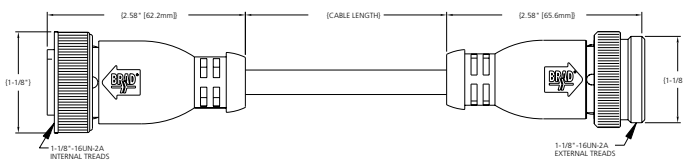


FIG 2

FEMALE STRAIGHT WITH PG 16 MOUNTING THREAD

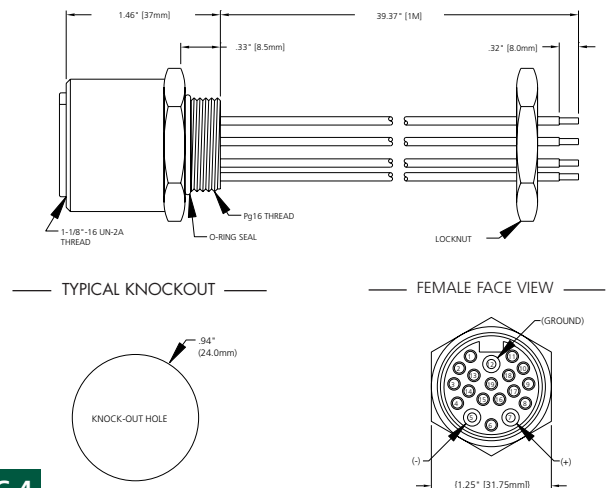


FIG 4



Attachable Connectors

Allows easy field conversion to quick disconnect
 Male with internal or external threads - female with internal threads
 Secure screw terminals #15 AWG to #24 AWG - compatible with existing Mini-Change®

NEW	3P	5P
FEMALE FACE VIEW		
VOLTAGE	600V AC/DC	600V AC/DC
CURRENT	13A	8A
CABLE RANGE	.20"-.48" (5mm-12mm) O.D.	.20"-.48" (5mm-12mm) O.D.

FEMALE	FIG	CATALOG NUMBER	
STRAIGHT WITH INTERNAL THREADS	1	1A3000-34	1A5000-34
MATING RECEPTACLE	4	1R3006A20A120	1R5006A20A120

	3P	5P
MALE FACE VIEW		
VOLTAGE	600V AC/DC	600V AC/DC
CURRENT	13A	8A
CABLE RANGE	.20"-.48" (5mm-12mm) O.D.	.20"-.48" (5mm-12mm) O.D.

MALE	FIG	CATALOG NUMBER	
STRAIGHT WITH EXTERNAL THREADS	2	1A3006-34	1A5006-34
MATING RECEPTACLE*	5	1R3000A20A120	1R5000A20A120
STRAIGHT WITH INTERNAL THREADS	3	1A3002-34	1A5002-34
MATING RECEPTACLE*	6	1R3004A20A120	1R5004A20A120

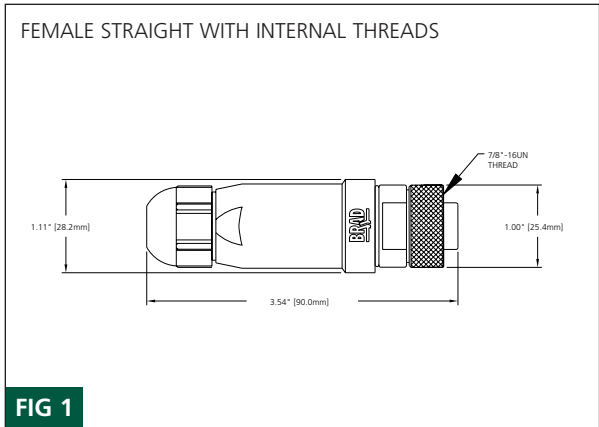
*See Page 46 for additional Mating Receptacles

Specifications

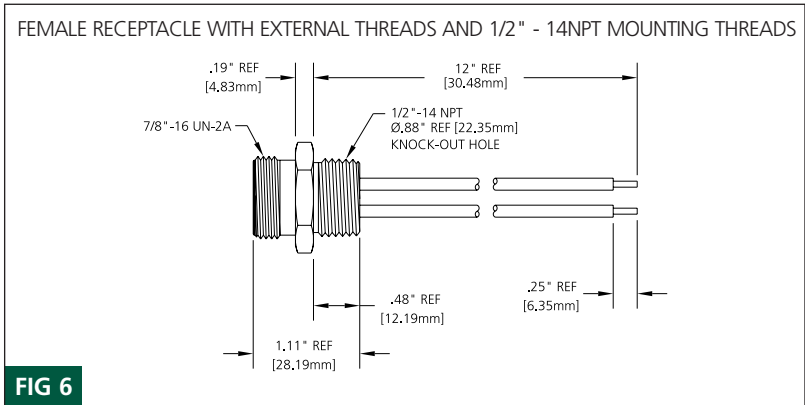
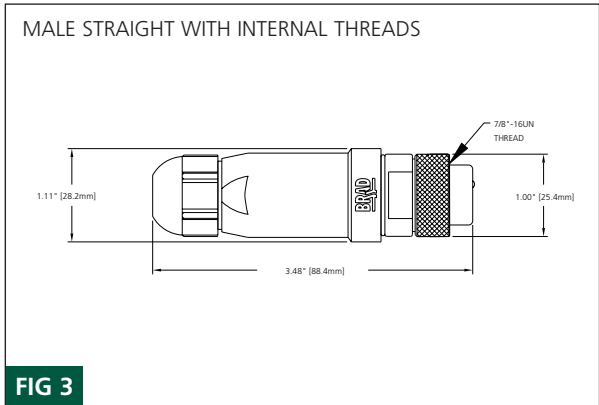
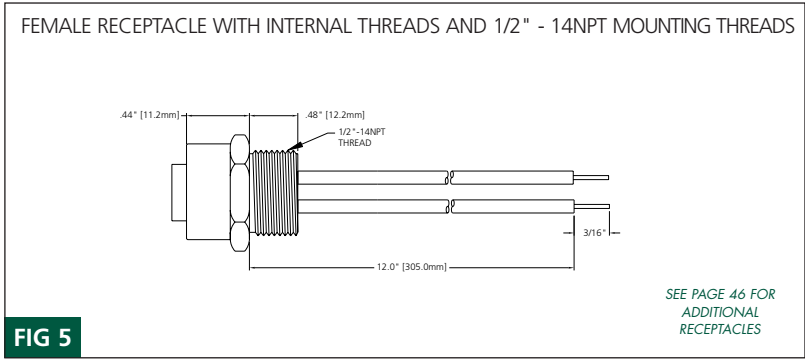
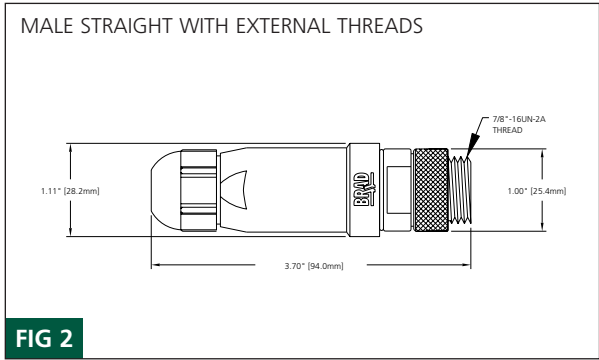
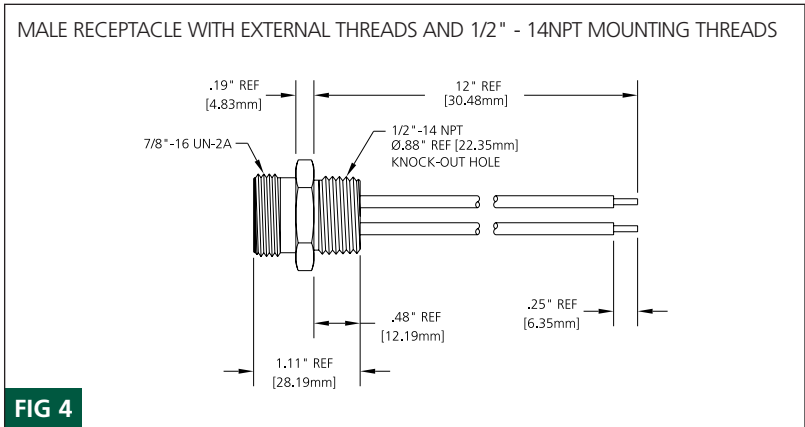


MECHANICAL	
CONNECTOR FACE:	POLYURETHANE
BODY:	POLYAMIDE PA6
CONTACT:	GOLD-PLATED BRASS
COUPLING NUT:	NICKEL-PLATED BRASS
GROMMET:	NEOPRENE
CABLE RANGE O.D.:	.20" - .48" (5.0 - 12.0mm)
ACCEPTABLE WIRE GAUGE RANGE:	#24 AWG (.25mm ²) - #15 AWG (2.0mm ²)
ELECTRICAL	
VOLTAGE RATING:	600 V AC/DC
AMPERAGE:	3P - 13A 5P - 8A
ENVIRONMENTAL	
PROTECTION:	IP 68
AMBIENT OPERATING TEMP:	-40° TO 176° F (-40° TO 80° C)
CERTIFICATIONS	
CSA:	CSA CERTIFIED, FILE NO. LR6837

CONNECTOR DIMENSIONS



RECEPTACLE DIMENSIONS





Accessory Products

Closure caps for receptacles, connectors and Multi-ports
 Threaded unions for mating (2) cordsets
 Female and male plugs for liquid tight conduit terminations
 90° adapters with (1) male and (1) female plug

CLOSURE CAPS & THREADED UNIONS					
DESCRIPTION	FOR USE WITH	FIG	2P to 6P (A size)	6P (B size) to 8P	9P to 12P
ALUMINUM CLOSURE CAP WITH INTERNAL THREADS	MALE & FEMALE RECEPTACLES + MULTIPORT BASE UNITS	1	65-0086	65-0103	65-0105
ALUMINUM CLOSURE CAP WITH EXTERNAL THREADS	MALE & FEMALE CONNECTORS	2	65-0085	65-0102	65-0104
ALUMINUM THREADED UNION	MALE & FEMALE CONNECTORS	3	55-0426	55-0466	55-0496

MINI-CHANGE® PLUGS WITH #16 AWG PVC LEADS 6'-0" LONG FOR 1/2" LIQUID TIGHT CONDUIT					
		2P	3P	4P	5P
FEMALE FACE VIEW					
COLOR CODE		1- white 2- black	1- green-gnd 2- black 3- white	1- black 2- white 3- red 4- green-gnd	1- white 2- red 3- green-gnd 4- orange 5- black
FEMALE	FIG 4	40718	40925	41132	41344
MALE	FIG 4	40780	41037	51149	41593

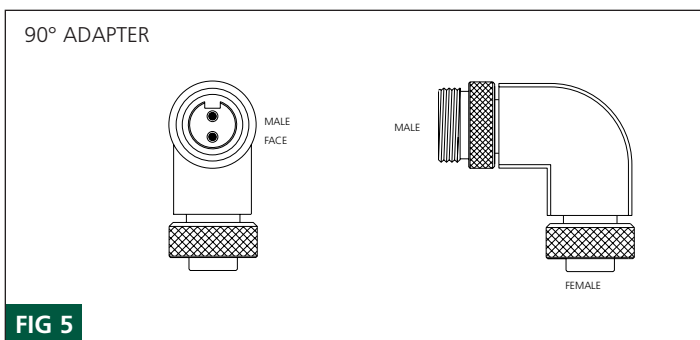
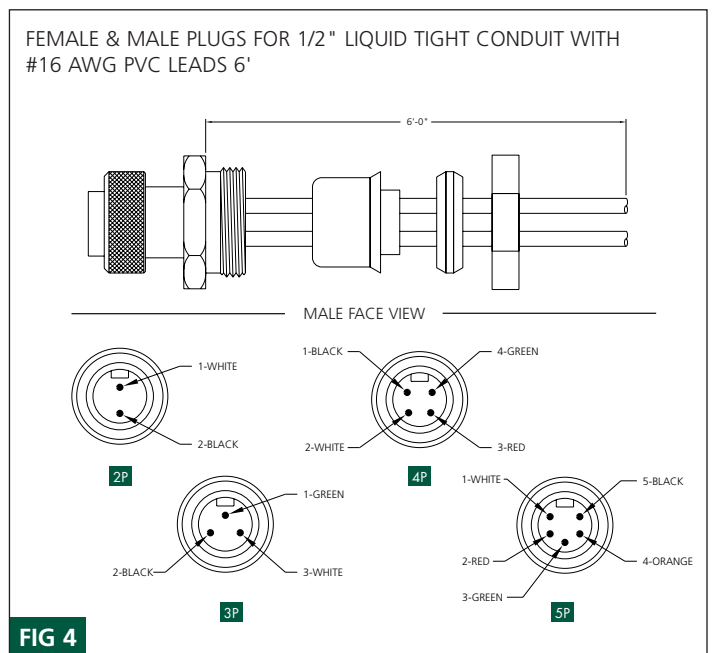
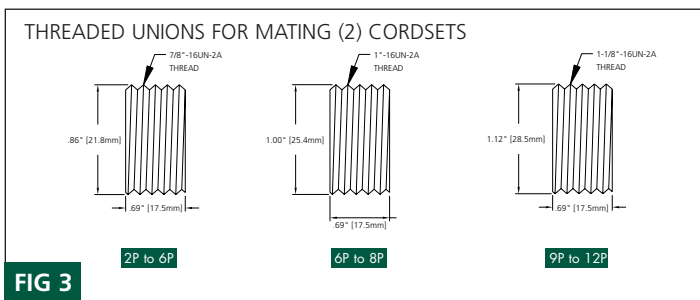
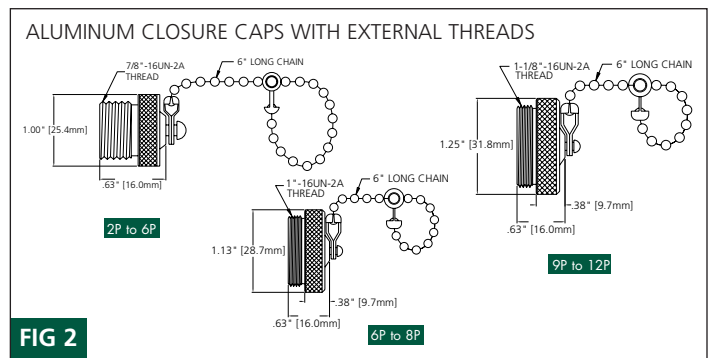
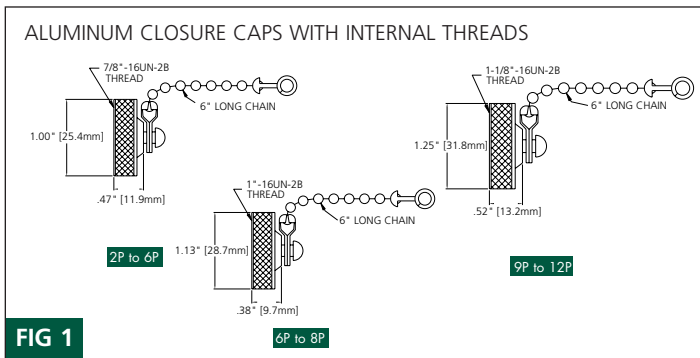
90° ADAPTERS WITH (1) MALE PLUG AND (1) FEMALE PLUG					
		2P	3P	4P	5P
90°	FIG 5	40761	41048	41212	41481

Specifications



- MECHANICAL**
 CLOSURE CAPS W/ INTERNAL THREADS: GRAY ANODIZED ALUMINUM
 CLOSURE CAPS W/ EXTERNAL THREADS: BLACK ANODIZED ALUMINUM
 THREADED UNION: GRAY ANODIZED ALUMINUM
 LIQUID-TIGHT PLUGS: ZINC PLATED STEEL
 CONNECTOR BODY: ZINC PLATED STEEL
 COUPLING NUT: GRAY ANODIZED ALUMINUM
 CLAMP NUT: ZINC PLATED STEEL
 INSERT: PVC - UL STD 94 - V0
 90° ADAPTER CONNECTOR BODY: YELLOW NYLON
 COUPLING NUTS: ZINC DIECAST W/ BLACK EPOXY
 INSERT: PVC - UL STD 94 - V0
- ELECTRICAL**
 LIQUID-TIGHT PLUGS AND 90° ADAPTORS: 600V
 VOLTAGE RATING: CURRENT: 2P - 13A
 3P - 10A
 4P - 8A
 5P - 8A
- ENVIRONMENTAL**
 PROTECTION: IP65, NEMA 4
 AMBIENT OPERATING TEMP: -4° TO 221° F (-20° TO 105° C)
- CERTIFICATIONS**
 UL: UL RECOGNIZED, FILE NO. E46237
 CSA: CSA CERTIFIED, FILE NO. LR6837

ACCESSORY DIMENSIONS & DETAILS



Micro-Change® Cordset Family

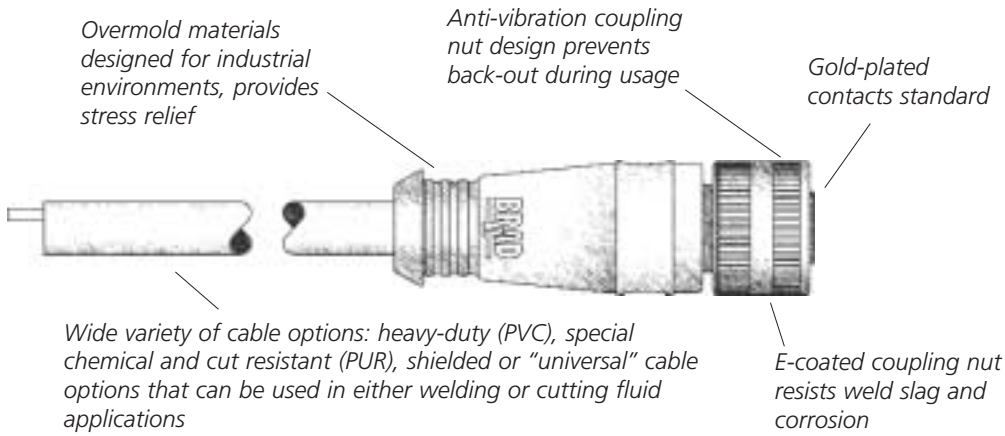
Small Space? Big Solution.

When space and time are in short supply, look no further than Brad Harrison® brand for the best, ready-made m12 connector solutions. For fast, compact migration towards softwiring, Brad Harrison Micro-Change m12 connectors are ideal connectivity solutions for 12mm to 18mm sensors and switches. For applications requiring an increased pin count in a standard m12 configuration, the Brad Harrison 8-pin Micro-Change connector family is there for you. A variety of configurations are available, such as DC and both American and European standard AC form factors.

Applications

Micro-Change m12 connectors can be found on a large variety of both input and output connection points. A variety of sensors, switches, safety light curtains and mats can benefit from “quick-disconnect” forms. All of which rely on the use of cordsets for faster wiring, fewer errors and continued protection within a variety of environments. For control output connections, such as valves, solenoids, and indicating light towers, the Brad Harrison Micro-Change connector family provides a reliable and secure connection. The Micro-Change connector is the standard connection for industrial bus networks when inputs and outputs need to be connected reliably to ensure constant communication with the bus.





Design and Quality

Turn to the Brad Harrison® brand of connectors for the industry's broadest, most reliable m12 quick-disconnect solutions. Brad Harrison Micro-Change connectors are available in 2- to 8- pole configurations, single and dual keyway designs, with straight and 90° cordsets. Mechanically keyed male and female components eliminate miss-mating and subsequent control system damage. Anti-vibration features built into the coupling nuts do not allow the cables to be "backed off" in high vibration environments. Brad Harrison Micro-Change connectors are specially designed to withstand harsh industrial environments, as well as noisy ones. The patented 360° shielding design of Micro-Change cordsets provides the best possible protection in environments affected by EMI/RF noise ingress or egress. Both corrosive cutting fluid and welding environments are withstood with the "universal" cordsets.

Brad Harrison Micro-Change connectors are well-known for more than their innovative design. Compared to similar connector products, our Micro-Change connectors are powerfully reinforced with better materials, leading the pack on both quality and reliability. Our competitive advantage results in your performance gains. Expect oil-resistant, PVC or PUR-jacketed cables that hold their own against cuts and abrasions, epoxy-sealed receptacles that keep moisture and other destructive contaminants from entering the wiring chamber and NEMA 6P and IP 68 protection from Brad Harrison. Our standard E-coated coupling nuts allow the connector to withstand weld slag build-up and the continuous pounding of corrosive salts.

Micro-Change® Connector Section Quick Finder

SINGLE KEYWAY
PAGES 94 - 119
3P to 5P & 8P

DUAL KEYWAY
PAGES 120 - 137
2P TO 6P

SINGLE-ENDED STRAIGHT
SINGLE-ENDED 90°
DOUBLE-ENDED STRAIGHT
DOUBLE-ENDED 90°
PVC CABLE 22 AWG
PUR CABLE 18 AWG
HIGHFLEX & COIL CORD
SJOOW CABLE 18 AWG
TPE CABLE 18 AWG
HIGH FLEX
MATING RECEPTACLES
FIELD-ATTACHABLE
CONNECTORS

SINGLE-ENDED STRAIGHT
SINGLE-ENDED 90°
DOUBLE-ENDED STRAIGHT
DOUBLE-ENDED 90°
PVC CABLE 22 AWG
PUR CABLE 18 AWG HIGH
FLEX & COIL CORD
TPE CABLE 18 AWG
HIGH FLEX
MATING RECEPTACLES
FIELD-ATTACHABLE
CONNECTORS

360° SHIELDED
PAGES 138 - 147
3P TO 5P SINGLE
2P TO 6P DUAL

REVERSE KEY
PAGES 148 - 151
3P & 4P

SINGLE-ENDED STRAIGHT
DOUBLE-ENDED STRAIGHT
PVC CABLE 22 AWG
WITH SHIELD
MATING SHIELDED
RECEPTACLES

SINGLE-ENDED STRAIGHT
SINGLE-ENDED 90°
MATING RECEPTACLES

SINGLE & DUAL KEY
SPLITTERS
PAGES 152 - 161
3P, 4P & 5P

ACCESSORIES
PAGES 162 - 163
2P TO 6P

2 FEMALE-TO-1 MALE
PVC CABLE 22 AWG
PVC CABLE 22 AWG
WITH BRAID
TPE CABLE 18 AWG
SOLID BODY DESIGN

CLOSURE CAPS
MICRO-CHANGE TO
MINI-CHANGE
ADAPTERS

Look for these new Micro-Change® connector products



NEW

**Single- and Double-Ended
Cordsets with #18 AWG
TPE Cable**



NEW

**Single-Ended Coil
Cordsets Single Keyway**



NEW

**Single-Ended Cordsets
Single Keyway - 8 Pole**



NEW

**Single and Double-Ended
Cordsets Dual Keyway
with #18 AWG TPE Cable**



NEW

**Single-Ended Cordsets
Single Keyway
with 360° Shield**



NEW

**Double-Ended Cordsets
Single Keyway
with 360° Shield**



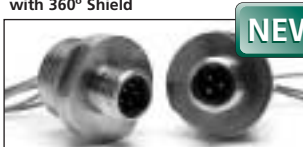
NEW

**Receptacles Single Keyway
with 360° Shield**



NEW

**Single-Ended Cordsets
Dual Keyway with 360° Shield**



NEW

**Receptacles Dual Keyway
with 360° Shield**



NEW

**In-line Splitter
Dual Keyway**



NEW

**Solid Body Splitter
Single Keyway**



NEW

**Field-attachable
Connectors**

Receptacle Catalog Number Matrix

Below is an example of a properly constructed Receptacle part number and how it translates to an actual part.

7R3006A17A120

Micro-Change® Dual Keyway, 3 Pole Male Straight Receptacle, 1/2"-14 NPT Mounting Threads with 12 Inch Leads, 18 AWG, PVC, auto color code.

7 R 3 0 0 6 A 1 7 A 1 2 0

PRODUCT FAMILY	NUMBER OF POLES	RECEPTACLE TYPE	WIRE TYPE	UNIT OF MEASURE	WIRE LENGTH
					1st Digit 10 X Length 2nd Digit 1 X Length 3rd Digit .1 X Length
7R Dual Keyway, 1/2"-20 UNF Mating Thread 8R Single Keyway, M12 Mating Thread BR Reverse Keyway, M12 Mating Thread	X X Pole 2 to 6 Pole Available for Dual Keyway 3 to 5 Pole Available for Single Keyway 3 and 4 Pole Available for Reverse Keyway	006 Male Straight 1/2"-14 NPT Mounting Threads, Single and Dual Key A06 Male Straight 1/4"-18 NPT Mounting Threads, Dual Key Only E06 Male Straight M 14 X 1 Mounting Threads, Single and Reverse Key A00 Female Straight 1/4"-18 NPT Mounting Threads, Single and Dual Key B00 Female Straight Back Panel Mount, Single and Dual Key	Dual Keyway A17 18 AWG, PVC Auto Color Code A19 22 AWG, PVC Auto Color Code Single Keyway A16 18 AWG, PVC DC Color Code A18 22 AWG, PVC DC Color Code Reverse Keyway A26 22 AWG, PVC Int'l AC Color Code	A Inches F Feet M Meters	SHELL MATERIAL

Cordset Catalog Number Matrix

Below is an example of a properly constructed Cordset part number and how it translates to an actual part.

803000A09M020

Micro-Change® Single Keyway M12 3 Pole Female Straight Single-Ended Cordset,
22 AWG PVC Cable with DC Color Code, 2 meters long.

803000A09M020

PRODUCT FAMILY		NUMBER OF POLES	CABLE TYPE	CONNECTOR TYPE	UNIT OF MEASURE	CABLE LENGTH	COUPLING NUT
1 st Character	2 nd Character						
7	0	X	000	000	F	10 X Length	Blank
8	7	X	S00	S00	M	1 X Length	1
B	8	3	001	001		.1 X Length	2
	B	3	S01	S01			
		6	006	006			
		5	S06	S06			
		5	007	007			
		5	S07	S07			
		5	ON0	ON0			
		5	OP0	OP0			
		5	ON1	ON1			
		5	OP1	OP1			
		5		030			
		5		S30			
		5		031			
		5		032			
		5		S32			
		5		033			
		5		ON7			
		5		ON9			
		5		OP7			
		5		OP9			



Single-Ended Cordsets

Single Keyway M12

#22 AWG yellow PVC cables with or without braid – DC color code
 Oil-resistant PVC jacket for all types of heavy-duty industrial environments
 Highly reliable low-resistance contact design with gold/palladium nickel plating

	3P	4P	5P
FEMALE FACE VIEW			
COLOR CODE	1- brown 2- not used 3- blue 4- black 5- not used	1- brown 2- white 3- blue 4- black 5- not used	1- brown 2- white 3- blue 4- black 5- gray
VOLTAGE	250V AC/DC	250V AC/DC	250V AC/DC
CURRENT	4A	4A	4A
CONDUCTOR	#22-3	#22-4	#22-5

FEMALE	FIG	SINGLE-ENDED CORDSETS WITH #22 AWG PVC CABLE WITHOUT BRAID 2 METERS LONG		
STRAIGHT	1	803000A09M020	804000A09M020	805000A09M020
90°	2	803001A09M020	804001A09M020	805001A09M020
MATING RECEPTACLE*	5	8R3006A18A120	8R4006A18A120	8R5006A18A120
MALE	FIG	SINGLE-ENDED CORDSETS WITH #22 AWG PVC CABLE WITHOUT BRAID 2 METERS LONG		
STRAIGHT	3	803006A09M020	804006A09M020	805006A09M020
90°	4	803007A09M020	804007A09M020	805007A09M020
MATING RECEPTACLE*	6	8R3A00A18A120	8R4A00A18A120	8R5A00A18A120

CATALOG OPTIONS

*See Page 116 for additional Mating Receptacles

Use the following chart to modify your part's specifications

803000A09M0201

WIRE TYPE

#22 AWG YELLOW PVC
 W/ METALLIC BRAID **D01**

CABLE LENGTH

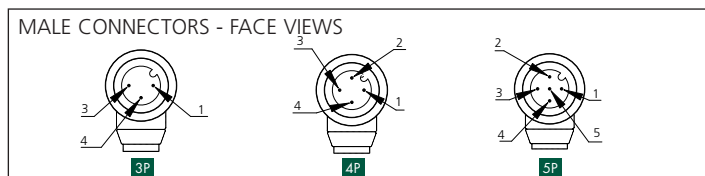
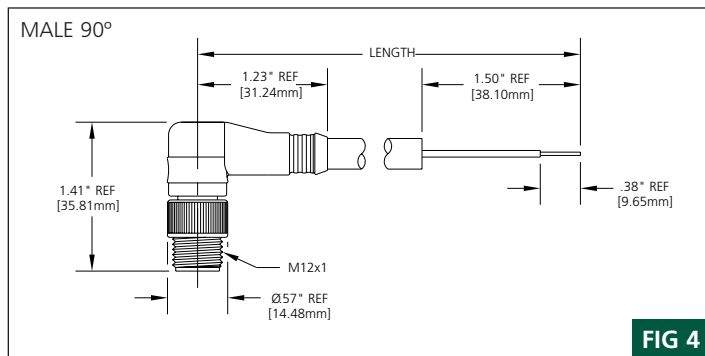
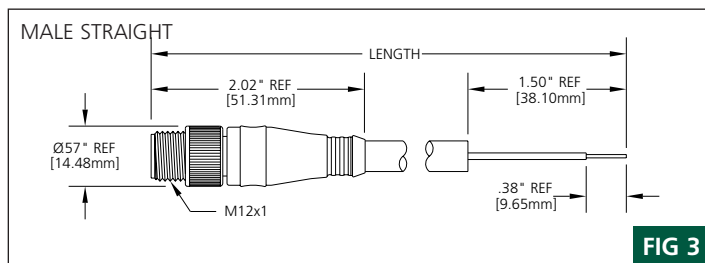
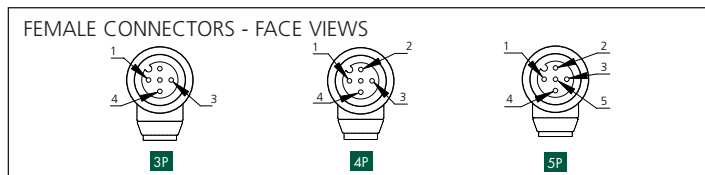
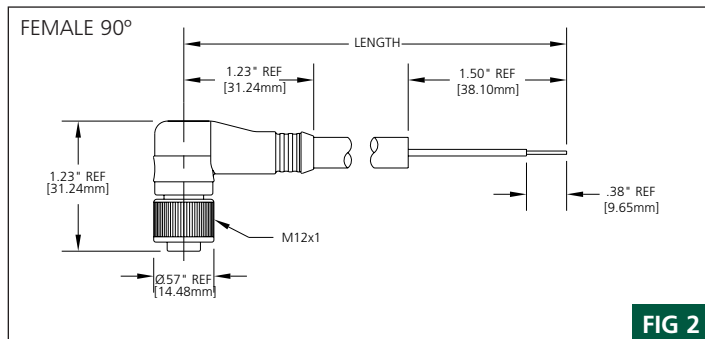
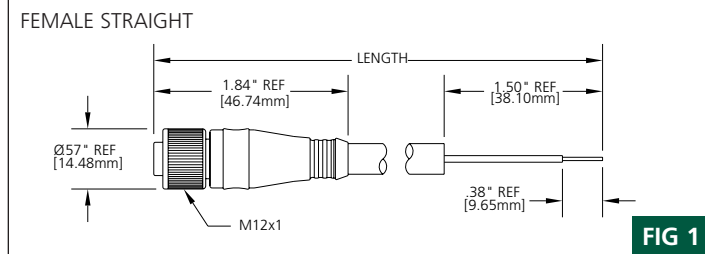
4 METER **040**
 5 METER **050**

COUPLING NUT

STAINLESS STEEL **ADD 1**
 NON-METALLIC **ADD 2**
 (NON-METALLIC AVAILABLE ON
 FEMALE CONNECTORS ONLY)

Specifications

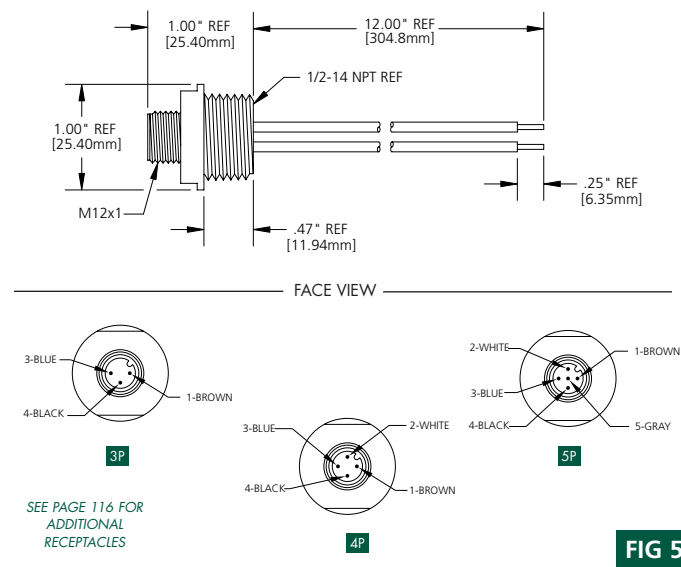
CONNECTOR DIMENSIONS



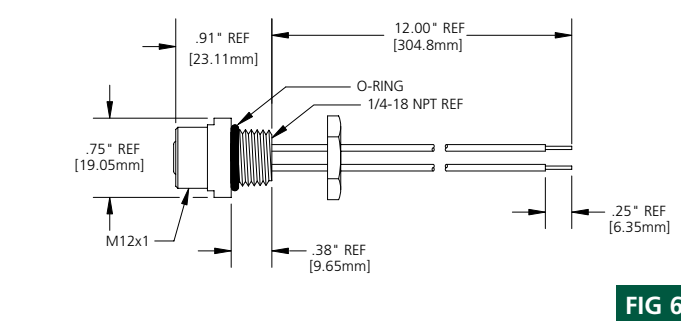
- MECHANICAL**
- CONNECTOR FACE: NYLON 6/6
 - MOLDED BODY: PVC
 - O-RING: NITRILE RUBBER
 - COUPLING NUT: ZINC DIECAST W/ BLACK EPOXY COAT, OPTIONAL STAINLESS STEEL TYPE 303 OR NON-METALLIC BLACK DELRIN
- CABLE:** YELLOW #22 AWG PVC JACKET AND PVC CONDUCTOR INSULATION OVER 26 X #36 COPPER STRANDING, 300V, UL STYLE 2661, CSA AWM VII A/B, OPTIONAL 80% METALLIC BRAID
- WITHOUT BRAID WITH BRAID**
- OUTSIDE DIAMETER:**
- 3P - .18" (4.6mm) 3P - .23" (5.8mm)
 - 4P - .20" (5.1mm) 4P - .25" (6.4mm)
 - 5P - .23" (5.8mm) 5P - .26" (6.6mm)
- ELECTRICAL**
- VOLTAGE RATING: 250 V AC/DC
 - AMPERAGE: 3P - 4A, 4P - 4A, 5P - 4A
- ENVIRONMENTAL**
- PROTECTION: IP 68, NEMA 6P
 - AMBIENT OPERATING TEMP: -4° TO 221° F (-20° TO 105° C)
- CERTIFICATIONS**
- UL: UL LISTED, FILE NO. E152210
 - CSA: CSA CERTIFIED, FILE NO. LR6837

RECEPTACLE DIMENSIONS

MALE RECEPTACLE W/ EXTERNAL THREADS AND 1/2" - 14NPT THREADS



FEMALE RECEPTACLE W/ INTERNAL THREADS AND 1/4" - 18NPT THREADS





Double-Ended Cordsets

Single Keyway M12

#22 AWG yellow PVC cables with or without braid – DC color code
 Oil-resistant PVC jacket for all types of heavy-duty industrial environments
 Highly reliable low-resistance contact design with gold/palladium nickel plating

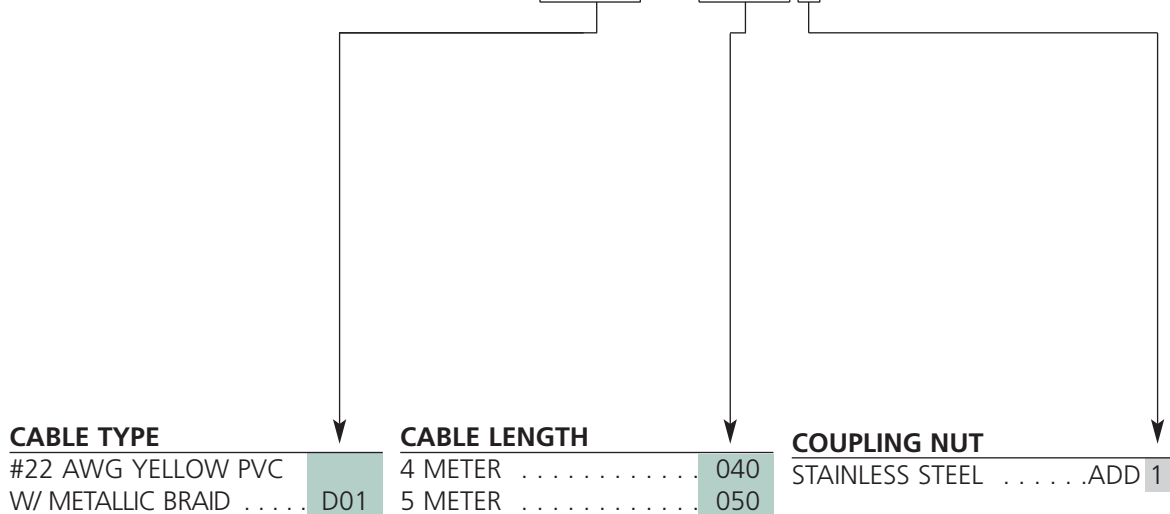
	3P	4P	5P
FEMALE FACE VIEW			
COLOR CODE	1- brown 2- not used 3- blue 4- black 5- not used	1- brown 2- white 3- blue 4- black 5- not used	1- brown 2- white 3- blue 4- black 5- gray
VOLTAGE	250V AC/DC	250V AC/DC	250V AC/DC
CURRENT	4A	4A	4A
CONDUCTOR	#22-3	#22-4	#22-5

FEMALE/MALE	FIG	DOUBLE-ENDED CORDSETS WITH #22 AWG PVC CABLE WITHOUT BRAID 2 METERS LONG		
STRAIGHT/STRAIGHT	1	883030A09M020	884030A09M020	885030A09M020
90°/STRAIGHT	2	883031A09M020	884031A09M020	885031A09M020
STRAIGHT/90°	3	883032A09M020	884032A09M020	885032A09M020
90°/90°	4	883033A09M020	884033A09M020	885033A09M020

CATALOG OPTIONS

Use the following chart to modify your part's specifications

883030A09M0201

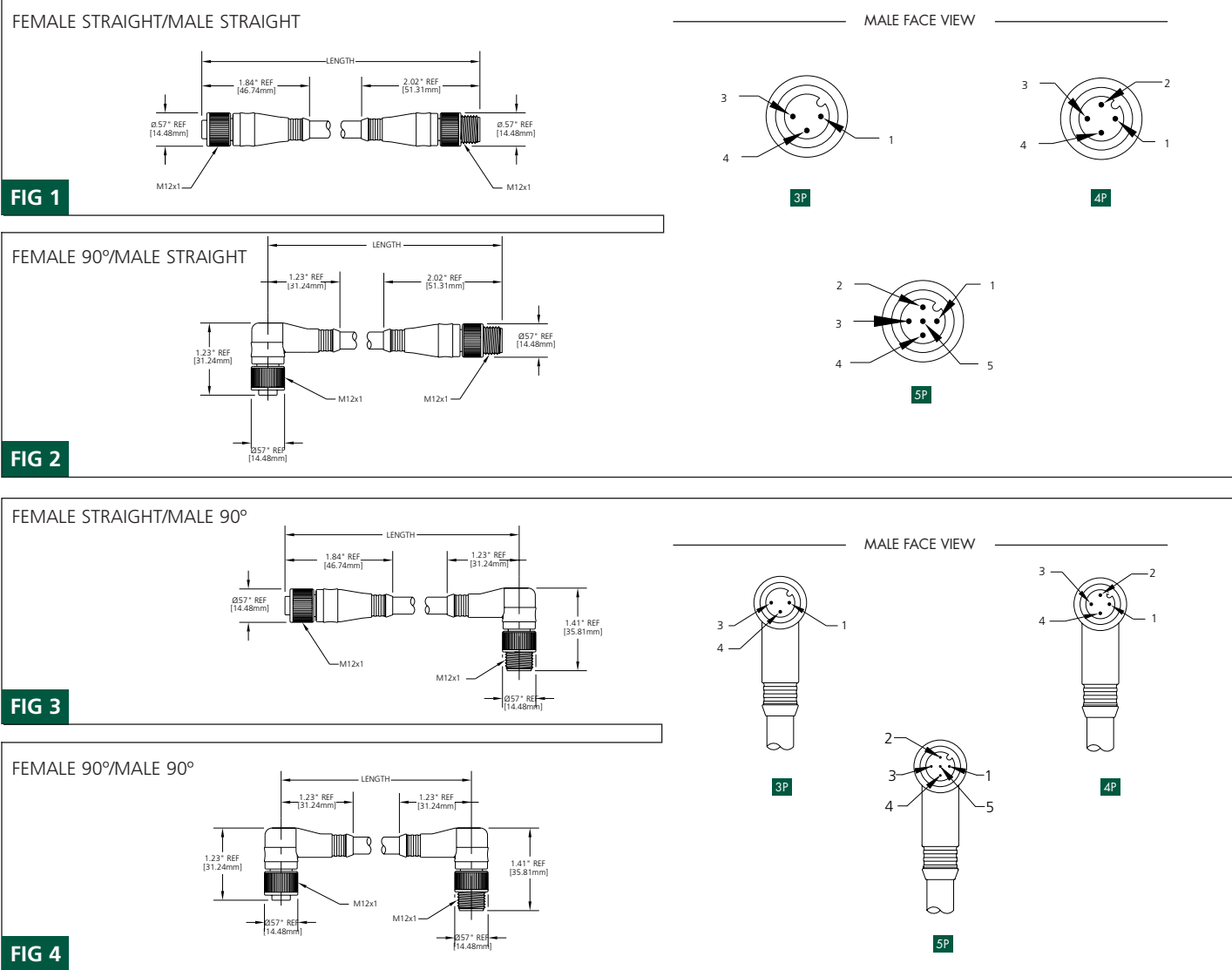


Specifications



- MECHANICAL**
 CONNECTOR FACE: NYLON 6/6
 MOLDED BODY: PVC
 O-RING: NITRILE RUBBER
 COUPLING NUT: ZINC DIECAST W/ BLACK EPOXY COAT, OPTIONAL STAINLESS STEEL TYPE 303
- CABLE: YELLOW #22 AWG PVC JACKET AND PVC CONDUCTOR INSULATION OVER 26 X #36 COPPER STRANDING, 300V, UL STYLE 2661, CSA I/II A/B, OPTIONAL 80% METALLIC BRAID
- OUTSIDE DIAMETER: WITHOUT BRAID WITH BRAID
 3P - .18" (4.6mm) 3P - .23" (5.8mm)
 4P - .20" (5.1mm) 4P - .25" (6.4mm)
 5P - .23" (5.8mm) 5P - .26" (6.6mm)
- ELECTRICAL**
 VOLTAGE RATING: 250 V AC/DC
 AMPERAGE: 3P - 4A
 4P - 4A
 5P - 4A
- ENVIRONMENTAL**
 PROTECTION: IP 68, NEMA 6P
 AMBIENT OPERATING TEMP: -4° TO 221° F (-20° TO 105° C)
- CERTIFICATIONS**
 UL: UL LISTED, FILE NO. E152210
 CSA: CSA CERTIFIED, FILE NO. LR6837

CONNECTOR DIMENSIONS





Single-Ended Cordsets

Single Keyway M12

#18 AWG SJOOW cable – DC color code
 Oil- and abrasion-resistant jacket
 Highly reliable low-resistance contact design with gold/palladium nickel plating

	3P	4P
FEMALE FACE VIEW		
COLOR CODE	1- brown 2- not used 3- blue 4- black 5- not used	1- brown 2- white 3- blue 4- black 5- not used
VOLTAGE	250V AC/DC	250V AC/DC
CURRENT	4A	4A
CONDUCTOR	#18-3	#18-4

FEMALE	FIG	SINGLE-ENDED CORDSETS WITH #18 AWG SJOOW CABLE 2 METERS LONG	
STRAIGHT	1	803000C02M020	804000C02M020
90°	2	803001C02M020	804001C02M020
MATING RECEPTACLE*	5	8R3006A16A120	8R4006A16A120
MALE	FIG	SINGLE-ENDED CORDSETS WITH #18 AWG SJOOW CABLE 2 METERS LONG	
STRAIGHT	3	803006C02M020	804006C02M020
90°	4	803007C02M020	804007C02M020
MATING RECEPTACLE*	6	8R3A00A16A120	8R4A00A16A120

CATALOG OPTIONS

*See Page 116 for additional Mating Receptacles

Use the following chart to modify your part's specifications

803000C02M0201

CABLE LENGTH

4 METER	040
5 METER	050

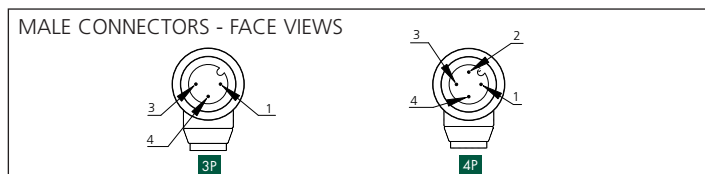
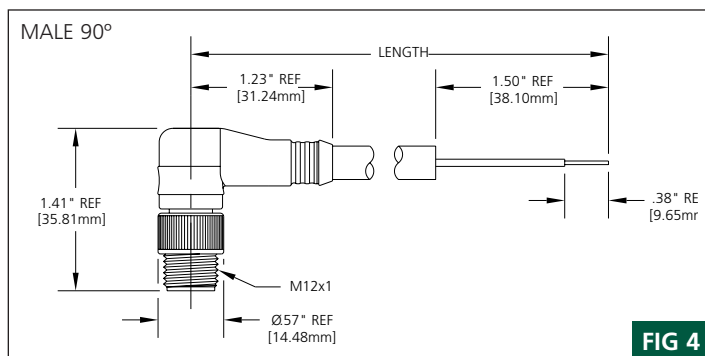
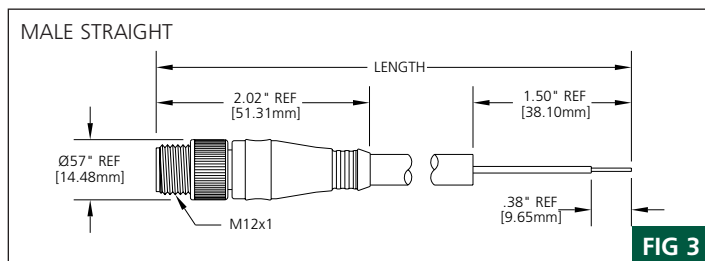
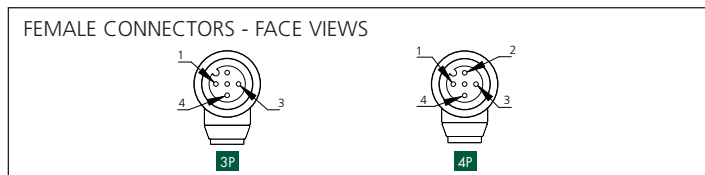
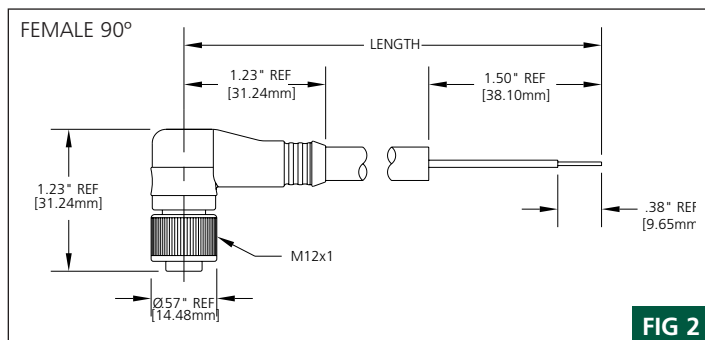
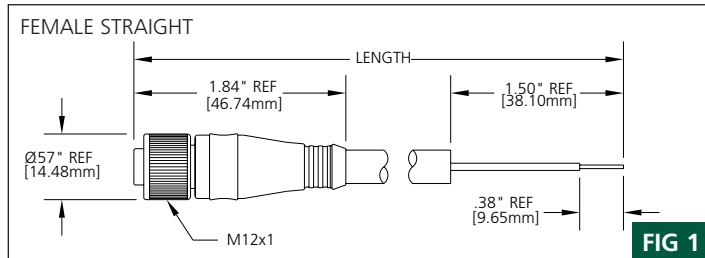
COUPLING NUT

STAINLESS STEEL	ADD 1
NON-METALLIC	ADD 2

(NON-METALLIC AVAILABLE ON FEMALE CONNECTORS ONLY)

Specifications

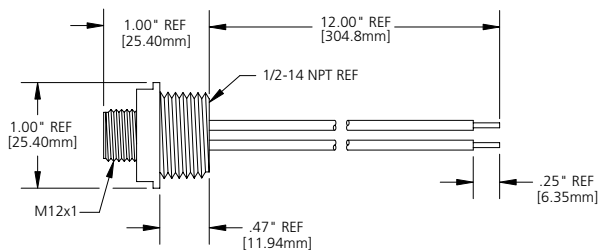
CONNECTOR DIMENSIONS



- MECHANICAL**
- CONNECTOR FACE: NYLON 6/6
 - MOLDED BODY: PVC
 - O-RING: NITRILE RUBBER
 - COUPLING NUT: ZINC DIECAST W/ BLACK EPOXY COAT, OPTIONAL STAINLESS STEEL TYPE 303 OR NON-METALLIC BLACK DELRIN
- CABLE:** YELLOW #18 AWG THERMOSET RUBBER JACKET AND EPDM CONDUCTOR INSULATION OVER 41 X #34 COPPER STRANDING, 300V, UL STYLE SJ00W, CSA CERTIFIED SJOW
- OUTSIDE DIAMETER:**
 3P - .32" (8.3mm)
 4P - .33" (8.4mm)
- ELECTRICAL**
- VOLTAGE RATING: 250V AC/DC
 - AMPERAGE: 3P - 4A
4P - 4A
- ENVIRONMENTAL**
- PROTECTION: IP 68, NEMA 6P
 - AMBIENT OPERATING TEMP: -4° TO 221° F (-20° TO 105° C)
- CERTIFICATIONS**
- UL: UL LISTED, FILE NO. E152210
 - CSA: CSA CERTIFIED, FILE NO LR6837

RECEPTACLE DIMENSIONS

MALE RECEPTACLE W/ EXTERNAL THREADS AND 1/2" -14NPT THREADS



SEE PAGE 116 FOR ADDITIONAL RECEPTACLES

FACE VIEW

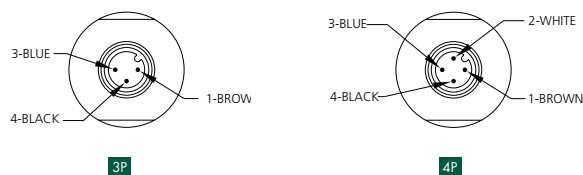


FIG 5

FEMALE RECEPTACLE W/ INTERNAL THREADS AND 1/4" -18NPT THREADS

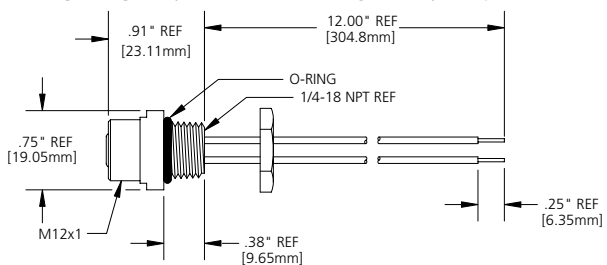


FIG 6



Double-Ended Cordsets

Single Keyway M12

#18 AWG SJOOW cable – DC color code
 Oil- and abrasion-resistant jacket
 Highly reliable low-resistance contact design with gold/palladium nickel plating

	3P	4P
FEMALE FACE VIEW		
COLOR CODE	1- brown 2- not used 3- blue 4- black 5- not used	1- brown 2- white 3- blue 4- black 5- not used
VOLTAGE	250V AC/DC	250V AC/DC
CURRENT	4A	4A
CONDUCTOR	#18-3	#18-4

FEMALE/MALE	FIG	DOUBLE - ENDED CORDSETS WITH #18 AWG SJOOW CABLE 2 METERS LONG	
STRAIGHT/ STRAIGHT	1	883030C02M020	884030C02M020
90°/ STRAIGHT	2	883031C02M020	884031C02M020
STRAIGHT/ 90°	3	883032C02M020	884032C02M020
90°/90°	4	883033C02M020	884033C02M020

CATALOG OPTIONS

Use the following chart to modify your part's specifications

883030C02M0201

CABLE LENGTH

4 METER	040
5 METER	050

COUPLING NUT

STAINLESS STEEL	ADD 1
-----------------	-------

Specifications



MECHANICAL	
CONNECTOR FACE:	NYLON 6/6
MOLDED BODY:	PVC
O-RING:	NITRILE RUBBER
COUPLING NUT:	ZINC DIECAST W/ BLACK EPOXY COAT, OPTIONAL STAINLESS STEEL TYPE 303
CABLE:	YELLOW #18 AWG THERMOSET RUBBER JACKET AND EPDM CONDUCTOR INSULATION OVER 41 X #34 COPPER STRANDING, 300V, UL LISTED SJOW, CSA CERTIFIED SJOW
OUTSIDE DIAMETER:	3P - .32" (8.3mm) 4P - .33" (8.4mm)
ELECTRICAL	
VOLTAGE RATING:	250V AC/DC
AMPERAGE:	3P - 4A 4P - 4A
ENVIRONMENTAL	
PROTECTION:	IP 68, NEMA 6P
AMBIENT OPERATING TEMP:	-4° TO 221° F (-20° TO 105° C)
CERTIFICATIONS	
UL:	UL LISTED, FILE NO. E152210
CSA:	CSA CERTIFIED, FILE NO LR6837

CONNECTOR DIMENSIONS

FEMALE STRAIGHT/MALE STRAIGHT

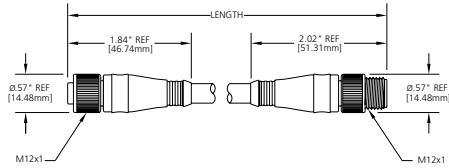
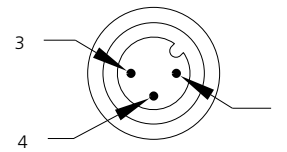


FIG 1

MALE FACE VIEW



3P

FEMALE 90°/MALE STRAIGHT

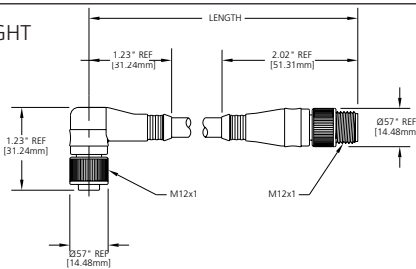
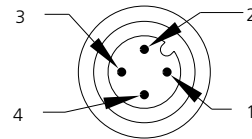


FIG 2



4P

FEMALE STRAIGHT/MALE 90°

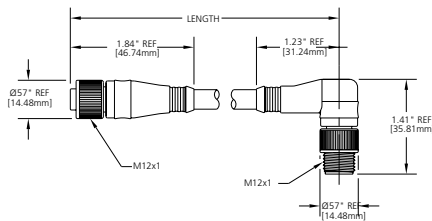
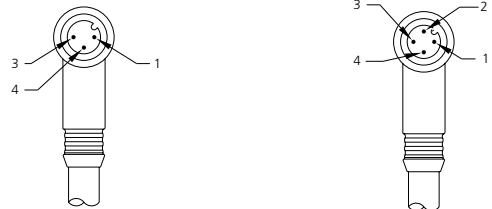


FIG 3

MALE FACE VIEW



3P

4P

FEMALE 90°/MALE 90°

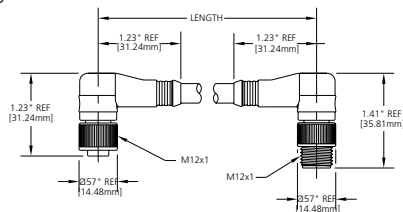


FIG 4



Single & Double-Ended Cordsets

Single Keyway M12

#18 AWG yellow PUR high-flex cable - DC color code
 Oil- and abrasion-resistant polyurethane jacket
 Highly reliable low-resistance contact design with gold/palladium nickel plating

	3P	4P
FEMALE FACE VIEW		
COLOR CODE	1- brown 2- not used 3- blue 4- black 5- not used	1- brown 2- white 3- blue 4- black 5- not used
VOLTAGE	250V AC/DC	250V AC/DC
CURRENT	4A	4A
CONDUCTOR	#18-3	#18-4

FEMALE	FIG	SINGLE-ENDED CORDSETS WITH #18 AWG HIGH FLEX PUR CABLE 2 METERS LONG	
STRAIGHT	1	803000B02M020	804000B02M020
90°	2	803001B02M020	804001B02M020
MATING RECEPTACLE*	5	8R3006A16A120	8R4006A16A120
MALE	FIG	SINGLE-ENDED CORDSETS WITH #18 AWG HIGH FLEX PUR CABLE 2 METERS LONG	
STRAIGHT	3	803006B02M020	804006B02M020
MATING RECEPTACLE*	7	8R3A00A16A120	8R4A00A16A120
FEMALE/MALE	FIG	DOUBLE-ENDED CORDSETS WITH #18 AWG HIGH FLEX PUR CABLE 2 METERS LONG	
STRAIGHT/STRAIGHT	4	883030B02M020	884030B02M020
90°/STRAIGHT	6	883031B02M020	884031B02M020

CATALOG OPTIONS

*See Page 116 for additional Mating Receptacles

Use the following chart to modify your part's specifications

803000B02M0201

CABLE LENGTH

4 METER	040
5 METER	050

COUPLING NUT

STAINLESS STEEL	ADD 1
-----------------	-------

Specifications

CONNECTOR DIMENSIONS

FEMALE STRAIGHT

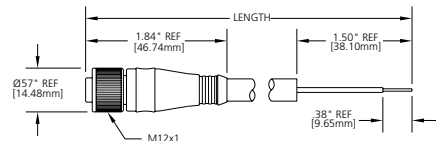


FIG 1

FEMALE 90°

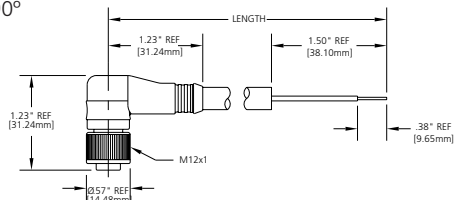
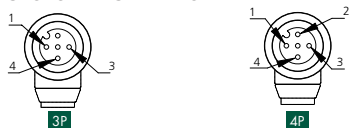


FIG 2

FEMALE CONNECTORS - FACE VIEWS



MALE STRAIGHT

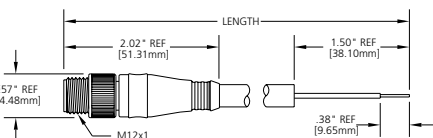


FIG 3

FEMALE STRAIGHT/MALE STRAIGHT

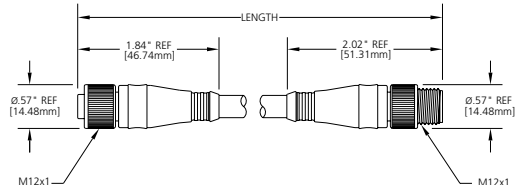


FIG 4

FEMALE 90° /MALE STRAIGHT

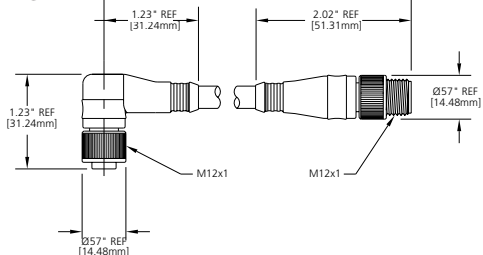


FIG 6

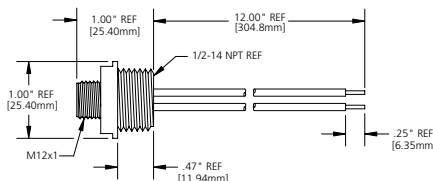
MALE CONNECTORS - FACE VIEWS



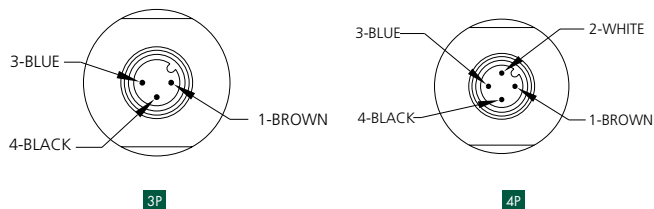
MECHANICAL	
CONNECTOR FACE:	NYLON 6/6
MOLDED BODY:	POLYURETHANE
O-RING:	VITON
COUPLING NUT:	ZINC DIECAST W/ BLACK EPOXY COAT, OPTIONAL STAINLESS STEEL TYPE 303
CABLE:	YELLOW #18 AWG POLYURETHANE JACKET AND PVC CONDUCTOR INSULATION OVER 65 X #36 COPPER STRANDING, 300V, UL STYLE 20549, CSA AWM I/II A/B
OUTSIDE DIAMETER:	3P - .27" (6.9mm) 4P - .29" (7.4mm)
ELECTRICAL	
VOLTAGE RATING:	250V AC/DC
AMPERAGE:	3P - 4A 4P - 4A
ENVIRONMENTAL	
PROTECTION:	IP 68, NEMA 6P
AMBIENT OPERATING TEMP:	-4° TO 176° F (-20° TO 80° C)
CERTIFICATIONS	
UL:	UL LISTED, FILE NO. E152210
CSA:	CSA CERTIFIED, FILE NO LR6837

RECEPTACLE DIMENSIONS

MALE RECEPTACLE W/ EXTERNAL THREADS AND 1/2" -14NPT THREADS



FACE VIEW



SEE PAGE 116 FOR ADDITIONAL RECEPTACLES

FIG 5

FEMALE RECEPTACLE W/ INTERNAL THREADS AND 1/4" -18NPT THREADS

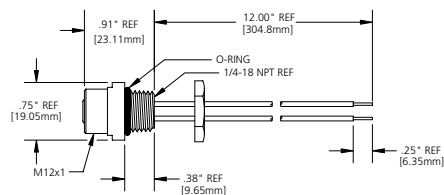


FIG 7

3P



Single & Double-Ended Cordsets

Single Keyway M12

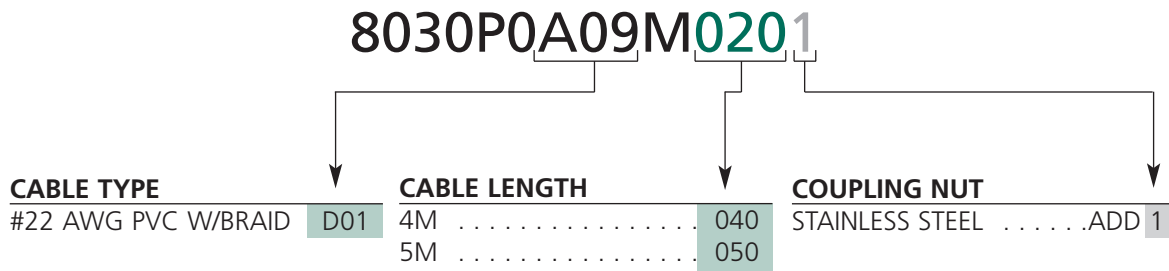
#22 AWG yellow PVC cable with or without braid - DC color code
 Green LED for power indication yellow LED for output indication
 Clear PVC body - for use with PNP or NPN type sensor

	3P PNP	3P NPN
FEMALE FACE VIEW		
COLOR CODE	1- brown 2- not used 3- blue 4- black 5- not used	1- brown 2- not used 3- blue 4- black 5- not used
LED CIRCUIT DIAGRAM		
VOLTAGE	10 TO 30V DC	
CURRENT	4A	
CURRENT	#22-3	

FEMALE	FIG	SINGLE-ENDED CORDSETS WITH #22 AWG PVC CABLE WITHOUT BRAID 2 METERS LONG	
STRAIGHT LED	1	8030P0A09M020	8030N0A09M020
90° LED	2	8030P1A09M020	8030N1A09M020
FEMALE/MALE	FIG	DOUBLE-ENDED CORDSETS WITH #22 AWG PVC CABLE WITHOUT BRAID 2 METERS LONG	
90° LED/STRAIGHT	3	8830P7A09M020	8830N7A09M020
90° LED/90°	4	8830P9A09M020	8830N9A09M020

CATALOG OPTIONS

Use the following chart to modify your part's specifications

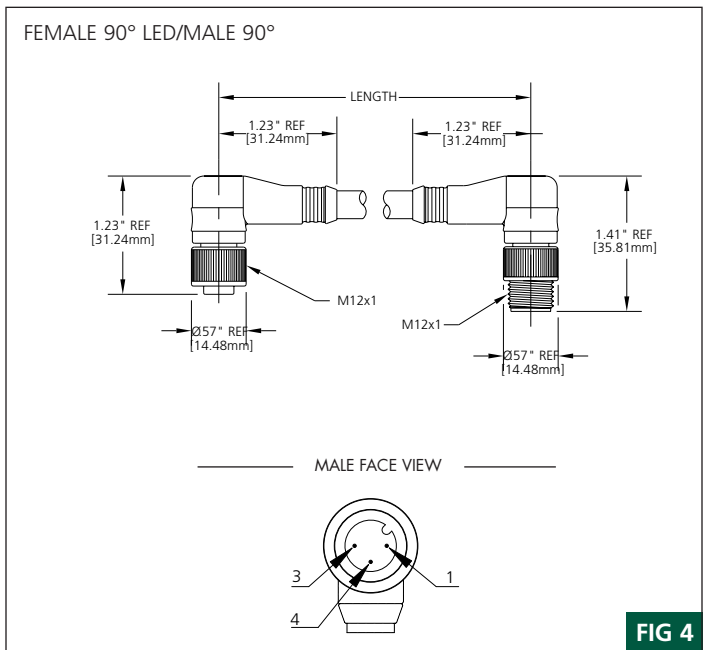
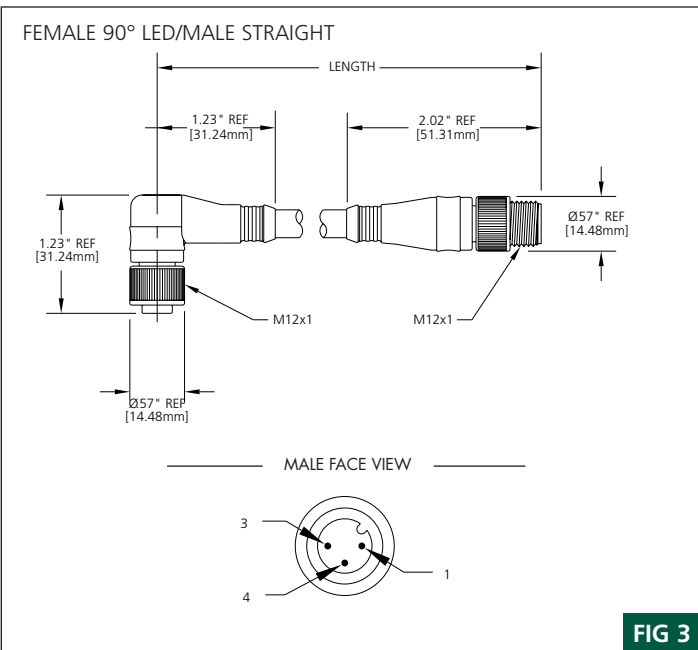
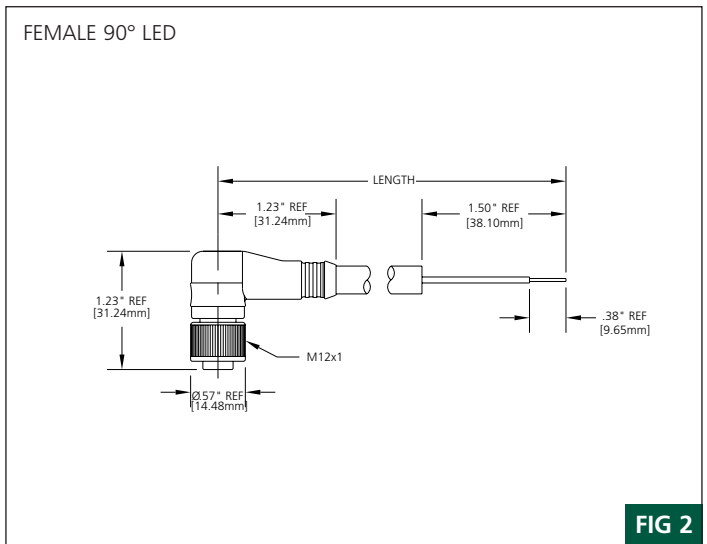
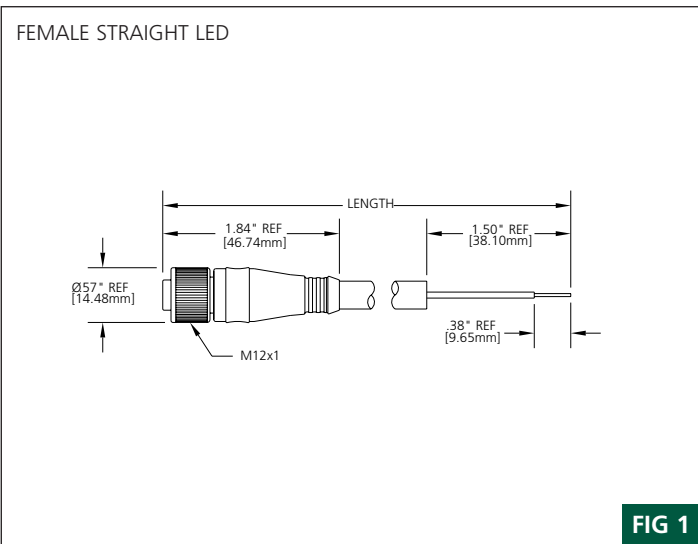


Specifications



MECHANICAL	
CONNECTOR FACE:	NYLON 6/6
MOLDED BODY:	PVC
O-RING:	NITRILE RUBBER
COUPLING NUT:	ZINC DIECAST W/ BLACK EPOXY COAT, OPTIONAL STAINLESS STEEL TYPE 303
CABLE:	YELLOW 22 AWG PVC JACKET AND PVC CONDUCTOR INSULATION OVER 26 X #36 COPPER STRANDING, 300V, UL STYLE 2661, CSA AWM I/II A/B, OPTIONAL 80% METALLIC BRAID
OUTSIDE DIAMETER:	<u>WITHOUT BRAID</u> <u>WITH BRAID</u> 3P - .18" (4.6mm) 3P - .23" (5.8mm)
ELECTRICAL	
VOLTAGE RATING:	10 - 30 V DC
AMPERAGE:	3P - 4A
ENVIRONMENTAL PROTECTION:	IP 68, NEMA 6P
AMBIENT OPERATING TEMP:	-4° TO 221° F (-20° TO 105° C)
CERTIFICATIONS	
UL:	UL LISTED, FILE NO. E152210
CSA:	CSA CERTIFIED, FILE NO LR6837

CONNECTOR DIMENSIONS



4P



Single & Double-Ended Cordsets

Single Keyway M12

#18 AWG yellow thermoplastic elastomer (TPE) cable - DC color code
 Oil-, chemical-, and weld slag-resistant TPE jacket continuous-flex rated cable design
 Low-resistance contact design with gold/palladium nickel plating

NEW	4P
FEMALE FACE VIEW	
COLOR CODE	1- brown 4- black 2- white 5- not used 3- blue
VOLTAGE	250V AC/DC
CURRENT	4A
CONDUCTOR	#18-4

FEMALE	FIG	SINGLE-ENDED CORDSETS WITH #18 AWG TPE CABLE 2 METERS LONG
STRAIGHT	1	804000K03M020
90°	2	804001K03M020
MATING RECEPTACLE*	4	8R4006A16A120
FEMALE/ MALE	FIG	DOUBLE-ENDED CORDSETS WITH #18 AWG TPE CABLE 2 METERS LONG
STRAIGHT/ STRAIGHT	3	884030K03M020

CATALOG OPTIONS

*See Page 116 for additional Mating Receptacles

Use the following chart to modify your part's specifications

804000K03M0201

CABLE LENGTH

4 METER	040
5 METER	050

COUPLING NUT

STAINLESS STEEL*	ADD 1
NON-METALLIC	ADD 2
(NON-METALLIC AVAILABLE ON FEMALE CONNECTORS ONLY)	

Specifications



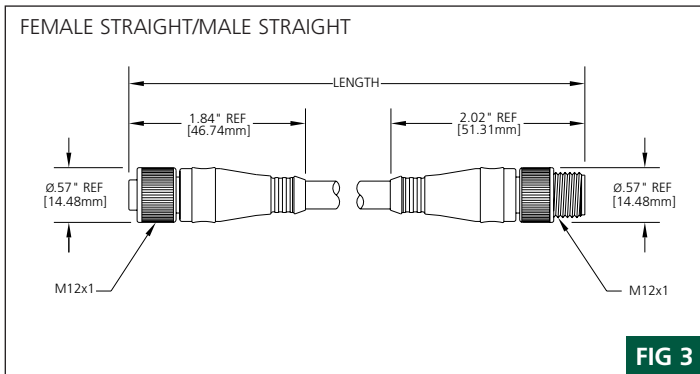
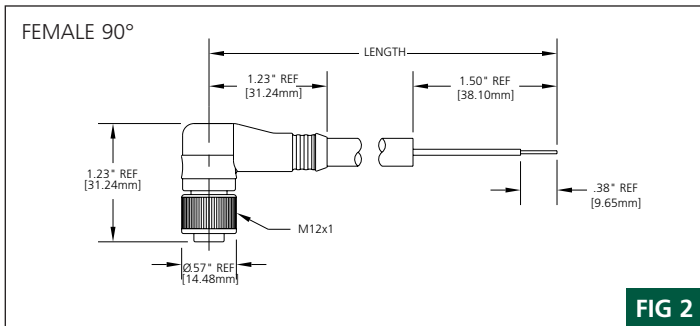
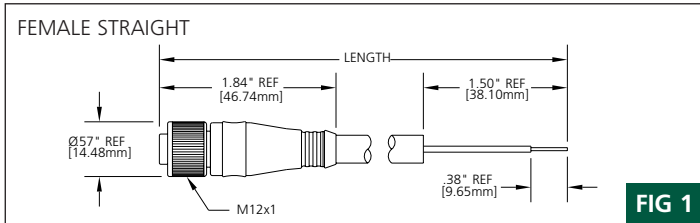
MECHANICAL
 CONNECTOR FACE: NYLON 6/6
 MOLDED BODY: PVC
 O-RING: NITRILE RUBBER
 COUPLING NUT: ZINC DIECAST W/ BLACK EPOXY
 COAT, OPTIONAL STAINLESS STEEL TYPE
 CABLE: YELLOW #18 AWG THERMOPLASTIC ELASTOMER (TPE) JACKET AND PVC CONDUCTOR INSULATION OVER 41 X #34 COPPER STRANDING, 300V, UL STYLE 20327, CSA AWM I/II A/B 4P - .28" (7.1mm)

ELECTRICAL
 OUTSIDE DIAMETER: 4P - .28" (7.1mm)
 VOLTAGE RATING: 250 V AC/DC
 AMPERAGE: 4P - 4A

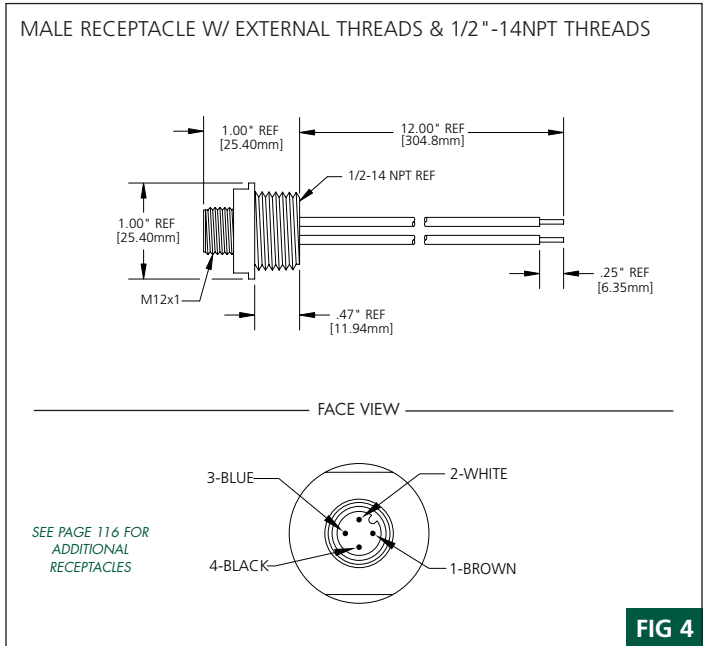
ENVIRONMENTAL
 PROTECTION: IP 68, NEMA 6P
 AMBIENT OPERATING TEMP: -4° TO 221° F (-20° TO 105° C)

CERTIFICATIONS
 UL: UL LISTED, FILE NO. E152210
 CSA: CSA CERTIFIED, FILE NO LR6837

CONNECTOR DIMENSIONS



RECEPTACLE DIMENSIONS



CHEMICAL & OIL RESISTANCE CHART - TPE CABLE

ACIDS & BASES	PERFORMANCE	OILS & FUELS	PERFORMANCE
SULFURIC ACID 30%	EXCELLENT	ASTM OIL 1, 2, OR 3	EXCELLENT
NITRIC ACID 10%	EXCELLENT	TRIMSOL	EXCELLENT
SODIUM HYDROXIDE 10%	EXCELLENT	SIMEOL	EXCELLENT
AMMONIUM HYDROXIDE 10%	EXCELLENT	MOBIL OIL DTE 24 OR 26	EXCELLENT
HYDROCHLORIC ACID 20%	EXCELLENT	KEROSENE	EXCELLENT
GLACIAL ACIDIC ACID	GOOD	TRANSFORMER OIL	GOOD

4P



Single-Ended Coil Cordsets

Single Keyway M12

#18 AWG or #22 AWG yellow PUR cable - DC color code
 Oil- and abrasion-resistant polyurethane jacket
 Low-resistance contact design with gold/palladium nickel plating

NEW	4P
FEMALE FACE VIEW	
COLOR CODE	1- brown 2- white 3- blue 4- black 5- not used
VOLTAGE	250V AC/DC
CURRENT	4A
CONDUCTOR	#22-4

FEMALE	FIG	SINGLE-ENDED CORDSETS WITH #22 AWG PUR CABLE - COIL CORD	
		1.5 FEET RETRACTED/4.5 FEET EXTENDED	4 FEET RETRACTED/12 FEET EXTENDED
STRAIGHT	1	804000B11F045	804000B11F120
90°	2	804001B11F045	804001B11F120
MATING RECEPTACLE*	4	8R4006A18A120	
MALE	FIG	SINGLE - ENDED CORDSETS WITH #22 AWG PUR CABLE - COIL CORD	
		1.5 FEET RETRACTED/4.5 FEET EXTENDED	4 FEET RETRACTED/12 FEET EXTENDED
STRAIGHT	3	804006B11F045	804006B11F120
MATING RECEPTACLE*	5	8R4A00A18A120	

CATALOG OPTIONS

*See Page 116 for additional Mating Receptacles

Use the following chart to modify your part's specifications

804000**B11**F045

CABLE TYPE

18 AWG YELLOW PUR . . . **B12**

Specifications



- MECHANICAL**
 CONNECTOR FACE: NYLON 6/6
 MOLDED BODY: PVC
 O-RING: NITRILE RUBBER
 COUPLING NUT: ZINC DIECAST W/BLACK EPOXY COAT
 CABLE: YELLOW #22 AWG
 POLYURETHANE JACKET AND
 POLYPROPYLENE CONDUCTOR
 INSULATION OVER 26 X #36 COPPER
 STRANDING, 300V, UL STYLE 20197,
 CSA AWM I/II A/B
- OUTSIDE DIAMETER:
 4P - .20" (5.1mm)
 4P - .27" (6.8mm)
- ELECTRICAL**
 VOLTAGE RATING: 250V AC/DC
 AMPERAGE: 4P - 4A
- ENVIRONMENTAL**
 PROTECTION: IP 68, NEMA 6P
 AMBIENT OPERATING TEMP: -4° TO 176° F (-20° TO 80° C)
- CERTIFICATIONS**
 UL: UL LISTED, FILE NO. E152210
 CSA: CSA CERTIFIED, FILE NO LR6837

CONNECTOR DIMENSIONS

FEMALE STRAIGHT

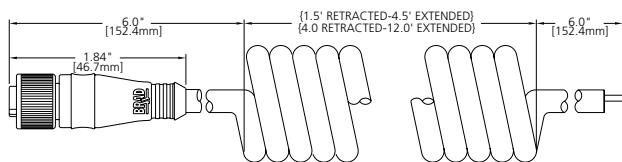


FIG 1

FEMALE 90°

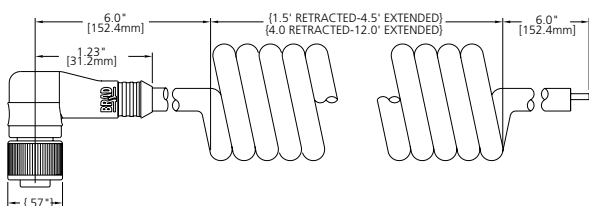


FIG 2

MALE STRAIGHT

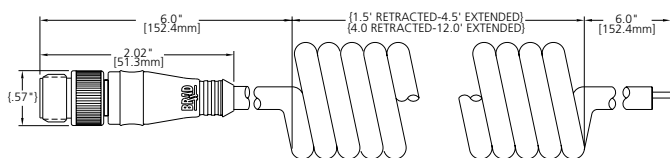
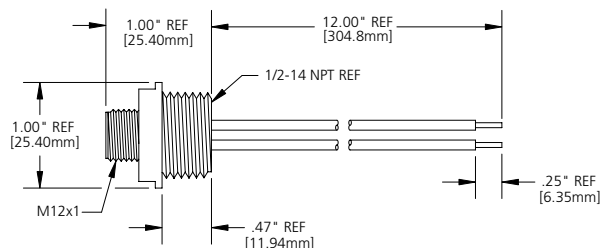


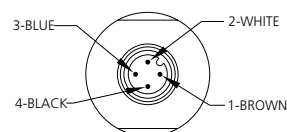
FIG 3

RECEPTACLE DIMENSIONS

MALE RECEPTACLE W/ EXTERNAL THREADS AND 1/2" -14NPT THREADS



FACE VIEW



SEE PAGE 116 FOR
 ADDITIONAL
 RECEPTACLES

4P

FIG 4

FEMALE RECEPTACLE W/ INTERNAL THREADS AND 1/4" -18NPT THREADS

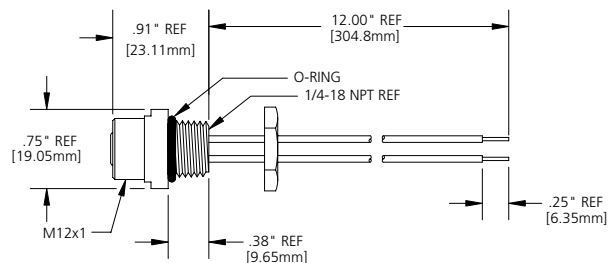


FIG 5



Single-Ended Cordsets

Single Keyway M12

#24 AWG black PUR cable
 Oil- and abrasion-resistant polyurethane jacket
 High-density pin count in standard M12 quick-disconnect

NEW	8P	
FACE VIEW	FEMALE	MALE
COLOR CODE	1- white 2- brown 3- green 4- yellow	5- gray 6- pink 7- blue 8- red
VOLTAGE	30V AC / 36V DC	
CURRENT	4A	
CONDUCTOR	#24-8	

FEMALE	FIG	SINGLE-ENDED CORDSETS WITH #24 AWG PUR CABLE 2 METERS
STRAIGHT	1	808000P02M020
90°	2	808001P02M020
MATING RECEPTACLE	4	8R8J36E03C3003
MALE	FIG	SINGLE-ENDED CORDSETS WITH #24 AWG PUR CABLE 2 METERS
STRAIGHT	3	808006P02M020
MATING RECEPTACLE	5	8R8J30E03C3003

CATALOG OPTIONS

Use the following chart to modify your part's specifications

808000P02M020

CABLE LENGTH

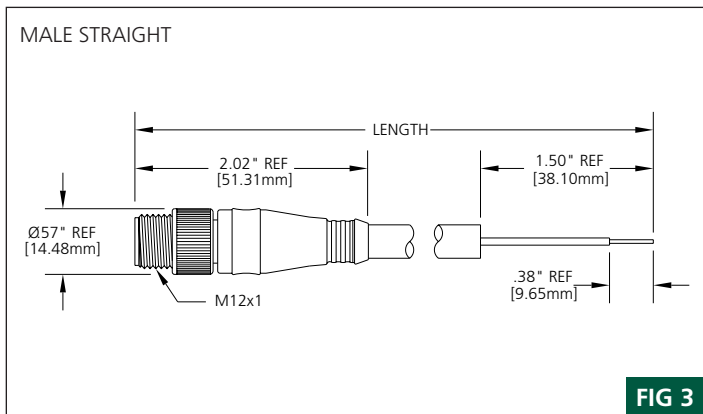
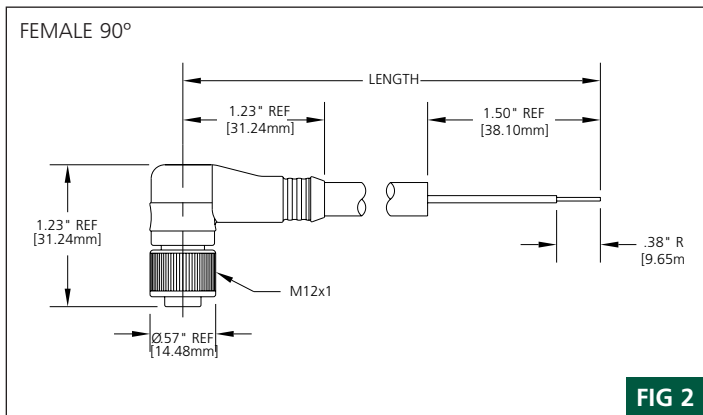
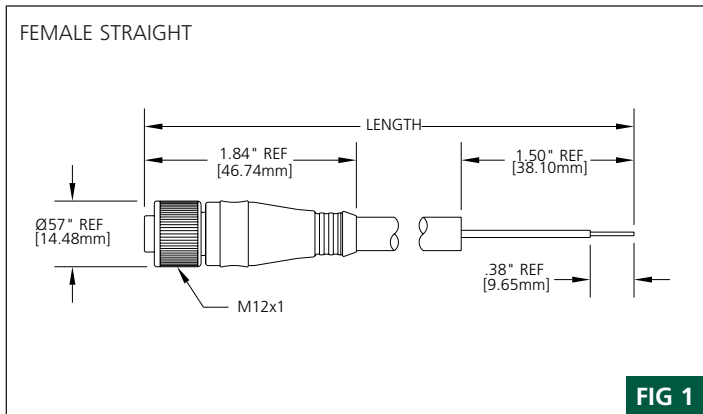
4 METER	040
5 METER	050

Specifications

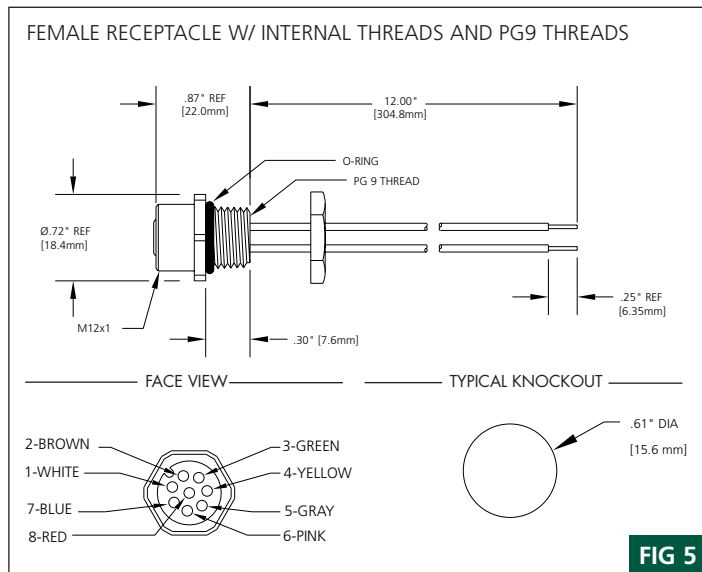
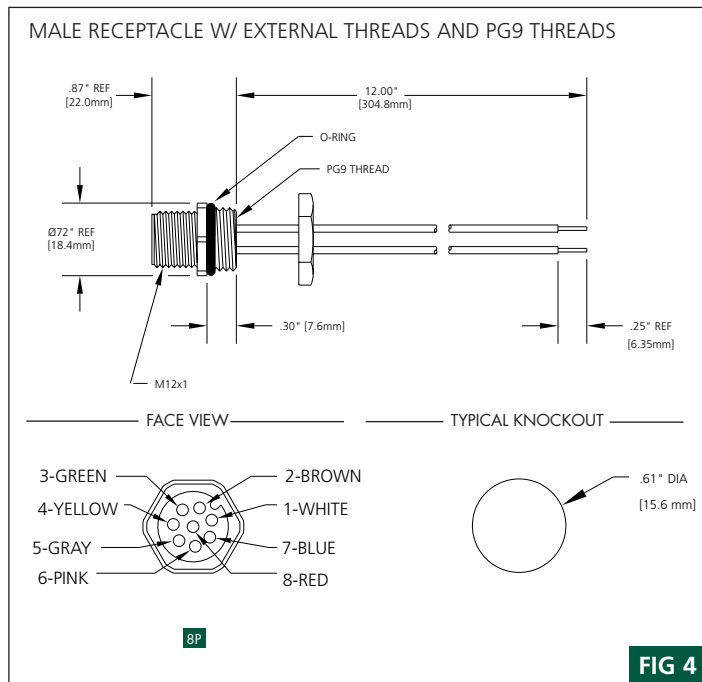


- MECHANICAL**
 CONNECTOR FACE: POLYAMIDE (NYLON)
 MOLDED BODY: PVC
 O-RING: VITON
 COUPLING NUT: ZINC DIECAST W/ BLACK EPOXY COAT
 CABLE: BLACK #24 AWG POLYURETHANE JACKET AND PVC CONDUCTOR INSULATION, 300V
- ELECTRICAL**
 OUTSIDE DIAMETER: 8P - .29" (7.4mm)
 VOLTAGE RATING: 30V AC; 36V DC
 AMPERAGE: 8P - 4A
- ENVIRONMENTAL**
 PROTECTION: IP 68, NEMA 6P
 AMBIENT OPERATING TEMP: -4° TO 185° F (-20° TO 85°C)

CONNECTOR DIMENSIONS



RECEPTACLE DIMENSIONS



4P & 5P



Field-Attachable Connectors

Single Keyway M12

Screw terminal connection accepts up to #18 AWG conductors
 Easy field installation of quick-disconnect design
 For use with all standard single keyway M12 receptacles and cordsets

	4P	5P
FEMALE FACE VIEW		
MALE FACE VIEW		
VOLTAGE	250V AC / 300V DC	30V AC / 36V DC
CURRENT	4A	4A

FEMALE	FIG	CATALOG NUMBER WITH PG 7 CABLE FITTING (.13 - .26" OD [3.3 - 6.6MM] CABLE)	
STRAIGHT	1	8A4000-31	8A5000-31
90°	2	8A4001-31	8A5001-31
FEMALE	FIG	CATALOG NUMBER WITH PG 9 CABLE FITTING (.16 - .32" OD [4.1 - 8.1MM] CABLE)	
STRAIGHT	1	8A4000-32	8A5000-32
MATING RECEPTACLE*	3	8R4006A18A120	8R5006A18A120
MALE	FIG	CATALOG NUMBER WITH PG 7 CABLE FITTING (.13 - .26" OD [3.3 - 6.6MM] CABLE)	
STRAIGHT	4	8A4006-31	8A5006-31
90°	5	8A4007-31	8A5007-31
MALE	FIG	CATALOG NUMBER WITH PG 9 CABLE FITTING (.16 - .32" OD [4.1 - 8.1MM] CABLE)	
STRAIGHT	4	8A4006-32	8A5006-32
MATING RECEPTACLE*	6	8R4A00A18A120	8R5A00A18A120

*See Page 116 for additional Mating Receptacles

Specifications



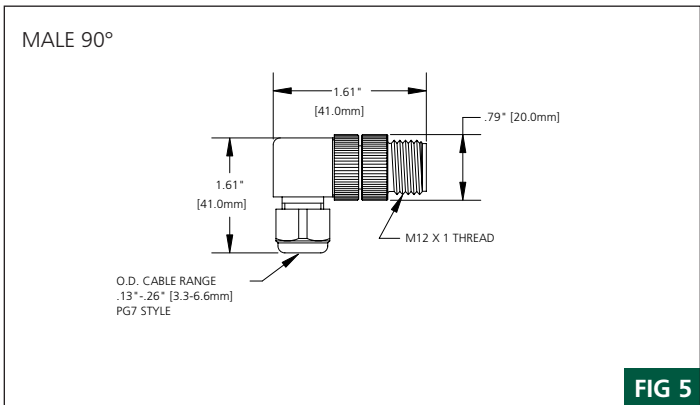
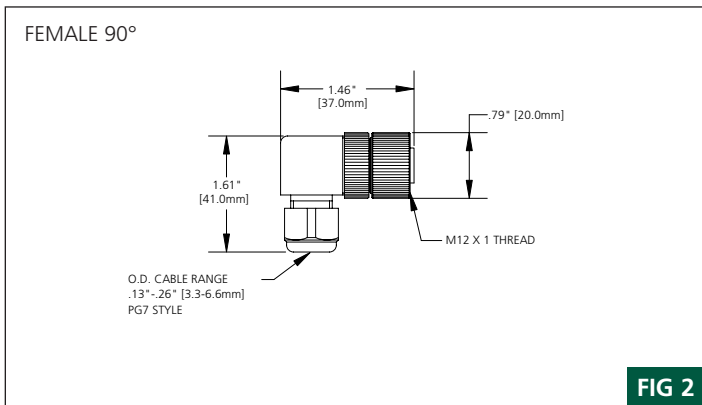
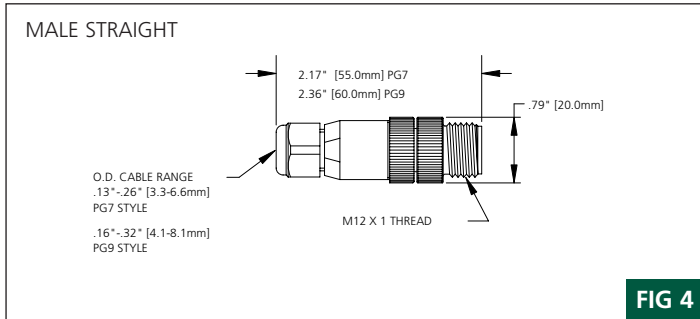
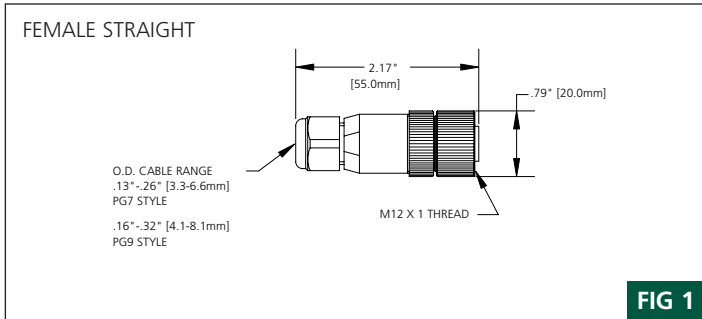
MECHANICAL
 CONNECTOR FACE: POLYAMIDE
 MOLDED BODY: POLYAMIDE
 CONTACT: SILVER PLATED BRASS
 COUPLING NUT: NICKEL PLATED BRASS
 GROMMET: NITRILE RUBBER
 MAXIMUM CONDUCTOR SIZE: 18 AWG

ELECTRICAL
 VOLTAGE RATING: 4P - 250V AC 300V DC
 5P - 30V AC 36V DC
 AMPERAGE: 4P - 4A
 5P - 4A

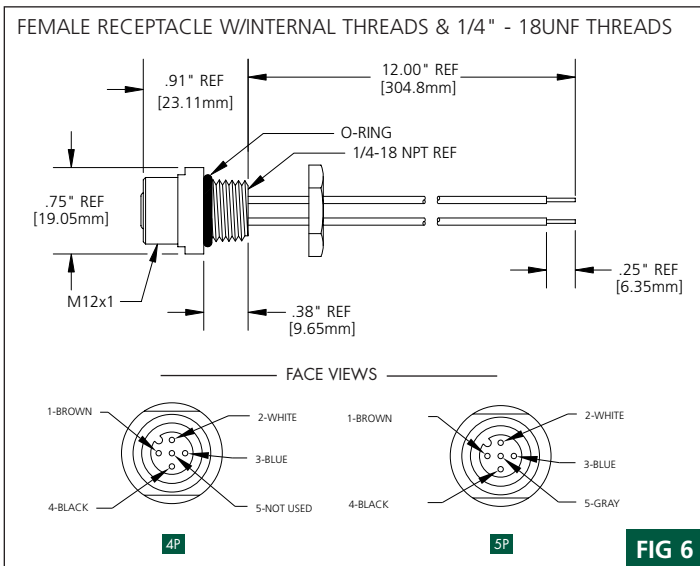
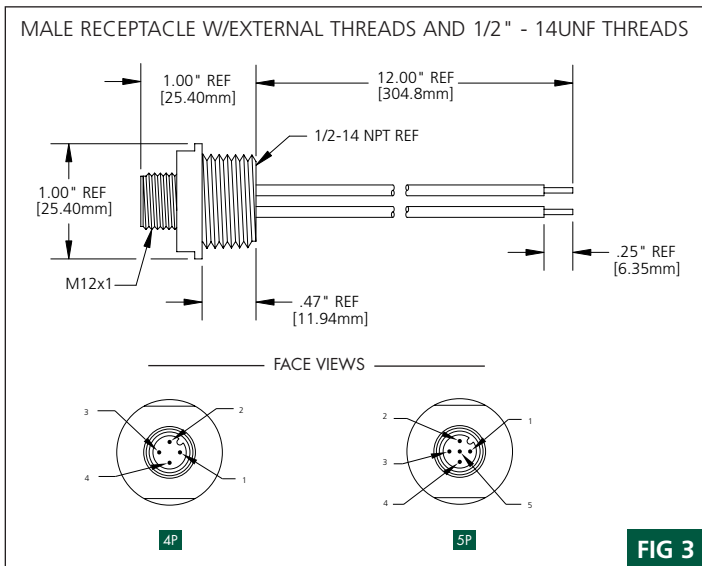
ENVIRONMENTAL
 PROTECTION: IP 68
 AMBIENT OPERATING TEMP: -13° TO 194° F (-25° TO 90 °C)

CERTIFICATIONS
 CSA: CSA CERTIFIED, FILE NO LR6837

CONNECTOR DIMENSIONS



RECEPTACLE DIMENSIONS



4P



Field Attachable Connectors

Single Keyway M12

Solder connection accepts #22 AWG conductors maximum
 Secure termination for high vibration applications
 For use with all standard single keyway M12 receptacles & cordsets

	4P
MALE FACE VIEW	
VOLTAGE	250V AC/125V DC
CURRENT	3A

MALE	FIG	O.D CABLE RANGE	FIELD-ATTACHABLE CONNECTORS WITH SOLDER TERMINATIONS
STRAIGHT	1	.12-.15"/3-4mm	F04MA03123
		.15-.20"/4-5mm	F04MA03124
		.20-.24"/5-6mm	F04MA03126
MATING RECEPTACLE*	2		8R4A00A18A120

ACCESSORIES	
EXTRACTION TOOL – REQUIRED FOR DISASSEMBLY	F04A29

*See Page 116 for additional Mating Receptacles

Specifications



MECHANICAL	
CONNECTOR FACE:	NYLON 6/6
MOLDED BODY:	NYLON 6/6
CONTACT:	GOLD PLATED BRASS
COUPLING NUT:	ALUMINUM
GROMMET:	NITRILE RUBBER
MAXIMUM CONDUCTOR SIZE:	#22 AWG
ELECTRICAL	
VOLTAGE RATING:	250V AC / 125V DC
AMPERAGE:	4P - 3A
ENVIRONMENTAL	
PROTECTION:	IP 67, NEMA 6
AMBIENT OPERATING TEMP:	-40° TO 185° F (-40° TO 85°C)
CERTIFICATIONS	
UL:	UL LISTED, FILE NO. E103202
CSA:	CSA CERTIFIED, FILE NO LR62678

CONNECTOR DIMENSIONS

MALE STRAIGHT

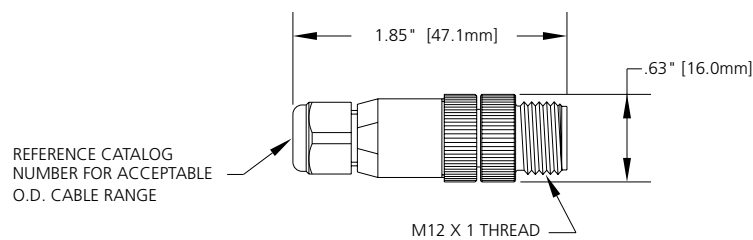


FIG 1

RECEPTACLE DIMENSIONS

FEMALE RECEPTACLE W/INTERNAL THREADS & 1/4" - 18UNF THREADS

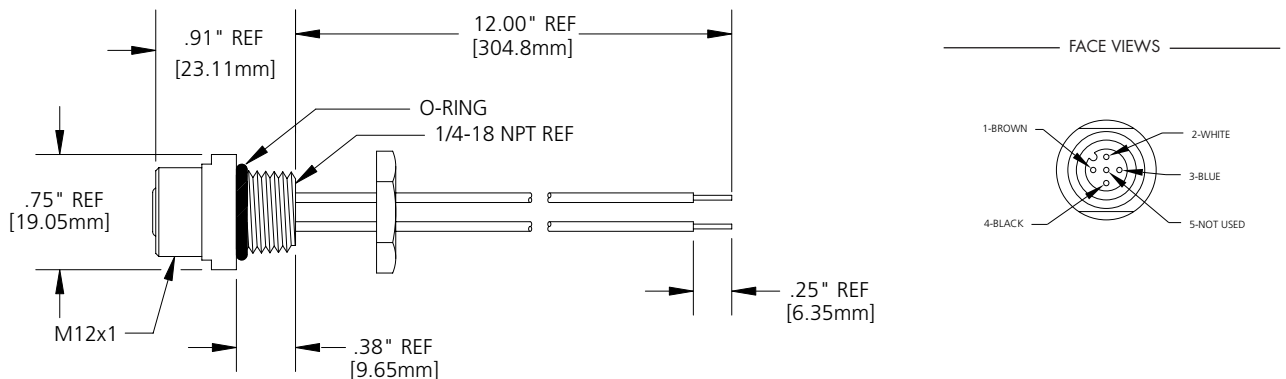


FIG 2

3P to 5P



Receptacles

Single Keyway M12

#22 AWG PVC 12 inch leads - DC color code, epoxy potted
 Black anodized aluminum shell
 Used in control panels junction boxes and sensors

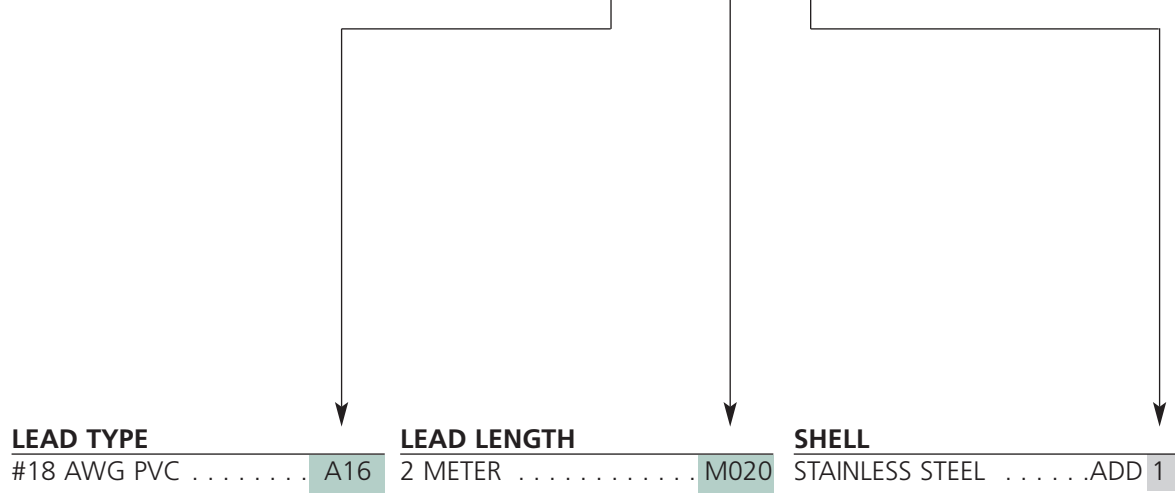
	3P	4P	5P
MALE FACE VIEW			
COLOR CODE	1- brown 3- blue 4- black	1- brown 2- white 3- blue 4- black	1 brown 2 white 3 blue 4 black 5 gray
VOLTAGE	250V AC/DC	250V AC/DC	250V AC/DC
CURRENT	4A	4A	4A
CONDUCTOR	#22-3	#22-4	#22-5

MALE	FIG	RECEPTACLES WITH #22 AWG PVC LEADS 12 INCHES LONG		
M14 X 1 THREAD	1	8R3E06A18A120	8R4E06A18A120	8R5E06A18A120
1/2" - 14NPT	2	8R3006A18A120	8R4006A18A120	8R5006A18A120
FEMALE	FIG	RECEPTACLES WITH #22 AWG PVC LEADS 12 INCHES LONG		
1/4" - 18NPT	3	8R3A00A18A120	8R4A00A18A120	8R5A00A18A120

CATALOG OPTIONS

Use the following chart to modify your part's specifications

8R3E06A18A1201



Specifications



MECHANICAL

SHELL: BLACK ANODIZED ALUMINUM
 OPTIONAL STAINLESS STEEL TYPE 303
 NYLON 6/6
 INSERT:
 CONDUCTORS: #22 AWG WITH PVC INSULATION
 OVER 26 X #36 COPPER STRANDING,
 300V, UL STYLE 1061, CSA AWM SR
 NITRILE RUBBER

O-RING:
ELECTRICAL

VOLTAGE RATING: 250V AC/DC
 3P - 4A
 4P - 4A
 5P - 4A

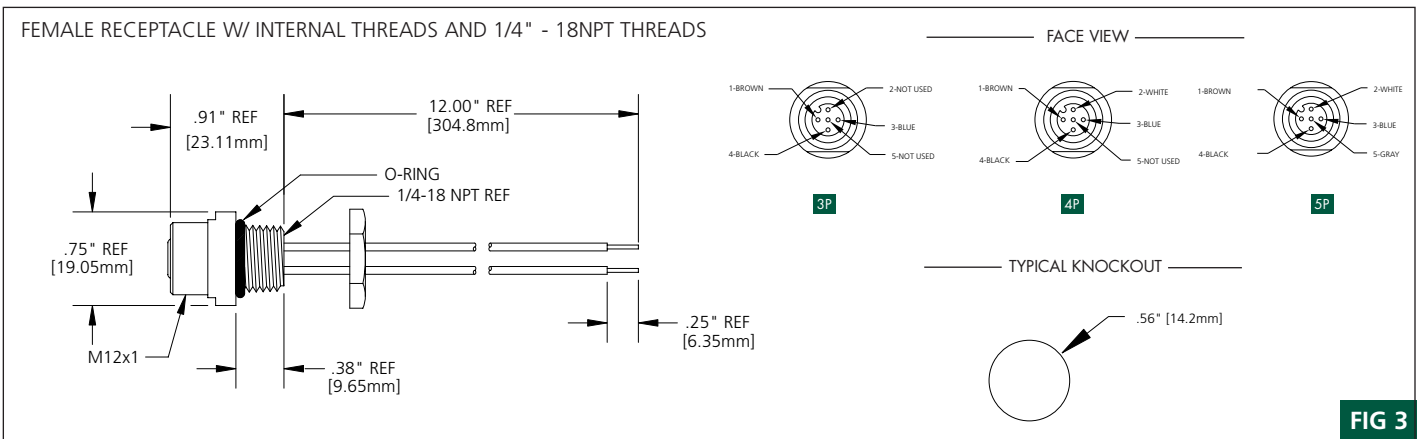
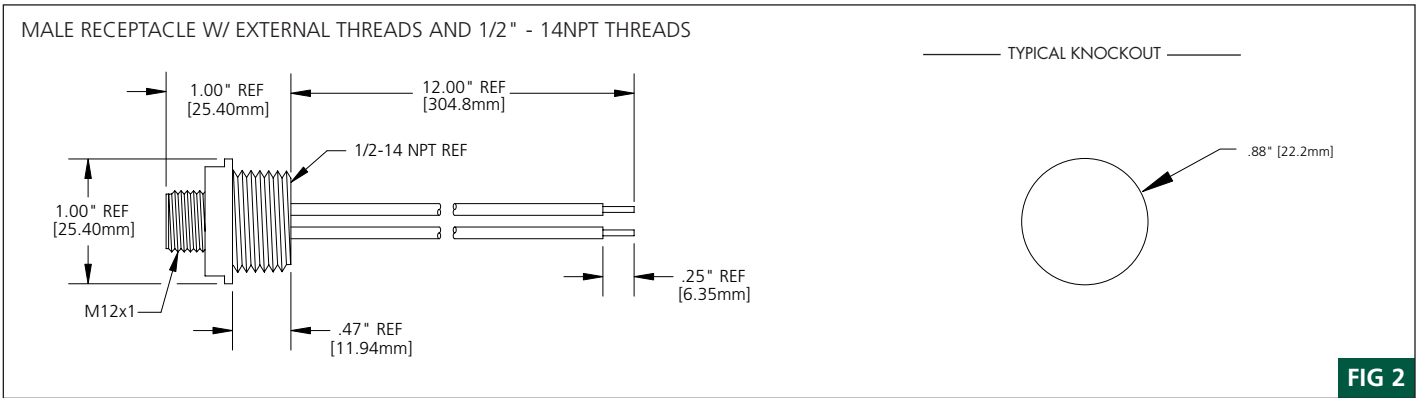
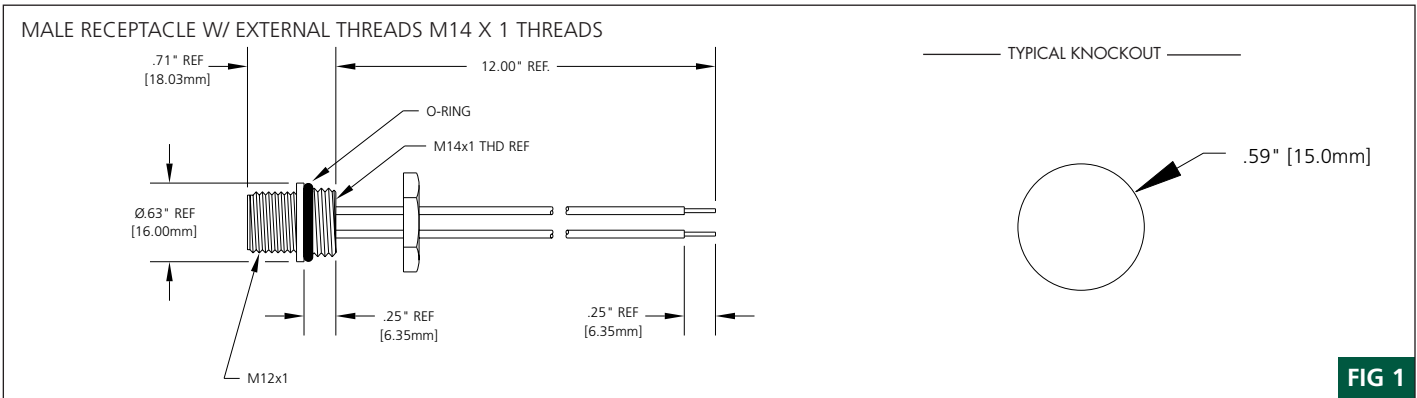
ENVIRONMENTAL

PROTECTION: IP 68, NEMA 6P
 AMBIENT OPERATING TEMP: -4° TO 176° F (-20° TO 80°C)

CERTIFICATIONS

UL: 3P & 4P UL LISTED, FILE NO.
 E152210; 5P UL RECOGNIZED
 CSA: CSA CERTIFIED, FILE NO LR6837

RECEPTACLE DIMENSIONS



3P to 5P



Receptacles-Back Panel Mount Single Keyway M12

#18 AWG PVC 1 meter leads - DC color code, epoxy potted
Black anodized aluminum shell
Easy installation and keyway orientation

	3P	4P	5P
FEMALE FACE VIEW			
COLOR CODE	1- brown 2- not used 3- blue 4- black 5- not used	1- brown 2- white 3- blue 4- black 5- not used	1- brown 2- white 3- blue 4- black 5- gray
VOLTAGE	250V AC/DC	250V AC/DC	250V AC/DC
CURRENT	4A	4A	4A
CONDUCTOR	#18-3	#18-4	#18-5

FEMALE	FIG	RECEPTACLES WITH #18 AWG PVC LEADS 1 METER LONG		
BACKPANEL MOUNT	1	8R3B00A16M010	8R4B00A16M010	8R5B00A16M010

CATALOG OPTIONS

Use the following chart to modify your part's specifications

8R3B00A16M010

LEAD LENGTH

2 METER	020
3 METER	030

Specifications

3P to 5P



MECHANICAL

SHELL: BLACK ANODIZED ALUMINUM
 INSERT: NYLON 6/6
 CONDUCTOR: #18 AWG WITH PVC INSULATION
 OVER 26 X #30 COPPER STRANDING,
 300V, UL STYLE 1569, CSA TRSR-64
 O-RING: NITRILE RUBBER
 GASKET: NITRILE RUBBER

ELECTRICAL

VOLTAGE RATING: 250V AC/DC
 AMPERAGE: 3P - 4A
 4P - 4A
 5P - 4A

ENVIRONMENTAL

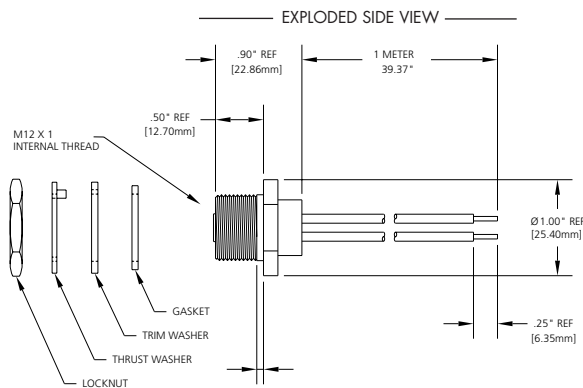
PROTECTION: IP 65, NEMA 4
 AMBIENT OPERATING TEMP: -4° TO 176° F (-20° TO 80° C)

CERTIFICATIONS

UL: UL LISTED, FILE NO. E152210
 CSA: CSA CERTIFIED, FILE NO. LR6837

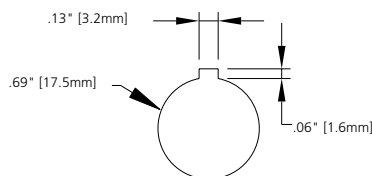
RECEPTACLE DIMENSIONS

FEMALE RECEPTACLE W/ INTERNAL THREADS BACK PANEL MOUNT



ACCOMMODATES PANEL THICKNESS FROM .060" [1.5mm] WITH TRIM WASHER TO .200" [5.5mm] WITHOUT TRIM WASHER.

TYPICAL KNOCKOUT



FEMALE FACE VIEW

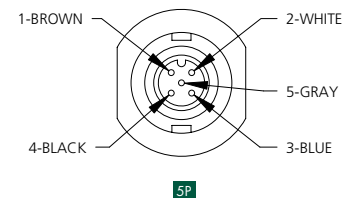
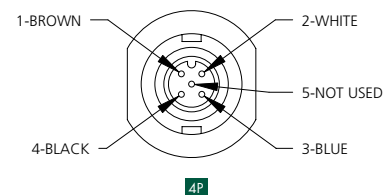
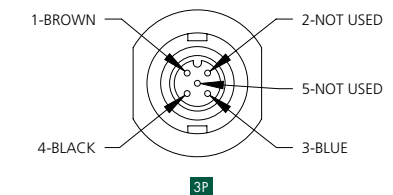


FIG 1



Single-Ended Cordsets

Dual Keyway 1/2" - 20 UNF

AUTOMOTIVE

#22 AWG yellow PVC cable with metallic braid – auto color code
 #18 AWG yellow PVC cable without metallic braid – auto color code
 Low-resistance contact design with gold/palladium nickel plating

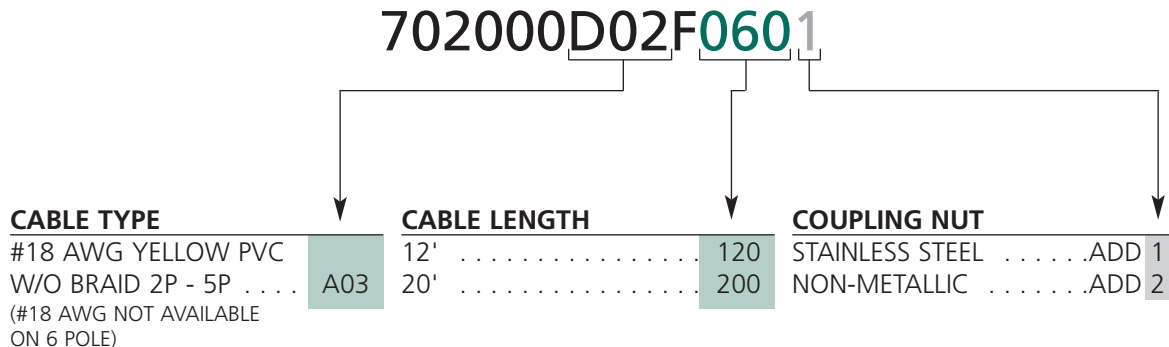
	2P	3P	4P	5P	6P
FEMALE FACE VIEW					
COLOR CODE	1- brown 2- blue	1- green - gnd 2- red - black trace 3- red - white trace	1- red - black trace 2- red - white trace 3- red 4- green - gnd	1- red - white trace 2- red 3- green - gnd 4- red - yellow trace 5- red - black trace	1- red - white trace 2- red 3- green - gnd 4- red - yellow trace 5- red - black trace 6- red - blue trace
VOLTAGE	250V AC/DC	250V AC/DC	250V AC/DC	250V AC/DC	250V AC/DC
CURRENT	4A	4A	4A	4A	4A
CONDUCTOR	#22-2	#22-3	#22-4	#22-5	#22-6

FEMALE	FIG	SINGLE - ENDED CORDSETS WITH #22 AWG PVC CABLE WITH BRAID 6 FEET LONG				
STRAIGHT	1	702000D02F060	703000D02F060	704000D02F060	705000D02F060	706000D02F060
90°	2	702001D02F060	703001D02F060	704001D02F060	705001D02F060	706001D02F060
MATING RECEPTACLE*	5	7R2006A19A120	7R3006A19A120	7R4006A19A120	7R5006A19A120	7R6006A19A120
MALE	FIG	SINGLE - ENDED CORDSETS WITH #22 AWG PVC CABLE WITH BRAID 6 FEET LONG				
STRAIGHT	3	702006D02F060	703006D02F060	704006D02F060	705006D02F060	706006D02F060
90°	4	702007D02F060	703007D02F060	704007D02F060	705007D02F060	706007D02F060
MATING RECEPTACLE*	6	7R2A00A19A120	7R3A00A19A120	7R4A00A19A120	7R5A00A19A120	7R6A00A19A120

CATALOG OPTIONS

*See Page 134 for additional Mating Receptacles

Use the following chart to modify your part's specifications



Specifications

CONNECTOR DIMENSIONS

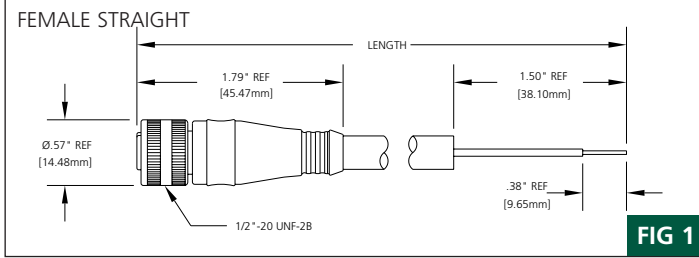


FIG 1

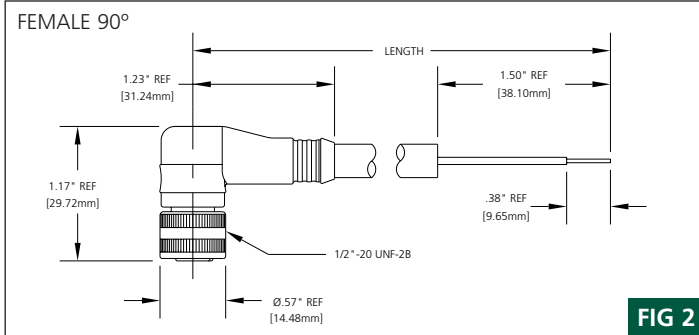


FIG 2

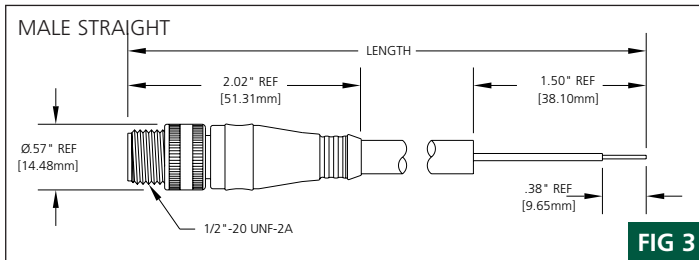
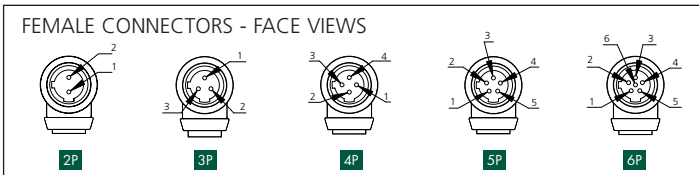


FIG 3

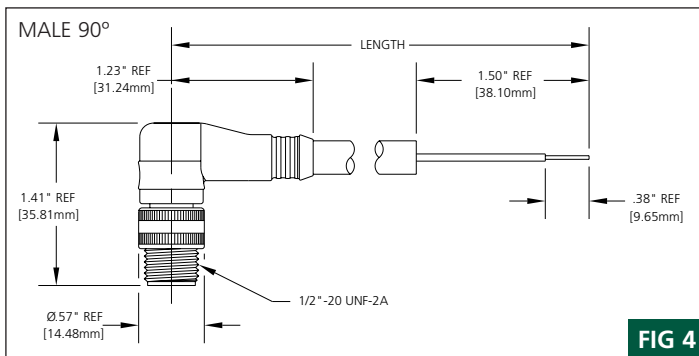
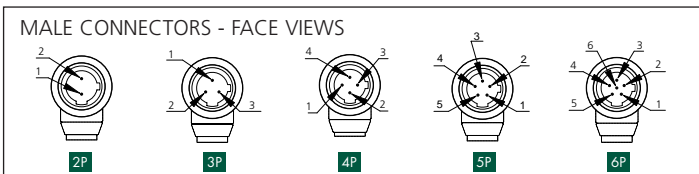


FIG 4



MECHANICAL
 CONNECTOR FACE: NYLON 6/6
 MOLDED BODY: PVC
 O-RING: NITRILE RUBBER
 COUPLING NUT: ZINC DIECAST W/ BLACK EPOXY COAT, OPTIONAL STAINLESS STEEL



CABLE: YELLOW #22 AWG PVC JACKET 70% METALLIC BRAID AND PVC CONDUCTOR INSULATION OVER 26 X #36 COPPER STRANDING, 300V, UL STYLE 2661, CSA AWM I/II A/B
 YELLOW #18 AWG PVC JACKET AND PVC CONDUCTOR INSULATION OVER 41 X #34 COPPER STRANDING, 300V, UL STYLE 2661, CSA AWM I/II A/B
 #22 AWG #18 AWG
 WITH 70% BRAID WITHOUT BRAID
 2P - .23" (5.8mm) 2P - .29" (7.4mm)
 3P - .23" (5.8mm) 3P - .29" (7.4mm)
 4P - .25" (6.4mm) 4P - .29" (7.4mm)
 5P - .26" (6.6mm) 5P - .29" (7.4mm)
 6P - .29" (7.4mm)

OUTSIDE DIAMETER:

ELECTRICAL
 VOLTAGE RATING: 250V AC/DC
 AMPERAGE: 2P - 4A
 3P - 4A
 4P - 4A
 5P - 4A
 6P - 4A

ENVIRONMENTAL

PROTECTION: IP 68, NEMA 6P
 AMBIENT OPERATING TEMP: -4° TO 221° F (-20° TO 105° C)

CERTIFICATIONS

UL: UL LISTED, FILE NO. E152210
 CSA: CSA CERTIFIED, FILE NO LR6837

RECEPTACLE DIMENSIONS

MALE RECEPTACLE WITH EXTERNAL THREADS AND 1/2" - 14NPT THREADS

SEE PAGE 134 FOR ADDITIONAL RECEPTACLES AND FACE VIEW DETAILS

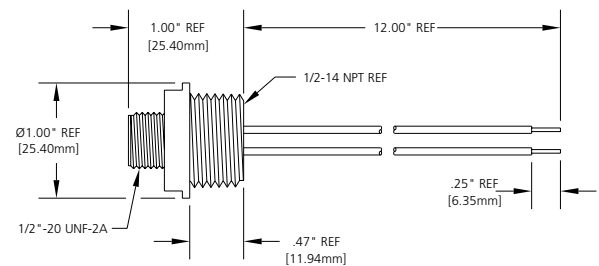


FIG 5

FEMALE RECEPTACLE WITH INTERNAL THREADS AND 1/4" - 18NPT THREADS

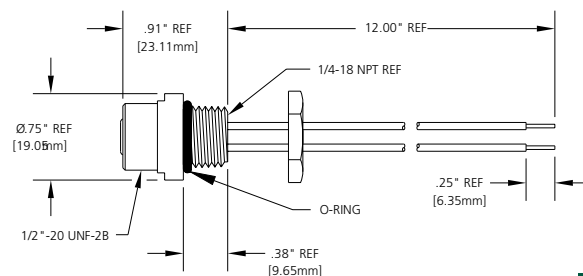


FIG 6



Double-Ended Cordsets

Dual Keyway 1/2" - 20 UNF

AUTOMOTIVE

#22 AWG yellow PVC cable with metallic braid – auto color code
 #18 AWG yellow PVC cable without metallic braid – auto color code
 Low-resistance contact design with gold/palladium nickel plating

	2P	3P	4P	5P	6P
FEMALE FACE VIEW					
COLOR CODE	1- brown 2- blue	1- green - gnd 2- red - black trace 3- red - white trace	1- red - black trace 2- red - white trace 3- red 4- green - gnd	1- red - white trace 2- red 3- green - gnd 4- red - yellow trace 5- red - black trace	1- red - white trace 2- red 3- green - gnd 4- red - yellow trace 5- red - black trace 6- red- blue trace
VOLTAGE	250V AC/DC	250V AC/DC	250V AC/DC	250V AC/DC	250V AC/DC
CURRENT	4A	4A	4A	4A	4A
CONDUCTOR	#22-2	#22-3	#22-4	#22-5	#22-6

FEMALE/MALE	FIG	DOUBLE - ENDED CORDSETS WITH #22 AWG PVC CABLE WITH BRAID 6 FEET LONG				
STRAIGHT/STRAIGHT	1	772030D02F060	773030D02F060	774030D02F060	775030D02F060	776030D02F060
90°/STRAIGHT	2	772031D02F060	773031D02F060	774031D02F060	775031D02F060	776031D02F060
STRAIGHT/90°	3	772032D02F060	773032D02F060	774032D02F060	775032D02F060	—
90°/90°	4	772033D02F060	773033D02F060	774033D02F060	775033D02F060	—

CATALOG OPTIONS

*See Page 134 for additional Mating Receptacles

Use the following chart to modify your part's specifications

772030D02F0601

CABLE TYPE

#18 AWG YELLOW
 PVC W/O BRAID 2P - 5P
 (#18 AWG NOT AVAILABLE
 ON 6 POLE)

A03

CABLE LENGTH

12' 120
 20' 200

COUPLING NUT

STAINLESS STEELADD 1
 NON-METALLICADD 2

Specifications



MECHANICAL
 CONNECTOR FACE: PVC
 MOLDED BODY: NITRILE RUBBER
 O-RING: ZINC DIECAST W/ BLACK EPOXY COAT, OPTIONAL STAINLESS STEEL
 COUPLING NUT: TYPE 303, NON-METALLIC WHITE DELRIN

CABLE: YELLOW #22 AWG PVC JACKET 70% METALLIC BRAID AND PVC CONDUCTOR INSULATION OVER 26 X #36 COPPER STRANDING, 300V, UL STYLE 2661, CSA AWM I/II A/B
 YELLOW #18 AWG PVC JACKET AND PVC CONDUCTOR INSULATION OVER 41 X #34 COPPER STRANDING, 300V, UL STYLE 2661, CSA AWM I/II A/B

OUTSIDE DIAMETER:
 WITH 70% BRAID WITHOUT BRAID
 2P - .23" (5.8mm) 2P - .29" (7.4mm)
 3P - .23" (5.8mm) 3P - .29" (7.4mm)
 4P - .25" (6.4mm) 4P - .29" (7.4mm)
 5P - .26" (6.6mm) 5P - .29" (7.4mm)
 6P - .29" (7.4mm)

ELECTRICAL
 VOLTAGE RATING: 250V AC/DC
 AMPERAGE: 2P - 4A
 3P - 4A
 4P - 4A
 5P - 4A
 6P - 4A

ENVIRONMENTAL
 PROTECTION: IP 68, NEMA 6P
 AMBIENT OPERATING TEMP: -4° TO 221° F (-20° TO 105° C)
CERTIFICATIONS
 UL: UL LISTED, FILE NO. E152210
 CSA: CSA CERTIFIED, FILE NO LR6837

CONNECTOR DIMENSIONS

FEMALE STRAIGHT/MALE STRAIGHT

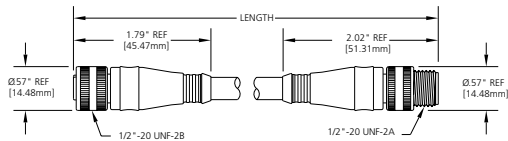


FIG 1

FEMALE 90°/MALE STRAIGHT

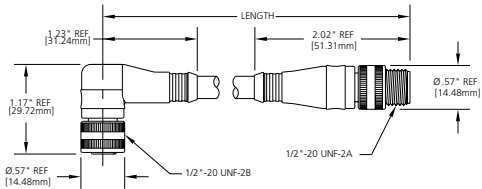


FIG 2

FEMALE STRAIGHT/MALE 90°

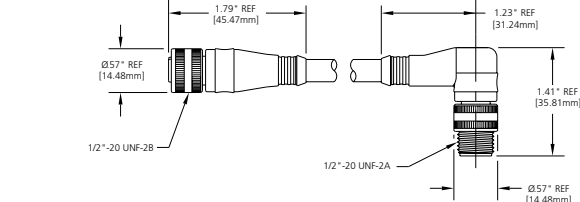


FIG 3

FEMALE 90°/MALE 90°

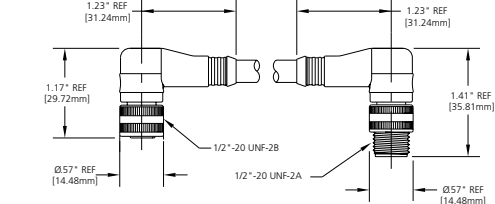
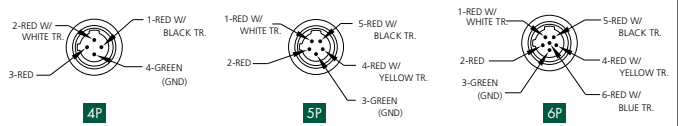
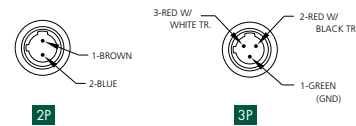
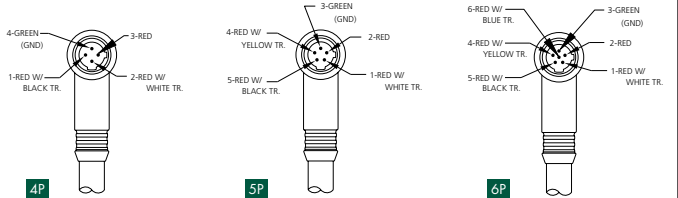
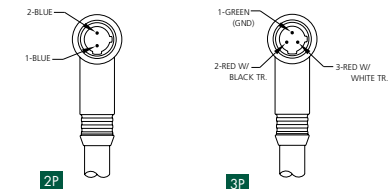


FIG 4

MALE FACE VIEW



MALE FACE VIEW





Single-Ended Cordsets

Dual Keyway 1/2" - 20 UNF

AUTOMOTIVE

#18 AWG yellow PUR high-flex cable – auto color code
 Oil- and abrasion-resistant polyurethane jacket
 Low-resistance contact design with gold/palladium nickel plating

	2P	3P	4P	5P
FEMALE FACE VIEW				
COLOR CODE	1- brown 2- blue	1- green - gnd 2- red/black 3- red/white	1- red/black 2- red/white 3- red 4- green - gnd	1- red/white 2- red 3- green - gnd 4- red/yellow 5- red/black
VOLTAGE	250V AC/DC	250V AC/DC	250V AC/DC	250V AC/DC
CURRENT	4A	4A	4A	4A
CONDUCTOR	#18-2	#18-3	#18-4	#18-5

FEMALE	FIG	SINGLE-ENDED CORDSETS WITH #18 AWG HIGH FLEX PUR CABLE 6 FEET LONG			
STRAIGHT	1	702000B01F060	703000B01F060	704000B01F060	705000B01F060
90°	2	702001B01F060	703001B01F060	704001B01F060	705001B01F060
MATING RECEPTACLE*	5	7R2006A19A120	7R3006A19A120	7R4006A19A120	7R5006A19A120
MALE W/ EXTERNAL THREADS	FIG	SINGLE-ENDED CORDSETS WITH #18 AWG HIGH FLEX PUR CABLE 6 FEET LONG			
STRAIGHT	3	702006B01F060	703006B01F060	704006B01F060	705006B01F060
90°	4	702007B01F060	703007B01F060	704007B01F060	705007B01F060
MATING RECEPTACLE*	6	7R2A00A19A120	7R3A00A19A120	7R4A00A19A120	7R5A00A19A120

CATALOG OPTIONS

*See Page 134 for additional Mating Receptacles

Use the following chart to modify your part's specifications

702000B01F0601

CABLE LENGTH

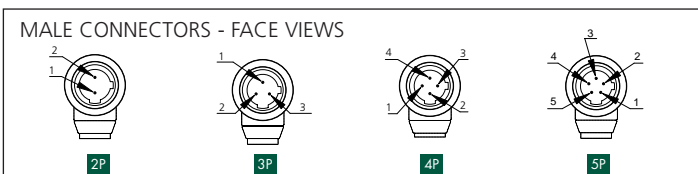
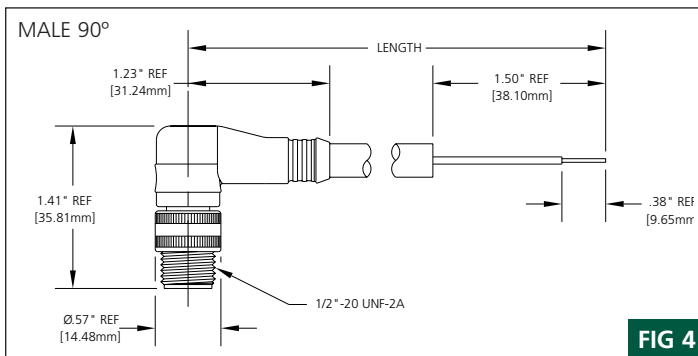
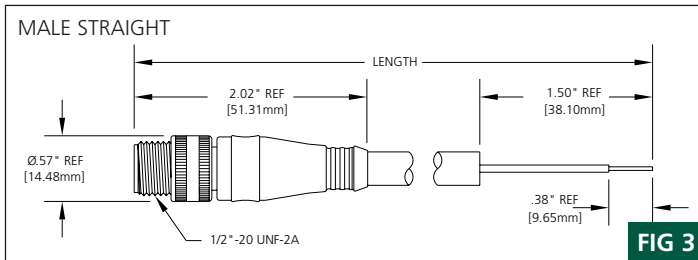
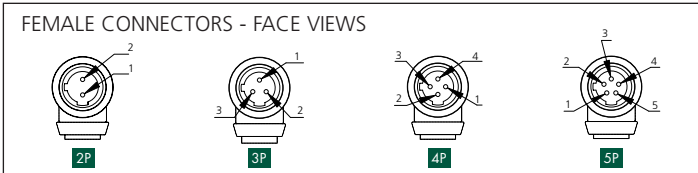
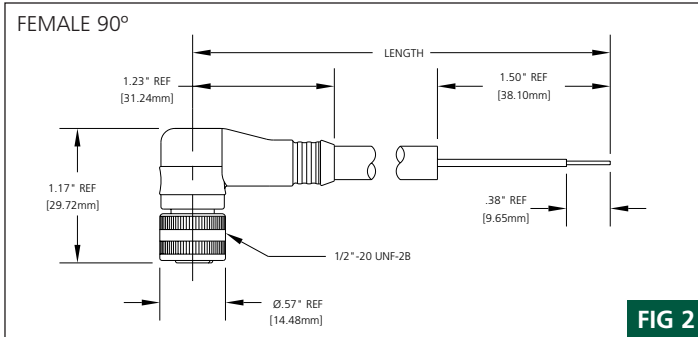
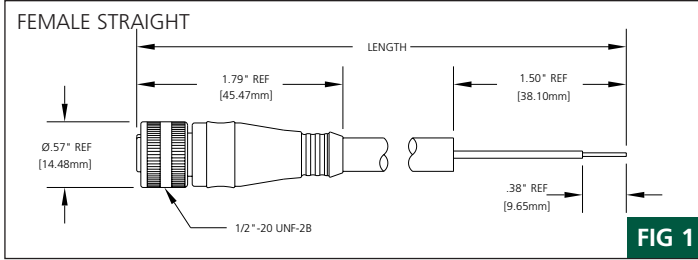
12'	120
20'	200

COUPLING NUT

STAINLESS STEELADD 1

Specifications

CONNECTOR DIMENSIONS



MECHANICAL	
CONNECTOR FACE:	NYLON 6/6
MOLDED BODY:	POLYURETHANE
O-RING:	VITON
COUPLING NUT:	ZINC DIECAST W/ BLACK EPOXY COAT, OPTIONAL STAINLESS STEEL TYPE 303
CABLE:	YELLOW #18 AWG POLYURETHANE JACKET AND PVC CONDUCTOR INSULATION OVER 65 X #36 COPPER STRANDING, 300V, UL STYLE 20549, CSA AWM I/II A/B
OUTSIDE DIAMETER:	2P - .24" (6.1mm) 3P - .27" (6.9mm) 4P - .29" (7.4mm) 5P - .32" (8.1mm)
ELECTRICAL	
VOLTAGE RATING:	250V AC/DC
AMPERAGE:	2P - 4A 3P - 4A 4P - 4A 5P - 4A
ENVIRONMENTAL	
PROTECTION:	IP 68, NEMA 6P
AMBIENT OPERATING TEMP:	-4° TO 176° F (-20° TO 80° C)
CERTIFICATIONS	
UL:	UL LISTED, FILE NO. E152210
CSA:	CSA CERTIFIED, FILE NO LR6837

RECEPTACLE DIMENSIONS

MALE RECEPTACLE WITH EXTERNAL THREADS AND 1/2" - 14NPT THREADS

SEE PAGE 134 FOR ADDITIONAL RECEPTACLES AND FACE VIEW DETAILS

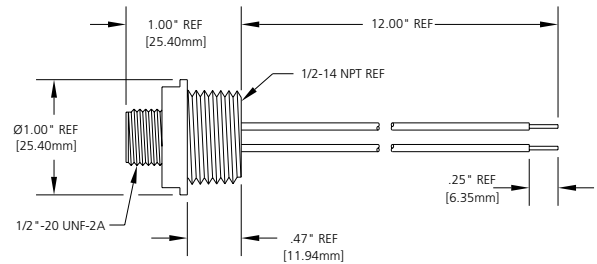


FIG 5

FEMALE RECEPTACLE WITH INTERNAL THREADS AND 1/4" - 18NPT THREADS

SEE PAGE 134 FOR ADDITIONAL RECEPTACLES AND FACE VIEW DETAILS

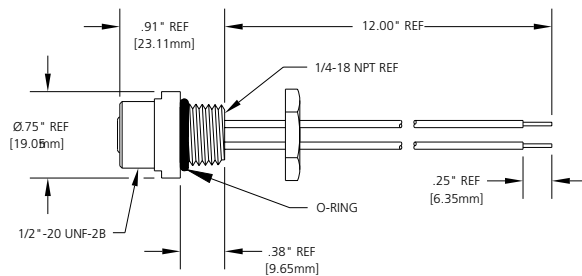


FIG 6



Double-Ended Cordsets

Dual Keyway 1/2" - 20 UNF

AUTOMOTIVE

#18 AWG yellow PUR high-flex cable – auto color code
 Oil- and abrasion-resistant polyurethane jacket
 Low-resistance contact design with gold/palladium nickel plating

	2P	3P	4P	5P
FEMALE FACE VIEW				
COLOR CODE	1- brown 2- blue	1- green - gnd 2- red /black 3- red/white	1- red /black 2- red /white 3- red 4- green - gnd	1- red /white 2- red 3- green - gnd 4- red/yellow 5- red/black
VOLTAGE	250V AC/DC	250V AC/DC	250V AC/DC	250V AC/DC
CURRENT	4A	4A	4A	4A
CONDUCTOR	#18-2	#18-3	#18-4	#18-5

FEMALE/MALE	FIG	DOUBLE - ENDED CORDSETS WITH #18 AWG HIGH FLEX PUR CABLE 6 FEET LONG			
STRAIGHT/ STRAIGHT	1	772030B01F060	773030B01F060	774030B01F060	775030B01F060
90°/STRAIGHT	2	772031B01F060	773031B01F060	774031B01F060	775031B01F060

CATALOG OPTIONS

*See Page 134 for additional Mating Receptacles

Use the following chart to modify your part's specifications

772030B01F0601

CABLE LENGTH

12'	120
20'	200

COUPLING NUT

STAINLESS STEELADD 1

Specifications



MECHANICAL	
CONNECTOR FACE:	NYLON 6/6
MOLDED BODY:	POLYURETHANE
O-RING:	VITON
COUPLING NUT:	ZINC DIECAST W/ BLACK EPOXY COAT, OPTIONAL STAINLESS STEEL TYPE 303
CABLE:	YELLOW #18 AWG POLYURETHANE JACKET AND PVC CONDUCTOR INSULATION OVER 65 X #36 COPPER STRANDING, 300V, UL STYLE 20549, CSA AWM I/II A/B
OUTSIDE DIAMETER:	2P - .24" (6.1mm) 3P - .27" (6.9mm) 4P - .29" (7.4mm) 5P - .32" (8.1mm)
ELECTRICAL	
VOLTAGE RATING:	250V AC/DC
AMPERAGE:	2P - 4A 3P - 4A 4P - 4A 5P - 4A
ENVIRONMENTAL	
PROTECTION:	IP 68, NEMA 6P
AMBIENT OPERATING TEMP:	-4° TO 176° F (-20° TO 80° C)
CERTIFICATIONS	
UL:	UL LISTED, FILE NO. E152210
CSA:	CSA CERTIFIED, FILE NO LR6837

CABLE DIMENSIONS

FEMALE STRAIGHT/MALE STRAIGHT

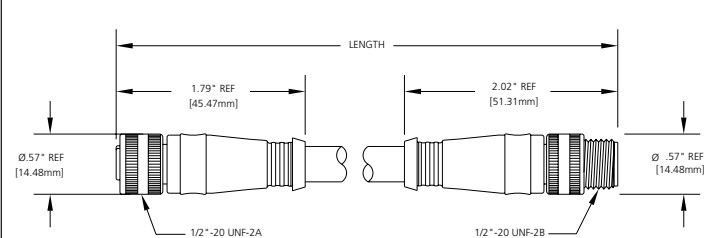


FIG 1

FEMALE 90°/MALE STRAIGHT

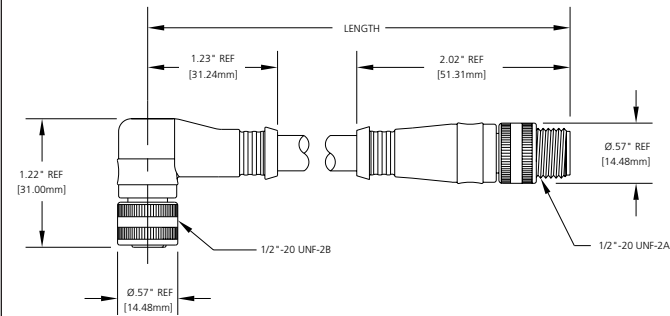
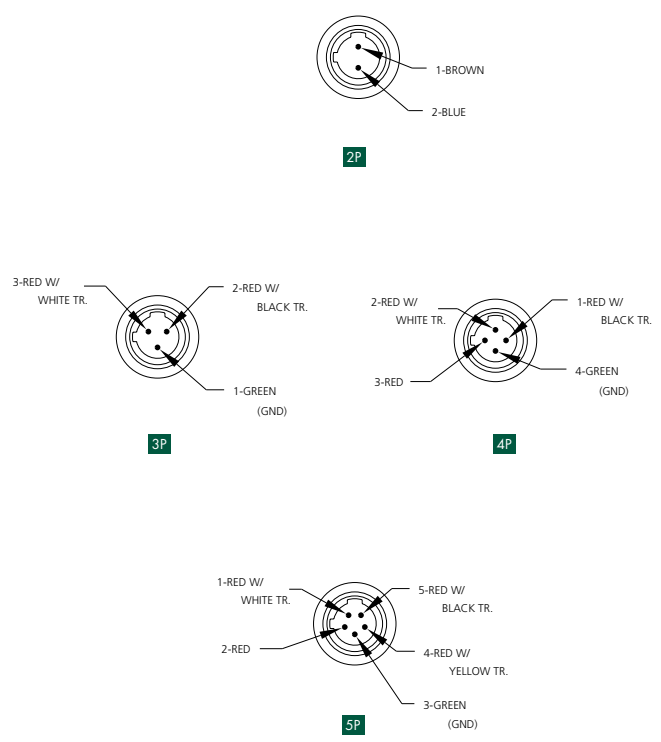


FIG 2

MALE FACE VIEW

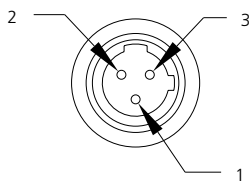
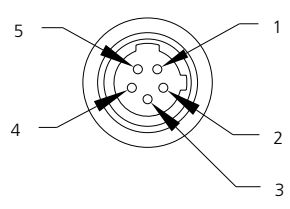




Single & Double-Ended Cordsets Dual Keyway 1/2" - 20 UNF

AUTOMOTIVE

#18 AWG yellow thermoplastic elastomer (TPE) cable – auto color code
Oil-, chemical- and weld slag-resistant TPE jacket “universal” cable
Low-resistance contact design with gold/palladium nickel plating

NEW	3P	5P
FEMALE FACE VIEW		
COLOR CODE	1- green - gnd 2- red - black trace 3- red - white trace	1- red - white trace 4- red - yellow trace 2- red 5- red - black trace 3- green - gnd
VOLTAGE	250V AC/DC	250V AC/DC
CURRENT	4A	4A
CONDUCTOR	#18-3	#18-5

FEMALE	FIG	SINGLE-ENDED CORDSETS WITH #18 AWG TPE CABLE 6 FEET LONG	
STRAIGHT	1	703000K02F060	705000K02F060
90°	2	703001K02F060	705001K02F060
MATING RECEPTACLE*	4	7R3006A19A120	7R5006A19A120
FEMALE/MALE	FIG	DOUBLE-ENDED CORDSETS WITH #18 AWG TPE CABLE 6 FEET LONG	
STRAIGHT/ STRAIGHT	3	773030K02F060	775030K02F060

CATALOG OPTIONS

*See Page 134 for additional Mating Receptacles

Use the following chart to modify your part's specifications

703000K02F0601

CABLE LENGTH

12'	120
20'	200

COUPLING NUT

STAINLESS STEELADD 1

Specifications



- MECHANICAL**
 CONNECTOR FACE: NYLON 6/6
 MOLDED BODY: PVC
 O-RING: NITRILE RUBBER
 COUPLING NUT: ZINC DIECAST W/ BLACK EPOXY COAT, OPTIONAL STAINLESS STEEL TYPE 303
 CABLE: YELLOW #18 AWG THERMOPLASTIC ELASTOMER (TPE) JACKET AND PVC CONDUCTOR INSULATION OVER 41 X #34 COPPER STRANDING, 300V, UL STYLE 20327, CSA AWM VII A/B
 OUTSIDE DIAMETER: 3P - .26" (6.6mm)
 5P - .30" (7.6mm)
- ELECTRICAL**
 VOLTAGE RATING: 250V AC/DC
 AMPERAGE: 3P - 4A
 5P - 4A
- ENVIRONMENTAL**
 PROTECTION: IP 68, NEMA 6P
 AMBIENT OPERATING TEMP: -4° TO 221° F (-20° TO 105° C)
- CERTIFICATIONS**
 UL: UL LISTED, FILE NO. E152210
 CSA: CSA CERTIFIED, FILE NO LR6837

CONNECTOR DIMENSIONS

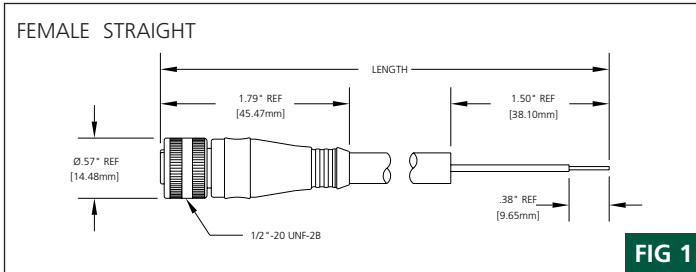


FIG 1

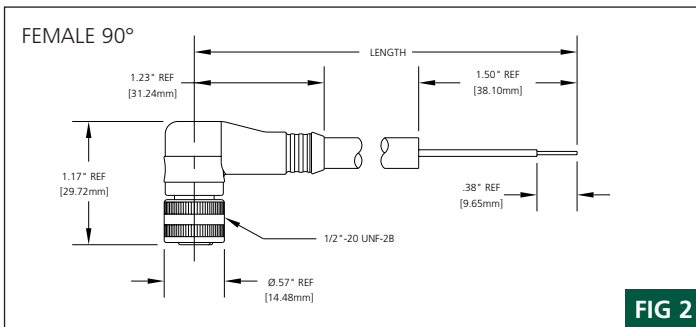


FIG 2

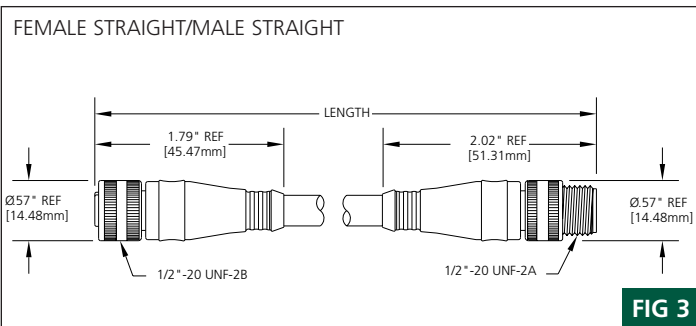


FIG 3

RECEPTACLE DIMENSIONS

MALE RECEPTACLE W/ EXTERNAL THREADS AND 1/2" - 14NPT THREADS

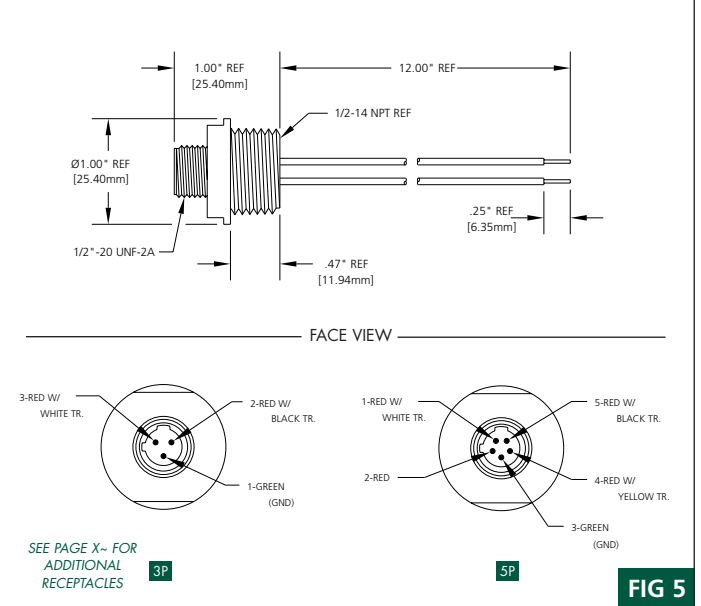


FIG 5

CHEMICAL & OIL RESISTANCE CHART - TPE CABLE

ACIDS & BASES	PERFORMANCE	OILS & FUELS	PERFORMANCE
SULFURIC ACID 30%	EXCELLENT	ASTM OIL 1, 2 OR 3	EXCELLENT
NITRIC ACID 10%	EXCELLENT	TRIMSOL	EXCELLENT
SODIUM HYDROXIDE 10%	EXCELLENT	SIMEOL	EXCELLENT
AMMONIUM HYDROXIDE 10%	EXCELLENT	MOBIL OIL DTE 24 OR 26	EXCELLENT
HYDROCHLORIC ACID 20%	EXCELLENT	KEROSENE	EXCELLENT
GLACIAL ACIDIC ACID	GOOD	TRANSFORMER OIL	GOOD

3P



Single-Ended Coil Cordsets

Dual Keyway 1/2" - 20 UNF

AUTOMOTIVE

#18 AWG yellow PUR cable – auto color code
 Oil- and abrasion-resistant polyurethane jacket
 Low-resistance contact design with gold/palladium nickel plating

NEW	3P
FEMALE FACE VIEW	
COLOR CODE	1- green - gnd 2- red w/black trace 3- red w/white trace
CURRENT	250V AC/DC
VOLTAGE	4A
CONDUCTOR	#18-3

FEMALE		SINGLE - ENDED CORDSETS WITH #18 AWG PUR CABLE - COIL CORD	
		1.5 FEET RETRACTED/4.5 FEET EXTENDED	4 FEET RETRACTED/12 FEET EXTENDED
STRAIGHT	1	703000B13F045	703000B13F120
90°	2	703001B13F045	703001B13F120
MATING RECEPTACLE*	5	7R3006A19A120	
MALE		SINGLE - ENDED CORDSETS WITH #18 AWG PUR CABLE - COIL CORD	
		1.5 FEET RETRACTED/4.5 FEET EXTENDED	4 FEET RETRACTED/12 FEET EXTENDED
STRAIGHT	3	703006B13F045	703006B13F120
90°	4	703007B13F045	703007B13F120
MATING RECEPTACLE*	6	7R3A00A19A120	

*See Page 134 for additional Mating Receptacles

Specifications



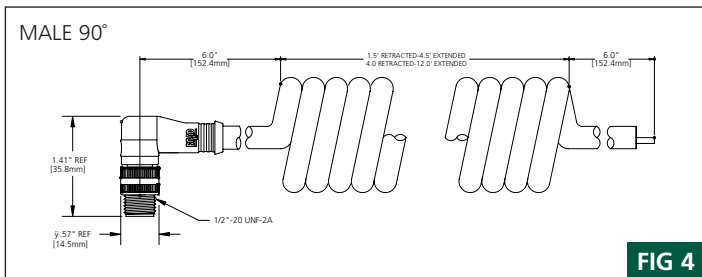
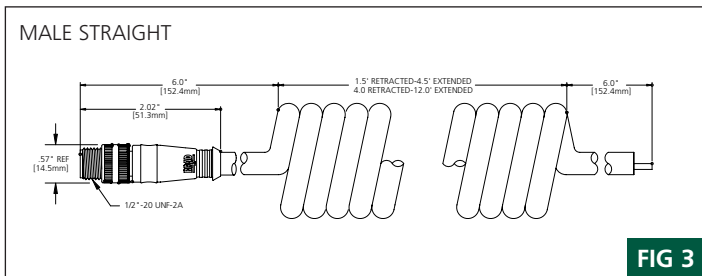
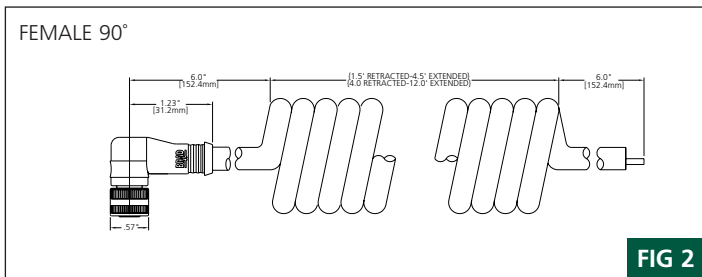
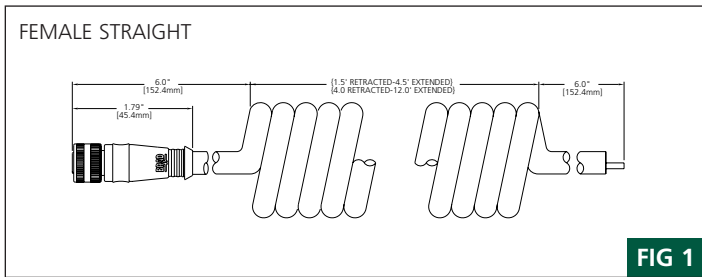
MECHANICAL
 CONNECTOR FACE: NYLON 6/6
 MOLDED BODY: POLYURETHANE
 O-RING: NITRILE RUBBER
 COUPLING NUT: ZINC DIECAST W/ BLACK EPOXY COAT
 CABLE: YELLOW #18 AWG POLYURETHANE JACKET AND POLYPROPYLENE CONDUCTOR INSULATION OVER 168 X #40 COPPER STRANDING, 300V, UL STYLE 20197, CSA AWM I/II A/B
 3P - .25" (6.4mm)

ELECTRICAL
 VOLTAGE RATING: 250V AC/DC
 AMPERAGE: 3P - 4A

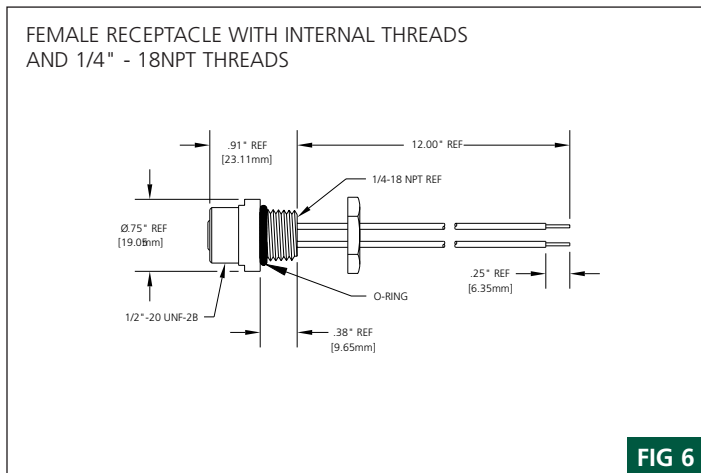
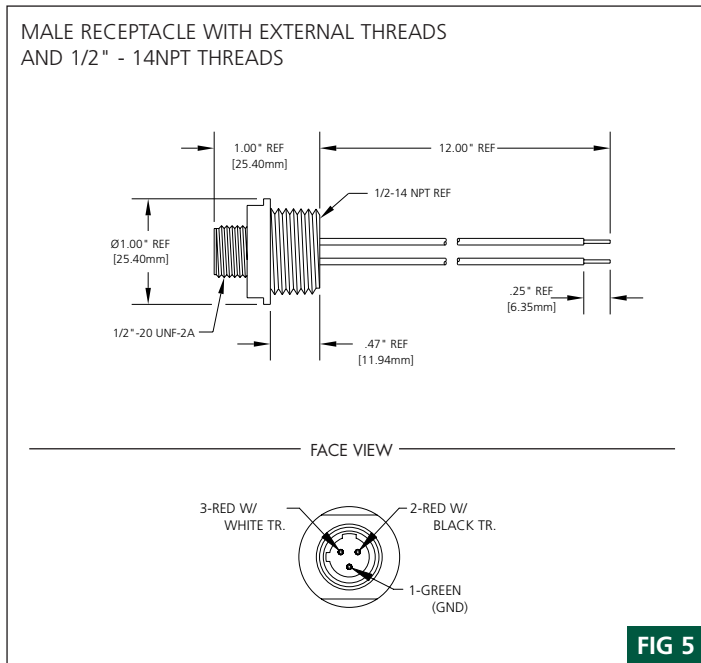
ENVIRONMENTAL
 PROTECTION: IP 68, NEMA 6P
 AMBIENT OPERATING TEMP: -4° F TO 176° (-20° TO 80° C)

CERTIFICATIONS
 UL: UL LISTED, FILE NO. E152210
 CSA: CSA CERTIFIED, FILE NO LR6837

CONNECTOR DIMENSIONS



RECEPTACLE DIMENSIONS



3P



Field-Attachable Connectors

Dual Keyway 1/2" - 20 UNF

Screw terminal connection accepts #18 AWG conductors maximum
 Easy field installation of quick-disconnect design
 For use with all standard dual keyway 1/2" - 20 UNF receptacles and cordsets

NEW	3P
FEMALE FACE VIEW	
MALE FACE VIEW	
VOLTAGE	250V AC/DC
CURRENT	4A

FEMALE	FIG	FIELD-ATTACHABLE CONNECTORS WITH PG 7 CABLE FITTING (.13 - .26" OD [3.3 - 6.6mm] CABLE)
STRAIGHT	1	7A3000-31
90°	2	7A3001-31
FEMALE	FIG	FIELD-ATTACHABLE CONNECTORS WITH PG 9 CABLE FITTING (.16 - .32" OD [4.1 - 8.1mm] CABLE)
STRAIGHT	1	7A3000-32
MATING RECEPTACLE*	3	7R3A06A19A120
MALE	FIG	FIELD-ATTACHABLE CONNECTORS WITH PG 7 CABLE FITTING (.13 - .26" OD [3.3 - 6.6mm] CABLE)
STRAIGHT	4	7A3006-31
90°	5	7A3007-31
MALE	FIG	FIELD-ATTACHABLE CONNECTORS WITH PG 9 CABLE FITTING (.16 - .32" OD [4.1 - 8.1mm] CABLE)
STRAIGHT	4	7A3006-32
MATING RECEPTACLE*	6	7R3A00A19A120

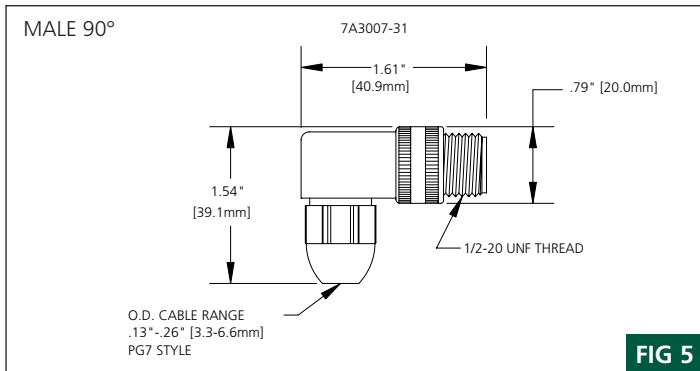
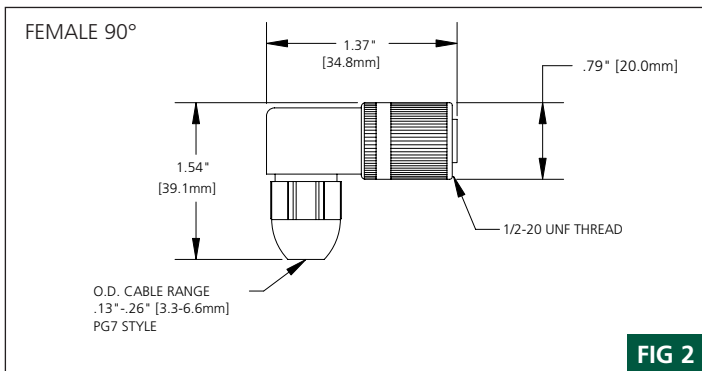
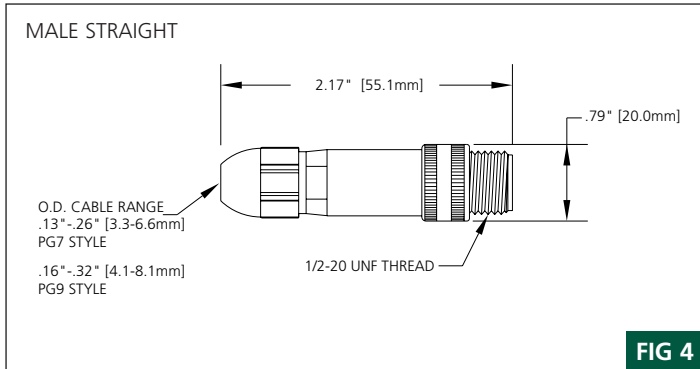
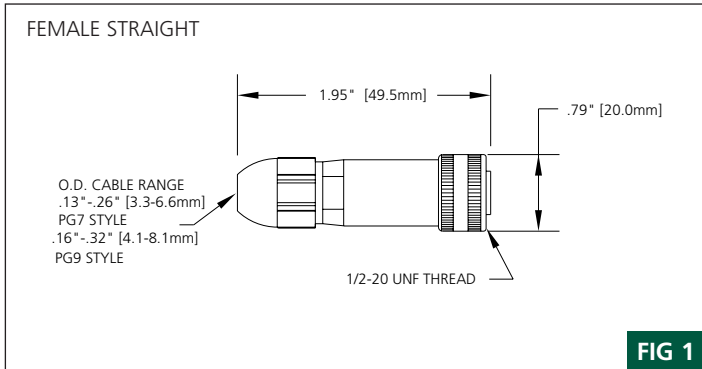
*See Page 134 for additional Mating Receptacles

Specifications

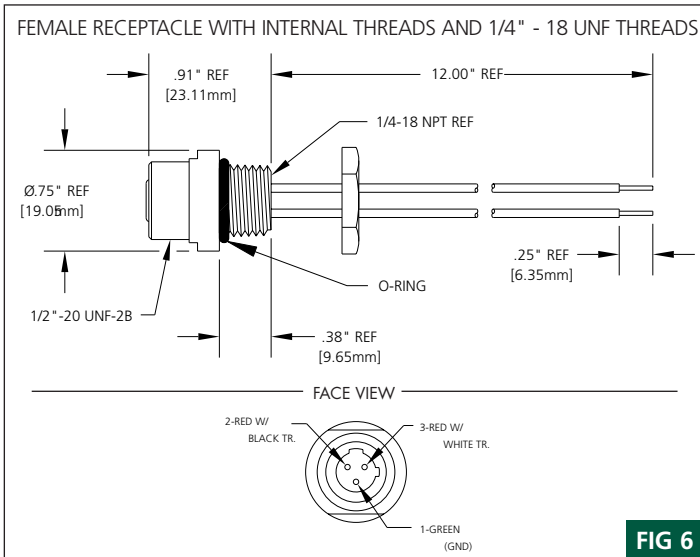
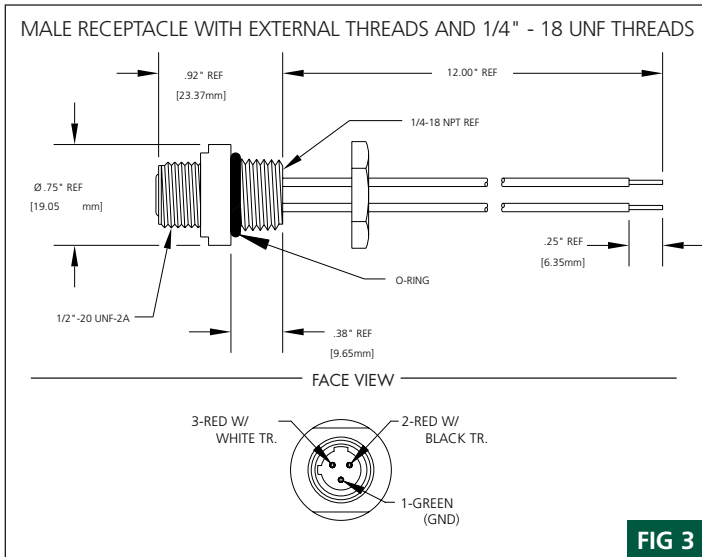


MECHANICAL	
CONNECTOR FACE:	NYLON 6/6
MOLDED BODY:	NYLON 6/6
CONTACT:	GOLD PLATED COPPER ALLOY
COUPLING NUT:	NICKEL PLATED BRASS
GROMMET:	NITRILE RUBBER
MAXIMUM CONDUCTOR SIZE:	18 AWG
ELECTRICAL	
VOLTAGE RATING:	250V AC/DC
AMPERAGE:	3P - 4A
ENVIRONMENTAL	
PROTECTION:	IP 68
AMBIENT OPERATING TEMP:	-40° TO 185° F (-40° TO 85°C)

CONNECTOR DIMENSIONS



RECEPTACLE DIMENSIONS



2P to 6P



Receptacles-Dual Keyway

#22 AWG PVC 12 inch leads – auto color code, epoxy potted
 Gray anodized aluminum shell
 Used in control panels, junction boxes and sensors

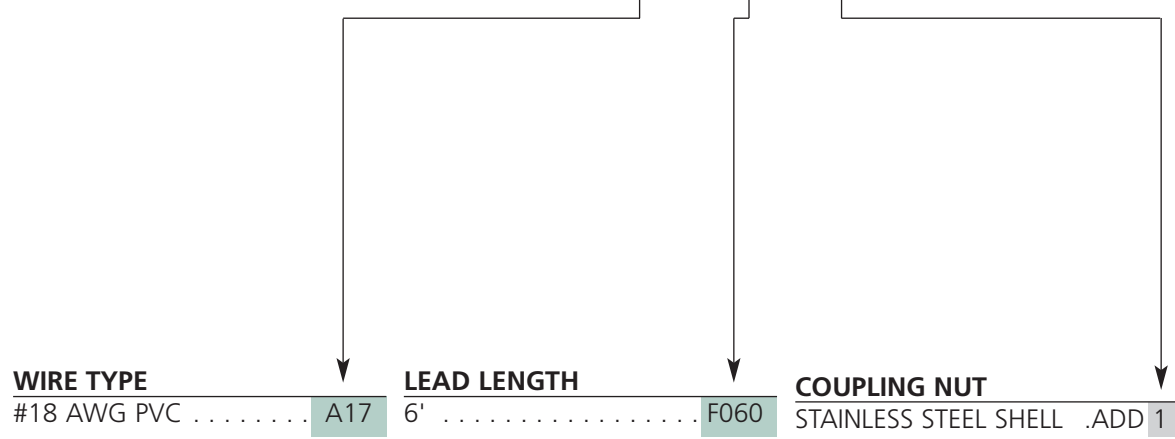
	2P	3P	4P	5P	6P
MALE FACE VIEW					
COLOR CODE	1- brown 2- blue	1- green - gnd 2- red - black trace 3- red - white trace	1- red - black trace 2- red - white trace 3- red 4- green - gnd	1- red - white trace 2- red 3- green - gnd 4- red - yellow trace 5- red - black trace	1- red - white trace 2- red 3- green - gnd 4- red - yellow trace 5- red - black trace 6- red- blue trace
VOLTAGE	250V AC/DC	250V AC/DC	250V AC/DC	250V AC/DC	250V AC/DC
CURRENT	4A	4A	4A	4A	4A
CONDUCTOR	#22-2	#22-3	#22-4	#22-5	#22-6

MALE	FIG	RECEPTACLES WITH #22 AWG PVC LEADS 12 INCHES LONG				
1/4" NPT THREADS	1	7R2A06A19A120	7R3A06A19A120	7R4A06A19A120	7R5A06A19A120	7R6A06A19A120
1/2" NPT THREADS	2	7R2006A19A120	7R3006A19A120	7R4006A19A120	7R5006A19A120	7R6006A19A120
FEMALE	FIG	RECEPTACLES WITH #22 AWG PVC LEADS 12 INCHES LONG				
1/4" NPT THREADS	3	7R2A00A19A120	7R3A00A19A120	7R4A00A19A120	7R5A00A19A120	7R6A00A19A120

CATALOG OPTIONS

Use the following chart to modify your part's specifications

7R2A06A19A1201



Specifications

2P to 6P



MECHANICAL

SHELL: GRAY ANODIZED ALUMINUM
 INSERT: NYLON 6/6
 O-RING: NITRILE RUBBER
 CONDUCTORS: #22 AWG WITH PVC INSULATION OVER 26 X #36 COPPER STRANDING, 300V, UL STYLE 1061, CSA AWM SR
 #18 AWG WITH PVC INSULATION OVER 26 X #30 COPPER STRANDING, 300V, UL STYLE 1061, CSA AWM SR

ELECTRICAL

VOLTAGE RATING: 250V AC/DC
 AMPERAGE: 2P - 4A
 3P - 4A
 4P - 4A
 5P - 4A
 6P - 4A

ENVIRONMENTAL

PROTECTION: IP 68, NEMA 6P
 AMBIENT OPERATING TEMP: -4° TO 176° F (-20° TO 80° C)

CERTIFICATIONS

UL: UL LISTED, FILE NO. E152210
 CSA: CSA CERTIFIED, FILE NO LR6837

RECEPTACLE DIMENSIONS

MALE RECEPTACLE WITH EXTERNAL THREADS AND 1/4" - 18NPT THREADS

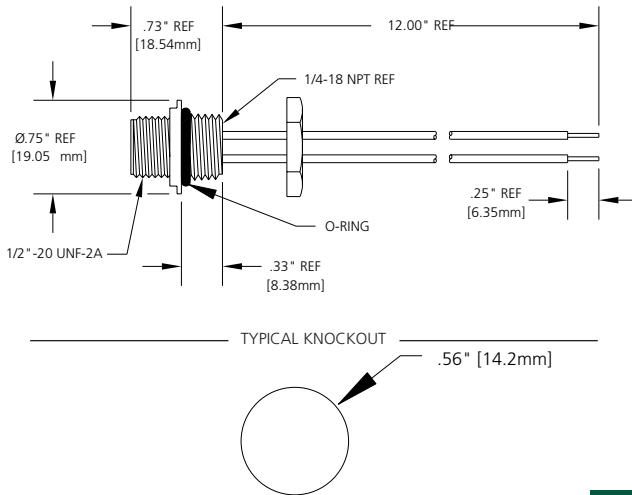


FIG 1

MALE RECEPTACLE WITH EXTERNAL THREADS AND 1/2" - 14NPT THREADS

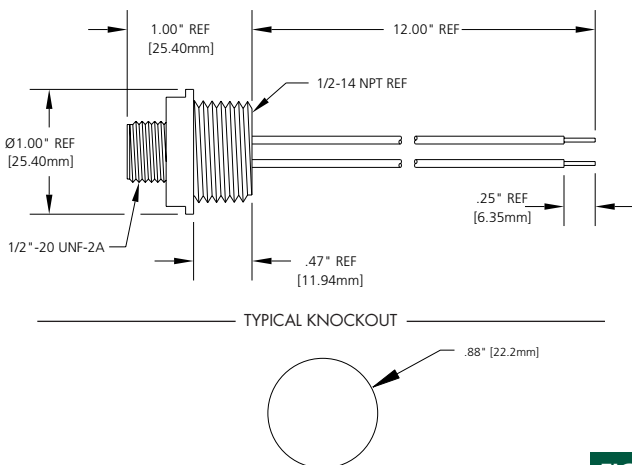
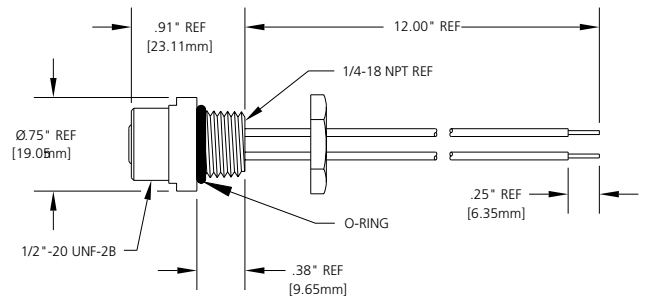


FIG 2

FEMALE RECEPTACLE WITH INTERNAL THREADS AND 1/4" - 18NPT THREADS



TYPICAL KNOCKOUT .56" [14.2mm]

FEMALE FACE VIEW

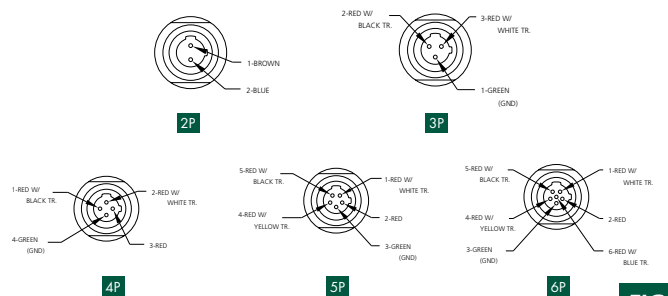


FIG 3

3P to 5P



Receptacles-Dual Keyway

Back Panel Mount

#18 AWG PVC 1 meter leads – automotive color code, epoxy potted
 Gray anodized aluminum shell
 Easy installation and keyway orientation

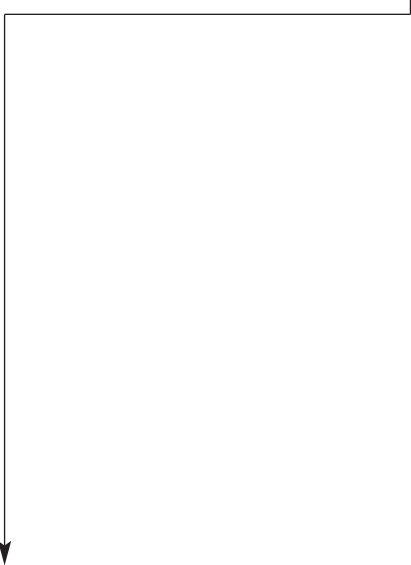
	2P	3P	4P	5P
FEMALE FACE VIEW				
COLOR CODE	1- brown 2- blue	1- green - gnd 2- red - black trace 3- red - white trace	1- red - black trace 3- red 2- red - white trace 4- green - gnd	1- red - white trace 4- red - yellow trace 2- red 5- red - black trace 3- green-gnd
VOLTAGE	250V AC/DC	250V AC/DC	250V AC/DC	250V AC/DC
CURRENT	4A	4A	4A	4A
CONDUCTOR	#18-2	#18-3	#18-4	#18-5

FEMALE	FIG	RECEPTACLES WITH #18 AWG PVC LEADS 1 METER LONG			
BACK PANEL AMOUNT	1	7R2B00A17M010	7R3B00A17M010	7R4B00A17M010	7R5B00A17M010

CATALOG OPTIONS

Use the following chart to modify your part's specifications

7R2B00A17M010



LEAD LENGTH

2 METER	020
3 METER	030

Specifications



MECHANICAL

SHELL: GRAY ANODIZED ALUMINUM
 INSERT: NYLON 6/6
 O-RING: NITRILE RUBBER
 GASKET: NITRILE RUBBER
 CONDUCTOR: #18 AWG WITH PVC INSULATION
 OVER 16 X #30 COPPER STRANDING,
 300V, UL STYLE 1061, CSA AWM SR

ELECTRICAL

VOLTAGE RATING: 250V AC/DC
 AMPERAGE: 2P - 4A
 3P - 4A
 4P - 4A
 5P - 4A

ENVIRONMENTAL

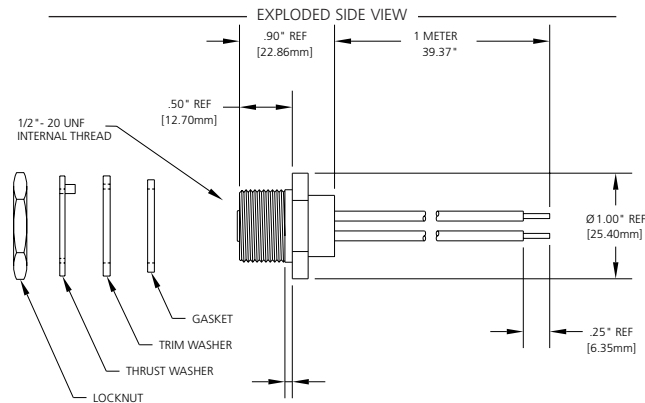
PROTECTION: IP 65, NEMA 4
 AMBIENT OPERATING TEMP: -4° TO 176° F (-20° TO 80° C)

CERTIFICATIONS

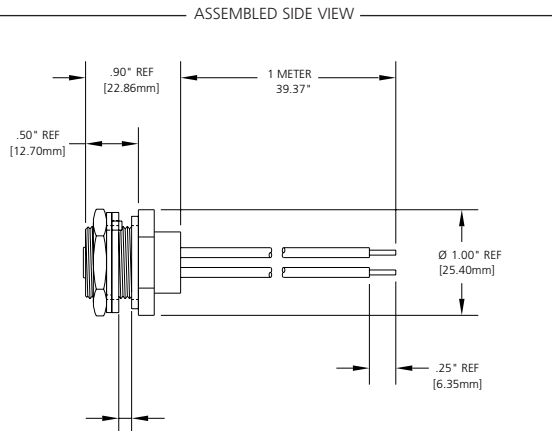
UL: UL LISTED, FILE NO. E152210
 CSA: CSA CERTIFIED, FILE NO LR6837

RECEPTACLE DIMENSIONS

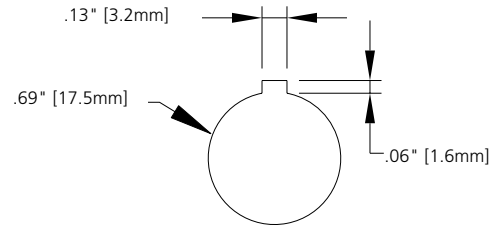
FEMALE RECEPTACLE WITH INTERNAL THREADS
 BACK PANEL MOUNT



ACCOMMODATES PANEL THICKNESS FROM .060" [1.5mm] WITH TRIM WASHER TO .200" [5.5mm] WITHOUT TRIM WASHER.



TYPICAL KNOCKOUT



FEMALE FACE VIEW

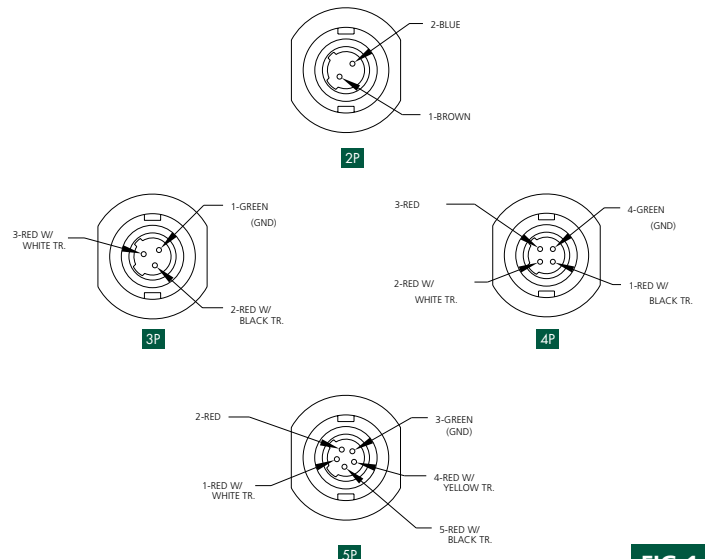


FIG 1



Single-Ended Cordsets

360° Shield Single Keyway M12

#22 AWG black PVC cable with braid shield and drain – DC color code
 Oil-resistant PVC jacket
 For use in high EMI and RFI environments

NEW	3P	4P	5P
FEMALE FACE VIEW			
COLOR CODE	1- brown 2- not used 3- blue 4- black 5- not used Coupling nut - drain	1- brown 2- white 3- blue 4- black 5- not used Coupling nut - drain	1- brown 2- white 3- blue 4- black 5- gray Coupling nut - drain
VOLTAGE	250V AC/DC	250V AC/DC	250V AC/DC
CURRENT	4A	4A	4A
CONDUCTOR	#22-3 + #22 Drain**	#22-4 + #22 Drain**	#22-5 + #22 Drain**

FEMALE	FIG	SINGLE - ENDED CORDSETS WITH #22 AWG PVC CABLE - WITH SHIELD 2 METERS LONG		
STRAIGHT	1	803S00D04M020	804S00D04M020	805S00D04M020
90°	2	803S01D04M020	804S01D04M020	805S01D04M020
MATING RECEPTACLE*	5	8R3006A18M0033	8R4006A18M0033	8R5006A18M0033
MALE	FIG	SINGLE - ENDED CORDSETS WITH #22 AWG PVC CABLE - WITH SHIELD 2 METERS LONG		
STRAIGHT	3	803S06D04M020	804S06D04M020	805S06D04M020
90°	4	803S07D04M020	804S07D04M020	805S07D04M020
MATING RECEPTACLE*	6	8R3A00A18M0033	8R4A00A18M0033	8R5A00A18M0033

CATALOG OPTIONS

*See Page 142 for additional Mating Receptacles
 ** Electrical continuity exists from coupling nut to drain conductor

Use the following chart to modify your part's specifications

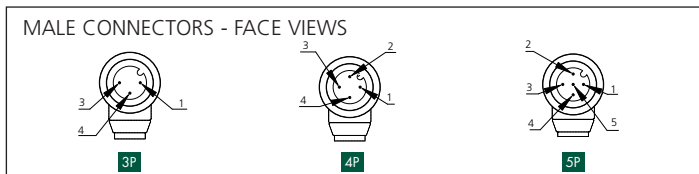
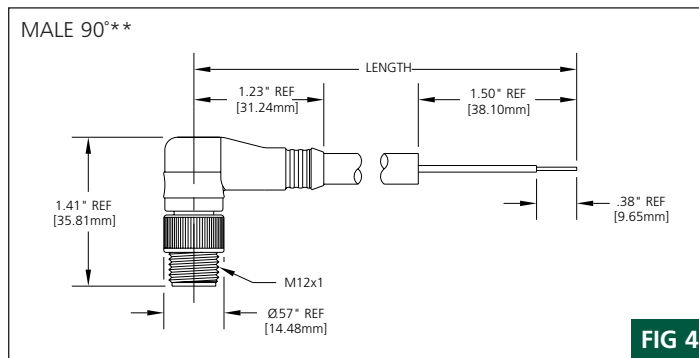
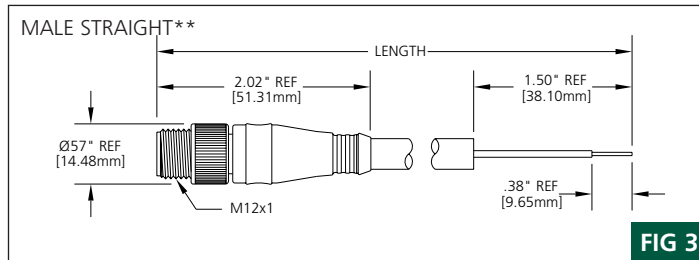
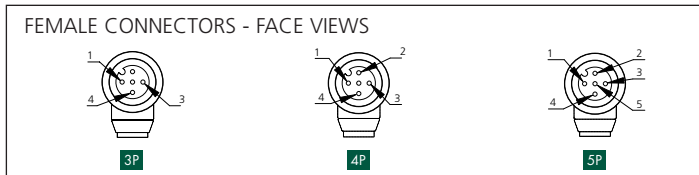
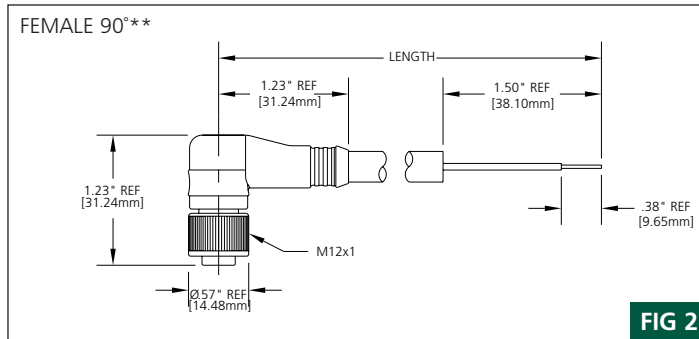
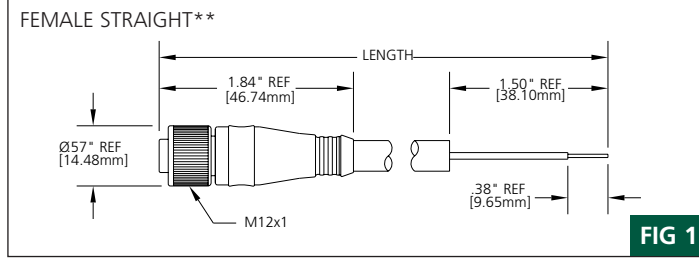
803S00D04M020

CABLE LENGTH

4 METER	040
5 METER	050

Specifications

CONNECTOR DIMENSIONS



MECHANICAL
 CONNECTOR FACE: POLYBUTYLENE TEREPHTHALATE (PBT)
 MOLDED BODY: PBT
 O-RING: NITRILE RUBBER
 COUPLING NUT: NICKEL PLATED BRASS
 CABLE: BLACK #22 AWG PVC JACKET 80% METALLIC BRAID SHIELD WITH DRAIN WIRE AND PVC CONDUCTOR

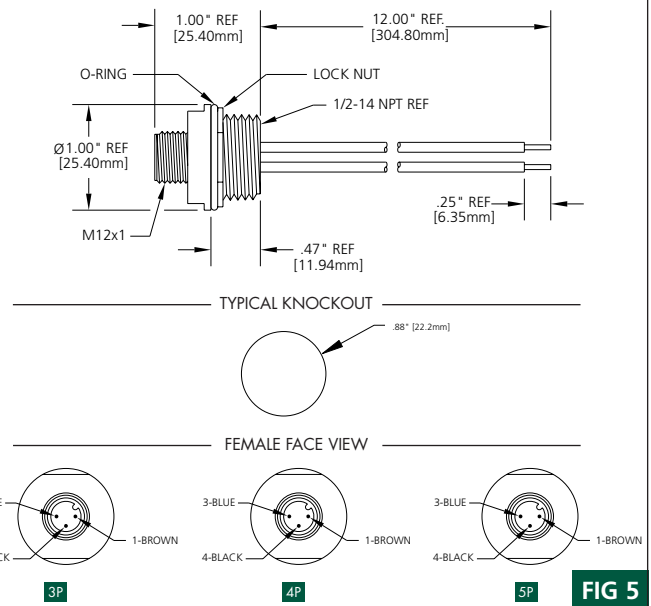
INSULATION OVER 26 X #36 COPPER STRANDING, 300V, UL STYLE 2661, CSA AWM I/II A/B
 OUTSIDE DIAMETER:
 3P - .26" (6.6mm)
 4P - .28" (7.1mm)
 5P - .30" (7.6mm)

ELECTRICAL
 VOLTAGE RATING: 250V AC/DC
 AMPERAGE:
 3P - 4A
 4P - 4A
 5P - 4A

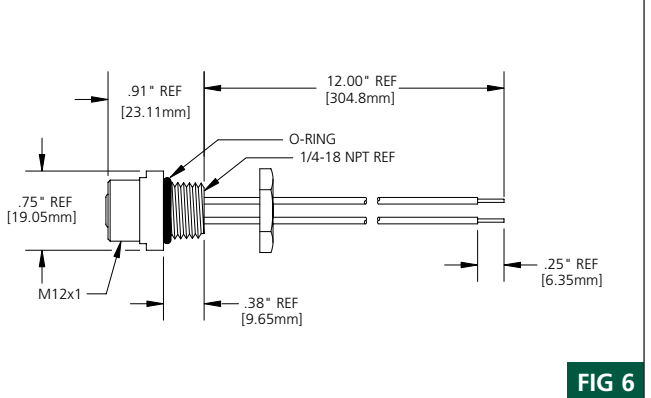
ENVIRONMENTAL
 SHIELD EFFECTIVENESS RATING: 70.4dB AVERAGE FROM 0-320 MHz
 PROTECTION: IP 68, NEMA 6P
 AMBIENT OPERATING TEMP: -4° TO 221° F (-20° TO 105° C)
CERTIFICATIONS
 CSA: CSA CERTIFIED, FILE NO LR6837

RECEPTACLE DIMENSIONS

MALE RECEPTACLE WITH EXTERNAL THREADS AND 1/2" - 14NPT THREADS



FEMALE RECEPTACLE WITH INTERNAL THREADS AND 1/4" - 18NPT THREADS



** Electrical continuity exists from coupling nut to drain conductor



Double-Ended Cordsets

360° Shield Single Keyway M12

#22 AWG black PVC cable with braid shield and drain – DC color code
 Oil-resistant PVC jacket
 For use in high EMI and RFI environments

NEW	3P	4P	5P
FEMALE FACE VIEW			
COLOR CODE	1- brown 2- not used 3- blue 4- black 5- not used Coupling nut - drain	1- brown 2- white 3- blue 4- black 5- not used Coupling nut - drain	1- brown 2- white 3- blue 4- black 5- gray Coupling nut - drain
VOLTAGE	250V AC/DC	250V AC/DC	250V AC/DC
CURRENT	4A	4A	4A
CONDUCTOR	#22-3 + #22 Drain**	#22-4 + #22 Drain**	#22-5 + #22 Drain**

FEMALE/MALE	FIG	DOUBLE - ENDED CORDSETS WITH #22 AWG PVC CABLE WITH SHIELD 2 METERS LONG		
STRAIGHT/ STRAIGHT	1	883S30D04M020	884S30D04M020	885S30D04M020
STRAIGHT/ 90°	2	883S32D04M020	884S32D04M020	885S32D04M020

CATALOG OPTIONS

*See Page 142 for additional Mating Receptacles
 ** Electrical continuity exists from coupling nuts to drain conductor

Use the following chart to modify your part's specifications

883S30D04M020

CABLE LENGTH

4 METER	040
5 METER	050

Specifications



MECHANICAL

CONNECTOR FACE: POLYBUTYLENE TEREPHTHALATE (PBT)
 MOLDED BODY: PBT
 O-RING: NITRILE RUBBER
 COUPLING NUT: NICKEL PLATED BRASS
 CABLE: BLACK #22 AWG PVC JACKET 80% METALLIC BRAID SHIELD WITH DRAIN WIRE AND PVC CONDUCTOR INSULATION OVER 26 X #36 COPPER STRANDING, 300V, UL STYLE 2661, CSA AWM III A/B

OUTSIDE DIAMETER:
 3P - .26" (6.6mm)
 4P - .28" (7.1mm)
 5P - .30" (7.6mm)

ELECTRICAL

VOLTAGE RATING: 250V AC/DC
 AMPERAGE:
 3P - 4A
 4P - 4A
 5P - 4A

ENVIRONMENTAL

SHIELD EFFECTIVENESS RATING: 70.4dB AVERAGE FROM 0-320 MHz
 PROTECTION: IP 68, NEMA 6P
 AMBIENT OPERATING TEMP: -4° TO 221° F (-20° TO 105° C)

CERTIFICATIONS
 CSA: CSA CERTIFIED, FILE NO LR6837

CONNECTOR DIMENSIONS

FEMALE STRAIGHT/MALE STRAIGHT*

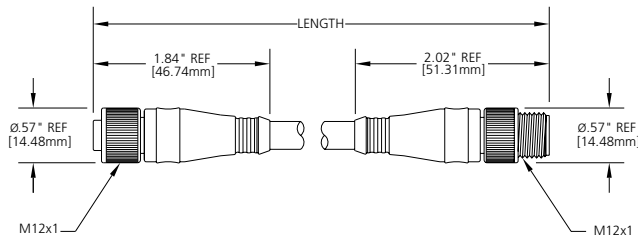
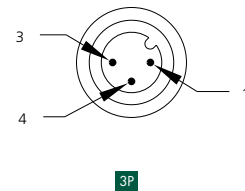
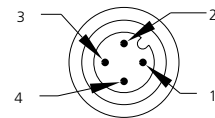


FIG 1

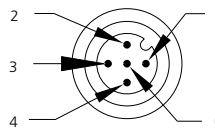
MALE FACE VIEW



3P



4P



5P

FEMALE STRAIGHT/MALE 90°*

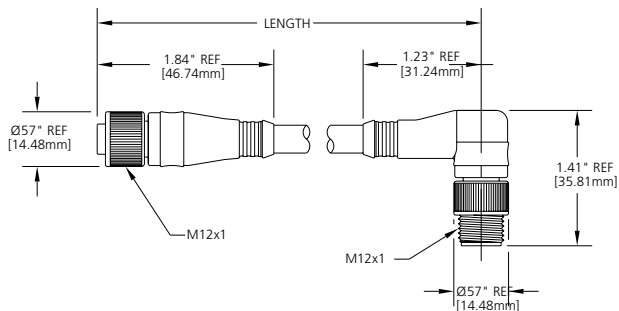


FIG 2

*Electrical continuity exists from coupling nut to coupling nut through the drain conductor.

3P to 5P



Receptacles

360° Shield Single Keyway M12

#22 AWG PVC 12 inch leads – DC color code, epoxy potted
 Bright nickel-plated brass shell
 For use with 360° shielded single keyway M12 cordsets

NEW	3P	4P	5P
MALE FACE VIEW			
COLOR CODE	1- brown 3- blue 4- black	1- brown 2- white 3- blue 4- black	1- brown 2- white 3- blue 4- black 5- gray
VOLTAGE	250V AC/DC	250V AC/DC	250V AC/DC
CURRENT	4A	4A	4A
CONDUCTOR	#22-3	#22-4	#22-5

TYPE	FIG	RECEPTACLES WITH #22 AWG PVC LEADS 12 INCHES LONG		
MALE 1/2" - 14 NPT THREADS	2	8R3006A18M0033	8R4006A18M0033	8R54006A18M0033
FEMALE 1/4" - 18 NPT THREADS	1	8R3A00A18M0033	8R4A00A18M0033	8R5A00A18M0033

Specifications



MECHANICAL

SHELL: NICKEL-PLATED BRASS
 INSERT: NYLON 6/6
 O-RING: NITRILE RUBBER
 CONDUCTOR: #22 AWG WITH PVC INSULATION
 OVER 26 X #36 COPPER STRANDING,
 300V, UL STYLE 1061, CSA AWM SR

ELECTRICAL

VOLTAGE RATING: 250V AC/DC
 AMPERAGE: 3P - 4A
 4P - 4A
 5P - 4A

ENVIRONMENTAL

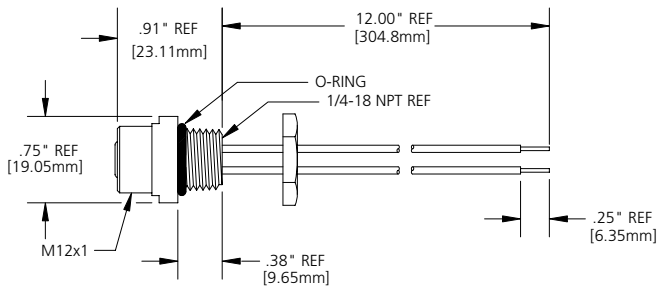
PROTECTION: IP 68, NEMA 6P
 AMBIENT OPERATING TEMP: -4° TO 221° F (-20° TO 105° C)

CERTIFICATIONS

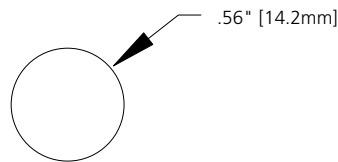
UL: UL LISTED, FILE NO. E152210
 CSA: CSA CERTIFIED, FILE NO LR6837

RECEPTACLE DIMENSIONS

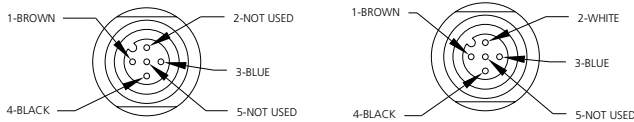
FEMALE RECEPTACLE WITH INTERNAL THREADS AND 1/4" - 18NPT THREADS



TYPICAL KNOCKOUT

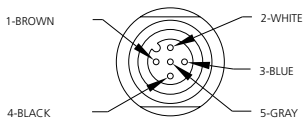


FEMALE FACE VIEW



3P

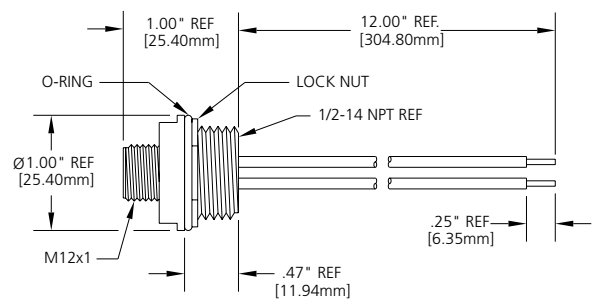
4P



5P

FIG 1

MALE RECEPTACLE WITH EXTERNAL THREADS AND 1/2" - 14NPT THREADS



TYPICAL KNOCKOUT

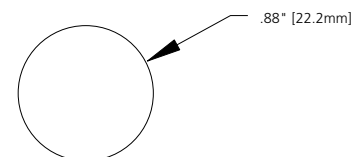


FIG 2



Single-Ended Cordsets

360° Shield Dual Keyway 1/2" - 20 UNF

#22 AWG black PVC cable with braid shield and drain – auto color code
 Oil-resistant PVC jacket
 For use in high EMI and RFI environments

NEW	2P	3P	4P	5P	6P
FEMALE FACE VIEW					
COLOR CODE	1- blue 2- brown Coupling nut - drain	1- green - gnd 2- red/black 3- red/white Coupling nut - drain	1- red/black 2- red/white 3- red 4- green - gnd Coupling nut - drain	1- red/white 2- red 3- green - gnd 4- red/yellow 5- red/black Coupling nut - drain	1- red/white 2- red 3- green - gnd 4- red/yellow 5- red/black 6- red/blue Coupling nut - drain
VOLTAGE	250V AC/DC	250V AC/DC	250V AC/DC	250V AC/DC	250V AC/DC
CURRENT	4A	4A	4A	4A	4A
CONDUCTOR	#22-2 + #22 Drain	#22-3 + #22 Drain	#22-4 + #22 Drain	#22-5 + #22 Drain	#22-6 + #22 Drain

FEMALE	FIG	SINGLE - ENDED CORDSETS WITH #22 AWG PVC CABLE WITH SHIELD 2 METERS LONG				
STRAIGHT	1	702S00D05F060	703S00D05F060	704S00D05F060	705S00D05F060	706S00D05F060
90°	2	702S01D05F060	703S01D05F060	704S01D05F060	705S01D05F060	706S01D05F060
MATING RECEPTACLE*	3	7R2006A19A1203	7R3006A19A1203	7R4006A19A1203	7R5006A19A1203	7R6006A19A1203

CATALOG OPTIONS

*See Page 146 for additional Mating Receptacles

Use the following chart to modify your part's specifications

702S00D05F060

CABLE LENGTH

12'	120
20'	200

Specifications



MECHANICAL
 CONNECTOR FACE: POLYBUTYLENE TEREPHTHALATE (PBT)
 MOLDED BODY: PBT
 O-RING: NITRILE RUBBER
 COUPLING NUT: NICKEL PLATED BRASS
 CABLE: BLACK #22 AWG PVC JACKET 80% METALLIC BRAID SHIELD AND PVC CONDUCTOR INSULATION OVER 26 X #36 COPPER STRANDING, 300V, UL STYLE 2661, CSA AWM I/II A/B

OUTSIDE DIAMETER:
 2P - .23" (5.8mm)
 3P - .23" (5.8mm)
 4P - .25" (6.4mm)
 5P - .26" (6.6mm)
 6P - .29" (7.4mm)

ELECTRICAL
 VOLTAGE RATING: 250V AC/DC
 AMPERAGE: 2P TO 6P - 4A

ENVIRONMENTAL
 SHIELD EFFECTIVENESS RATING: 70.4dB AVERAGE FROM 0-320 MHz
 PROTECTION: IP 68, NEMA 6P
 AMBIENT OPERATING TEMP: -4° TO 221° F (-20° TO 105° C)

CERTIFICATIONS
 CSA: CSA CERTIFIED, FILE NO LR6837

CONNECTOR DIMENSIONS

FEMALE STRAIGHT**

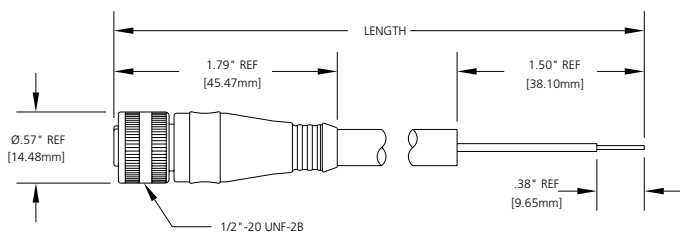


FIG 1

FEMALE 90°**

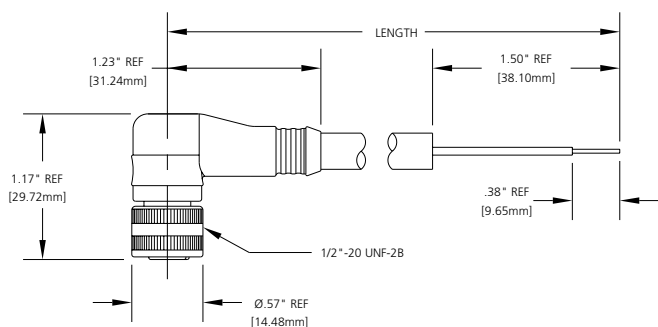
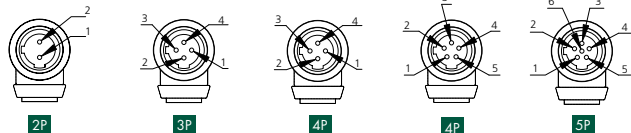


FIG 2

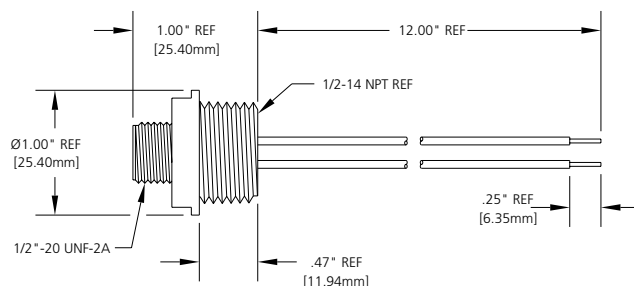
FEMALE CONNECTORS - FACE VIEWS



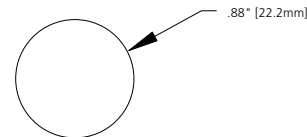
RECEPTACLE DIMENSIONS

MALE RECEPTACLE WITH EXTERNAL THREADS AND 1/2" - 14NPT THREADS

SEE PAGE 146 FOR ADDITIONAL RECEPTACLES



TYPICAL KNOCKOUT



MALE FACE VIEW

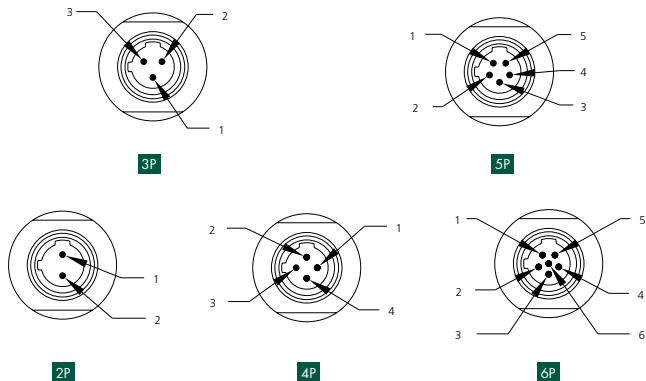


FIG 3

**Electrical continuity exists for coupling nut to drain conductor.

2P to 6P



Receptacles

360° Shield Dual Keyway 1/2" - 20 UNF

#22 AWG PVC 12-inch leads – AC color code, epoxy potted

Bright nickel-plated brass shell

For use with 360° shielded dual keyway cordsets

NEW	2P	3P	4P	5P	6P
MALE FACE VIEW					
COLOR CODE	1- brown 2- blue	1- green 2- red/black 3- red/white	1- red/black 3- red 2- red/white 4- green	1- red/white 4- red/yellow 2- red 5- red/black 3- green	1- red/white 4- red/yellow 2- red 5- red/black 3- green 6- red/blue
VOLTAGE	250V AC/DC	250V AC/DC	250V AC/DC	250V AC/DC	250V AC/DC
CURRENT	4A	4A	4A	4A	4A
CONDUCTOR	#22-2	#22-3	#22-4	#22-5	#22-6

TYPE	FIG	RECEPTACLES WITH #22 AWG PVC LEAD 12 INCHES LONG				
MALE 1/4-14NPT EXTERNAL THREADS	1	7R2006A19A1203	7R3006A19A1203	7R4006A19A1203	7R5006A19A1203	7R6006A19A1203

Specifications



MECHANICAL

SHELL: NICKEL-PLATED BRASS
 INSERT: NYLON 6/6
 O-RING: NITRILE RUBBER
 CONDUCTOR: #22 AWG WITH PVC INSULATION
 OVER 26 X #36 COPPER STRANDING,
 300V, UL STYLE 1061, CSA AWM SR

ELECTRICAL

VOLTAGE RATING: 250V AC/DC
 AMPERAGE: 2P TO 6P - 4A

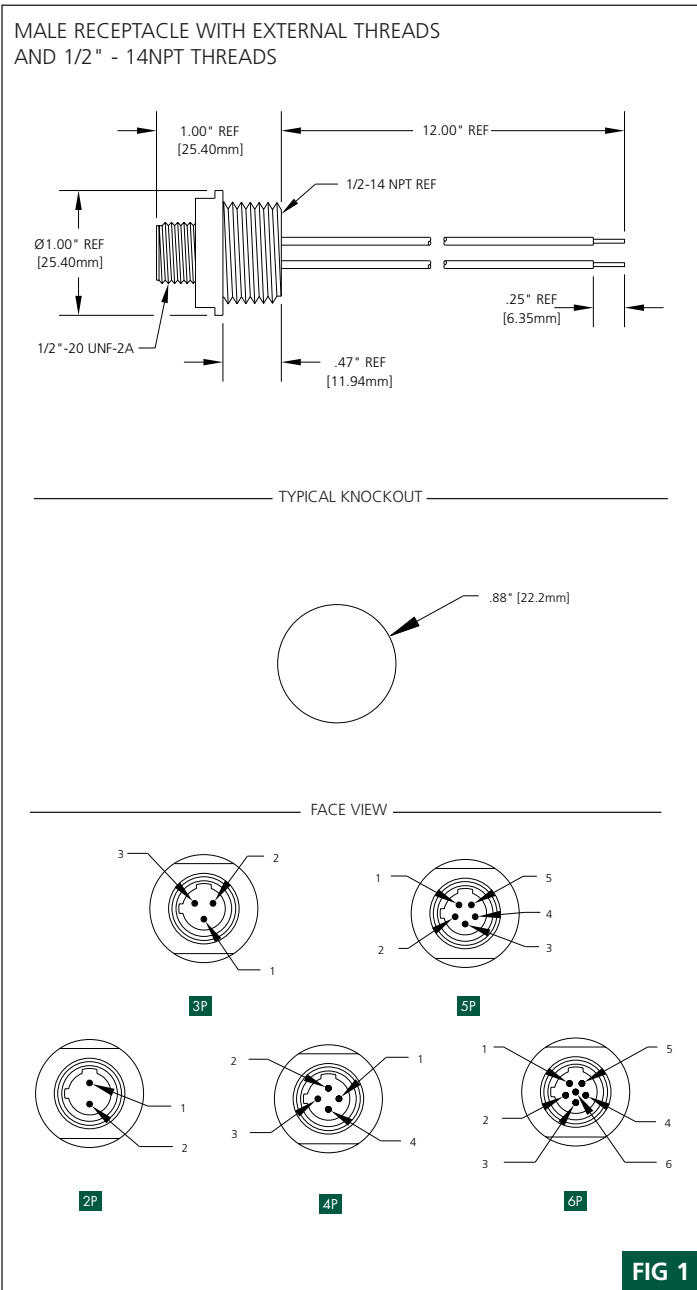
ENVIRONMENTAL

PROTECTION: IP 68, NEMA 6P
 AMBIENT OPERATING TEMP: -4° TO 176° F (-20° TO 80° C)

CERTIFICATIONS

UL: UL LISTED, FILE NO. E152210
 CSA: CSA CERTIFIED, FILE NO LR6837

RECEPTACLE DIMENSIONS





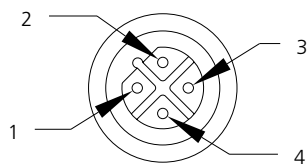
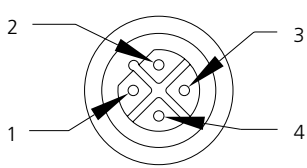
Single-Ended Cordsets

Reverse Keyway M12

#22 AWG yellow PVC cable – IEC color code

Oil-resistant PVC jacket

Low-resistance contact design with gold/palladium nickel plating

	3P	4P
FEMALE FACE VIEW		
COLOR CODE	1- brown 2- blue 3- not used 4- green/yellow - gnd	1- brown 2- blue 3- black 4- green/yellow - gnd
VOLTAGE	250V AC/DC	250V AC/DC
CURRENT	4A	3A
CONDUCTOR	#22-3	#24-4

FEMALE	FIG	SINGLE - ENDED CORDSETS WITH #22 AWG PVC CABLE 2 METERS LONG	
STRAIGHT	1	B03000A11M020	B04000A11M020
90°	2	B03001A11M020	B04001A11M020
MATING RECEPTACLE*	3	BR3E06A26A120	BR4E06A26A120

CATALOG OPTIONS

*See Page 150 for additional Mating Receptacles

Use the following chart to modify your part's specifications

B03000A11M020

CABLE LENGTH

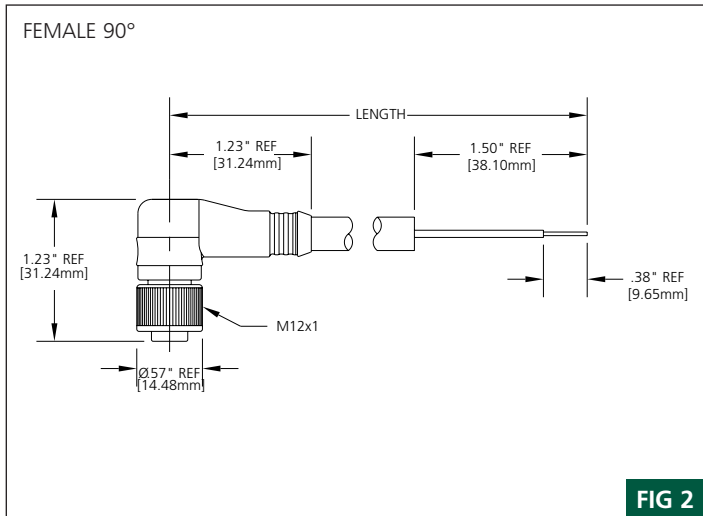
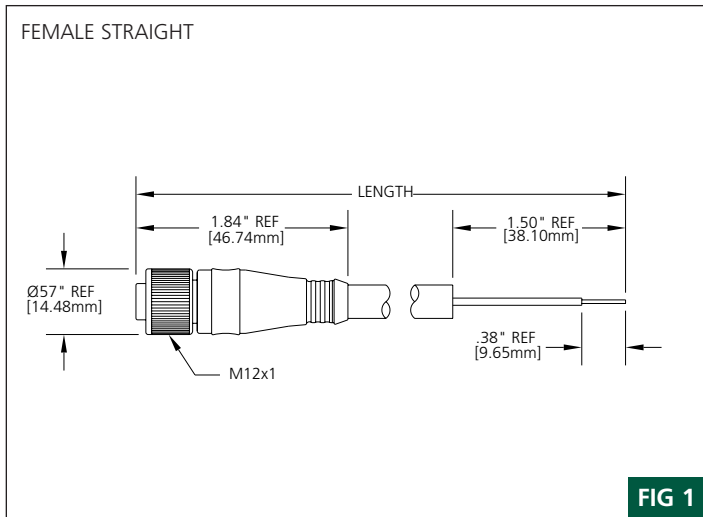
4 METER	040
5 METER	050

Specifications

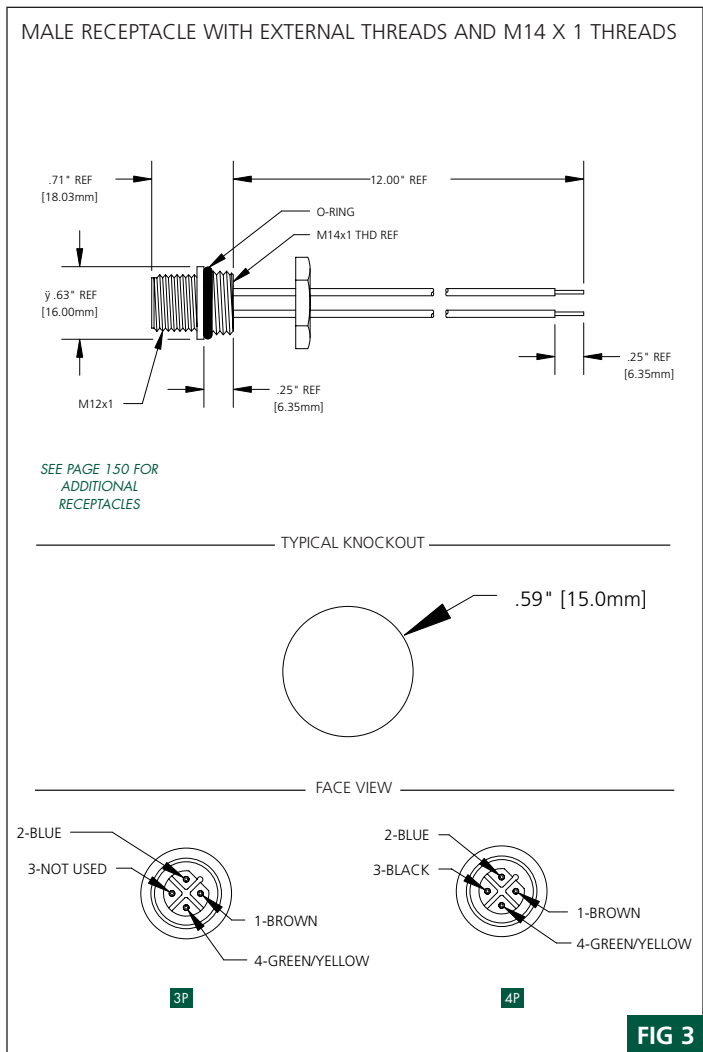


MECHANICAL	
CONNECTOR FACE:	NYLON 6/6
MOLDED BODY:	PVC
O-RING:	NITRILE RUBBER
COUPLING NUT:	ZINC DIECAST WITH BLACK EPOXY COAT
CABLE:	#22 AWG:3P, #24 AWG:4P PVC JACKET AND PVC CONDUCTOR INSULATION OVER 19 X #36 COPPER STRANDING, 300V
OUTSIDE DIAMETER:	3P - .20" (5.0mm) 4P - .18" (4.6mm)
ELECTRICAL	
VOLTAGE RATING:	250V AC/DC
AMPERAGE:	3P - 4A 4P - 3A
ENVIRONMENTAL	
PROTECTION:	IP 68, NEMA 6P
AMBIENT OPERATING TEMP:	14° TO 158° F (-10° TO 70° C)
CERTIFICATIONS	
UL:	UL LISTED, FILE NO. E152210
CSA:	CSA CERTIFIED, FILE NO LR6837

CONNECTOR DIMENSIONS



RECEPTACLE DIMENSIONS



3P & 4P



Receptacles

Reverse Keyway M12

#22 AWG PVC 12 inch leads, fully epoxy potted
 Black anodized aluminum shell
 Used in control panels, junction boxes and sensors

	3P	4P
MALE FACE VIEW		
COLOR CODE	1- brown 2- blue 3- not used 4- green/yellow - gnd	1- brown 2- blue 3- black 4- green/yellow - gnd
VOLTAGE	250V AC/DC	250V AC/DC
CURRENT	4A	3A
CONDUCTOR	#22-3	#22-4

MALE	FIG	RECEPTACLES WITH #22 AWG PVC LEADS 12 INCHES LONG	
M14 X1 THREAD	1	BR3E06A26A120	BR4E06A26A120

CATALOG OPTIONS

Use the following chart to modify your part's specifications

BR3E06A26A120

LEAD LENGTH
 2 METER M020

Specifications

3P & 4P



MECHANICAL

SHELL: BLACK ANODIZED ALUMINUM
 INSERT: NYLON 6/6
 O-RING: NITRILE RUBBER
 CONDUCTOR: #22 AWG WITH PVC INSULATION OVER
 26 X #36 COPPER STRANDING, 300V,
 UL STYLE 1061, CSA AWM SR OUTSIDE

ELECTRICAL

VOLTAGE RATING: 250V AC/DC
 AMPERAGE: 3P - 4A
 4P - 4A

ENVIRONMENTAL

PROTECTION: IP 68, NEMA 6P
 AMBIENT OPERATING TEMP: 14° TO 176° F (-10° TO 80° C)

CERTIFICATIONS

UL: UL LISTED, FILE NO. E152210
 CSA: CSA CERTIFIED, FILE NO LR6837

RECEPTACLE DIMENSIONS

MALE RECEPTACLE WITH EXTERNAL THREADS
 AND M14 X 1 THREADS

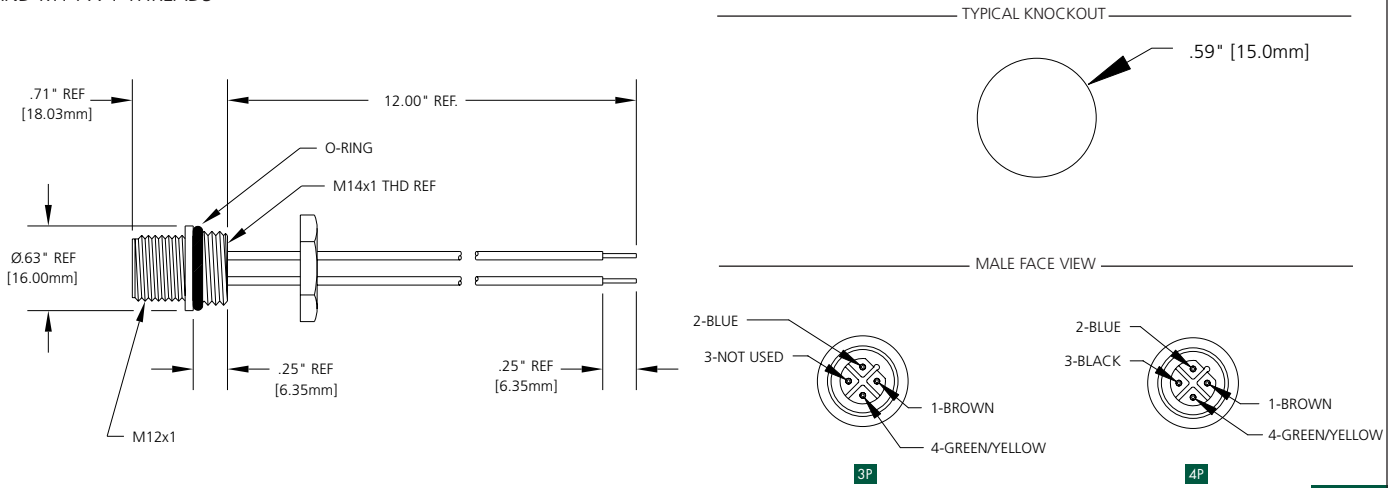


FIG 1



In-Line Splitters

Single Keyway M12

#22 AWG yellow PVC cable

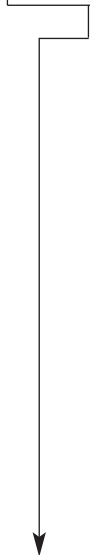
Combines two 3-wire DC sensors into one 4P quick-disconnect cable

		3P		4P	
FEMALE FACE VIEW		MALE FACE VIEW			
PIN SCHEMATIC	1- V+ 2- not used	3- V- 4- output 5- not used	PIN SCHEMATIC	1- V+ 2- output 2	3- V- 4- output 1
VOLTAGE	250V AC/DC				
CURRENT	4A				
CONDUCTOR	#22-3			#22-4	
FEMALE	FIG	SPLITTER CORDSETS WITH 2 FEMALE WITH 2 METER CABLE; 1 MALE WITH 3 METER CABLE			
STRAIGHT	1 AND 2	884F30A09M3M2			

CATALOG OPTIONS

Use the following chart to modify your part's specifications:

884F30A09M3M2



OPTIONS

2 FEMALE W/ 2 METER CABLE; 1 MALE W/ 4 METER CABLE . . .	M4M2
2 FEMALE W/ 3 METER CABLE; 1 MALE W/ 4 METER CABLE . . .	M4M3
2 FEMALE W/ 2 METER CABLE; 1 MALE W/ 8 METER CABLE . . .	M8M2

Specifications



MECHANICAL	
CONNECTOR FACE:	NYLON 6/6
PLUG MOLDED BODY:	PVC
SPLITTER BODY:	PVC
O-RING:	NITRILE RUBBER
COUPLING NUT:	ZINC DIECAST W/ BLACK EPOXY COAT
CABLE:	YELLOW #22 AWG PVC JACKET AND PVC CONDUCTOR INSULATION OVER 26 X #36 COPPER STRANDING, 300V, UL STYLE 2661, CSA AWM I/II A/B
OUTSIDE DIAMETER:	3P - .20" (5.1mm) 4P - .21" (5.3mm)
ELECTRICAL	
VOLTAGE RATING:	250V AC/DC
AMPERAGE:	4P - 4A TOTAL
ENVIRONMENTAL	
PROTECTION:	IP 68, NEMA 6P
AMBIENT OPERATING TEMP:	-4° TO 221° F (-20° TO 105° C)
CERTIFICATIONS	
UL:	UL LISTED, FILE NO. E152210

SPLITTER DIMENSIONS

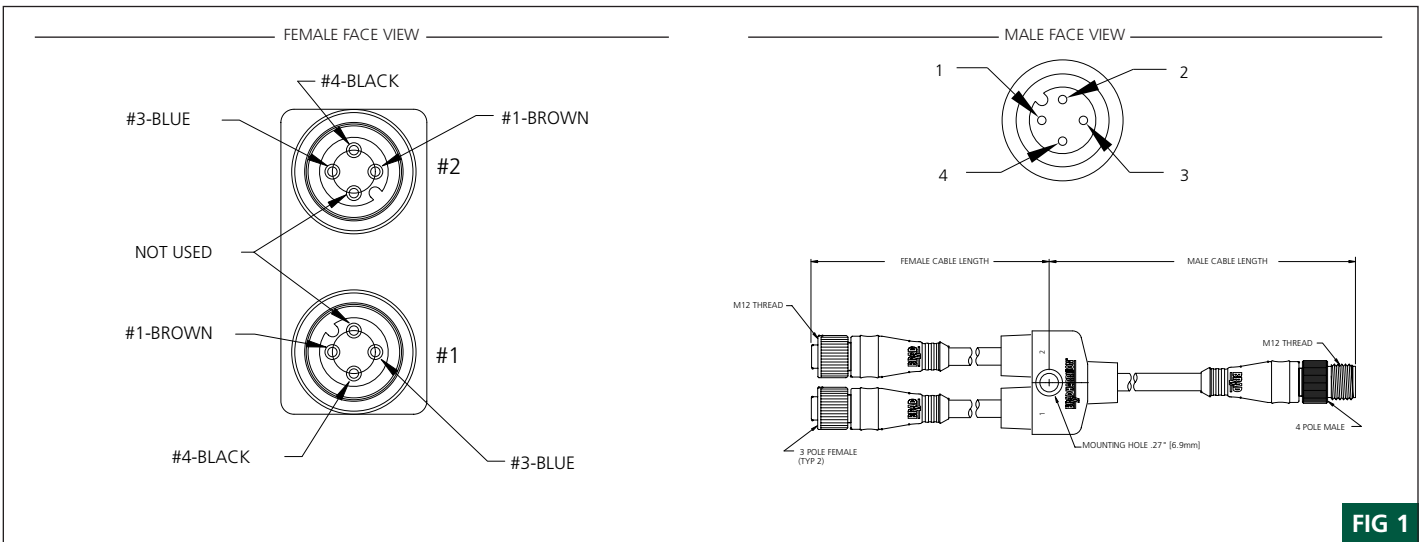


FIG 1

SCHEMATIC DETAILS

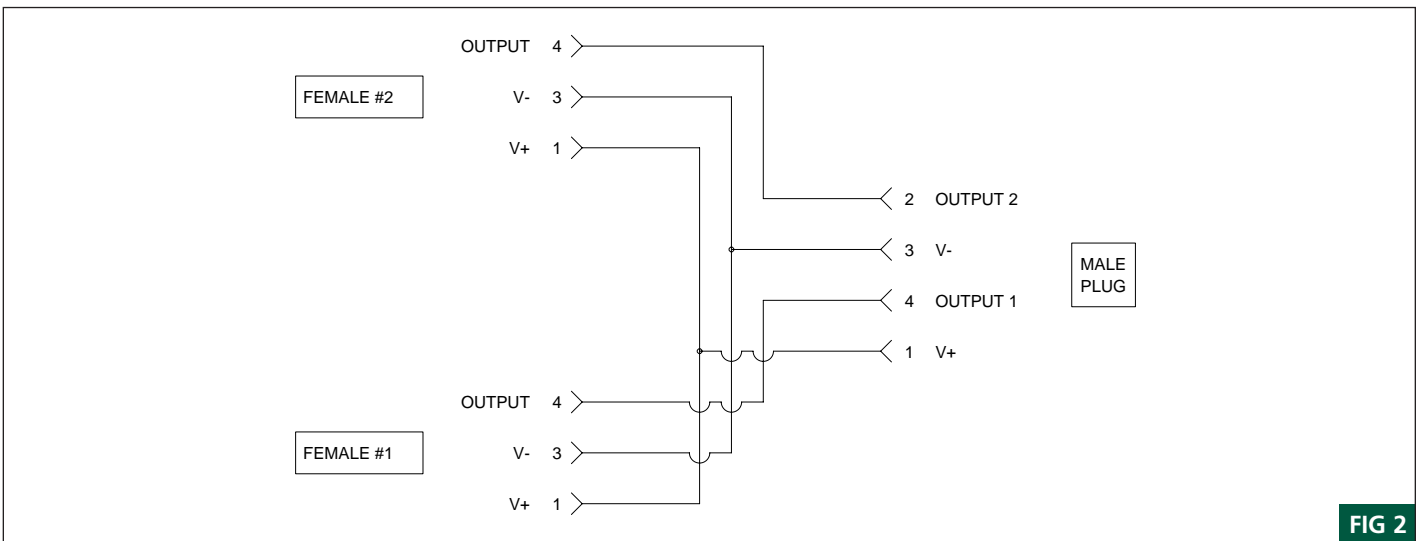


FIG 2



In-Line Splitter

Single Keyway M12

#18 AWG yellow thermoplastic (TPE) elastomer cable
 Combines two 3-wire DC sensors into one 4P male receptacle
 Oil-, chemical- and weld slag-resistant TPE jacket

	3P		4P	
FEMALE FACE VIEW				
PIN SCHEMATIC	1- v+ 2- not used 3- v- 4- output 5- not used		PIN SCHEMATIC 1- v+ 2- output B 3- v- 4- output A	
VOLTAGE	250 V AC/DC			
CURRENT	4A			
CONDUCTOR	#18-3		4P Male M12 Connection	

FEMALE	FIG	SPLITTER CORDSET WITH (2) FEMALE LEADS #18 AWG TPE CABLE .3M (11.8") LONG
STRAIGHT	1 AND 5	884A30K03M003
90°	2 AND 5	884A31K03M003
FEMALE	FIG	SPLITTER CORDSET WITH (2) FEMALE LEADS #18 AWG YELLOW TPE CABLE (1) 7" LONG A OUTPUT (1) 9" LONG B OUTPUT
STRAIGHT	3 AND 5	884B30K03A090
90°	4 AND 5	884B31K03A090

CATALOG OPTIONS

Use the following chart to modify your part's specifications

884A30K03M003

CABLE TYPE

#18-3 YELLOW PVC **A05**

CABLE LENGTH

1 METER **010**
 1.5 METER **015**

(AVAILABLE ON A30 AND A31 STYLE ONLY)

Specifications

SPLITTER DIMENSIONS

(2) FEMALE STRAIGHT/(1) MALE STRAIGHT

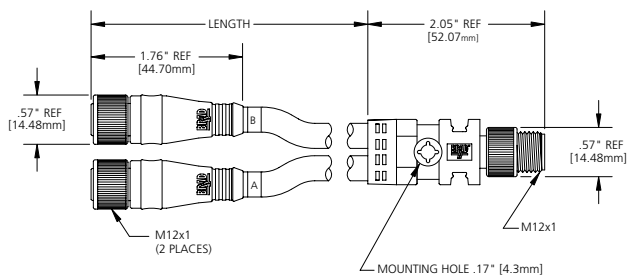


FIG 1

(2) FEMALE 90°/(1) MALE STRAIGHT

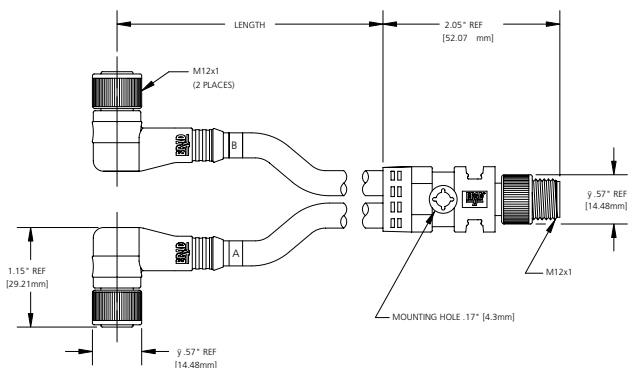


FIG 2

(2) FEMALE STRAIGHT/
(1) MALE STRAIGHT

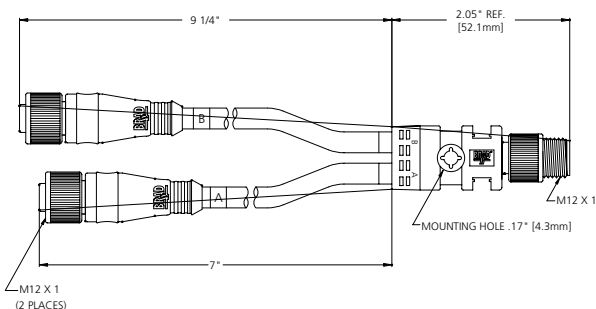


FIG 3



- MECHANICAL**
 CONNECTOR FACE: NYLON 6/6
 PLUG MOLDED BODY: PVC
 SPLITTER BODY: PVC
 O-RING: NITRILE RUBBER
 COUPLING NUT: ZINC DIECAST W/ BLACK EPOXY COAT
 CABLE: YELLOW #18 AWG TPE JACKET AND PVC CONDUCTOR INSULATION OVER 41 X #34 COPPER STRANDING, 300V, UL STYLE 2661, CSA AWM I/II A/B 4P - .28" (7.1mm)
- OUTSIDE DIAMETER:**
ELECTRICAL
 VOLTAGE RATING: 250V AC/DC
 AMPERAGE: 4P - 4A TOTAL
- ENVIRONMENTAL**
 PROTECTION: IP 68, NEMA 6P
 AMBIENT OPERATING TEMP: -4° TO 221° F (-20° TO 105° C)
- CERTIFICATIONS**
 UL: UL LISTED, FILE NO. E152210

(2) FEMALE 90°/(1) MALE STRAIGHT

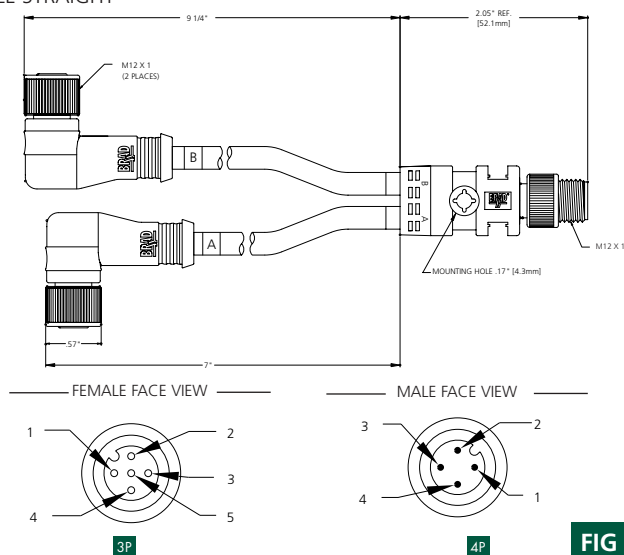


FIG 4

SCHEMATIC DETAILS

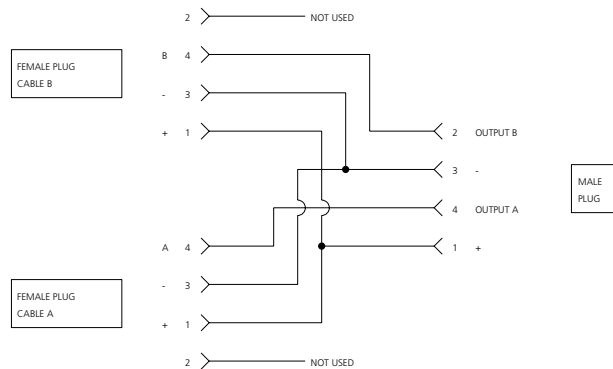


FIG 5



Solid Body Splitter

Single Keyway M12

Rugged yellow or black PVC solid body design
 Compact design saves space
 Choice of two wiring schematics

NEW	3P		4P	
FEMALE FACE VIEW			MALE FACE VIEW	
PIN SCHEMATIC	1- v+ 2- not used 3- v-	4- output 5- not used	PIN SCHEMATIC	1- v+ 2- output 2 3- v- 4- output 1
VOLTAGE	250V AC/DC			
CURRENT	4A			

CONNECTIONS	FIG	PVC BODY COLOR	SOLID BODY SPLITTER WITH (2) 3P FEMALE CONNECT AND (1) 4P MALE CONNECTION
MALE M12 & (2) FEMALE M12	1 AND 2	Yellow	81594
MALE M12 & (2) FEMALE M12	1 AND 3	Black	81589

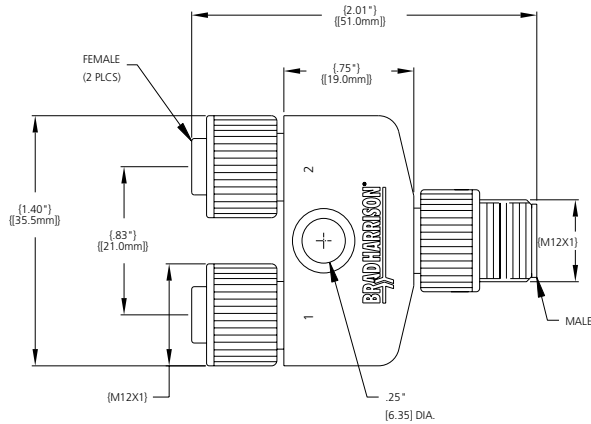
Specifications



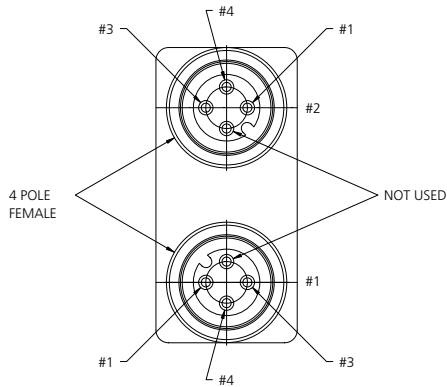
- MECHANICAL**
- CONNECTOR FACE: NYLON 6/6
- SPLITTER BODY: PVC
- O-RING: NITRILE RUBBER
- COUPLING NUT: ZINC DIECAST W/ BLACK EPOXY COAT
- ELECTRICAL**
- VOLTAGE RATING: 250V AC/DC
- AMPERAGE: 4P - 4A TOTAL
- ENVIRONMENTAL**
- PROTECTION: IP 68, NEMA 6P
- AMBIENT OPERATING TEMP: -4° TO 221° F (-20° TO 105° C)
- CERTIFICATIONS**
- CSA: CSA CERTIFIED, FILE NO LR6837

DIMENSIONS

(2) FEMALE - (1) MALE STRAIGHT



FEMALE FACE VIEW



MALE FACE VIEW

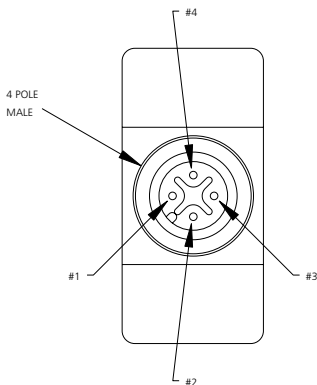


FIG 1

SCHEMATIC DETAILS

PART NUMBER 81594

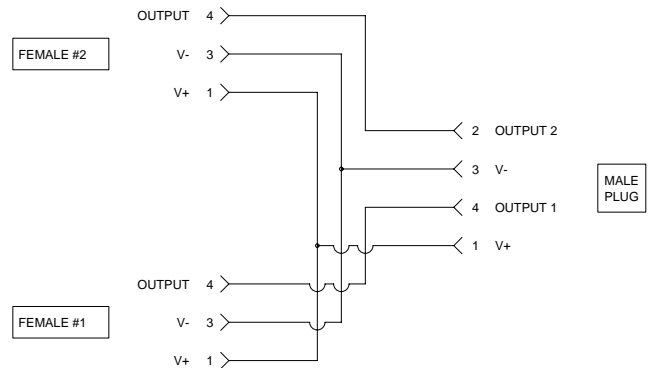


FIG 2

PART NUMBER 81589

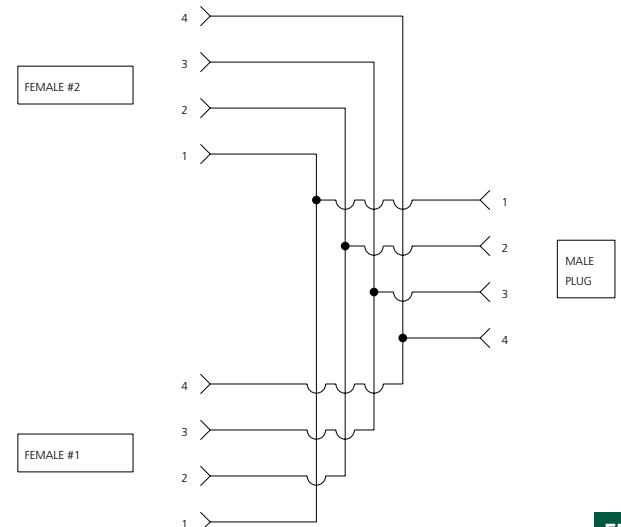


FIG 3



Tee Splitter

Single Keyway M12 & Dual Keyway 1/2" - 20 UNF

#22 AWG yellow PVC cable with metallic braid

Combines two 3-wire devices into one 4P conductor cable

5 lengths available in both single keyway and dual keyway

	3P		3P	
FEMALE FACE VIEW	<p>TYPICAL FOR J1 & J2</p>		<p>TYPICAL FOR J1 & J2</p>	
WIRING CODE	1- brown 2- not use 3- blue	4- J1 black J2 white 5- not used	WIRING CODE	1- green 2- J1 red/black trace J2 red 3- red/white trace
VOLTAGE	250V AC/DC			
CURRENT	4A			
CONDUCTOR	#22 - 4			

SINGLE KEYWAY M12			DUAL KEYWAY 1/2" - 20 UNF		
LEAD LENGTH	FIG	SPLITTER CORDSET WITH #22 AWG YELLOW PVC CABLE WITH BRAID	LEAD LENGTH	FIG	SPLITTER CORDSET WITH #22 AWG YELLOW PVC CABLE WITH BRAID
1 METER	1 AND 3	80350-001	3 FEET	2 AND 4	70355-001
2 METER	1 AND 3	80350-002	6 FEET	2 AND 4	70355-002
4 METER	1 AND 3	80350-003	12 FEET	2 AND 4	70355-003
5 METER	1 AND 3	80350-004	20 FEET	2 AND 4	70355-004
10 METER	1 AND 3	80350-005	40 FEET	2 AND 4	70355-005

Specifications

DIMENSIONS

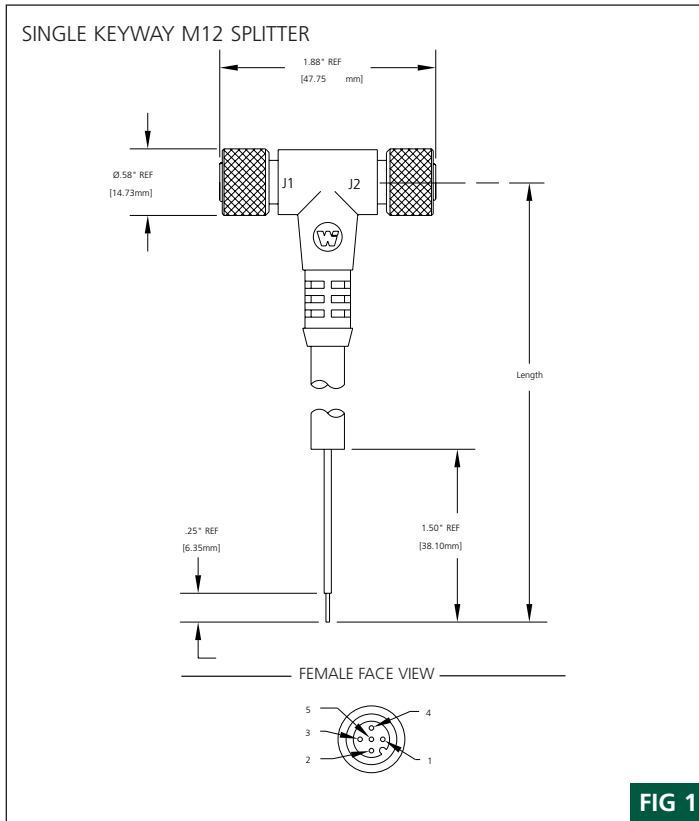


FIG 1

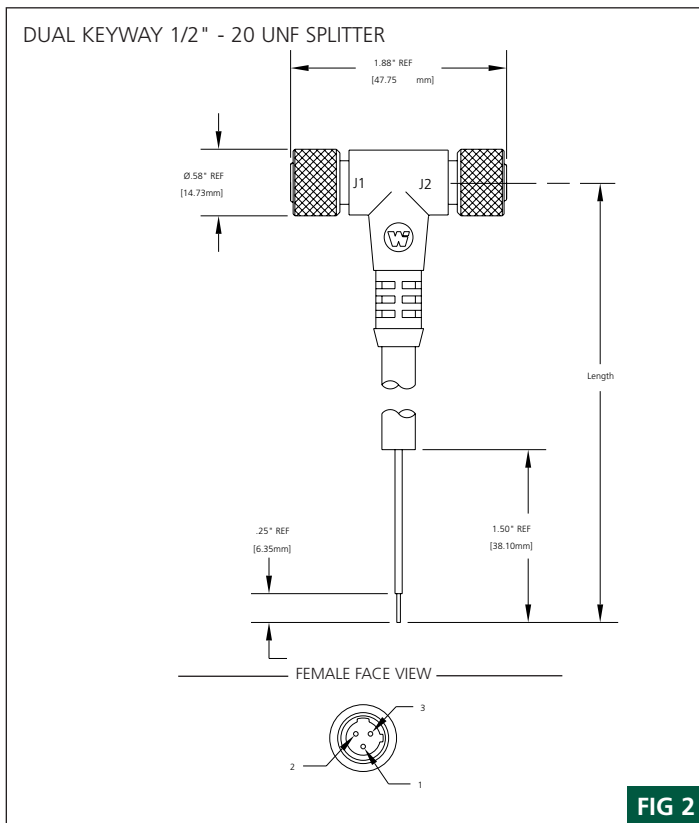


FIG 2



- MECHANICAL**
 CONNECTOR FACE: NYLON 6/6
 MOLDED BODY: PVC
 O-RING: NITRILE RUBBER
 COUPLING NUT: ZINC DIECAST W/ BLACK EPOXY COAT
 CABLE: YELLOW #22 PVC JACKET 80% METALLIC BRAID AND PVC CONDUCTOR INSULATION OVER 26 X #36 COPPER STRANDING, 300V, UL STYLE 2661 CSA AWM I/II A/B 4P - .25" (6.4mm)
- OUTSIDE DIAMETER:**
ELECTRICAL
 VOLTAGE RATING: 250 V AC/DC
 AMPERAGE: 4P CABLE - 4A TOTAL
- ENVIRONMENTAL**
 PROTECTION: IP 68, NEMA 6P
 AMBIENT OPERATING TEMP: -4° TO 221° F (-20° TO 105° C)
- CERTIFICATIONS**
 UL: UL LISTED, FILE NO. E152210
 CSA: CSA CERTIFIED, FILE NO LR6837
 SINGLE KEYWAY ONLY

SCHEMATIC DETAILS

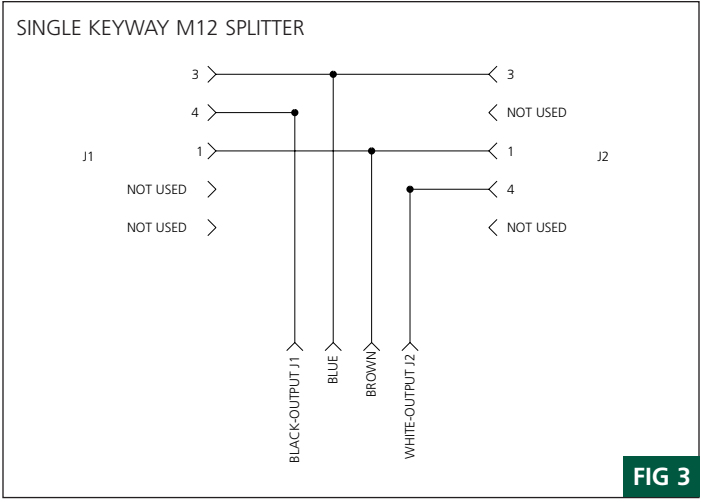


FIG 3

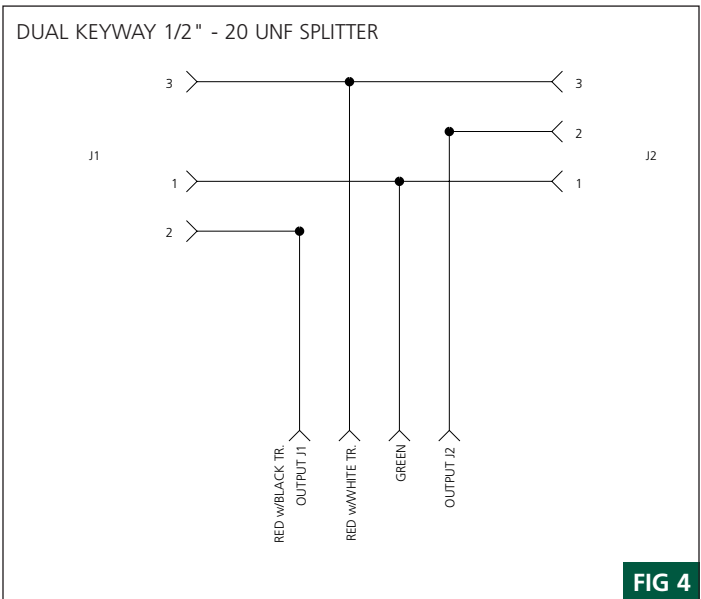


FIG 4



In-Line Splitter

Dual Keyway 1/2" - 20 UNF

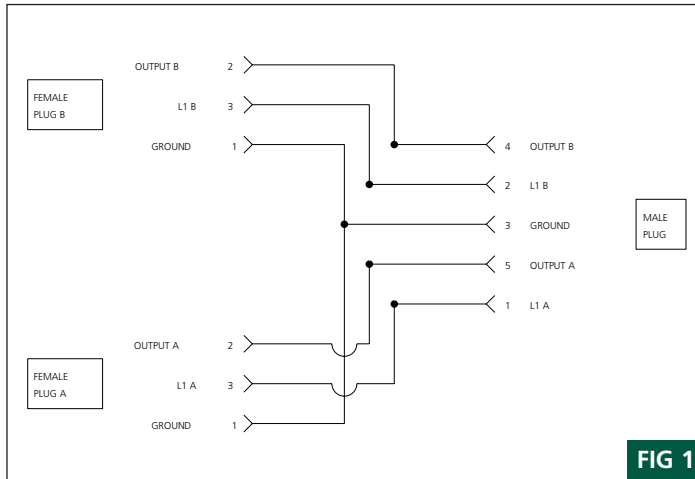
#18 AWG yellow thermoplastic (TPE) elastomer cable
 Combines two 3-wire AC devices into one 5P male receptacle
 Oil-, chemical- and weld slag-resistant TPE jacket

NEW	3P		5P	
FEMALE FACE VIEW			MALE FACE VIEW	
PIN SCHEMATIC	1- gnd 2- output A & B 3- L1A & L1B		PIN SCHEMATIC	1- L1A 2- L1B 3- gnd 4- output B 5- output A
VOLTAGE	250V AC/DC			
CURRENT	4A			
CONDUCTOR	#18-3		5P Male Dual Keyway Connection	

FEMALE	FIG	SPLITTER CORDSET WITH (2) 3P FEMALE LEADS #18 AWG YELLOW TPE CABLE 1 FOOT LONG	
STRAIGHT	2 AND 3	775A30K02F010	
FEMALE	FIG	SPLITTER CORDSET WITH (2) FEMALE LEADS #18 AWG YELLOW TPE CABLE (1) 7" LONG OUTPUT A (1) 9"	
STRAIGHT	1 AND 3	775B30K02A090	

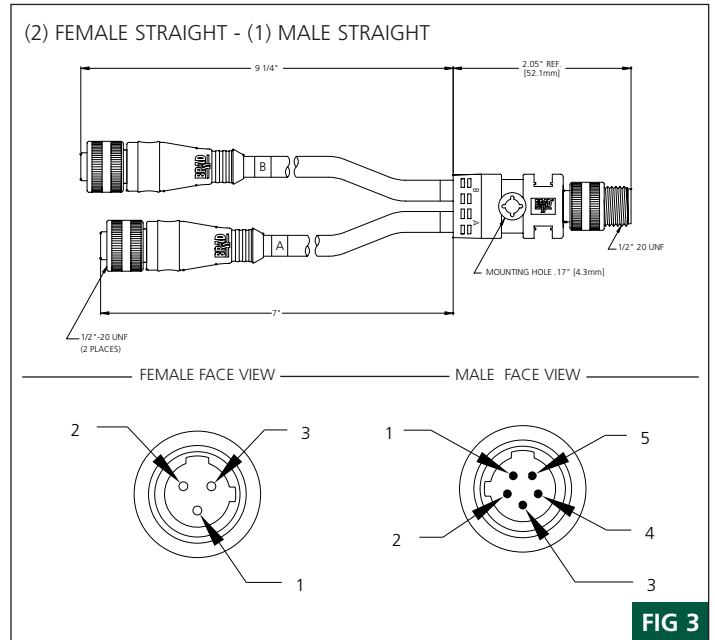
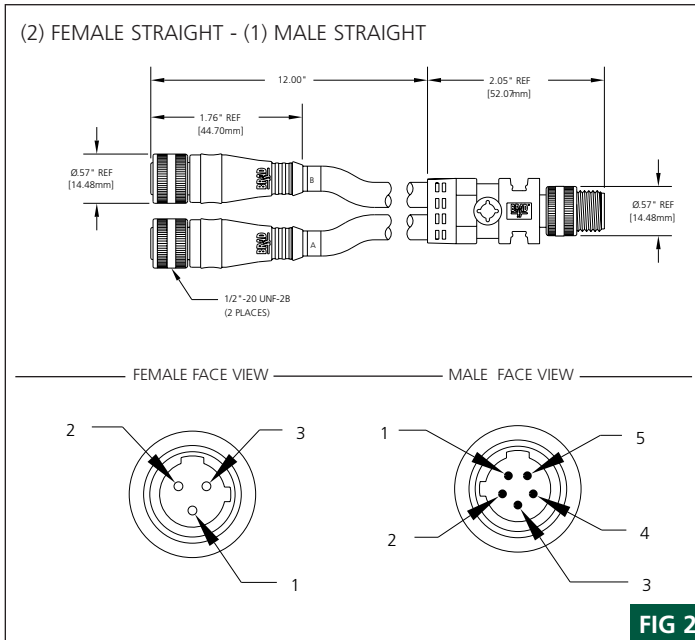
Specifications

SCHEMATIC DETAILS



- MECHANICAL**
 CONNECTOR FACE: NYLON 6/6
 PLUG MOLDED BODY: PVC
 SPLITTER BODY: PVC
 O-RING: NITRILE RUBBER
 COUPLING NUT: ZINC DIECAST W/ BLACK EPOXY COAT
 CABLE: YELLOW #18 AWG THERMOPLASTIC ELASTOMER (TPE) JACKET AND PVC CONDUCTOR INSULATION OVER 4 X #34 COPPER STRANDING, 300V, UL STYLE 20327, CSA AWM VII A/B 3P - .26" (6.6mm)
- ELECTRICAL**
 VOLTAGE RATING: 250V AC/DC
 AMPERAGE: 5P - 4A TOTAL
- ENVIRONMENTAL**
 PROTECTION: IP 68, NEMA 6P
 AMBIENT OPERATING TEMP: -4° F TO 221° F (-20° TO 105° C)
- CERTIFICATIONS**
 UL: UL LISTED, FILE NO. E152210

SPLITTER DIMENSIONS



CHEMICAL & OIL RESISTANCE CHART - TPE CABLE

ACIDS & BASES	PERFORMANCE	OILS & FUELS	PERFORMANCE
SULFURIC ACID 30%	EXCELLENT	ASTM OIL 1, 2, OR 3	EXCELLENT
NITRIC ACID 10%	EXCELLENT	TRIMSOL	EXCELLENT
SODIUM HYDROXIDE 10%	EXCELLENT	SIMEOL	EXCELLENT
AMMONIUM HYDROXIDE 10%	EXCELLENT	MOBIL OIL DTE 24 OR 26	EXCELLENT
HYDROCHLORIC ACID 20%	EXCELLENT	KEROSENE	EXCELLENT
GLACIAL ACIDIC ACID	GOOD	TRANSFORMER OIL	GOOD



Single-Keyway M12 and Dual-Keyway 1/2" - 20 UNF

Single keyway M12 closure caps
 Dual keyway 1/2" - 20 UNF closure caps
 Dual keyway 1/2" - 20 UNF to Mini-Change® quick-disconnect adapters

MICRO-CHANGE SINGLE KEYWAY M12 ACCESSORIES

DESCRIPTION	FIG	3P	4P	5P
METALLIC CLOSURE CAP WITH INTERNAL THREADS	1	80011		
METALLIC CLOSURE CAP WITH EXTERNAL THREADS	2	80015		
NON-METALLIC CLOSURE CAP WITH EXTERNAL THREADS	2	80013		

M12 SINGLE KEY CLOSURE CAP WITH INTERNAL THREADS

FOR USE WITH 3 - 5P RECEPTACLES OR 3 - 5P CONNECTORS W/EXTERNAL M12 THREADS

FIG 1

M12 SINGLE KEY CLOSURE CAP WITH EXTERNAL THREADS

FOR USE WITH 3 - 5P RECEPTACLES OR 3 - 5P CONNECTORS W/INTERNAL M12 THREADS

FIG 2

MICRO-CHANGE DUAL KEYWAY 1/2" - 20 UNF ACCESSORIES

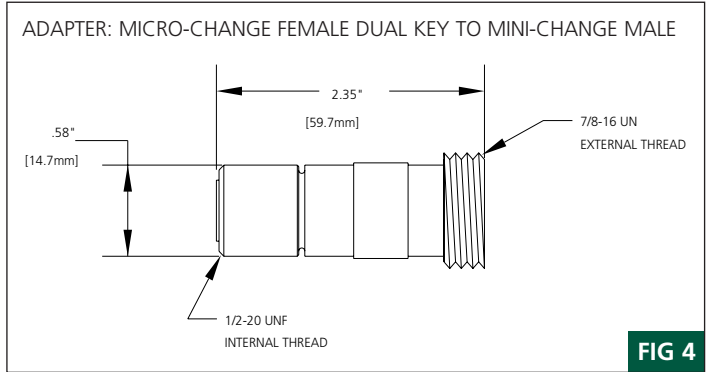
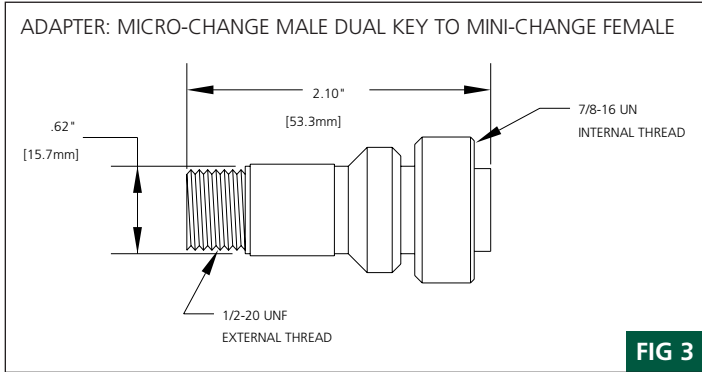
DESCRIPTION	FIG	2P	3P	4P	5P	6P
ADAPTER WITH 1/2 - 20 MALE DUAL KEY TO FEMALE MINI-CHANGE	3	70004	70204	70404	70604	—
ADAPTER WITH 1/2 - 20 FEMALE DUAL KEY TO MALE MINI-CHANGE	4	70005	70205	70405	70605	—
METALLIC CLOSURE CAP WITH INTERNAL THREADS	5	70010				
METALLIC CLOSURE CAP WITH EXTERNAL THREADS	5	70015				

Specifications

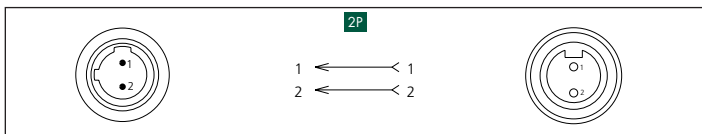
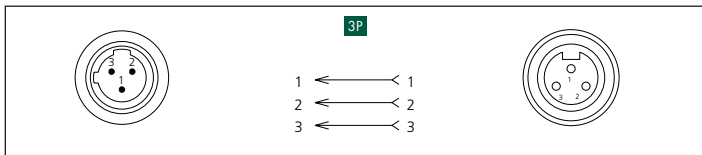
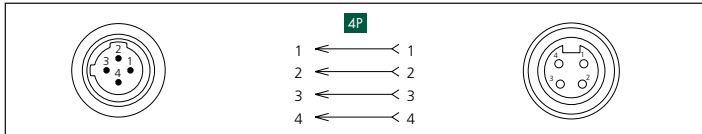
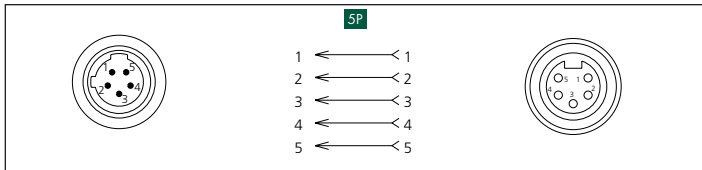


MECHANICAL
 CLOSURE CAPS
 SINGLE KEYWAY M12
 METALLIC: BLACK ANODIZED ALUMINUM
 NON-METALLIC: NYLON 6/6
 DUAL KEYWAY
 METALLIC: GRAY ANODIZED ALUMINUM
DUAL KEYWAY ADAPTERS
 ADAPTER FACE: PVC
 ADAPTER BODY: GRAY ANODIZED ALUMINUM
 CONDUCTORS: #22 AWG WITH IRR. PVC INSULATION OVER 7 X #30 COP PER STRANDING, 300V, UL STYLE 1430, CSA REW

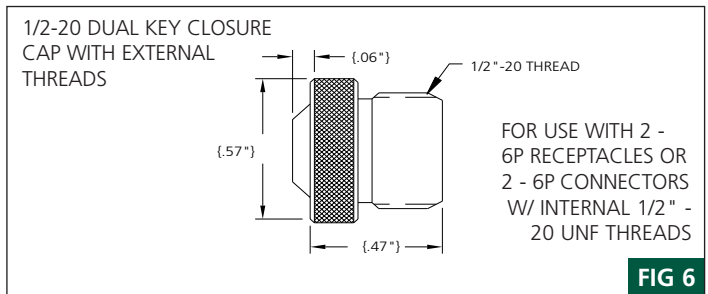
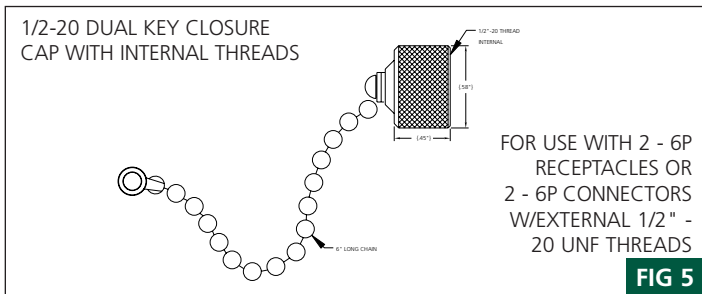
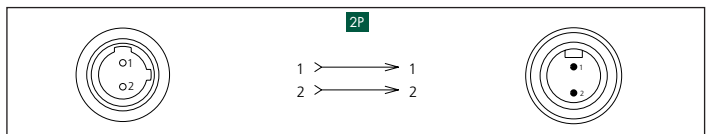
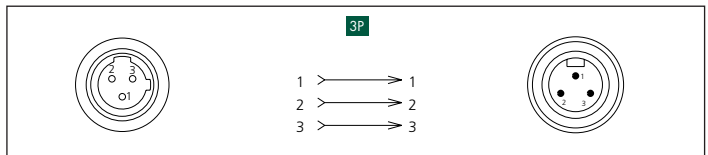
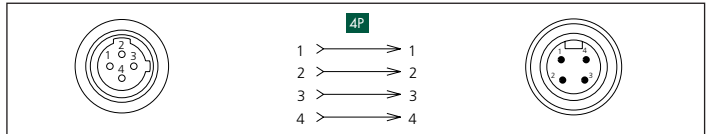
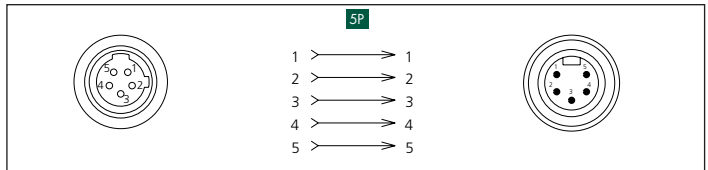
MICRO-CHANGE® ACCESSORIES



MICRO-CHANGE DUAL KEY MALE FACE VIEW	CONNECTION DIAGRAM	MINI-CHANGE FEMALE FACE VIEW
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MICRO-CHANGE DUAL KEY FEMALE FACE VIEW	CONNECTION DIAGRAM	MINI-CHANGE MALE FACE VIEW
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Nano-Change® Cordset Family

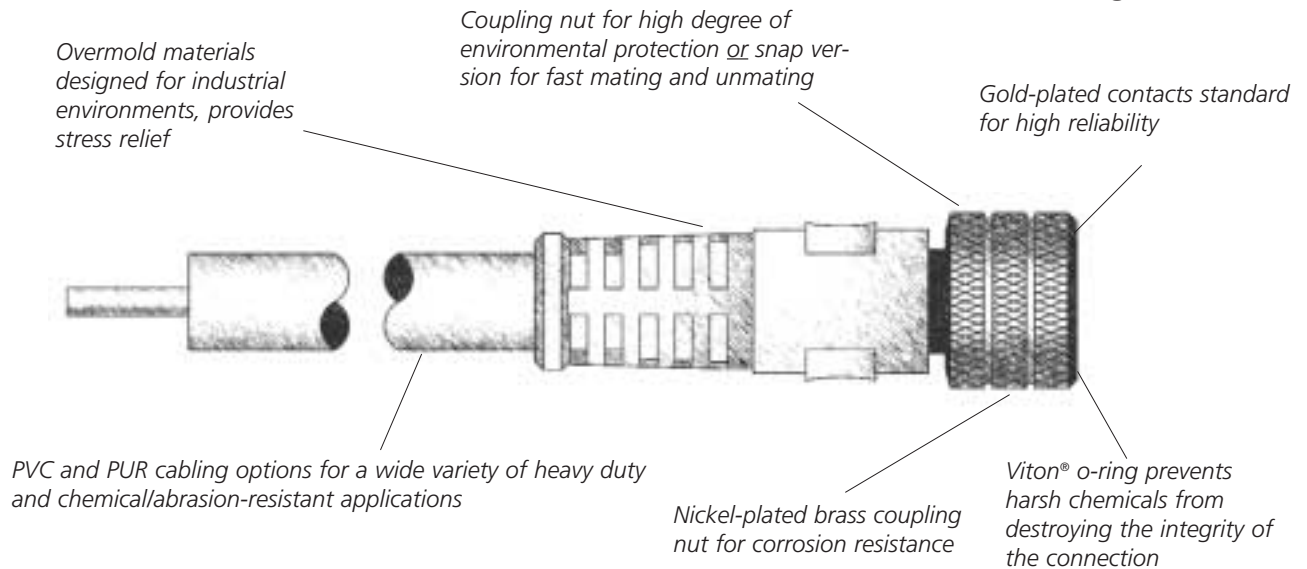
Compact in Design. Large in Performance.

The industry's broadest selection of space-saving m8 molded industrial connectors is available in the Brad Harrison Nano-Change® cordset family. Nano-Change m8 cordsets, receptacles, inserts, splitters and molded junction boxes are engineered for use in industrial applications where space is limited and rugged performance is required. The Nano-Change connector products are quick to connect/disconnect, especially the snap versions which are simply snapped or unsnapped from their mate. For a complete connector solution that minimizes wiring, maintenance, and downtime while also minimizing space requirements, choose from the full selection of Brad Harrison Nano-Change miniature quick-disconnect and connectors.

Applications

With a full selection of 3- to 5-pole connector solutions, Nano-Change m8 connectors provide options for every application in industrial automation and instrumentation. To satisfy space saving requirements, Nano-Change products are designed for use with miniature control components, proximity sensors and photoelectric sensors. Standard m8 connector configurations are used on 8mm proximity, hall effect, and reed switches typically found in robotics and motion control systems. The family's compact size is used with slide switches on NFPA and ISO cylinders found in many of today's pharmaceutical, electronic and semi-conductor assembly, and conveyor applications. For added flexibility, a Nano-Change m8 multi-port interconnect systems are also available in 4- through 16-port versions.





Design and Quality

The Brad Harrison® m8 Nano-Change® family of connector products offers a wide array of solutions for the controls engineer. Both snap coupling and standard threaded coupling nut options are available. Snap couplers are available in a variety of pole configurations, including: straight, 90° and 90° with PNP or NPN LED indication in both single-ended and double-ended cordset configurations. A similarly wide variety of options are available in the coupling nut version. The Nano-Change form factor can be found on the Brad Harrison line of splitter, molded DIN as well as MPIS options.

The Brad Harrison name is synonymous with quality, not only in design and workmanship but also in material selection. With performance in mind, contacts are gold-plated brass, designed to provide a durable, consistent, low resistant path over the life of the connector. Even after multiple mate/unmate cycles, a low resistance, secure connection is maintained. The PVC cable jacketed cordsets provide excellent resistance to many common industrial fluids and compounds, while the PUR cable jacketed cordsets provide protection in severe flexing applications or where chemical resistance is a concern. PBT is used as a chemically resistant, stable material to ensure connector insert integrity even when in the presence of the harshest cutting fluids.

Nano-Change® Cordset Section Quick Finder

<p>SNAP COUPLING CORDSETS PAGES 168 - 169 3P & 4P</p>	<p>THREADED SINGLE-ENDED CORDSETS PAGES 170 - 171 3P, 4P & 5P</p>
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SINGLE-ENDED STRAIGHT SINGLE-ENDED 90° DOUBLE-ENDED STRAIGHT DOUBLE-ENDED 90°/STRAIGHT PVC AND PUR CABLE MATING RECEPTACLES

<p>THREADED DOUBLE-ENDED CORDSETS PAGES 172 - 173 3P, 4P & 5P</p>	<p>LED CORDSETS PAGES 174 - 175 3P</p>
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DOUBLE-ENDED STRAIGHT DOUBLE-ENDED 90°/STRAIGHT DOUBLE-ENDED 90°/90° PVC AND PUR CABLE

<p>RECEPTACLES PAGES 176 - 177 3P, 4P & 5P</p>	<p>FIELD-WIREABLE CONNECTORS PAGES 178 - 179 3P & 4P</p>
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MALE AND FEMALE RECEPTACLES

STRAIGHT MALE 90° MALE STRAIGHT FEMALE 90° FEMALE

<p>SPLITTERS PAGES 180 - 181</p>

(2) M8 INPUTS - (1) M8 OUTPUT
 (2) M8 INPUTS - (1) M12 OUTPUT

Look for these new Nano-Change® splitter and connector products



2-M8 Female to 1-M8 or Male Splitters



M8 Field-wireable Connectors

Receptacle Catalog Number Matrix

Use these Catalog Number Matrices to generate a custom or existing part number. From each grouping of specifications choose the corresponding code to create a single 13 character alpha/numeric part number for ordering. Below is an example of a properly constructed Receptacle part number and how it translates to an actual part.

4R4P06A27C300

4 pole Nano-Change® Male Straight Receptacle, M8 x 0.5mm MTG threads with Threaded Coupling and 30 Centimeter Leads, 24 AWG, PVC, UL Style 1061.

4 R 4 P 0 6 A 2 7 C 3 0 0

<p>PRODUCT FAMILY (2 characters)</p> <p>1st Character 4 Nano-Change with Threaded Coupling</p> <p>2nd Character R Receptacle (first character = 4)</p>	<p>NUMBER OF POLES</p> <p>3, 4, or 5 Pole configurations available</p>	<p>RECEPTACLE TYPE</p> <p>P00 Female Straight, M8 X 0.5mm mounting threads P06 Male Straight, M8 X 0.5mm mounting threads F06 Male Straight, M8 X 1.0mm mounting threads</p>	<p>WIRE TYPE</p> <p>A27 24 AWG, PVC, UL Style 1061</p>	<p>UNIT OF MEASURE</p> <p>C Centimeters M Meters Note: use meters for length greater than 30 centimeters</p>	<p>LENGTH (3 characters)</p> <p>1st Digit 10 X Value 2nd Digit 1 X Value 3rd Digit .1 X Value</p>

Connector Catalog Number Matrix

Below is an example of a properly constructed Connector part number and how it translates to an actual part.

444030A10M020

4 Pole Nano-Change® Female Straight to Male Straight Double-Ended Cordset with Threaded Coupler and 2 Meters of 24 AWG yellow PVC cable.

444030A10M020

	<p>NUMBER OF POLES</p> <p>3, 4, or 5 Pole configurations available</p>	<p>CONNECTOR TYPE (3 characters)</p> <p>000 Female Straight 001 Female 90° 006 Male Straight 007 Male 90°* 0N1 Female 90°, LED, NPN† 0P1 Female 90°, LED, PNP†</p>	<p>CABLE TYPE (3 characters)</p> <p>A10 24 AWG, yellow PVC B09 24 AWG, yellow PUR</p>	<p>UNIT OF MEASURE</p> <p>M Meters</p>	<p>LENGTH (3 characters)</p> <p>1st Digit 10 X Value 2nd Digit 1 X Value 3rd Digit .1 X Value</p> <p>030 Double-Ended Cable Assembly Female Straight to Male Straight 031 Female 90° to Male Straight 032 Female Straight to Male 90°* 033 Female 90° to Male 90°* 0N7 Female 90°, LED, NPN† to Male Straight 0N9 Female 90°, LED, NPN† to Male 90°* 0P1 Female 90°, LED, PNP† to Male Straight 0P1 Female 90°, LED, PNP† to Male 90°*</p>
<p>PRODUCT FAMILY (2 characters)</p> <p>1st Character</p> <p>4 Nano-Change with Threaded Coupler 5 Nano-Change with Snap Coupler (3 and 4 pole only)</p> <p>2nd Character</p> <p>0 Single-Ended Cable Assembly 4 or 5 Double-Ended Cable Assembly</p>					<p>* Threaded coupler only † 3 pole only</p>



M8 Single & Double-Ended Cordsets Snap Cordset

#24 AWG yellow PVC cable
Oil-resistant high-flex PUR jacket available
Secure static fit for quick installation

	3P	4P
FEMALE FACE VIEW		
COLOR CODE	1- brown 3- blue 4- black	1- brown 2- white 3- blue 4- black
VOLTAGE	60V AC / 75V DC	60V AC / 75V DC
CURRENT	4A	4A
CONDUCTOR	#24-3	#24-4

FEMALE	FIG	SINGLE-ENDED CORDSETS WITH 2 METER PVC CABLE	
STRAIGHT	1	503000A10M020	504000A10M020
90°	2	503001A10M020	504001A10M020
MATING RECEPTACLE*	6	4R3P06A27C300	4R4P06A27C300
MALE	FIG	SINGLE-ENDED CORDSETS WITH 2 METER PVC CABLE	
STRAIGHT	3	503006A10M020	504006A10M020
FEMALE/MALE	FIG	DOUBLE-ENDED CORDSETS WITH 2 METER PVC CABLE	
STRAIGHT/STRAIGHT	4	553030A10M020	554030A10M020
90°/STRAIGHT	5	553031A10M020	554031A10M020

CATALOG OPTIONS

*See Page 176 for additional Mating Receptacles

Use the following chart to modify your part's specifications

503000A10M020

CABLE TYPE

PUR CABLE #24 AWG YELLOW . B09

CABLE LENGTH

4 METER 040
5 METER 050

Specifications

CABLE DIMENSIONS

FEMALE STRAIGHT

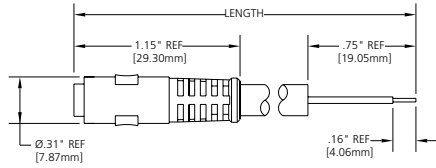


FIG 1

FEMALE 90°

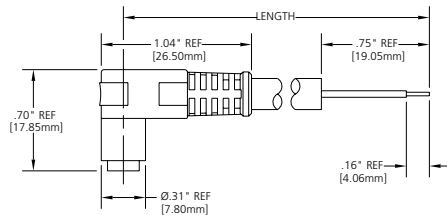
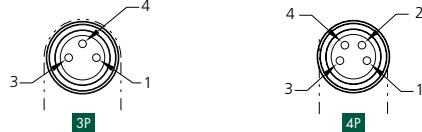


FIG 2

FEMALE CONNECTORS - FACE VIEWS



MALE STRAIGHT

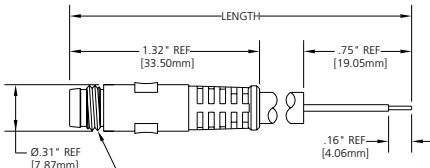


FIG 3

FEMALE STRAIGHT/MALE STRAIGHT

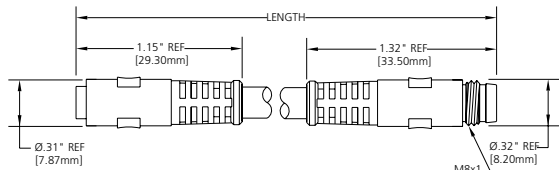


FIG 4

90° FEMALE/MALE STRAIGHT

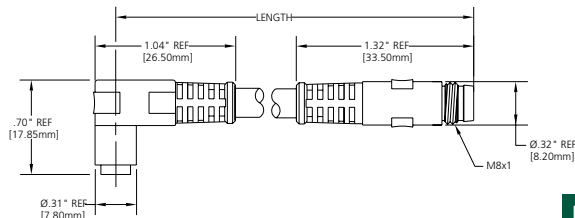


FIG 5

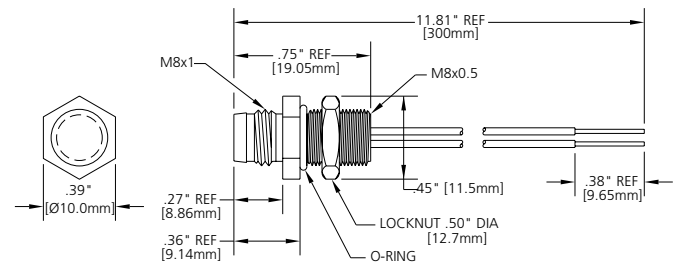
MALE CONNECTORS - FACE VIEWS



- MECHANICAL**
- CONNECTOR FACE: PBT
- MOLDED BODY MATERIAL: TPE
- CABLE: YELLOW, PVC CABLE JACKET, #24 AWG OVER 19 X #36 COPPER STRANDING, UL STYLE 2661
- OPTION: YELLOW, HIGH-FLEX PUR CABLE JACKET, #24 AWG OVER 128 X #44 STRANDING, UL STYLE 20233
- OUTSIDE DIAMETER: PVC PUR
- 3/C 0.17" (4.3mm) 0.18" (4.6mm)
- 4/C 0.18" (4.6mm) 0.18" (4.6mm)
- ELECTRICAL**
- VOLTAGE RATING: 60V AC / 75V DC
- AMPERAGE: 3P - 4A
- 4P - 4A
- ENVIRONMENTAL**
- PROTECTION: NEMA 4, IP 65
- AMBIENT OPERATING TEMP: -4° TO 221°F (-20° TO 105°C) - PVC
- 4° TO 176°F (-20° TO 80°C) - PUR
- CERTIFICATION**
- UL: UL RECOGNIZED, FILE NO. E152210

RECEPTACLE DIMENSIONS

MALE RECEPTACLE (ACCOMMODATES THREADED AND SNAP FEMALE CORDSETS)



SEE PAGE 176 FOR ADDITIONAL RECEPTACLES

MALE FACE VIEW

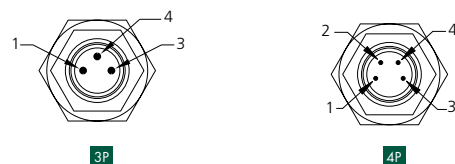


FIG 6



M8 Single-Ended Cordsets

Threaded Cordsets

#24 AWG yellow PVC cable
 Oil-resistant high-flex PUR jacket available
 Threaded coupling to withstand harsh industrial environments

NEW 5 Pole

	3P	4P	5P
FEMALE FACE VIEW			
COLOR CODE	1- brown 3- blue 4- black	1- brown 2- white 3- blue 4- black	1- brown 2- white 3- blue 4- black 5- gray
VOLTAGE	60V AC / 75V DC	60V AC / 75V DC	60V AC / 75V DC
CURRENT	4A	4A	3A
CONDUCTOR	#24-3	#24-4	#24-5

FEMALE	FIG	SINGLE-ENDED CORDSETS WITH 2 METER PVC CABLE		
STRAIGHT	1	403000A10M020	404000A10M020	405000A10M020
90°	2	403001A10M020	404001A10M020	405001A10M020
MATING RECEPTACLE*	5	4R3P06A27C300	4R4P06A27C300	4R5P06A27C300
MALE	FIG	SINGLE-ENDED CORDSETS WITH 2 METER PVC CABLE		
STRAIGHT	3	403006A10M020	404006A10M020	405006A10M020
90°	4	403007A10M020	404007A10M020	405007A10M020
MATING RECEPTACLE*	6	4R3P00A27C030	4R4P00A27C030	4R5P00A27C030

CATALOG OPTIONS

*See Page 176 for additional Mating Receptacles

Use the following chart to modify your part's specifications

403000A10M020

CABLE TYPE

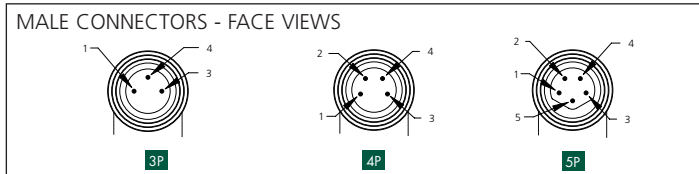
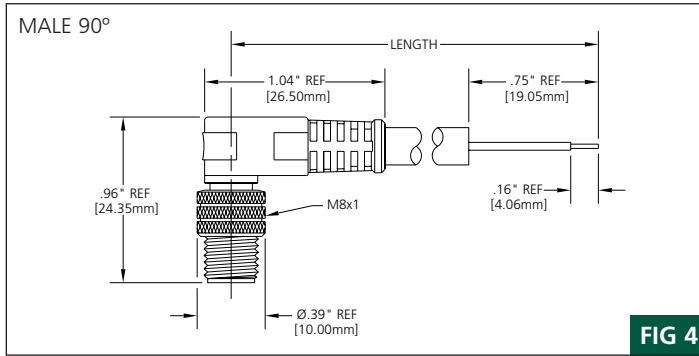
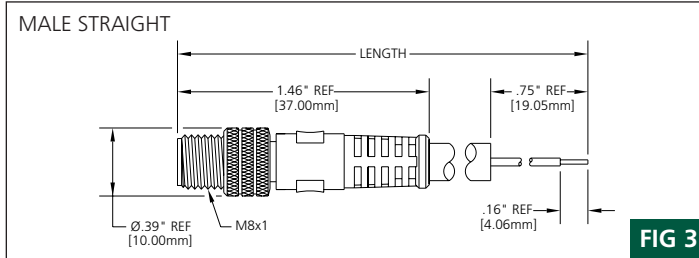
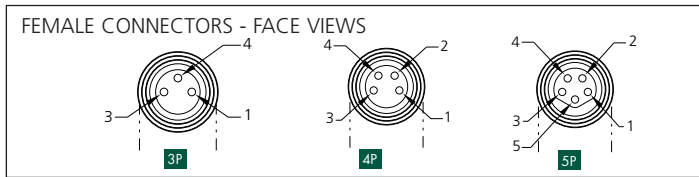
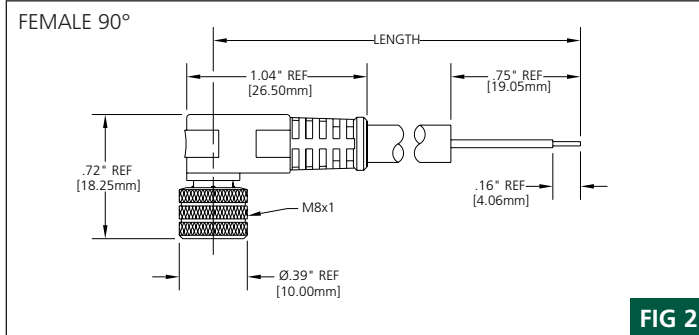
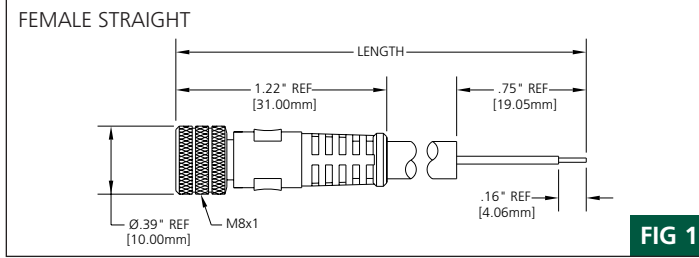
PUR CABLE #24 AWG YELLOW **B09**

CABLE LENGTH

4 METER **040**
 5 METER **050**

Specifications

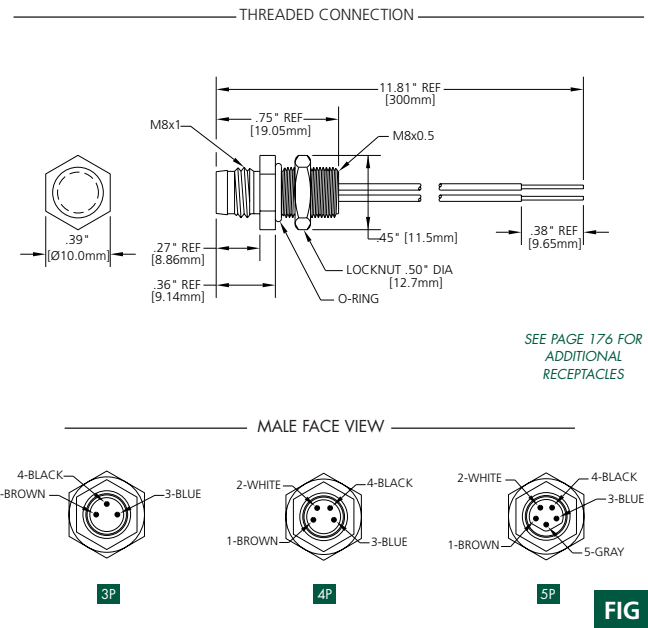
CABLE DIMENSIONS



- MECHANICAL**
- CONNECTOR FACE: PBT
 - MOLDED BODY: TPE
 - O-RING: VITON
 - COUPLING NUT: NICKEL-PLATED BRASS
 - CABLE: YELLOW, PVC CABLE JACKET, #24 AWG OVER 19 X #36 COPPER STRANDING, UL STYLE 2661
 - OPTION: YELLOW, HIGH-FLEX PUR CABLE JACKET, #24 AWG OVER 128 X #44 STRANDING, UL STYLE 20233
- OUTSIDE DIAMETER:**
- | | |
|-------------------|---------------|
| PVC | PUR |
| 3/C 0.17" (4.3mm) | 0.18" (4.6mm) |
| 4/C 0.18" (4.6mm) | 0.18" (4.6mm) |
| 5/C 0.20" (5.1mm) | 0.20" (5.1mm) |
- ELECTRICAL**
- VOLTAGE RATING: 60V AC / 75V DC
 - AMPLERAGE: 3P - 4A, 4P - 4A, 5P - 3A
- ENVIRONMENTAL**
- PROTECTION: NEMA 6P, IP 68
 - AMBIENT OPERATING TEMP: -4° TO 221°F (-20° TO 105°C) - PVC, -4° TO 176°F (-20° TO 80°C) - PUR
- CERTIFICATIONS**
- UL: UL RECOGNIZED, FILE NO. E152210

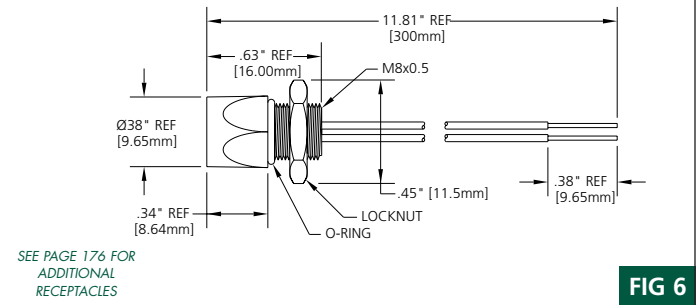
RECEPTACLE DIMENSIONS

MALE RECEPTACLE (ACCOMMODATES THREADED AND SNAP FEMALE CORDSETS)



SEE PAGE 176 FOR ADDITIONAL RECEPTACLES

FEMALE RECEPTACLE (ACCOMMODATES THREADED MALE CORDSETS)



SEE PAGE 176 FOR ADDITIONAL RECEPTACLES



M8 Double-Ended Cordsets

Threaded Cordsets

#24 AWG yellow PVC cable
 Oil-resistant high-flex PUR jacket available
 Threaded coupling to withstand harsh industrial environments

NEW 5 Pole

	3P	4P	5P
FEMALE FACE VIEW			
COLOR CODE	1- brown 3- blue 4- black	1- brown 2- white 3- blue 4- black	1- brown 2- white 3- blue 4- black 5- gray
VOLTAGE	60V AC / 75V DC	60V AC / 75V DC	60V AC / 75V DC
CURRENT	4A	4A	3A
CONDUCTOR	#24-3	#24-4	#24-5

FEMALE/MALE	FIG	DOUBLE-ENDED CORDSETS WITH 2 METER PVC CABLE		
STRAIGHT/STRAIGHT	1	443030A10M020	444030A10M020	445030A10M020
90°/STRAIGHT	2	443031A10M020	444031A10M020	445031A10M020
STRAIGHT/90°	3	443032A10M020	444032A10M020	445032A10M020
90°/90°	4	443033A10M020	444033A10M020	445033A10M020

CATALOG OPTIONS

*See Page 176 for additional Mating Receptacles

Use the following chart to modify your part's specifications

403000A10M020

CABLE TYPE

PUR CABLE #24 AWG YELLOW **B09**

CABLE LENGTH

4 METER **040**
 5 METER **050**

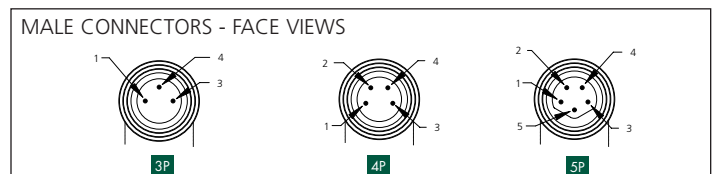
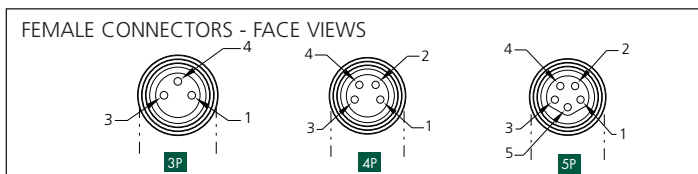
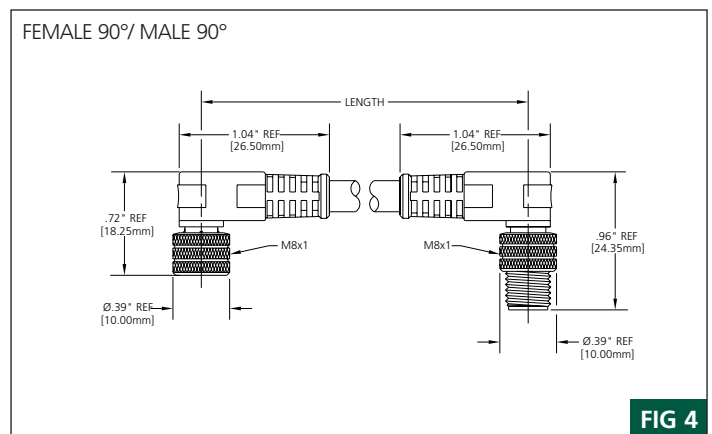
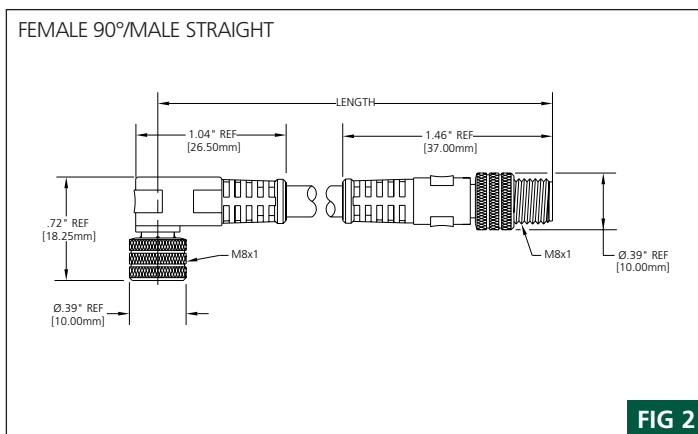
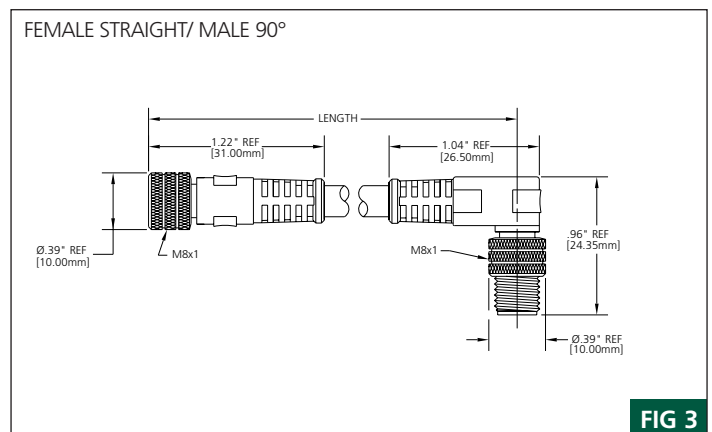
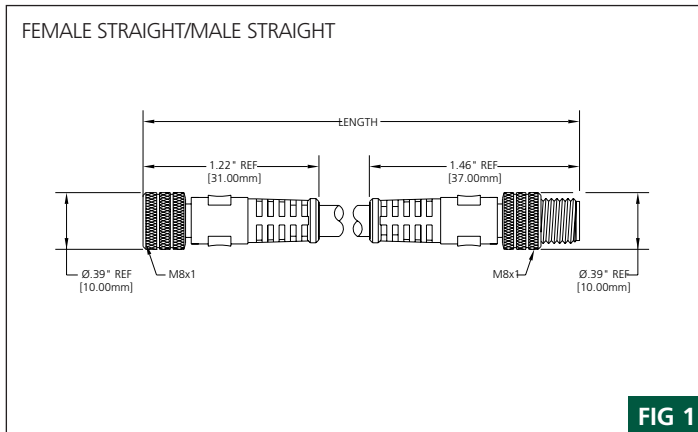
Specifications

3P to 5P



MECHANICAL	
CONNECTOR FACE:	PBT
MOLDED BODY:	TPE
O-RING:	VITON
COUPLING NUT:	NICKEL-PLATED BRASS
CABLE:	YELLOW, PVC CABLE JACKET, #24 AWG OVER 19 X #36 COPPER STRANDING, UL STYLE 2661
OPTION:	YELLOW, HIGH-FLEX PUR CABLE JACKET, #24 AWG OVER 128 X #44 STRANDING, UL STYLE 20233
OUTSIDE DIAMETER:	PVC PUR
3/C	0.17" (4.3mm) 0.18" (4.6mm)
4/C	0.18" (4.6mm) 0.18" (4.6mm)
5/C	0.20" (5.1mm) 0.20" (5.1mm)
ELECTRICAL	
VOLTAGE RATING:	60V AC / 75V DC
AMPERAGE:	3P - 4A 4P - 4A 5P - 3A
ENVIRONMENTAL	
PROTECTION:	NEMA 6P, IP 68
AMBIENT OPERATING TEMP:	-4° TO 221°F (-20° TO 105°C) - PVC -4° TO 176°F (-20° TO 80°C) - PUR
CERTIFICATIONS	
UL:	UL RECOGNIZED, FILE NO.E152210

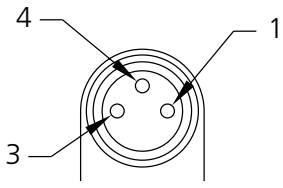
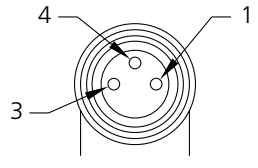
CONNECTOR DIMENSIONS





M8 Single & Double-Ended LED Cordsets

Clear PVC body for easy visibility of green power and yellow output LED
 Extended life LEDs – 100,000 continuous hours of use
 PNP and NPN versions
 Snap and coupling nut versions

	3P Snap Connection	3P Threaded Connection
FEMALE FACE VIEW		
COLOR CODE	1- brown 3- blue 4- black	1- brown 3- blue 4- black
VOLTAGE	10-30V DC	10-30V DC
CURRENT	4A	4A
CONDUCTOR	#24-3	#24-3

FEMALE	FIG	SINGLE-ENDED LED CORDSETS WITH 2 METER PVC CABLE	
90° PNP	1	5030P1A10M020	4030P1A10M020
90° NPN	1	5030N1A10M020	4030N1A10M020
MATING RECEPTACLE*	4	4R3P06A27C300	4R3P06A27C300
FEMALE/ MALE	FIG	DOUBLE-ENDED LED CORDSETS WITH 2 METER PVC CABLE	
90° PNP/ STRAIGHT	2	5530P7A10M020	4430P7A10M020
90° PNP/90°	3	—	4430P9A10M020
90° NPN/ STRAIGHT	2	5530N7A10M020	4430N7A10M020
90° NPN/90°	3	—	4430N9A10M020

CATALOG OPTIONS

*See Page 176 for additional Mating Receptacles

Use the following chart to modify your part's specifications

5030P1A10M020

CABLE TYPE

PUR CABLE #24 AWG YELLOW . **B09**

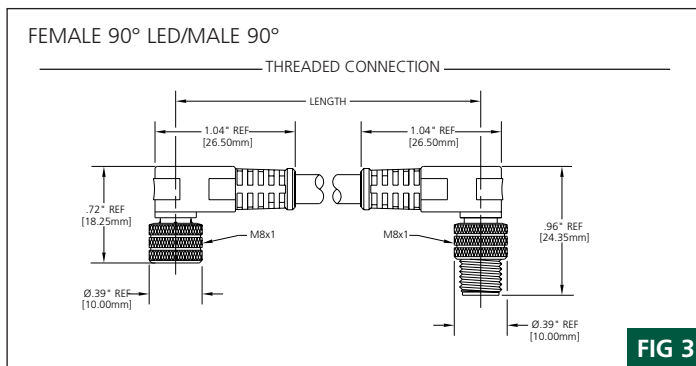
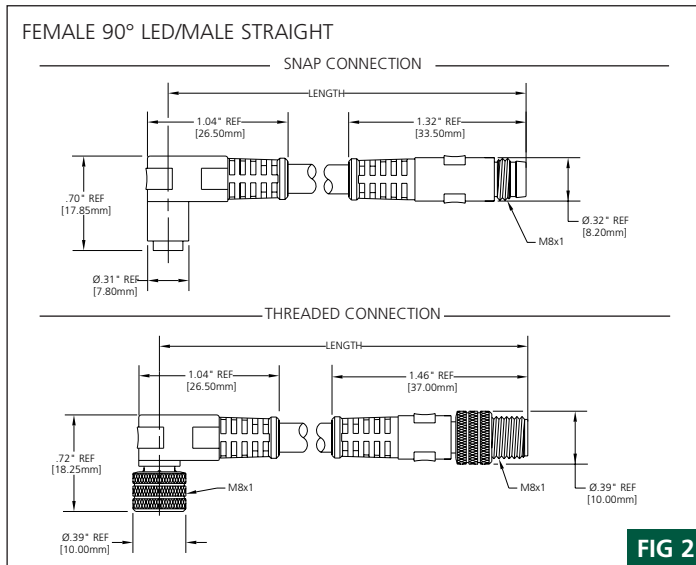
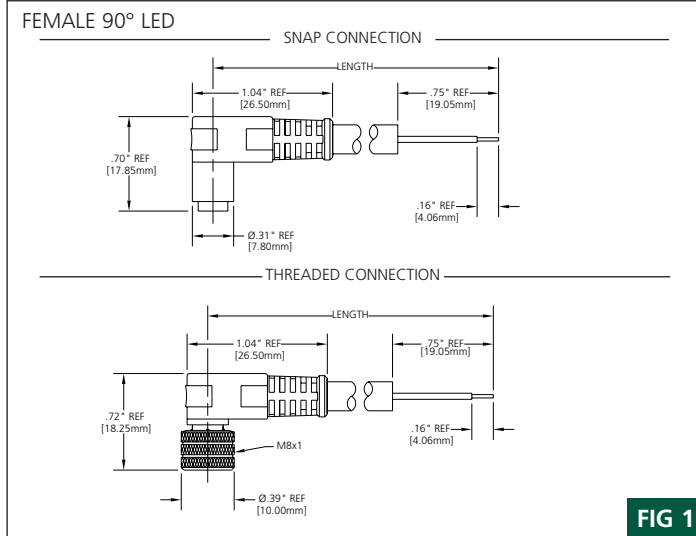
CABLE LENGTH

4 METER **040**
 5 METER **050**

Specifications



CABLE DIMENSIONS



MECHANICAL

CONNECTOR FACE: PBT
 MOLDED BODY: PVC
 O-RING: VITON (THREADED ONLY)
 COUPLING NUT: NICKEL-PLATED BRASS
 CABLE: YELLOW, PVC CABLE JACKET, #24 AWG OVER 19 X #36 COPPER STRANDING, UL STYLE 2661
 OPTION: YELLOW, HIGH-FLEX PUR CABLE JACKET, #24 AWG OVER 128 X #44 STRANDING, UL STYLE 20233
 OUTSIDE DIAMETER: PVC PUR
 0.17" (4.3mm) 0.18" (4.6mm)

ELECTRICAL

VOLTAGE RATING: 10-30 V DC
 AMPERAGE: 4A

ENVIRONMENTAL

PROTECTION: NEMA 4, IP 65 (SNAP);
 NEMA 6P, IP 68 (COUPLER)

AMBIENT OPERATING TEMP:

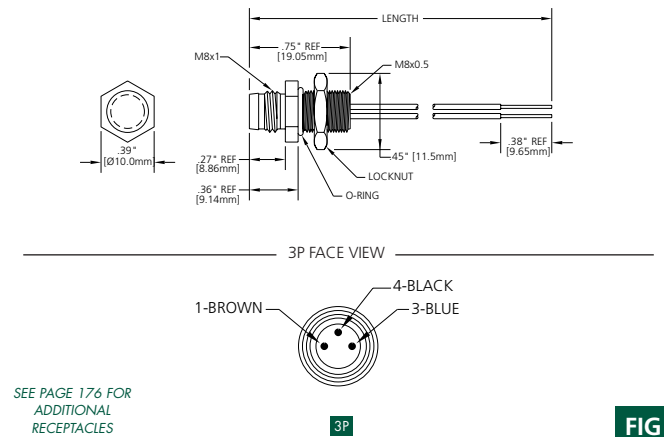
-4° TO 221°F (-20° TO 105°C) - PVC
 -4° TO 176°F (-20° TO 80°C) - PUR

CERTIFICATIONS

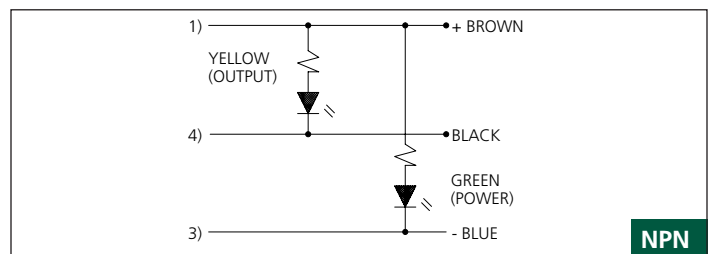
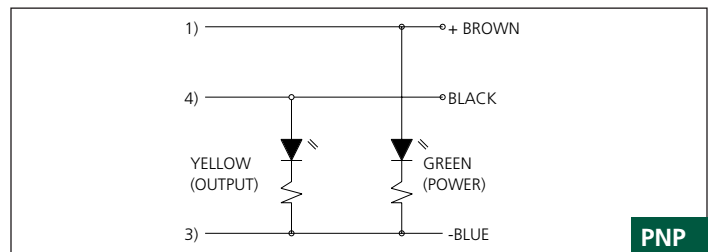
UL: UL RECOGNIZED, FILE NO. E155210

RECEPTACLE DIMENSIONS

MALE RECEPTACLE
 (ACCOMMODATES THREADED AND SNAP FEMALE CORDSETS)



LED CIRCUIT DIAGRAM





M8 Receptacles

Nickel-plated brass body
IP 68 rating on threaded connection

NEW 5 Pole

	3P	4P	5P
MALE FACE VIEW			
COLOR CODE	1- brown 3- blue 4- black	1- brown 2- white 3- blue 4- black	1- brown 2- white 3- blue 4- black 5- gray
VOLTAGE	60V AC / 75V DC	60V AC / 75V DC	60V AC / 75V DC
CURRENT	4A	4A	3A
CONDUCTOR	#24-3	#24-4	#24-5

MALE ACCEPTS SNAP OR THREADED CORDSETS	FIG	RECEPTACLES WITH 30 CENTIMETER #24 AWG PVC LEADS		
M8 X 0.5 MOUNTING THREADS	1	4R3P06A27C300	4R4P06A27C300	4R5P06A27C300
M8 X 1 MOUNTING THREADS	2	4R3F06A27C300	4R4F06A27C300	—
FEMALE ACCEPTS THREADED CORDSETS ONLY	FIG	RECEPTACLES WITH 30 CENTIMETER #24 AWG PVC LEADS		
M8 X 0.5 MOUNTING THREADS	3	4R3P00A27C300	4R4P00A27C300	4R5P00A27C300

CATALOG OPTIONS

Note: For mating cordsets see pages 168-175
Refer to compatibility matrix for cordset/receptacle combinations

Use the following chart to modify your part's specifications

4R5P06A27C300

LEAD LENGTH
60 CENTIMETER **600**

Specifications



- MECHANICAL**
- CONNECTOR FACE: PBT
- SHELL: NICKEL-PLATED BRASS
- O-RING: VITON
- WIRE: PVC; #24 AWG (19X #36)
- ELECTRICAL**
- VOLTAGE RATING: 60V AC / 75V DC
- AMPERAGE: 3P - 4A
4P - 4A
5P - 3A
- ENVIRONMENTAL**
- PROTECTION: NEMA 6P, IP 68 (COUPLER)
NEMA 4, IP 65 (SNAP)
- AMBIENT OPERATING TEMP: -4° TO 221°F (-20° TO 105°C) - PVC
- CERTIFICATIONS**
- UL: UL RECOGNIZED, FILE NO. 152210

RECEPTACLE DIMENSIONS

MALE - M8 X 0.5 MOUNTING THREADS
(ACCOMMODATES SNAP AND THREADED FEMALE CORDSETS)

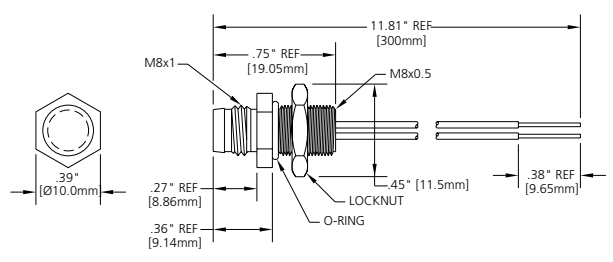
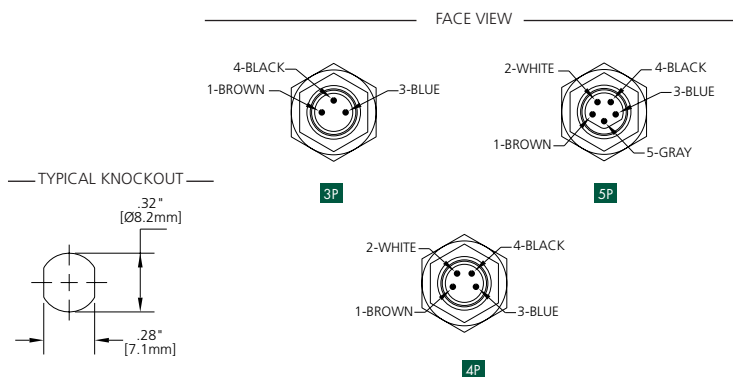


FIG 1



MALE - M8 X 1 MOUNTING THREADS
(ACCOMMODATES SNAP AND THREADED FEMALE CORDSETS)

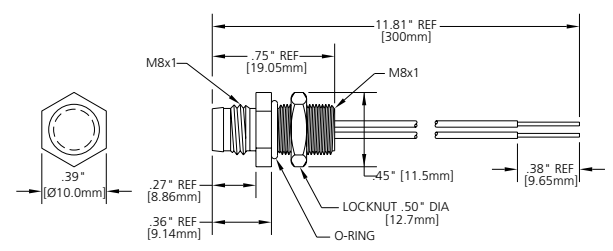
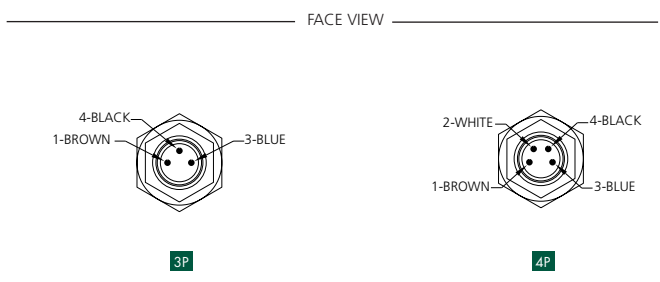


FIG 2



FEMALE - M8 X 0.5 MOUNTING THREADS
(ACCOMMODATES THREADED MALE CORDSETS ONLY)

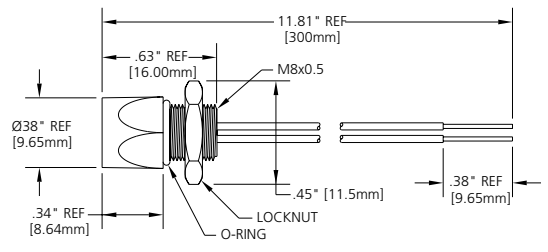
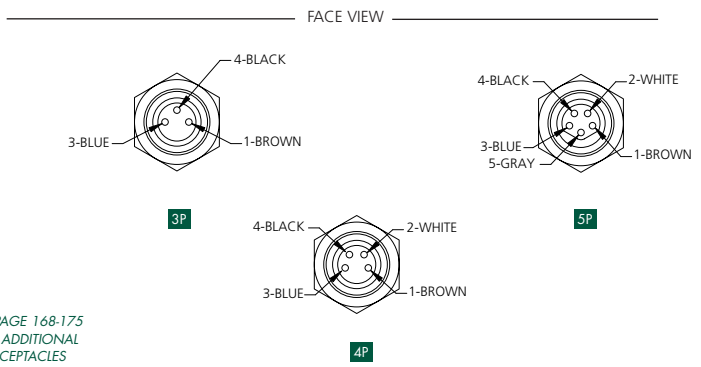


FIG 3



SEE PAGE 168-175
FOR ADDITIONAL
RECEPTACLES



M8 Field-Attachable Connectors

Allows easy field conversion to threaded connection quick-disconnect
 Solder connections for reliability in vibration applications
 Male and female in both straight and 90° versions

NEW	3P	4P
FEMALE FACE VIEW		
MALE FACE VIEW		
VOLTAGE	60V AC / 75V DC	60V AC / 75V DC
CURRENT	4A	4A

FEMALE	FIG	FIELD-ATTACHABLE CONNECTORS WITH 3.5-5.0mm (.137-.196" OD) CABLE FITTING	
STRAIGHT	1	N03FA03124	N04FA03124
90°	2	N03FA04124	N04FA04124
MATING RECEPTACLE*		4R3P06A27C300	4R4P06A27C300
MALE	FIG	FIELD-ATTACHABLE CONNECTORS WITH 3.5-5.0mm (.137-.196" OD) CABLE FITTING	
STRAIGHT	3	N03MA03124	N04MA03124
90°	4	N03MA04124	N04MA04124
MATING RECEPTACLE*		4R3P00A27C300	4R4P00A27C300

*See Page 176 for additional Mating Receptacles

Specifications



MECHANICAL

CONNECTOR FACE: PA
 BODY: PA
 COUPLING NUT: NICKEL-PLATED BRASS
 TERMINATION: SOLDER LUGS; ACCEPTS CONDUCTOR TO #20 AWG

ELECTRICAL

VOLTAGE RATING: 60V AC/ 75V DC
 AMPERAGE: 4A

ENVIRONMENTAL

PROTECTION: IP 67
 AMBIENT OPERATING TEMP: 32° TO 185° F (0° TO 85° C)

CONNECTOR DIMENSIONS

FEMALE STRAIGHT

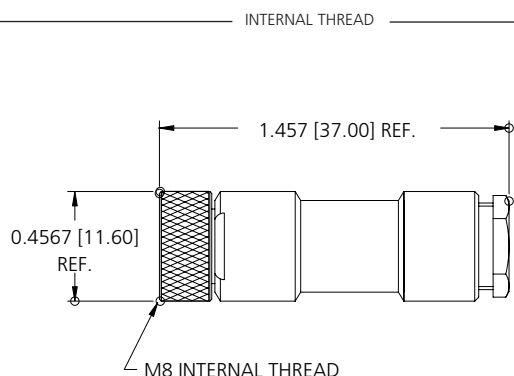


FIG 1

MALE STRAIGHT

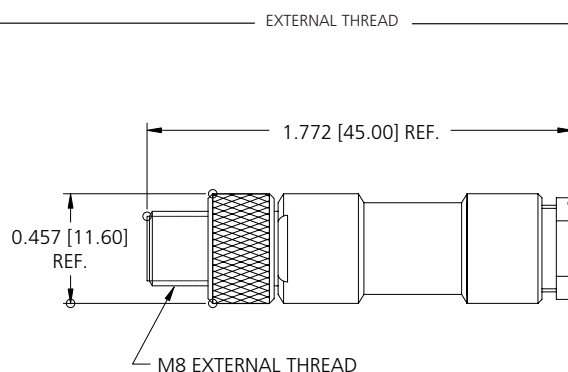


FIG 3

FEMALE 90°

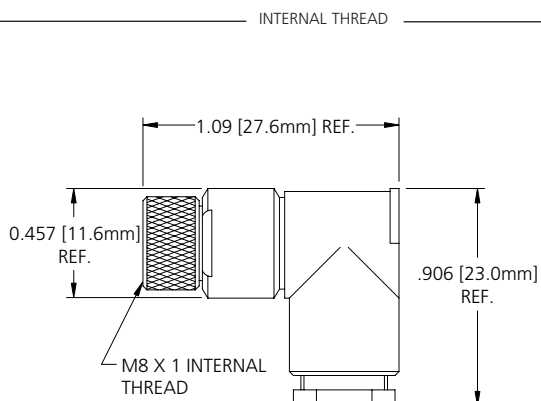


FIG 2

MALE 90°

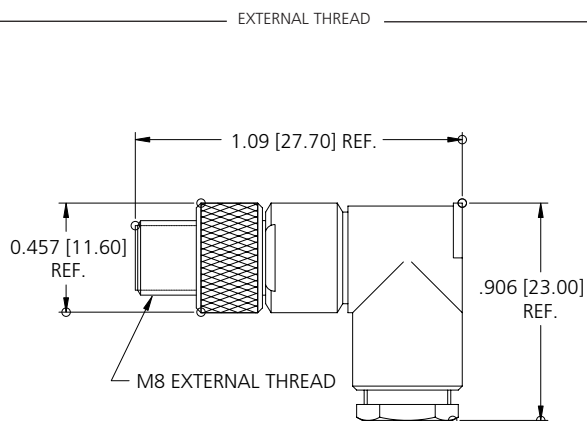


FIG 4



M8 Splitter - (2) Female to (1) Male

Combines two inputs into one small footprint molded output connection
 M8 to M8 threaded connection and M8 to M12 connections
 Consolidates 3-wire DC sensors or switches

NEW	"Y" Splitter - M8 to M8	"Y" Splitter - M8 to M12
FEMALE FACE VIEW INPUTS	Typical For A & B 	Typical For A & B
FEMALE PIN	1- +VDC 2- output 3- common	1- +VDC 2- output 3- common
MALE FACE VIEW OUTPUT		
MALE PIN	1- +VDC 2- output (Branch "B") 3- common 4- output (Branch "A")	1- +VDC 2- output (Branch "B") 3- common 4- output (Branch "A")
VOLTAGE	60V AC / 75V DC	
CURRENT	4A	

	FIG	"Y" MOLDED SPLITTER (2) 3P M8 FEMALE INPUTS; (1) 4P M8 MALE OUTPUT
SPLITTER	1 AND 3	080804LMF00000

Note: for cordsets to connect to inputs see pages 168-175

	FIG	"Y" MOLDED SPLITTER (2) 3P M8 FEMALE INPUTS; (1) 4P M12 MALE OUTPUT
SPLITTER	2 AND 3	080804EMF00000

Note: For cordsets to connect to inputs see pages 168-175
 For multiple connection junction boxes (MPIS) see pages 302-315

Specifications



MECHANICAL

CONNECTOR FACE: PUR
 MOLDED BODY: PUR
 COUPLING NUT MATERIAL: NICKEL-PLATED BRASS

ELECTRICAL

VOLTAGE RATING: 75 V DC; 60 V AC
 AMPERAGE: 4A

ENVIRONMENTAL

PROTECTION: IEC IP 68
 AMBIENT OPERATING TEMPERATURE: 32° TO 185°C (0° TO 85°C)

SCHEMATIC

MALE OUTPUT CONNECTION/
 FEMALE INPUT CONNECTION

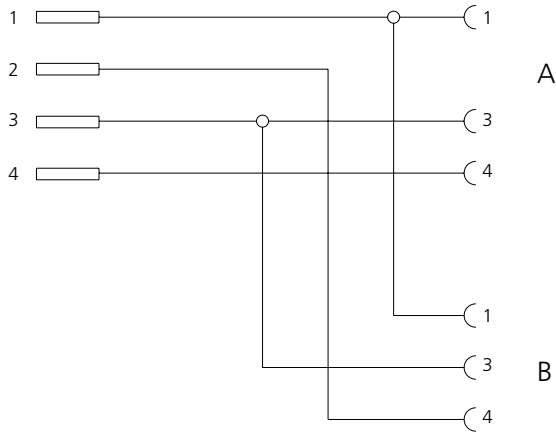


FIG 3

SPLITTER DIMENSIONS

M8 to M8 "Y" SPLITTER

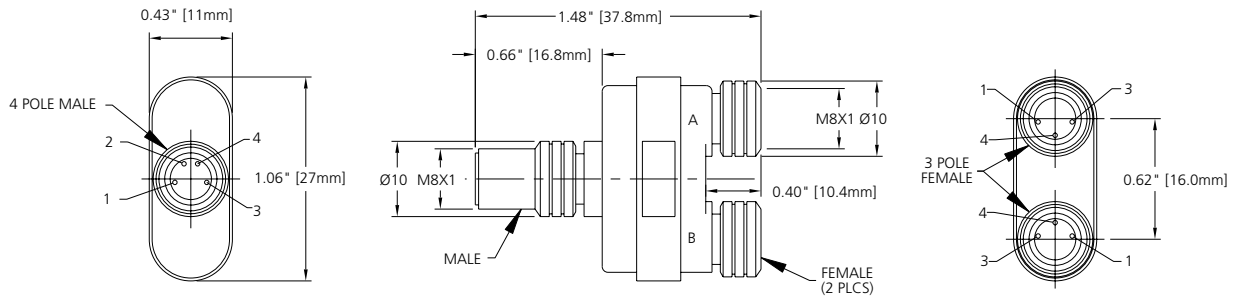


FIG 1

M8 to M12 "Y" SPLITTER

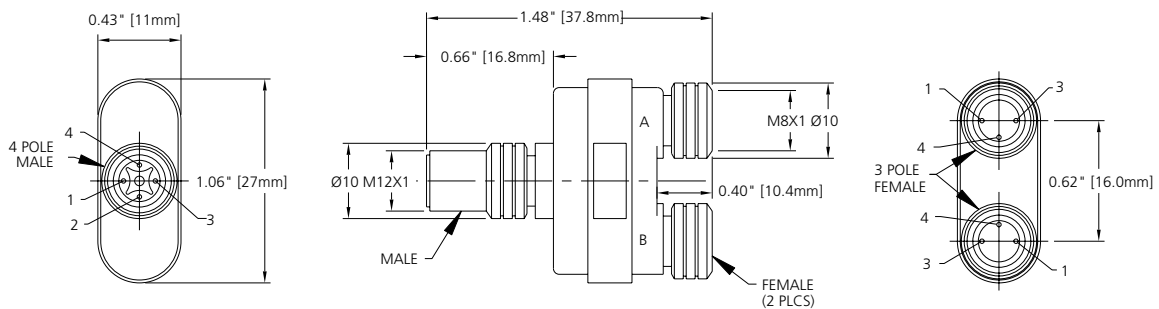


FIG 2

mPm® DIN Cordset Family

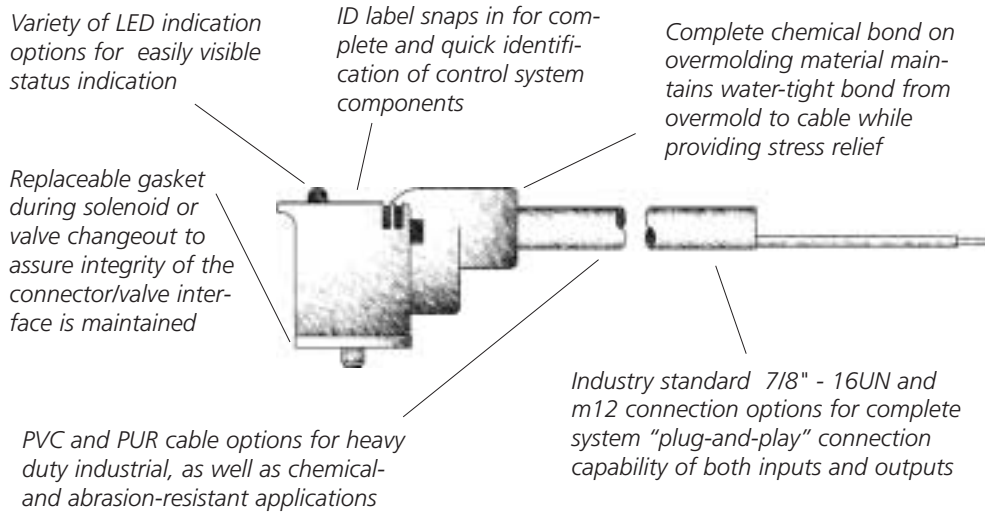
Rugged and Secure Alternative to Hardwiring.

When it comes to output connectivity, mPm® DIN cordsets are the world's leading solution provider for connectors on industrial automation equipment. For remote actuation of solenoid valves on the factory floor, no one offers a more reliable and robust "quick-disconnect" alternative to hardwiring. The mPm connector brand also offers the largest selection of field attachable DIN, molded DIN, and DIN accessories. mPm DIN devices include: DIN connectors and lighted adapters/surge protectors for the 18, 11, 10, 9.4, and 8.0mm classes of DIN 43650 standard valve designs. Connection and protection have never been easier or more cost effective than with field-wireable mPm DIN devices.

Applications

mPm® and Brad Harrison® devices offer a comprehensive solution for output device connectivity that satisfies virtually any industrial application. Valves, solenoid pressure flow switches or coils can be brought into a single industrial-rated junction box for a complete "plug and play" solution. This reduces field wiring time, provides for a quick change-out of failed components, while wiring the system right the first time. mPm DIN connectors provide the connection and, in most cases, the protection of solenoids on the robot, valve banks on the cooling system and flow meter inputs into the PLC.





mPm® DIN Connector Section Quick Finder

DIN 43650 MOLDED CONNECTORS PAGES 186 - 197 18, 11, 10, 9.4 & 8.0mm WITH CABLE LEADS	DIN 43650 MOLDED CONNECTORS PAGES 198 - 211 18, 11, 10, 9.4 & 8.0mm WITH BRAD HARRISON
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LED & SURGE SUPPRESSION TYPE STRAIGHT WIRED TYPE 2 POLE + DUAL GROUND 2 POLE + H6 OR H12 GROUND 3 POLE + H6 OR H12 GROUND BLACK PVC CABLE BLACK PUR CABLE	QUICK DISCONNECT 3 POLE MALE MINI- CHANGE CONNECTOR 5 POLE MALE MICRO- CHANGE CONNECTOR 2 POLE + DUAL GROUND 2 POLE + H6 OR H12 GROUND BLACK PVC CABLE BLACK PUR CABLE
--	---

DIN 43650 FIELD- ATTACHABLE CONNECTORS PAGES 212 - 221 18, 11, 10, 9.4 & 8.0mm	DIN 43650 ACCESSORIES PAGES 222 - 223 18, 11, 10 & 9.4mm
---	---

LED & SURGE SUPPRESSION TYPE STRAIGHT WIRED TYPE 2 POLE + DUAL GROUND 2 POLE + GROUND 3 POLE + GROUND	TOP LOCATED LED END LOCATED LED VDR SURGE SUPPRESSION
--	---

Design and Quality

mPm DIN connectors are engineered to meet the challenging demands of industrial automation. As a quick-disconnect solution, mPm DIN connectors are proven to save time in installation over hardwiring. mPm output devices protect even the most sensitive control systems against damage from power spikes or surges. Available in either PVC or PUR cable, with or without LED and VDR or diode surge suppression, mPm DIN device solutions support a variety of harsh industrial applications, including those that involve industrial fluids, excessive flexing and water-base coolants.

Protection circuits are recommended for use on coils for actuators and cylinders, as the energizing and de-energizing of the coils can damage the coil windings. The energy created by the oscillating current, which creates a high voltage spike across the coil windings, is absorbed by the protection circuit. The protection circuit (VDR or zener diode type) ensures a long coil life.

Why VDR Circuit Protection is Best-Suited for DIN Connectors

mPm DIN 46350 connectors are configured standardly with a VDR protection circuit for high energy handling capability and, most importantly, are the most fool-proof to install. Due to the nature of the VDR, in which the mass of the VDR is much larger than that of a single zener diode junction, the power handling capability of the VDR is high. Simply put, the VDR protects your circuits from larger voltage spikes for longer periods of time. Secondly, due to the nature of VDR installation, it is reverse polarity-protected. You cannot miss-wire field-wireable devices and have them be destroyed by the mis-wiring.

As an option, mPm DIN connectors can be used to house zener diode protection modules. Zener diodes should be specified in those cases where very fast response times and a high level of protection sensitivity are required. Zener diodes are fast-acting, with downstream components protected in the picoseconds response time frame. When highly accurate and repeatable protection of a "hard clamping voltage" is required, such as in instrumentation and communications equipment applications, then a zener diode protection circuit should be specified.

PROTECTION CIRCUIT	ENERGY HANDLING CAPABILITY	REVERSE POLARITY PROTECTION?	SPEED OF RESPONSE
VDR	HIGHEST	YES	FAST
ZENER DIODE	MODERATE	NO	FASTEST

mPm DIN connectors are recognized for the same ease-of-use and cost-effectiveness as Brad Harrison input connectors. Molded DIN cable assemblies are compatible with the Brad Harrison family of Mini-Change® and Micro-Change® quick-disconnect devices and multi-port interconnection systems. Molded DIN cable assemblies also save the time required in field wiring of field attached DIN. For a complete plug-and-play input and output interwiring solution that eliminates field wiring errors, molded mPm® DIN connectors can be supplied with molded Brad Harrison connectors and simply plugged into a multi-port interconnection system.

DIN 43650 & Brad Harrison Connector Catalog Number Matrix

Use these Catalog Number Matrices to generate a custom or existing part number. From each grouping of specifications choose corresponding code to create a single 13 character alpha/numeric part number for ordering. Below is an example of a properly constructed DIN cordset part number and how it translates to an actual part.

G850B0E12M010

9.4 mm DIN 2P & Dual Ground 5P Straight Male Micro-Change® M12 with #20 AWG Black PVC cable 1 meter long with 24V yellow and VDR surge suppression.

G 8 5 0 B 0 E 1 2 M 0 1 0

DIN CONNECTOR	BRAD CONNECTOR TYPE	NUMBER OF POLES	SPECIAL WIRING	VOLTAGE AND CIRCUIT	BRAD CONNECTOR AND DIN GROUND ORIENTATION	CABLE TYPE	UNIT OF MEASURE	LENGTH
								1st Digit 10 X Number 2nd Digit 1 X Number 3rd Digit .1 X Number
E 18mm 2P + Dual Gnd F 11mm 2P + Gnd D 10mm 2P + Gnd G 9.4mm 2P + Dual Gnd H 8.0mm 2P + Dual Gnd	3 Mini-Change Male (Internal Thread Coupler) 8 Micro-Change M12 Male (External Thread Coupler)	3 3P Mini-Change only 5 5P Micro-Change only	0 Default	B 24V Yellow LED and VDR Surge Suppression D 115V Yellow LED and VDR Surge Suppression 0 0-250V AC/DC Straight Wired, no LED or Surge Suppression	0 Micro-Change M12 5P Male Straight to 18, 9.4, 8.0mm DIN with Dual Gnd or, 11 or 10mm DIN with H12 Gnd 1 Micro-Change M12 5P Male Straight to 10 or 11mm DIN with H6 Gnd 2 Micro-Change M12 5P Male 90° to 18, 9.4, 8.0mm DIN with Dual Gnd or, 11 or 10mm DIN with H12 Gnd 3 Micro-Change M12 5P Male 90° to 10 or 11mm DIN with H6 Gnd 4 Mini-Change 3P Male Straight to 18, 9.4, 8.0mm DIN with Dual Gnd or, 11 or 10mm DIN with H12 Gnd 5 Mini-Change 3P Male Straight to 10 or 11mm DIN with H6 Gnd 6 Mini-Change 3P Male 90° to 18, 9.4, 8.0mm DIN with Dual Gnd or, 11 or 10mm DIN with H12 Gnd 7 Mini-Change 3P Male 90° to 10 or 11mm DIN with H6 Gnd	A23 18 AWG Black PVC 18, 11 & 10mm only E12 20 AWG Black PVC 9.4 & 8.0mm only P12 20 AWG Black PUR all sizes	M Meters	

DIN 43650 Connector w/ Leads **Catalog Number Matrix**

Below is an example of a properly constructed Connector part number and how it translates to an actual part.

E452N10012C4H

18mm DIN 2 Pole & Dual Ground with 1 meter #18 AWG Black PVC, 24V Yellow LED & VDR.

E452N10012C4H

DIN CONNECTOR	CABLE TYPE	LENGTH	GROUND PIN LOCATION	GASKET	INTERNAL CIRCUIT	VOLTAGE AND LED COLOR
						H 24V Yellow LED L 115V Yellow LED 0 No Circuits
E452	N	100	1	Flat Nitrile Gasket	C4	
E453	T	300	2		00	
E462		500	6			
E472						
E392						
E492						

VOLTAGE AND LED COLOR

- H 24V Yellow LED
- L 115V Yellow LED
- 0 No Circuits

INTERNAL CIRCUIT

- C4 Bipolar LED and VDR Surge Suppression*
- 00 No Circuits

* Not available on E453 series (18mm 3P + Gnd)

GASKET

Flat Nitrile Gasket

GROUND PIN LOCATION

- 1 Dual Gnd 18, 9.4, & 8.0mm only
- 2 H12 Gnd Opposite Cable 11, 10 & 18mm 3P + Gnd
- 6 H6 Gnd at Cable 11, 10 & 18mm 3P + Gnd

LENGTH

- 100 1 METER
- 300 3 METER
- 500 5 METER

CABLE TYPE

- N Black PVC Jacket #18 AWG 18, 11 & 10mm #20 AWG 9.4 & 8.0mm
- T Black PUR Jacket #20 AWG all sizes

DIN CONNECTOR

- E452 18mm 2P + Dual Gnd
- E453 18mm 3P + Gnd (available in straight wired circuit type only)
- E462 11mm 2P + Gnd
- E472 10mm 2P + Gnd
- E392 9.4mm 2P + Dual Gnd
- E492 8.0mm 2P + Dual Gnd



Single-Ended Cordsets

#18 AWG black PVC or #20 AWG black PUR cable with leads
 Yellow LED and VDR surge suppression or straight-wired circuit types
 24V AC/DC, 115V AC/DC and 250V AC/DC ratings

FEMALE FACE VIEW		
COLOR CODE	1- brown 2- blue dual gnd- green/yellow	
POLES	2-POLE + DUAL GROUND	
CONDUCTORS	PVC #18-3 BLACK JACKET or PUR #20-3 BLACK JACKET	
WIRING DIAGRAM	STRAIGHT-WIRED	YELLOW LED & VDR SURGE SUPPRESSION

CABLE TYPE	CURRENT	VOLTAGE AC/DC	SINGLE-ENDED CORDSETS WITH 1 METER CABLE	
STANDARD DUTY PVC #18	5A	0-250	E452N10012000	—
		24	—	E452N10012C4H
		115	—	E452N10012C4L
OIL - RESISTANT PUR #20	3A	0-250	E452T10012000	—
		24	—	E452T10012C4H
		115	—	E452T10012C4L

PART NO.	ACCESSORIES
3000-07-10	Replacement M3 x 25mm mounting screw – bag of 10 screws
3011-03-10	Replacement profile nitrile gasket – bag of 10 gaskets

CATALOG OPTIONS

E452N10012C4H

CABLE LENGTH

3 METER	300
5 METER	500



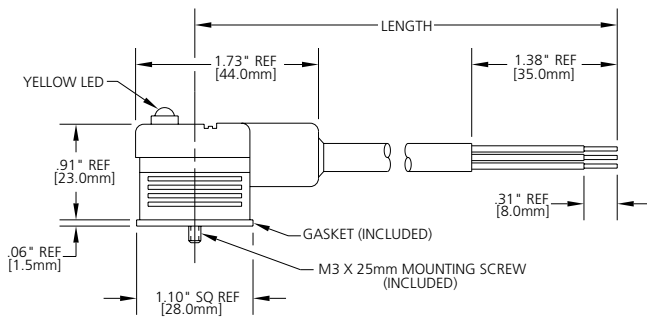
Specifications



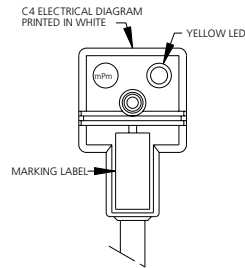
MECHANICAL	
CONNECTOR FACE:	GLASS REINFORCED POLYPROPYLENE
MOLDED BODY:	GLASS REINFORCED POLYPROPYLENE
GASKET:	NITRILE RUBBER
MOUNTING SCREW:	ZINC PLATED STEEL
CABLE:	BLACK #18 AWG PVC JACKET & PVC INSULATION OVER 21 X #32 COPPER STRANDING BLACK #20 AWG PUR JACKET & PVC INSULATION OVER 15 X #32 COPPER STRANDING
CABLE DIAMETER:	#18 AWG PVC - .26" (6.6mm) #20 AWG PUR - .21" (5.3mm)
ELECTRICAL	
VOLTAGE RATING:	250V AC/DC STRAIGHT-WIRED 24V AC/DC W/ LED & VDR 115V AC/DC W/ LED & VDR
AMPERAGE:	5A - #18 AWG PVC 3A - #20 AWG PUR
VDR CLAMPING VOLTAGE:	24V AC/DC DEVICES - 34V 115V AC/DC DEVICES - 185V
ENVIRONMENTAL	
PROTECTION:	IP65
AMBIENT OPERATING TEMPERATURE:	-13° TO 167° F (-25° TO 75° C)
CERTIFICATIONS:	SPACING TO VDE0110 LR6837
CSA:	

CONNECTOR DIMENSIONS

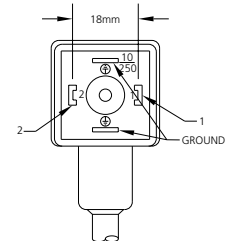
CONNECTOR WITH LED AND VDR SURGE SUPPRESSION



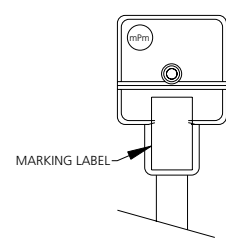
BACK VIEW



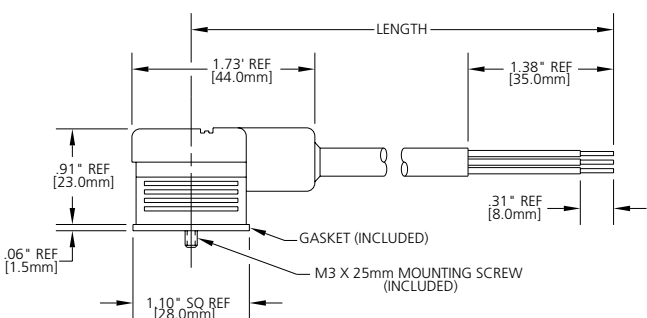
FACE VIEW



BACK VIEW



CONNECTOR STRAIGHT-WIRED





Single-Ended Cordsets

#18 AWG black PVC or #20 AWG black PUR cable with leads
 Straight-wired circuit
 250V AC/DC rating

	H6 GROUND	H12 GROUND
FEMALE FACE VIEW		
COLOR CODE	1- brown 2- blue	3- black Gnd- green/yellow
POLES	3-POLE + GROUND	
CONDUCTORS	PVC #18-4 BLACK JACKET or PUR #20-4 BLACK JACKET	
WIRING DIAGRAM	<p>BROWN ○ ———— < 1 BLUE ○ ———— < 2 BLACK ○ ———— < 3 GRN/YEL ○ ———— < ⊕</p>	

CABLE TYPE	CURRENT	VOLTAGE AC/DC	SINGLE-ENDED CORDSETS WITH 1 METER CABLE	
STANDARD DUTY PVC #18	5A	0-250	E453N10062000	E453N10022000
OIL-RESISTANT PUR #20	3A	0-250	E453T10062000	E453T10022000

PART NO.	ACCESSORIES
3000-07-10	Replacement M3 x 25mm mounting screw – bag of 10 screws
3011-03-10	Replacement profile nitrile gasket – bag of 10 gaskets

CATALOG OPTIONS

Use the following chart to modify your part's specifications

E453N10022000

CABLE LENGTH

3 METER	300
5 METER	500

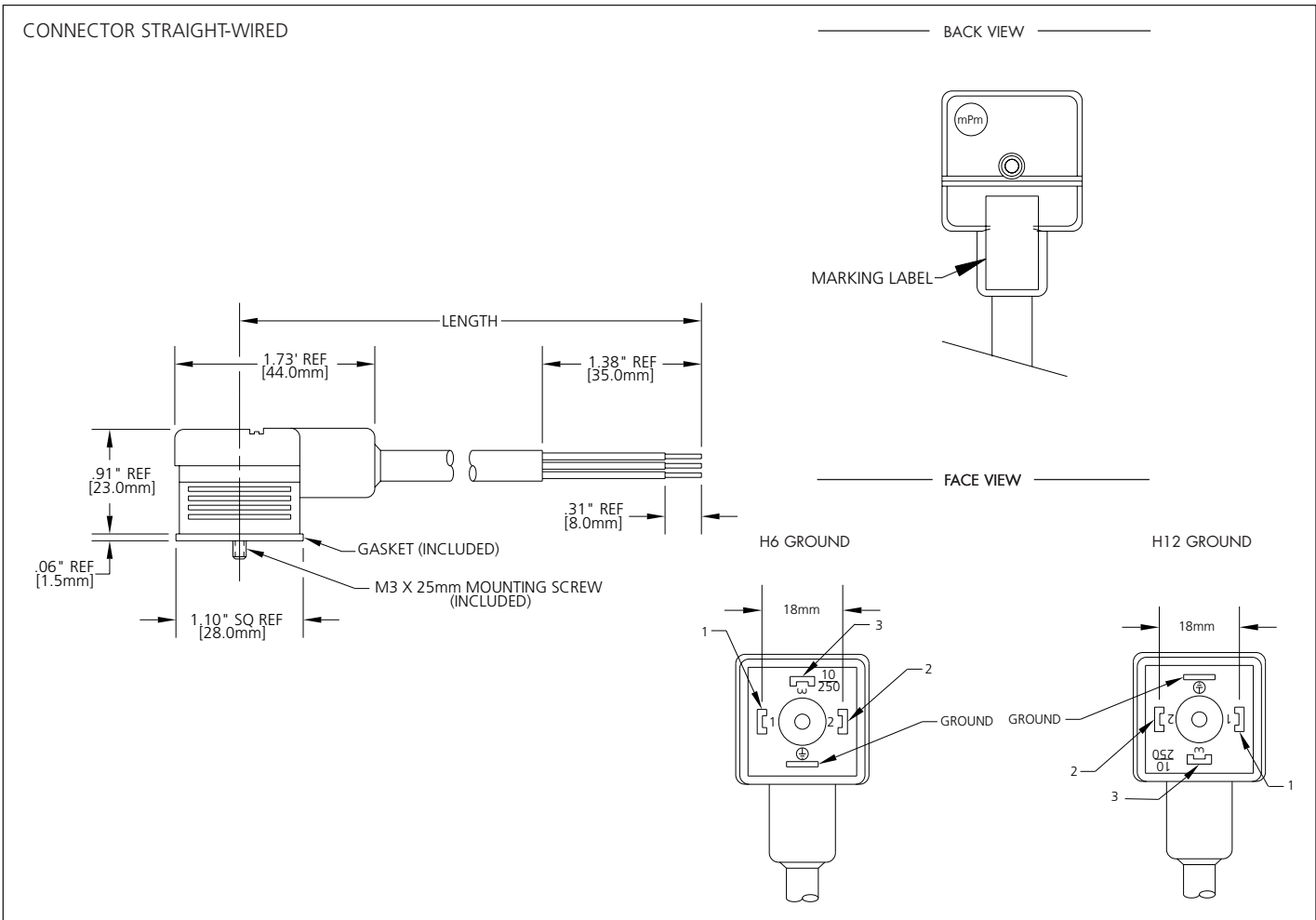


Specifications



MECHANICAL	
CONNECTOR FACE:	GLASS REINFORCED POLYPROPYLENE
MOLDED BODY:	GLASS REINFORCED POLYPROPYLENE
GASKET:	NITRILE RUBBER
MOUNTING SCREW:	ZINC PLATED STEEL
CABLE:	BLACK #18 AWG PVC JACKET & PVC INSULATION OVER 21 X #32 COPPER STRANDING
	BLACK #20 AWG PUR JACKET & PVC INSULATION OVER 15 X #32 COPPER STRANDING
CABLE DIAMETER:	#18 AWG PVC 4P - .26" (6.6mm)
	#20 AWG PUR 4P - .21" (5.3mm)
ELECTRICAL	
VOLTAGE RATING:	250V AC/DC STRAIGHT-WIRED
AMPERAGE:	5A - #18 AWG PVC
	3A - #20 AWG PUR
ENVIRONMENTAL	
PROTECTION:	IP65
AMBIENT OPERATING TEMPERATURE:	-13° TO 167° F (-25° TO 75° C)
CERTIFICATIONS:	SPACING TO VDE0110
CSA:	LR6837

CONNECTOR DIMENSIONS



11mm 2P+Gnd



Single-Ended Cordsets

#18 AWG black PVC or #20 AWG black PUR cable with leads
 Yellow LED and VDR surge suppression or straight-wired circuit types
 24V AC/DC, 115V AC/DC and 250V AC/DC ratings

	H6 GROUND	H12 GROUND		
FEMALE FACE VIEW				
COLOR CODE	1- brown 2- blue	3- black Gnd- green/yellow		
POLES	2-POLE + GROUND			
CONDUCTORS	PVC #18-3 BLACK JACKET or PUR #20-3 BLACK JACKET			
WIRING DIAGRAM	STRAIGHT-WIRED FIG 2	LED + VDR FIG 1	STRAIGHT-WIRED FIG 2	LED + VDR FIG 1

CABLE TYPE	CURRENT	VOLTAGE AC/DC	SINGLE-ENDED CORDSETS WITH 1 METER CABLE			
STANDARD DUTY PVC #18	5A	0-250	E462N10062000	—	E462N10022000	—
		24	—	E462N10062C4H	—	E462N10022C4H
		115	—	E462N10062C4L	—	E462N10022C4L
OIL-RESISTANT PUR #20	3A	0-250	E462T10062000	—	E462T10022000	—
		24	—	E462T10062C4H	—	E462T10022C4H
		115	—	E462T10062C4L	—	E462T10022C4L

PART NO.	ACCESSORIES
3000-07-10	Replacement M3 x 25mm mounting screw – bag of 10 screws
3011-07-10	Replacement profile nitrile gasket – bag of 10 gaskets

CATALOG OPTIONS

E462N10062C4H

CABLE LENGTH

3 METER	300
5 METER	500



Specifications



MECHANICAL	
CONNECTOR FACE:	GLASS REINFORCED POLYPROPYLENE
MOLDED BODY:	GLASS REINFORCED POLYPROPYLENE
GASKET:	NITRILE RUBBER
MOUNTING SCREW:	ZINC PLATED STEEL
CABLE:	BLACK #18 AWG PVC JACKET & PVC INSULATION OVER 21 X #32 COPPER STRANDING
	BLACK #20 AWG PUR JACKET & PVC INSULATION OVER 15 X #32 COPPER STRANDING
CABLE DIAMETER:	#18 AWG PVC - .26" (6.6mm)
	#20 AWG PUR - .21" (5.3mm)
ELECTRICAL	
VOLTAGE RATING:	250V AC/DC STRAIGHT-WIRED
	24V AC/DC W/ LED & VDR
	115V AC/DC W/ LED & VDR
AMPERAGE:	5A - #18 AWG PVC
	3A - #20 AWG PUR
VDR CLAMPING VOLTAGE:	24V AC/DC DEVICES - 34V
	115V AC/DC DEVICES - 185V
ENVIRONMENTAL	
PROTECTION:	IP65
AMBIENT OPERATING TEMPERATURE:	-13° TO 167° F (-25° TO 75° C)
CERTIFICATIONS:	SPACING TO VDE0110
CSA:	LR6837

CONNECTOR DIMENSIONS

CONNECTOR WITH LED AND VDR SURGE SUPPRESSION

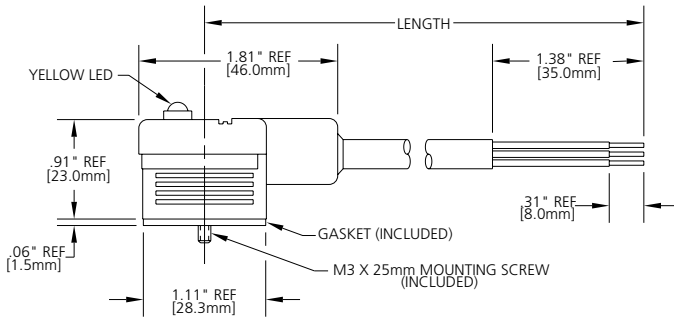


FIG 1

CONNECTOR STRAIGHT-WIRED

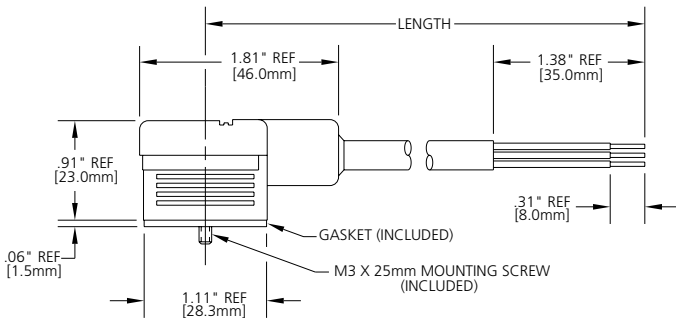
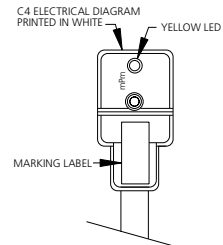
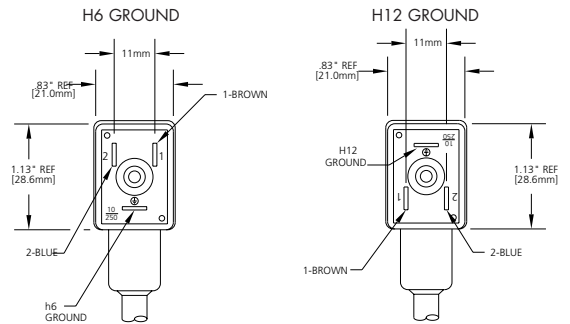


FIG 2

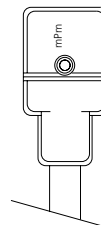
BACK VIEW



FACE VIEW



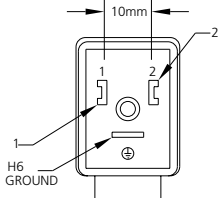
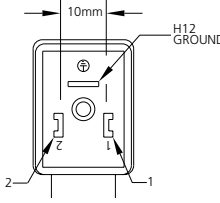
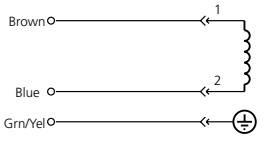
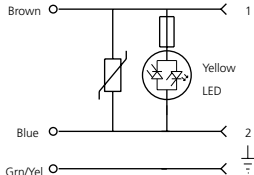
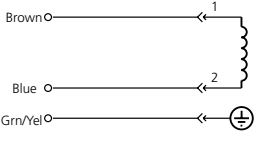
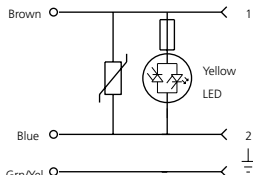
BACK VIEW





Single-Ended Cordsets

#18 AWG black PVC or #20 AWG black PUR cable with leads
 Yellow LED and VDR surge suppression or straight-wired circuit types
 24V AC/DC, 115V AC/DC and 250V AC/DC ratings

	H6 GROUND		H12 GROUND	
FEMALE FACE VIEW				
COLOR CODE	1- brown 2- blue gnd- green/yellow			
POLES	2-POLE + GROUND			
CONDUCTORS	PVC #18-3 BLACK JACKET or PUR #20-3 BLACK JACKET			
WIRING DIAGRAM	STRAIGHT-WIRED FIG 2	LED + VDR FIG 1	STRAIGHT-WIRED FIG 2	LED + VDR FIG 1
				

CABLE TYPE	CURRENT	VOLTAGE AC/DC	SINGLE-ENDED CORDSETS WITH 1 METER CABLE			
STANDARD DUTY PVC #18	5A	0-250	E472N10062000	—	E472N10022000	—
		24	—	E472N10062C4H	—	E472N10022C4H
		115	—	E472N10062C4L	—	E472N10022C4L
OIL-RESISTANT PUR #20	3A	0-250	E472T10062000	—	E472T10022000	—
		24	—	E472T10062C4H	—	E472T10022C4H
		115	—	E472T10062C4L	—	E472T10022C4L

PART NO.	ACCESSORIES
3000-07-10	Replacement M3 x 25mm mounting screw – bag of 10 screws
3011-07-10	Replacement profile nitrile gasket – bag of 10 gaskets

CATALOG OPTIONS

E472N10062C4H

CABLE LENGTH

3 METER	300
5 METER	500



Specifications



MECHANICAL	
CONNECTOR FACE:	GLASS REINFORCED POLYPROPYLENE
MOLDED BODY:	GLASS REINFORCED POLYPROPYLENE
GASKET:	NITRILE RUBBER
MOUNTING SCREW:	ZINC PLATED STEEL
CABLE:	BLACK #18 AWG PVC JACKET & PVC INSULATION OVER 21 X #32 COPPER STRANDING BLACK #20 AWG PUR JACKET & PVC INSULATION OVER 15 X #32 COPPER STRANDING
CABLE DIAMETER:	#18 AWG PVC 3P - .26" (6.6mm) #20 AWG PUR 3P - .21" (5.3mm)
ELECTRICAL	
VOLTAGE RATING:	250V AC/DC STRAIGHT-WIRED 24V AC/DC W/ LED & VDR 115 V AC/DC W/ LED & VDR
AMPERAGE:	5A - #18 AWG PVC 3A - #20 AWG PUR
VDR CLAMPING VOLTAGE:	24V AC/DC DEVICES - 34V 115V AC/DC DEVICES - 185V
ENVIRONMENTAL	
PROTECTION:	IP65
AMBIENT OPERATING TEMPERATURE:	-13° TO 167° F (-25° TO 75° C)
CERTIFICATIONS:	SPACING TO VDE0110
CSA:	LR6837

CONNECTOR DIMENSIONS

CONNECTOR WITH LED AND VDR SURGE SUPPRESSION

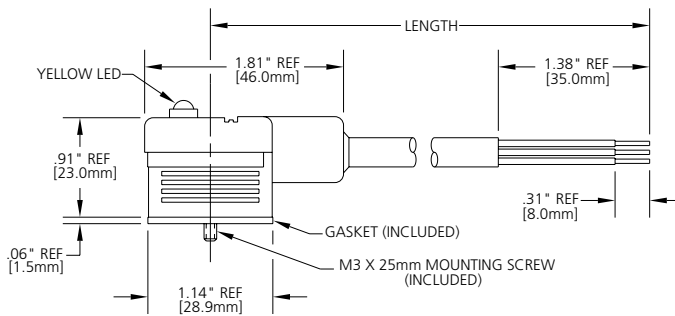


FIG 1

CONNECTOR STRAIGHT-WIRED

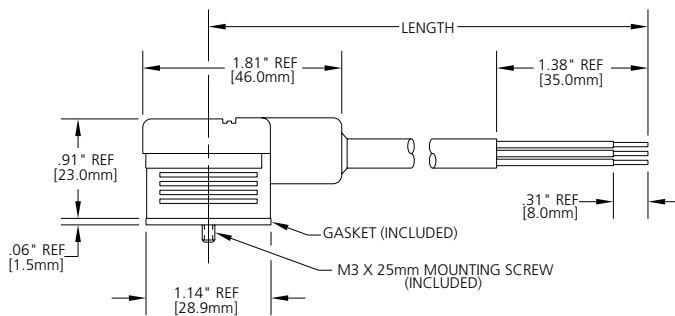
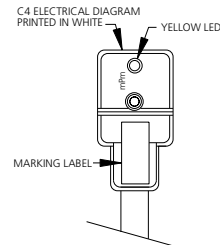


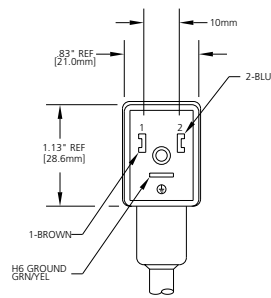
FIG 2

BACK VIEW

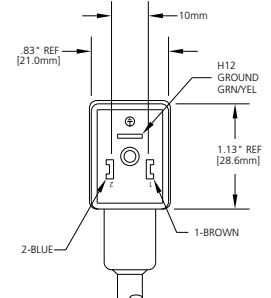


FACE VIEW

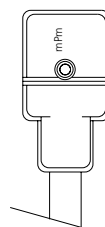
H6 GROUND



H12 GROUND



BACK VIEW



9.4mm 2P+Gnd



Single-Ended Cordsets

#20 AWG black PVC or #20 AWG black PUR cable with leads
 Yellow LED and VDR surge suppression or straight-wired circuit types
 24V AC/DC, 115V AC/DC and 250V AC/DC ratings

<p>FEMALE FACE VIEW</p>		
<p>COLOR CODE</p>	<p>1- brown 2- blue Dual gnd- green/yellow</p>	
<p>POLES</p>	<p>2-POLE + DUAL GROUND</p>	
<p>CONDUCTORS</p>	<p>PVC #20-3 BLACK JACKET or PUR #20-3 BLACK JACKET</p>	
<p>WIRING DIAGRAM</p>	<p>STRAIGHT-WIRED FIG 2</p>	<p>YELLOW LED & VDR SURGE SUPPRESSION FIG 1</p>

CABLE TYPE	CURRENT	VOLTAGE AC/DC	SINGLE-ENDED CORDSETS WITH 1 METER CABLE	
STANDARD DUTY PVC #20	3A	0-250	E332N10012000	—
		24	—	E392N10012C4H
		115	—	E392N10012C4L
OIL-RESISTANT PUR #20	3A	0-250	E332P10012000	—
		24	—	E392P10012C4H
		115	—	E392P10012C4L

PART NO.	ACCESSORIES
3000-07-10	Replacement M3 x 25MM mounting screw – bag of 10 screws
3011-23-10	Replacement profile nitrile gasket – bag of 10 gaskets

CATALOG OPTIONS

E332N10012C4H

CABLE LENGTH

3 METER	300
5 METER	500



Specifications



MECHANICAL	
CONNECTOR FACE:	GLASS REINFORCED POLYPROPYLENE
MOLDED BODY:	GLASS REINFORCED POLYPROPYLENE
GASKET:	NITRILE RUBBER
MOUNTING SCREW:	ZINC PLATED STEEL
CABLE:	BLACK #20 AWG PVC JACKET & PVC INSULATION OVER 15 X #32 COPPER STRANDING
	BLACK #20 AWG PUR JACKET & PVC INSULATION OVER 15 X #32 COPPER STRANDING
CABLE DIAMETER:	#20 AWG PVC 3P - .21" (5.3mm) #20 AWG PUR 3P - .21" (5.3mm)
ELECTRICAL	
VOLTAGE RATING:	250V AC/DC STRAIGHT-WIRED 24V AC/DC W/ LED & VDR 115V AC/DC W/ LED & VDR
AMPERAGE:	3A - #20 AWG PVC 3A - #20 AWG PUR
VDR CLAMPING VOLTAGE:	24V AC/DC DEVICES - 34V 115V AC/DC DEVICES - 185V
ENVIRONMENTAL	
PROTECTION:	IP65
AMBIENT OPERATING TEMPERATURE:	-13° TO 167° F (-25° TO 75° C)
CERTIFICATIONS:	SPACING TO VDE0110
CSA:	LR6837

CONNECTOR DIMENSIONS

CONNECTOR WITH LED AND VDR SURGE SUPPRESSION

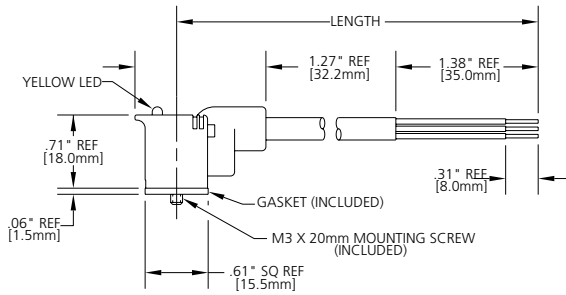
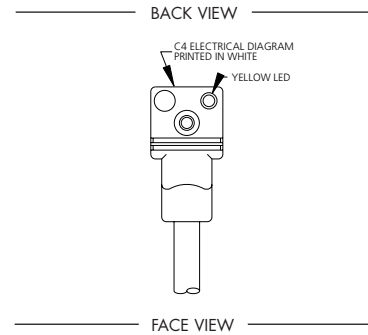


FIG 1



CONNECTOR STRAIGHT-WIRED

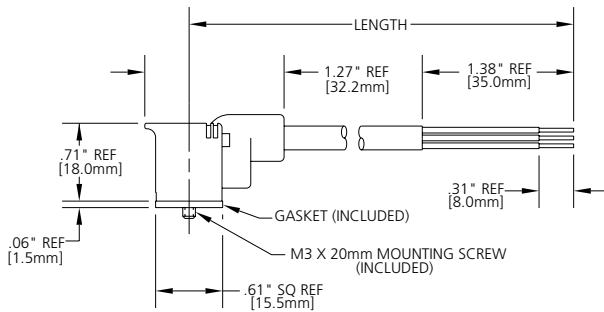
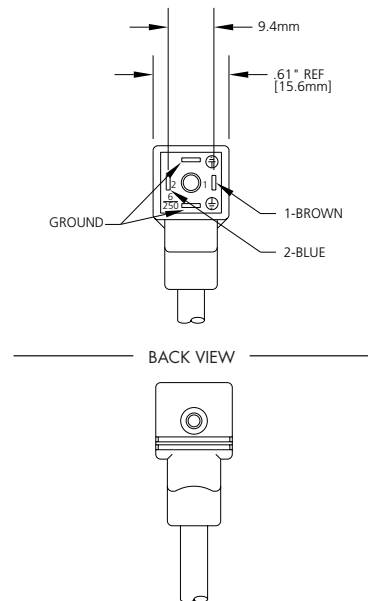


FIG 2





Single-Ended Cordsets

#20 AWG black PVC or #20 AWG black PUR cable with leads
 Yellow LED and VDR surge suppression or straight-wired circuit types
 24V AC/DC, 115V AC/DC and 250V AC/DC ratings

FEMALE FACE VIEW		
COLOR CODE	1- brown 2- blue Dual gnd- green/yellow	
POLES	2-POLE + DUAL GROUND	
CONDUCTORS	PVC #20-3 BLACK JACKET or PUR #20-3 BLACK JACKET	
	STRAIGHT-WIRED FIG 2	YELLOW LED & VDR SURGE SUPPRESSION FIG 1
WIRING DIAGRAM		

CABLE TYPE	CURRENT	VOLTAGE AC/DC	SINGLE-ENDED CORDSETS WITH 1 METER CABLE	
STANDARD DUTY PVC #20	3A	0-250	E432N10012000	—
		24	—	E492N10012C4H
		115	—	E492N10012C4L
OIL-RESISTANT PUR #20	3A	0-250	E432P10012000	—
		24	—	E492P10012C4H
		115	—	E492P10012C4L

PART NO.	ACCESSORIES
3000-02-10	Replacement M2.5 x 25.5mm mounting screw – bag of 10 screws
3011-23-10	Replacement profile nitrile gasket – bag of 10 gaskets

CATALOG OPTIONS

E432N10012C4H

CABLE LENGTH

3 METER	300
5 METER	500



Specifications



MECHANICAL	
CONNECTOR FACE:	GLASS REINFORCED POLYPROPYLENE
MOLDED BODY:	GLASS REINFORCED POLYPROPYLENE
GASKET:	NITRILE RUBBER
MOUNTING SCREW:	ZINC PLATED STEEL
CABLE:	BLACK #20 AWG PVC JACKET & PVC INSULATION OVER 15 X #32 COPPER STRANDING
	BLACK #20 AWG PUR JACKET & PVC INSULATION OVER 15 X #32 COPPER STRANDING
CABLE DIAMETER:	#20 AWG PVC 3P - .21" (5.3mm) #20 AWG PUR 3P - .21" (5.3mm)
ELECTRICAL	
VOLTAGE RATING:	250V AC/DC STRAIGHT-WIRED 24V AC/DC W/ LED & VDR 115V AC/DC W/ LED & VDR
AMPERAGE:	3A - #20 AWG PVC 3A - #20 AWG PUR
VDR CLAMPING VOLTAGE:	24V AC/DC DEVICES - 34V 115V AC/DC DEVICES - 185V
ENVIRONMENTAL	
PROTECTION:	IP65
AMBIENT OPERATING TEMPERATURE:	-13° TO 167° F (-25° TO 75° C)
CERTIFICATIONS:	SPACING TO VDE0110
CSA:	LR6837

CONNECTOR DIMENSIONS

CONNECTOR WITH LED AND VDR SURGE SUPPRESSION

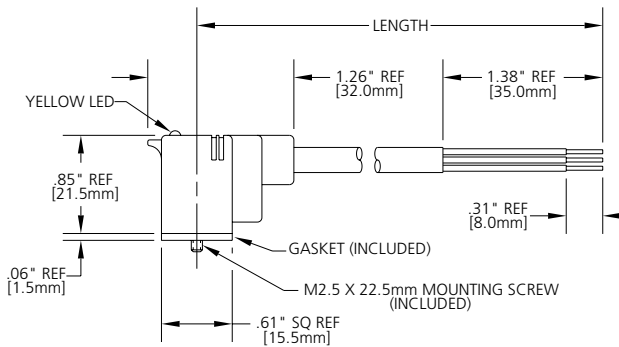
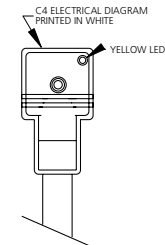
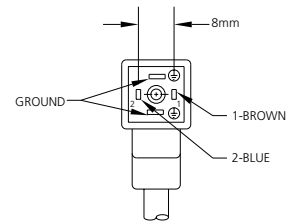


FIG 1

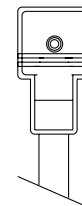
BACK VIEW



FACE VIEW



BACK VIEW



CONNECTOR STRAIGHT-WIRED

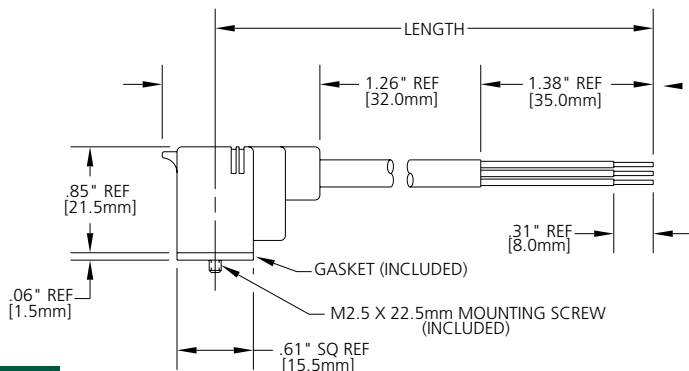


FIG 2



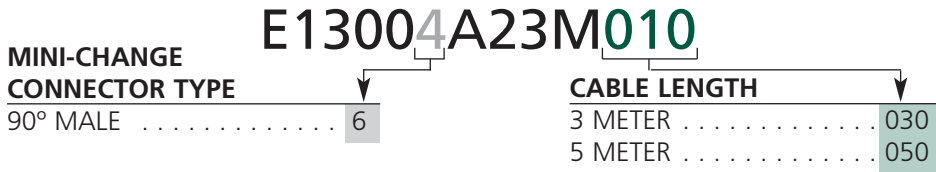
Double-Ended Cordsets

#18 AWG black PVC or #20 AWG black PUR cable
 Yellow LED and VDR surge suppression or straight-wired circuit types
 24V AC/DC, 115V AC/DC and 250V AC/DC versions available
 3P male Mini-Change® or 5P male single key Micro-Change® connector

<p>DIN FEMALE FACE VIEW</p>	STRAIGHT-WIRED	YELLOW LED & VDR SURGE SUPPRESSION
COLOR CODE	1- brown 2- blue	dual gnd- green/yellow
POLES	2-POLE + DUAL GROUND	
CONDUCTOR	PVC #18-3 BLACK JACKET or PUR #20-3 BLACK JACKET	

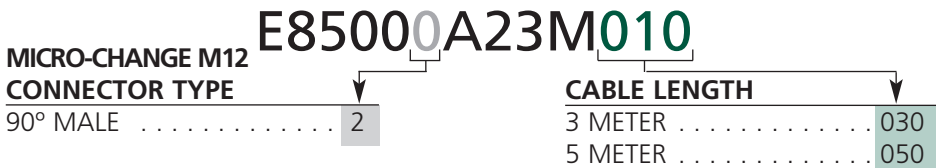
MALE FACE VIEW	CABLE TYPE	CURRENT	VOLTAGE AC/DC	MINI-CHANGE 3P MALE STRAIGHT WITH 1 METER CABLE - FIG 1	
<p>PIN # DIN</p> <p>1 gnd</p> <p>2 1</p> <p>3 2</p>	STANDARD DUTY PVC #18	5A	0-250	E13004A23M010	—
			24	—	E130B4A23M010
			115	—	E130D4A23M010
	OIL-RESISTANT PUR #20	3A	0-250	E13004P12M010	—
			24	—	E130B4P12M010
			115	—	E130D4P12M010

CATALOG OPTIONS FOR MINI-CHANGE 3P MALE STRAIGHT



MALE FACE VIEW	CABLE TYPE	CURRENT	VOLTAGE AC/DC	MICRO-CHANGE M12 5P MALE STRAIGHT WITH 1 METER CABLE - FIG 2	
<p>PIN# DIN</p> <p>1 N/C</p> <p>2 N/C</p> <p>3 2</p> <p>4 1</p> <p>5 gnd</p>	STANDARD DUTY PVC #18	4A	0-250	E85000A23M010	—
			24	—	E850B0A23M010
			115	—	E850D0A23M010
	OIL-RESISTANT PUR #20	3A	0-250	E85000P12M010	—
			24	—	E850B0P12M010
			115	—	E850D0P12M010

CATALOG OPTIONS FOR MICRO-CHANGE 5P MALE STRAIGHT

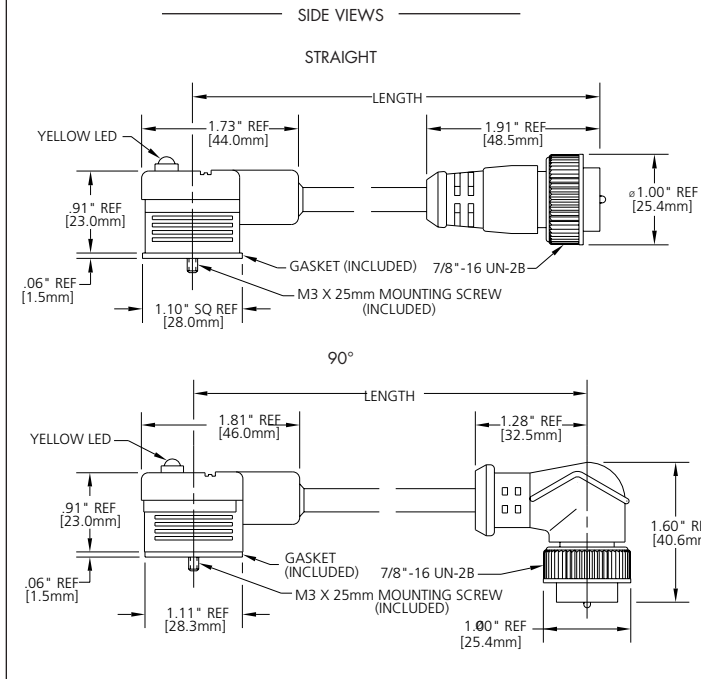


Specifications



CONNECTOR DIMENSIONS

18mm DIN WITH 3P MALE MINI-CHANGE CONNECTOR



MECHANICAL (DIN)

CONNECTOR FACE: GLASS REINFORCED POLYPROPYLENE
 MOLDED BODY: GLASS REINFORCED POLYPROPYLENE
 GASKET: NITRILE RUBBER
 MOUNTING SCREW: ZINC PLATED STEEL
 CABLE: BLACK #18 AWG PVC JACKET & PVC INSULATION OVER 21 X #32 COPPER STRANDING

CABLE DIAMETER: #18 AWG PVC 3P - .26" (6.6mm)
 #20 AWG PUR 3P - .21" (5.3mm)

(MINI-CHANGE)

CONNECTOR FACE: PVC - UL STD 94 - V0
 MOLDED BODY: PVC - UL STD 94 - V0
 COUPLING UNIT: ZINC DIECAST W/ BLACK EPOXY COAT

(MICRO-CHANGE)

CONNECTOR FACE: NYLON 6/6
 MOLDED BODY: PVC - UL STD 94 - V0
 COUPLING UNIT: ZINC DIECAST W/ BLACK EPOXY COAT

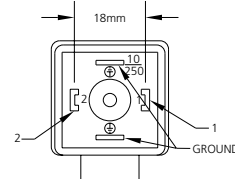
ELECTRICAL

VOLTAGE RATING: 250V AC/DC STRAIGHT-WIRED
 24V AC/DC W/ LED & VDR
 115V AC/DC W/ LED & VDR
 AMPERAGE: 5A MINI, 4A MICRO - #18 AWG PVC
 3A - #20 AWG PUR
 VDR CLAMPING VOLTAGE: 24V AC/DC DEVICES - 34V
 115V AC/DC DEVICES - 185V

ENVIRONMENTAL

PROTECTION: IP65
 AMBIENT OPERATING TEMPERATURE: -13° TO 167° F (-25° TO 75° C)
 CERTIFICATIONS: SPACING TO VDE0110
 CSA: LR6837

FEMALE FACE VIEW



MALE FACE VIEW

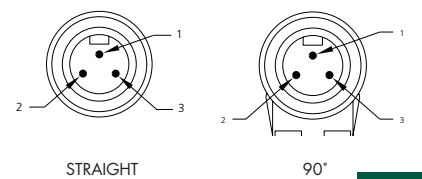
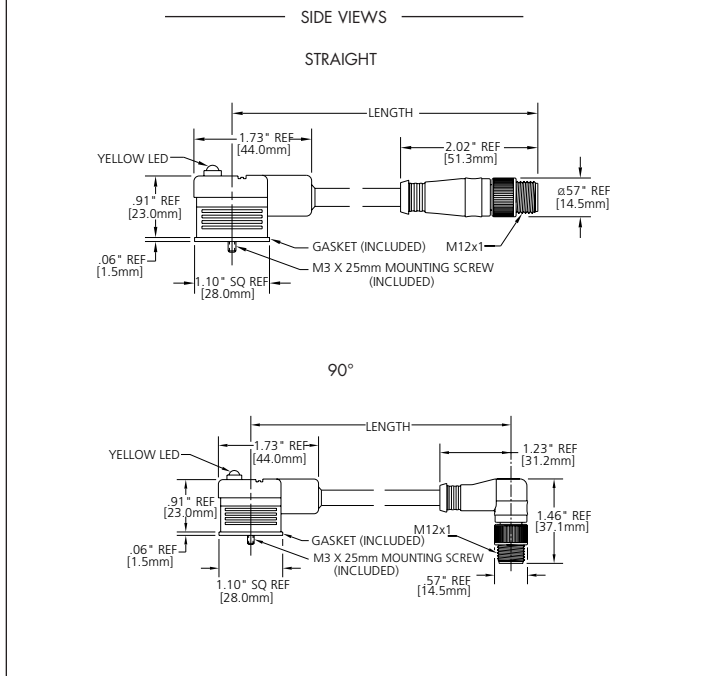
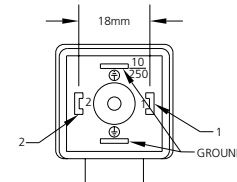


FIG 1

18mm DIN WITH 5P MALE SINGLE KEY MICRO-CHANGE CONNECTOR



FEMALE FACE VIEW



MALE FACE VIEW

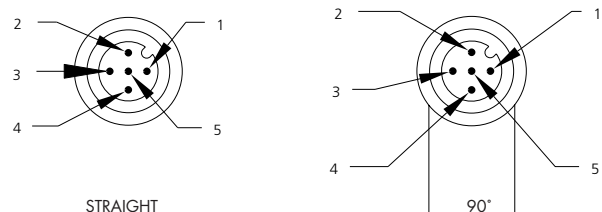


FIG 2



Double-Ended Cordsets

#18 AWG black PVC or #20 AWG black PUR cable
 Yellow LED and VDR surge suppression or straight-wired circuit types
 24V AC/DC, 115V AC/DC and 250V AC/DC versions available
 3P male Mini-Change® connector

11mm	H6 GROUND		H12 GROUND	
DIN FEMALE FACE VIEW				
WIRING DIAGRAM	STRAIGHT-WIRED	YELLOW LED + VDR	STRAIGHT-WIRED	YELLOW LED + VDR
COLOR CODE	1- brown 2- blue		gnd- green/yellow	
POLES	2-POLE + GROUND			
CONDUCTOR	PVC #18-3 BLACK JACKET or PUR #20-3 BLACK JACKET			

MALE FACE VIEW	CABLE TYPE	CURRENT	VOLTAGE AC/DC	MINI-CHANGE 3P MALE STRAIGHT WITH 1 METER CABLE – FIG 1			
	STANDARD DUTY PVC #18	5A	0-250	F13005A23M010	—	F13004A23M010	—
			24	—	F130B5A23M010	—	F130B4A23M010
			115	—	F130D5A23M010	—	F130D4A23M010
	OIL-RESISTANT PUR #20	3A	0-250	F13005P12M010	—	F13004P12M010	—
			24	—	F130B5P12M010	—	F130B4P12M010
			115	—	F130D5P12M010	—	F130D4P12M010

PART NO.	ACCESSORIES
3000-07-10	Replacement M3 x 25mm mounting screw – bag of 10 screws
3011-07-10	Replacement profile nitrile gasket – bag of 10 gaskets

CATALOG OPTIONS

F13005A23M010

MINI-CHANGE CONNECTOR TYPE

90° MALE (H6 GROUND) . . . 7
 90° MALE (H12 GROUND) . . . 6

CABLE LENGTH

3 METER 030
 5 METER 050

Specifications



MECHANICAL(DIN)

CONNECTOR FACE: GLASS REINFORCED POLYPROPYLENE
 MOLDED BODY: GLASS REINFORCED POLYPROPYLENE
 GASKET: NITRILE RUBBER
 MOUNTING SCREW: ZINC PLATED STEEL
 CABLE: BLACK #18 AWG PVC JACKET & PVC INSULATION OVER 21 X #32 COPPER STRANDING
 BLACK #20 AWG PUR JACKET & PVC INSULATION OVER 15 X #32 COPPER STRANDING
 CABLE DIAMETER: #18 AWG PVC 3P - .26" (6.6mm)
 #20 AWG PUR 3P - .21" (5.3mm)

(MINI CHANGE)

CONNECTOR FACE: PVC - UL STD 94 - V0
 MOLDED BODY: PVC - UL STD 94 - V0
 COUPLING UNIT: ZINC DIECAST W/ BLACK EPOXY COAT

ELECTRICAL

VOLTAGE RATING: 250V AC/DC STRAIGHT-WIRED
 24V AC/DC W/ LED & VDR
 115V AC/DC W/ LED & VDR
 AMPERAGE: 5A - #18 AWG PVC
 3A - #20 AWG PUR
 VDR CLAMPING VOLTAGE: 24V AC/DC DEVICES - 34V
 115V AC/DC DEVICES - 185V

ENVIRONMENTAL

PROTECTION: IP65
 AMBIENT OPERATING TEMPERATURE: -13° TO 167° F (-25° TO 75° C)
 CERTIFICATIONS: SPACING TO VDE0110
 CSA: LR6837

CONNECTOR DIMENSIONS

11mm DIN WITH 3P MALE MINI-CHANGE CONNECTOR

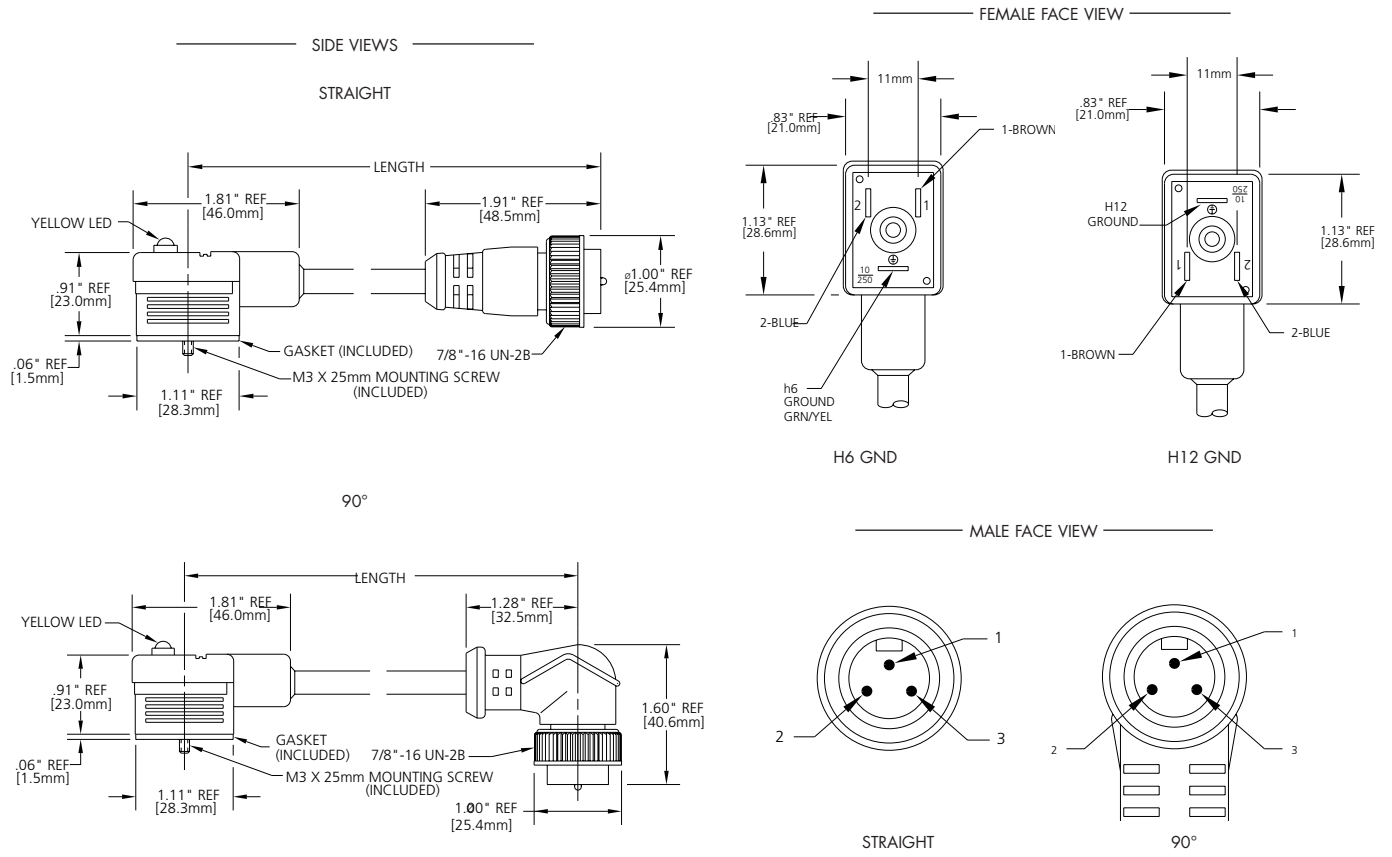


FIG 1

11mm 2p+Gnd



Double-Ended Cordsets

#18 AWG black PVC or #20 AWG black PUR cable
 Yellow LED and VDR surge suppression or straight-wired circuit types
 24V AC/DC, 115V AC/DC and 250V AC/DC versions available
 5P male Micro-Change® single key connector

11mm	H6 GROUND		H12 GROUND	
DIN FEMALE FACE VIEW				
WIRING DIAGRAM	STRAIGHT-WIRED	YELLOW LED + VDR	STRAIGHT-WIRED	YELLOW LED + VDR
COLOR CODE	1- brown 2- blue		gnd- green/yellow	
POLES	2-POLE + GROUND			
CONDUCTOR	PVC #18-3 BLACK JACKET or PUR #20-3 BLACK JACKET			

MALE FACE VIEW	CABLE TYPE	CURRENT	VOLTAGE AC/DC	MICRO-CHANGE M12 5P MALE STRAIGHT 1 METER CABLE – FIG 1			
<p>PIN# DIN 1 N/C 2 N/C 3 2 4 1 5 gnd</p>	STANDARD DUTY PVC #18	4A	0-250	F85001A23M010	—	F85000A23M010	—
			24	—	F850B1A23M010	—	F850B0A23M010
			115	—	F850D1A23M010	—	F850D0A23M010
	OIL-RESISTANT PUR #20	3A	0-250	F85001P12M010	—	F85000P12M010	—
			24	—	F850B1P12M010	—	F850B0P12M010
			115	—	F850D1P12M010	—	F850D0P12M010

PART NO.	ACCESSORIES
3000-07-10	Replacement M3 x 25mm mounting screw – bag of 10 screws
3011-07-10	Replacement profile nitrile gasket – bag of 10 gaskets

CATALOG OPTIONS

F85001A23M010

MICRO-CHANGE (M12) CONNECTOR TYPE

90° MALE (H6 GROUND) . . . 3
 90° MALE (H12 GROUND) . . . 2

CABLE LENGTH

3 METER 030
 5 METER 050



Specifications



MECHANICAL(DIN)

CONNECTOR FACE: GLASS REINFORCED POLYPROPYLENE
 MOLDED BODY: GLASS REINFORCED POLYPROPYLENE
 GASKET: NITRILE RUBBER
 MOUNTING SCREW: ZINC PLATED STEEL
 CABLE: BLACK #18 AWG PVC JACKET & PVC INSULATION OVER 21 X #32 COPPER STRANDING
 BLACK #20 AWG PUR JACKET & PVC INSULATION OVER 15 X #32 COPPER STRANDING
 CABLE DIAMETER: #18 AWG PVC 3P - .26" (6.6mm)
 #20 AWG PUR 3P - .21" (5.3mm)

(MICRO-CHANGE)

CONNECTOR FACE: NYLON 6/6
 MOLDED BODY: PVC - UL STD 94 - V0
 COUPLING UNIT: ZINC DIECAST W/ BLACK EPOXY COAT

ELECTRICAL

VOLTAGE RATING: 250V AC/DC STRAIGHT-WIRED
 24V AC/DC W/ LED & VDR
 115V AC/DC W/ LED & VDR
 AMPERAGE: 4A - #18 AWG PVC
 3A - #20 AWG PUR
 VDR CLAMPING VOLTAGE: 24V AC/DC DEVICES - 34V
 115V AC/DC DEVICES - 185V

ENVIRONMENTAL

PROTECTION: IP65
 AMBIENT OPERATING TEMPERATURE: -13° TO 167° F (-25° TO 75° C)
 CERTIFICATIONS: SPACING TO VDE0110
 CSA: LR6837

CONNECTOR DIMENSIONS

11mm DIN WITH 5P MALE MICRO-CHANGE CONNECTOR

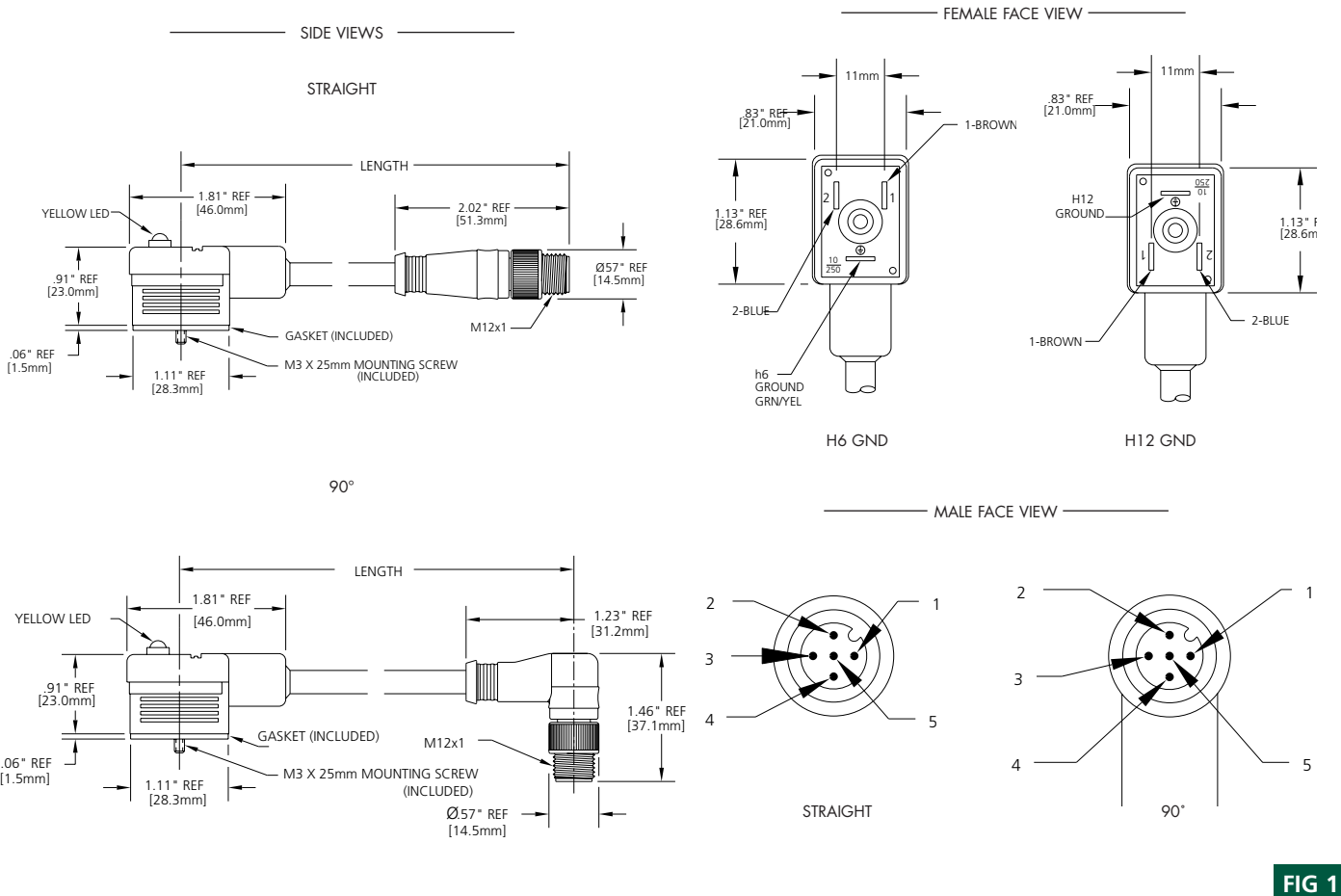


FIG 1

10mm 2p+Gnd



Double-Ended Cordsets

#18 AWG black PVC or #20 AWG black PUR cable
 Yellow LED and VDR surge suppression or straight-wired circuit types
 24V AC/DC, 115V AC/DC and 250V AC/DC versions available
 3P male Mini-Change® connector

10mm	H6 GROUND		H12 GROUND	
DIN FEMALE FACE VIEW				
WIRING DIAGRAM	STRAIGHT-WIRED	YELLOW LED + VDR	STRAIGHT-WIRED	YELLOW LED + VDR
COLOR CODE	1- brown 2- blue		gnd- green/yellow	
POLES	2-POLE + GROUND			
CONDUCTOR	PVC #18-3 BLACK JACKET or PUR #20-3 BLACK JACKET			

MALE FACE VIEW	CABLE TYPE	CURRENT	VOLTAGE AC/DC	MINI-CHANGE 3P MALE STRAIGHT FIG 1			
	STANDARD DUTY PVC #18	5A	0-250	D13005A23M010	—	D13004A23M010	—
			24	—	D130B5A23M010	—	D130B4A23M010
			115	—	D130D5A23M010	—	D130D4A23M010
	OIL-RESISTANT PUR #20	3A	0-250	D13005P12M010	—	D13004P12M010	—
			24	—	D130B5P12M010	—	D130B4P12M010
			115	—	D130D5P12M010	—	D130D4P12M010

PART NO.	ACCESSORIES
3000-07-10	Replacement M3 x 25mm mounting screw – bag of 10 screws
3011-07-10	Replacement profile nitrile gasket – bag of 10 gaskets

CATALOG OPTIONS

D13005A23M010

MINI-CHANGE CONNECTOR TYPE

90° MALE (H6 GROUND) . . . 7
 90° MALE (H12 GROUND) . . . 6

CABLE LENGTH

3 METER 030
 5 METER 050



Specifications



MECHANICAL(DIN)

CONNECTOR FACE: GLASS REINFORCED POLYPROPYLENE
 MOLDED BODY: GLASS REINFORCED POLYPROPYLENE
 GASKET: NITRILE RUBBER
 MOUNTING SCREW: ZINC PLATED STEEL
 CABLE: BLACK #18 AWG PVC JACKET & PVC INSULATION OVER 21 X #32 COPPER STRANDING
 BLACK #20 AWG PUR JACKET & PVC INSULATION OVER 15 X #32 COPPER STRANDING
 CABLE DIAMETER: #18 AWG PVC 3P - .26" (6.6mm)
 #20 AWG PUR 3P - .21" (5.3mm)

(MINI-CHANGE)

CONNECTOR FACE: PVC - UL STD 94 - V0
 MOLDED BODY: PVC - UL STD 94 - V0
 COUPLING UNIT: ZINC DIECAST W/ BLACK EPOXY COAT

ELECTRICAL

VOLTAGE RATING: 250V AC/DC STRAIGHT-WIRED
 24V AC/DC W/ LED & VDR
 115V AC/DC W/ LED & VDR
 AMPERAGE: 5A - #18 AWG PVC
 3A - #20 AWG PUR
 VDR CLAMPING VOLTAGE: 24V AC/DC DEVICES - 34V
 115V AC/DC DEVICES - 85V

ENVIRONMENTAL

PROTECTION: IP65
 AMBIENT OPERATING TEMPERATURE: -13° TO 167° F (-25° TO 75° C)
 CERTIFICATIONS: SPACING TO VDE0110
 CSA: LR6837

CONNECTOR DIMENSIONS

10mm DIN WITH 3P MALE MINI-CHANGE CONNECTOR

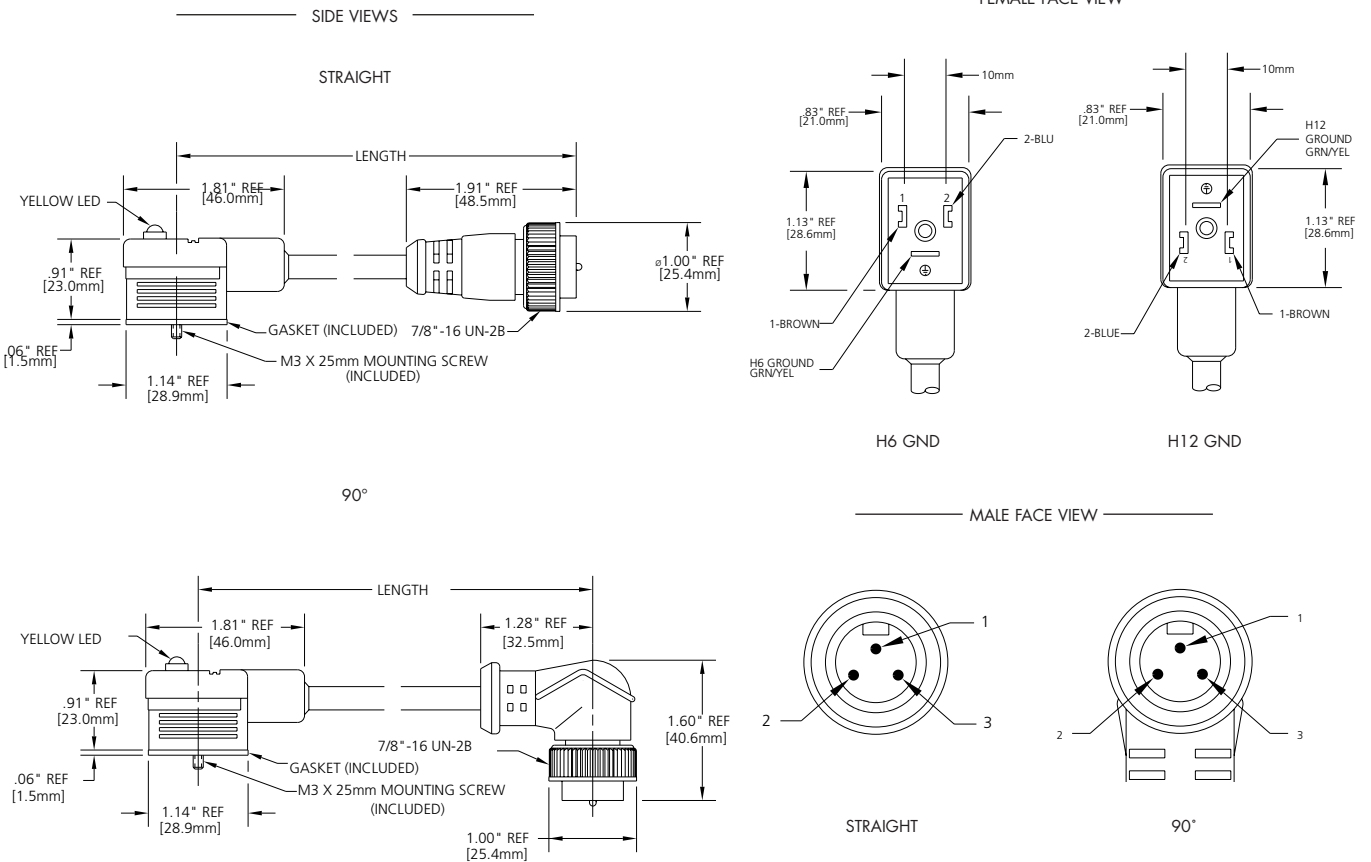


FIG 1



Double-Ended Cordsets

#18 AWG black PVC or #20 AWG black PUR cable
 Yellow LED and VDR surge suppression or straight-wired circuit types
 24V AC/DC, 115V AC/DC and 250V AC/DC versions available
 5P male Micro-Change® single key connector

10mm	H6 GROUND		H12 GROUND	
DIN FEMALE FACE VIEW				
WIRING DIAGRAM	STRAIGHT-WIRED	YELLOW LED + VDR	STRAIGHT-WIRED	YELLOW LED + VDR
COLOR CODE	1- brown 2- blue		gnd- green/yellow	
POLES	2-POLE + GROUND			
CONDUCTOR	PVC #18-3 BLACK JACKET or PUR #20-3 BLACK JACKET			

MALE FACE VIEW	CABLE TYPE	CURRENT	VOLTAGE AC/DC	MICRO-CHANGE (M12) 5P MALE STRAIGHT WITH 1 METER CABLE			
	STANDARD DUTY PVC #18	4A	0-250	D85001A23M010	—	D85000A23M010	—
			24	—	D850B1A23M010	—	D850B0A23M010
			115	—	D850D1A23M010	—	D850D0A23M010
	OIL-RESISTANT PUR #20	3A	0-250	D85001P12M010	—	D85000P12M010	—
			24	—	D850B1P12M010	—	D850B0P12M010
			115	—	D850D1P12M010	—	D850D0P12M010

PART NO.	ACCESSORIES
3000-07-10	Replacement M3 x 25mm mounting screw – bag of 10 screws
3011-07-10	Replacement profile nitrile gasket – bag of 10 gaskets

CATALOG OPTIONS

D85001A23M010

MICRO-CHANGE CONNECTOR STYLE

- 90° MALE (H6 GROUND) . . . 3
- 90° MALE (H12 GROUND) . . . 2

CABLE LENGTH

- 3 METER 030
- 5 METER 050



Specifications



MECHANICAL(DIN)

CONNECTOR FACE: GLASS REINFORCED POLYPROPYLENE
 MOLDED BODY: GLASS REINFORCED POLYPROPYLENE
 GASKET: NITRILE RUBBER
 MOUNTING SCREW: ZINC PLATED STEEL
 CABLE: BLACK #18 AWG PVC JACKET & PVC INSULATION OVER 21 X #32 COPPER STRANDING
 BLACK #20 AWG PUR JACKET & PVC INSULATION OVER 15 X #32 COPPER STRANDING
 CABLE DIAMETER: #18 AWG PVC 3P - .26" (6.6mm)
 #20 AWG PUR 3P - .21" (5.3mm)

(MICRO-CHANGE)

CONNECTOR FACE: NYLON 6/6
 MOLDED BODY: PVC - UL STD 94 - V0
 COUPLING UNIT: ZINC DIECAST W/ BLACK EPOXY COAT

ELECTRICAL

VOLTAGE RATING: 250V AC/DC STRAIGHT-WIRED
 24V AC/DC W/ LED & VDR
 115V AC/DC W/ LED & VDR
 AMPERAGE: 4A - #18 AWG PVC
 3A - #20 AWG PUR
 VDR CLAMPING VOLTAGE: 24V AC/DC DEVICES - 34V
 115V AC/DC DEVICES - 185V

ENVIRONMENTAL

PROTECTION: IP65
 AMBIENT OPERATING TEMPERATURE: -13° TO 167° F (-25° TO 75° C)
 CERTIFICATIONS: SPACING TO VDE0110
 CSA: LR6837

CONNECTOR DIMENSIONS

10mm DIN WITH 5P MALE MICRO-CHANGE CONNECTOR

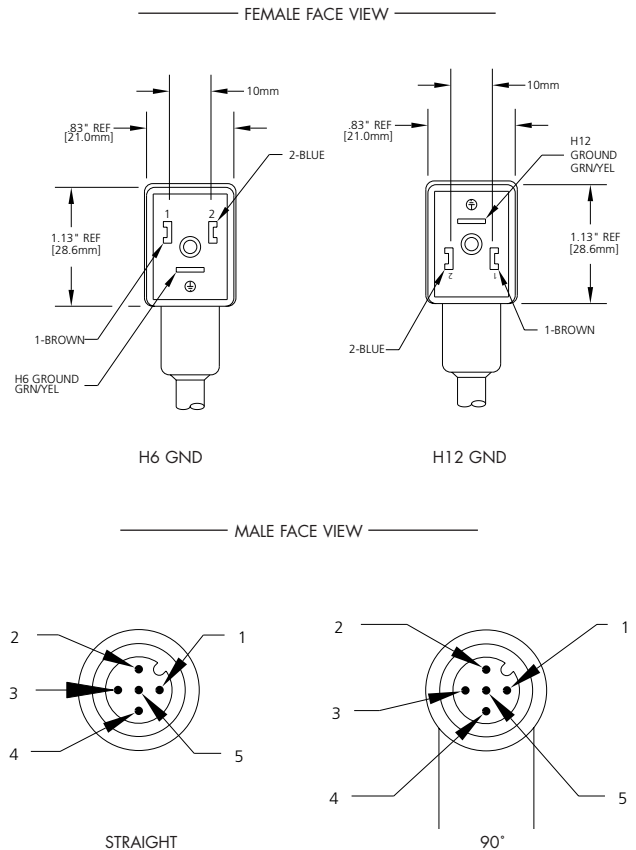
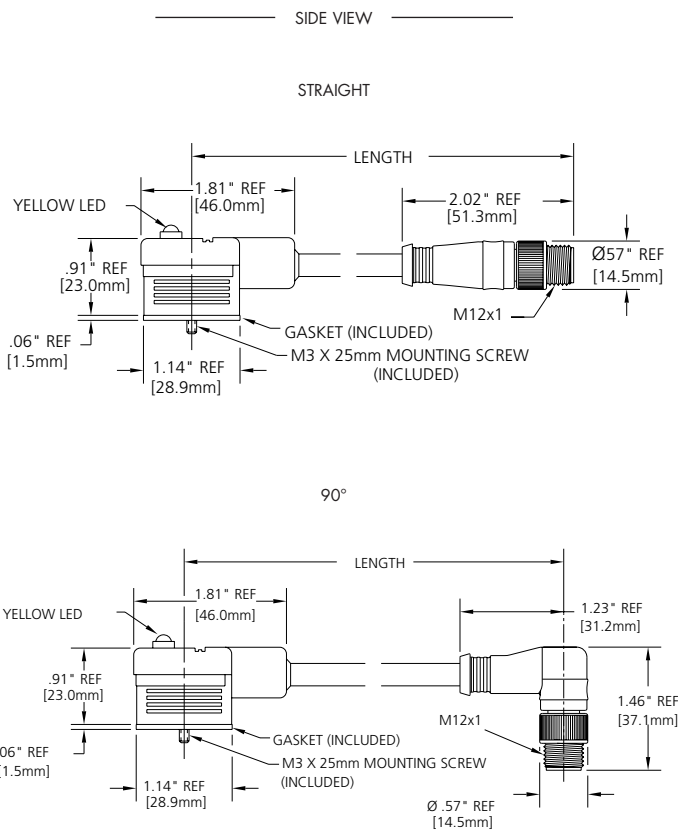


FIG 1

9.4mm 2p+Gnd



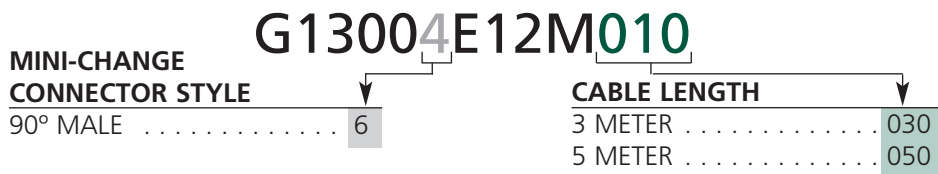
Double-Ended Cordsets

#20 AWG black PVC or #20 AWG black PUR cable
 Yellow LED and VDR surge suppression or straight-wired circuit types
 24V AC/DC, 115V AC/DC and 250V AC/DC versions available
 3P male Mini-Change® or 5P male single key Micro-Change® connector

<p>DIN FEMALE FACE VIEW</p>	<p>STRAIGHT-WIRED</p>	<p>YELLOW LED & VDR SURGE SUPPRESSION</p>
	<p>COLOR CODE</p> <p>1- brown 2- blue</p>	<p>dual gnd- green/yellow</p>
<p>POLES</p>	<p>2-POLE + DUAL GROUND</p>	
<p>CONDUCTOR</p>	<p>PVC #20-3 BLACK JACKET or PUR #20-3 BLACK JACKET</p>	

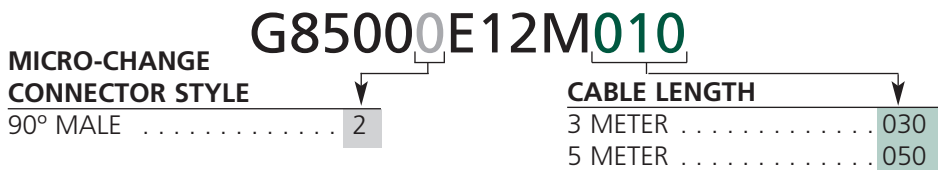
MALE FACE VIEW	CABLE TYPE	CURRENT	VOLTAGE AC/DC	MINI-CHANGE 3P MALE STRAIGHT FIG 1	
<p>PIN # DIN</p> <p>1 gnd</p> <p>2 1</p> <p>3 2</p>	STANDARD DUTY PVC #20	3A	0-250	G13004E12M010	—
			24	—	G130B4E12M010
			115	—	G130D4E12M010
	OIL-RESISTANT PUR #20	3A	0-250	G13004P12M010	—
			24	—	G130B4P12M010
			115	—	G130D4P12M010

CATALOG OPTIONS FOR MINI-CHANGE 3P MALE STRAIGHT



MALE FACE VIEW	CABLE TYPE	CURRENT	VOLTAGE AC/DC	MICRO-CHANGE M12 5P MALE STRAIGHT FIG 2	
<p>PIN# DIN</p> <p>1 N/C</p> <p>2 N/C</p> <p>3 2</p> <p>4 1</p> <p>5 gnd</p>	STANDARD DUTY PVC #20	3A	0-250	G85000E12M010	—
			24	—	G850B0E12M010
			115	—	G850D0E12M010
	OIL-RESISTANT PUR #20	3A	0-250	G85000P12M010	—
			24	—	G850B0P12M010
			115	—	G850D0P12M010

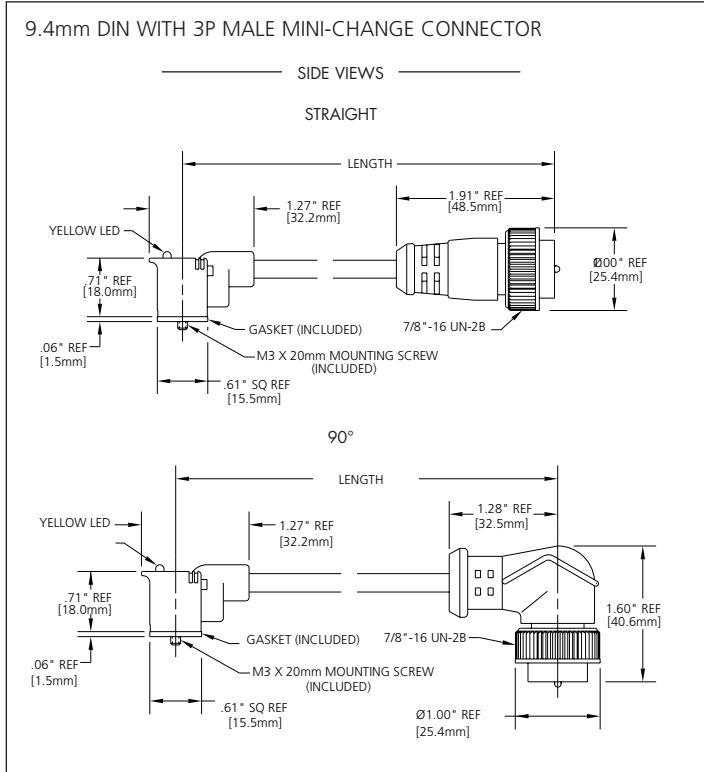
CATALOG OPTIONS FOR MICRO-CHANGE 5P MALE STRAIGHT



Specifications



CONNECTOR DIMENSIONS



MECHANICAL (DIN)

CONNECTOR FACE: GLASS REINFORCED POLYPROPYLENE
 MOLDED BODY: GLASS REINFORCED POLYPROPYLENE
 GASKET: NITRILE RUBBER
 MOUNTING SCREW: ZINC PLATED STEEL
 CABLE: BLACK #20 AWG PVC JACKET & PVC INSULATION OVER 15 X #32 COPPER STRANDING
 BLACK #20 AWG PUR JACKET & PVC INSULATION OVER 15 X #32 COPPER STRANDING
 CABLE DIAMETER: #20 AWG PVC 3P - .21" (5.3mm)
 #20 AWG PUR 3P - .21" (5.3mm)

(MINI-CHANGE)

CONNECTOR FACE: PVC - UL STD 94 - V0
 MOLDED BODY: PVC - UL STD 94 - V0
 COUPLING UNIT: ZINC DIECAST W/ BLACK EPOXY COAT

(MICRO-CHANGE)

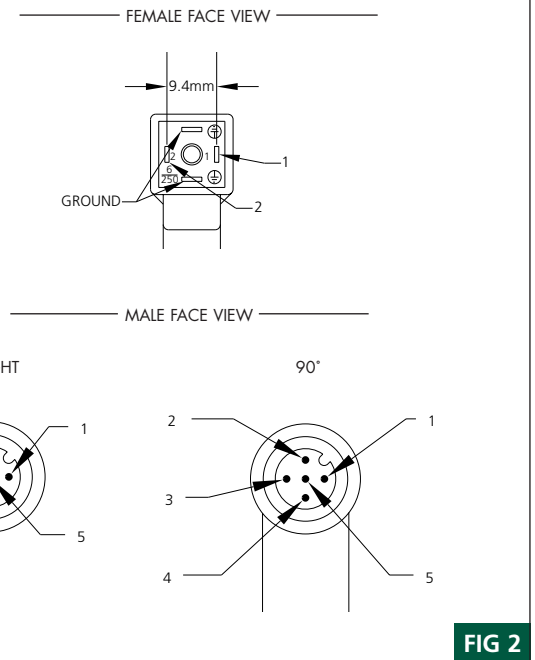
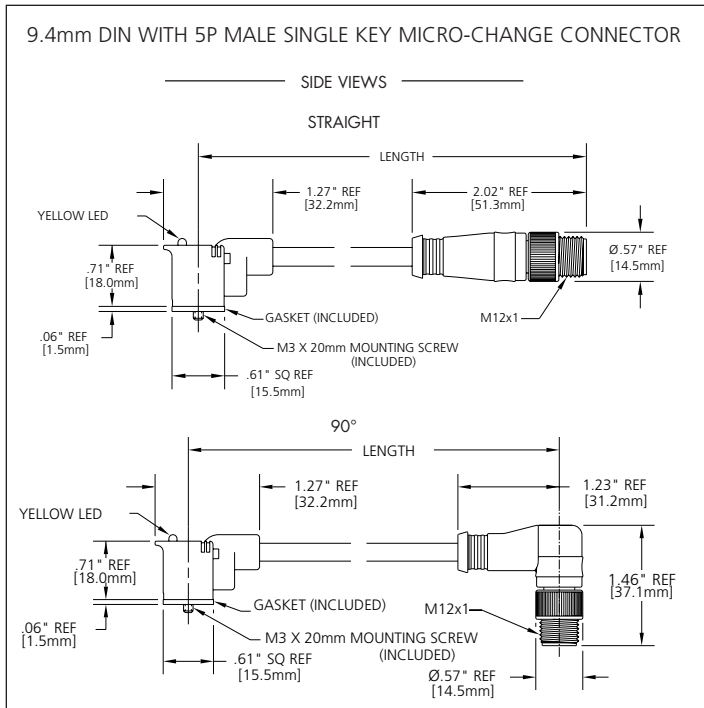
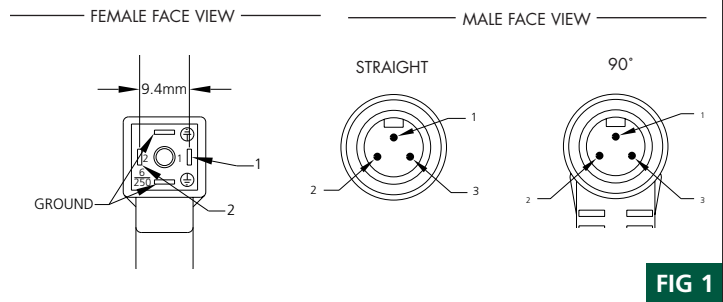
CONNECTOR FACE: NYLON 6/6
 MOLDED BODY: PVC - UL STD 94 - V0
 COUPLING UNIT: ZINC DIECAST W/ BLACK EPOXY COAT

ELECTRICAL:

VOLTAGE RATING: 250V AC/DC STRAIGHT-WIRED
 24V AC/DC W/ LED & VDR
 115V AC/DC W/ LED & VDR
 AMPERAGE: 3A - #20 AWG PVC
 3A - #20 AWG PUR
 VDR CLAMPING VOLTAGE: 24V AC/DC DEVICES - 34V
 115V AC/DC DEVICES - 185V

ENVIRONMENTAL

PROTECTION: IP65
 AMBIENT OPERATING TEMPERATURE: -13° TO 167° F (-25° TO 75° C)
 CERTIFICATIONS: SPACING TO VDE0110
 CSA: LR6837





Double-Ended Cordsets

#20 AWG black PVC or #20 AWG black PUR cable
 Yellow LED and VDR surge suppression or straight-wired circuit types
 24V AC/DC, 115V AC/DC and 250V AC/DC versions available
 3P male Mini-Change® or 5P male single key Micro-Change® connector

<p>DIN FEMALE FACE VIEW</p>	<p>STRAIGHT-WIRED</p>	<p>YELLOW LED & VDR</p>
	<p>COLOR CODE</p> <p>1- brown 2- blue</p>	<p>dual gnd- green/yellow</p>
<p>POLES</p>	<p>2-POLE + DUAL GROUND</p>	
<p>CONDUCTOR</p>	<p>PVC #20-3 BLACK JACKET or PUR #20-3 BLACK JACKET</p>	

MALE FACE VIEW	CABLE TYPE	CURRENT	VOLTAGE AC/DC	MINI-CHANGE 3P MALE STRAIGHT FIG 1	
<p>PIN # DIN</p> <p>1 gnd</p> <p>2 1</p> <p>3 2</p>	STANDARD DUTY PVC #20	3A	0-250	H13004E12M010	—
			24	—	H130B4E12M010
			115	—	H130D4E12M010
	OIL-RESISTANT PUR #20	3A	0-250	H13004P12M010	—
			24	—	H130B4P12M010
			115	—	H130D4P12M010

CATALOG OPTIONS FOR MINI-CHANGE 3P MALE STRAIGHT

H13004E12M010

MINI-CHANGE CONNECTOR STYLE
 90° MALE **6**

CABLE LENGTH
 3 METER **030**
 5 METER **050**

MALE FACE VIEW	CABLE TYPE	CURRENT	VOLTAGE AC/DC	MICRO-CHANGE M12 5P MALE STRAIGHT FIG 2	
<p>PIN# DIN</p> <p>1 N/C</p> <p>2 N/C</p> <p>3 2</p> <p>4 1</p> <p>5 gnd</p>	STANDARD DUTY PVC #20	3A	0-250	H85000E12M010	—
			24	—	H850B0E12M010
			115	—	H850D0E12M010
	OIL-RESISTANT PUR #20	3A	0-250	H85000P12M010	—
			24	—	H850B0P12M010
			115	—	H850D0P12M010

CATALOG OPTIONS FOR MICRO-CHANGE 5P MALE STRAIGHT

H85000E12M010

MICRO-CHANGE CONNECTOR STYLE
 90° MALE **2**

CABLE LENGTH
 3 METER **030**
 5 METER **050**

Specifications



CONNECTOR DIMENSIONS

8.0mm DIN WITH 3P MALE MINI-CHANGE CONNECTOR

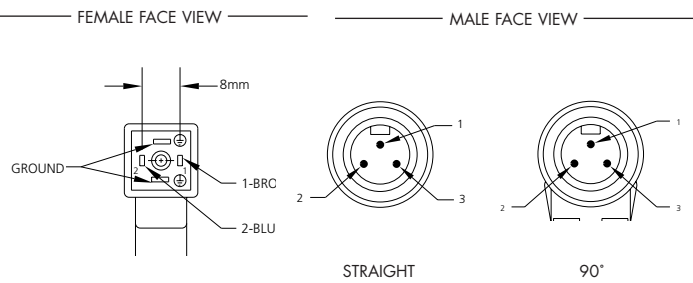
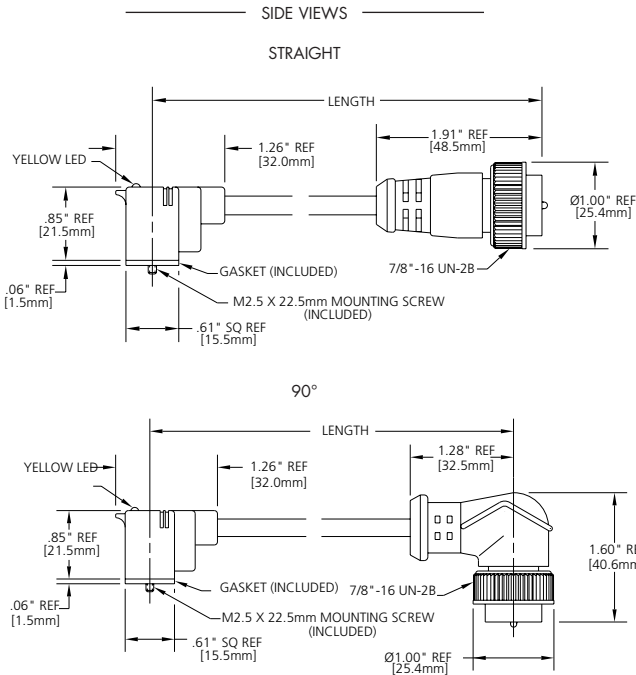


FIG 1

MECHANICAL (DIN)

CONNECTOR FACE: GLASS REINFORCED POLYPROPYLENE
 MOLDED BODY: GLASS REINFORCED POLYPROPYLENE
 GASKET: NITRILE RUBBER
 MOUNTING SCREW: ZINC PLATED STEEL
 CABLE: BLACK #20 AWG PVC JACKET & PVC INSULATION OVER 15 X #32 COPPER STRANDING. BLACK #20 AWG PUR JACKET & PVC INSULATION OVER 15 X #32 COPPER STRANDING
 CABLE DIAMETER: #20 AWG PVC 3P - .21" (5.3mm)
 #20 AWG PUR 3P - .21" (5.3mm)

(MINI-CHANGE)

CONNECTOR FACE: PVC - UL STD 94 - V0
 MOLDED BODY: PVC - UL STD 94 - V0
 COUPLING UNIT: ZINC DIECAST W/ BLACK EPOXY COAT

(MICRO-CHANGE)

CONNECTOR FACE: NYLON 6/6
 MOLDED BODY: PVC - UL STD 94 - V0
 COUPLING UNIT: ZINC DIECAST W/ BLACK EPOXY COAT

ELECTRICAL

VOLTAGE RATING: 250V AC/DC STRAIGHT-WIRED
 24V AC/DC W/ LED & VDR
 115V AC/DC W/ LED & VDR
 AMPERAGE: 3A - #20 AWG PVC
 3A - #20 AWG PUR
 VDR CLAMPING VOLTAGE: 24V AC/DC DEVICES - 34V
 115V AC/DC DEVICES - 185V

ENVIRONMENTAL

PROTECTION: IP65
 AMBIENT OPERATING TEMPERATURE: -13° TO 167° F (-25° TO 75° C)
 CERTIFICATIONS: SPACING TO VDE0110
 CSA: LR6837

8.0mm DIN WITH 5P MALE SINGLE KEY MICRO-CHANGE CONNECTOR

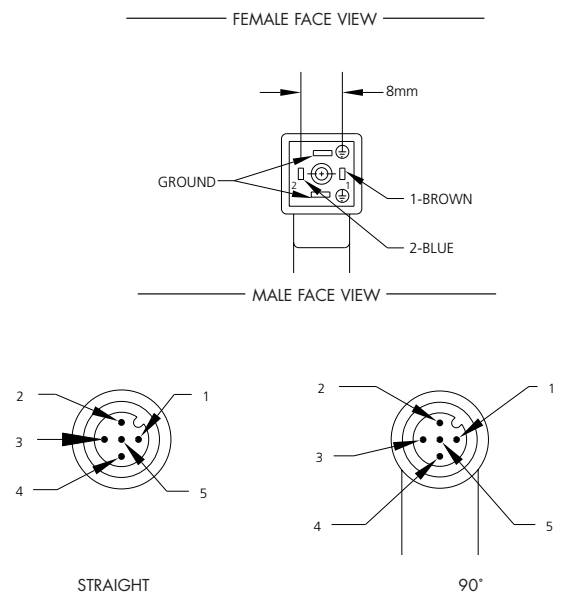
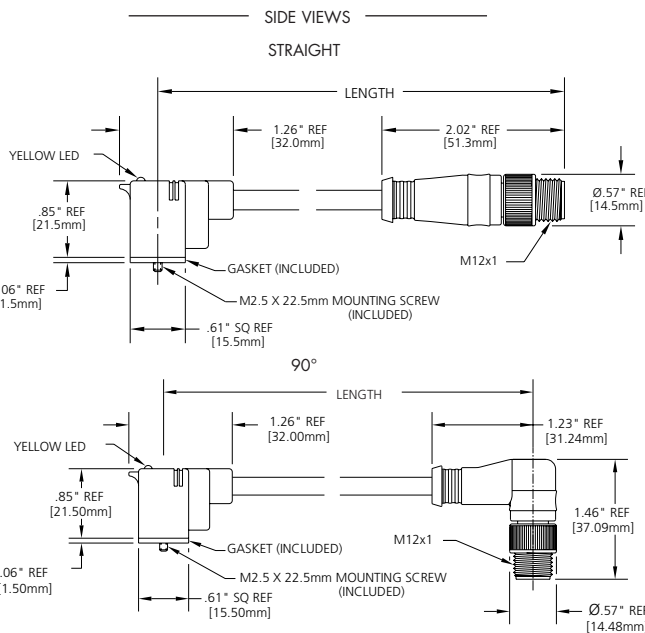


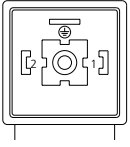
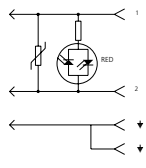
FIG 2



Field-Wired Connectors

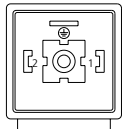
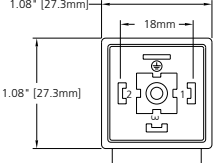
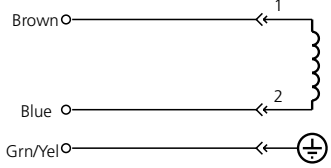
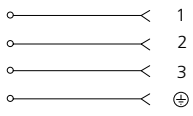
Red LED and VDR surge suppression or straight-wired circuit types
 Clear housing for LED and VDR, black or gray housing for straight-wired
 Field-replaceable nitrile gasket and mounting screw included
 Screw terminals accept up to #16 AWG conductors

RED LED & VDR SURGE SUPPRESSION

FEMALE FACE VIEW		H6 or H12 ground position can be achieved by rotating connector face 180°
WIRING DIAGRAM		
POLES	2-POLE + GROUND	
CURRENT	16A	

VOLTAGE AC/DC	CABLE ENTRY PG9: .23 - .31" [6-8mm] PG11: .31 - .39" [8-10mm]		
	PG9 FIG 1	PG11 FIG 1	1/2 NPT FIG 1
24	S18209TC421	S18211TC421	S18213TC421
115	S18209TC441	S18211TC441	S18213TC441
230	S18209TC451	S18211TC451	—

STRAIGHT-WIRED

FEMALE FACE VIEW		H6 or H12 ground position can be achieved by rotating connector face 180°		H6 or H12 ground position can be achieved by rotating connector face 180°
WIRING DIAGRAM				
POLES	2-POLE + GROUND		3-POLE + GROUND	
CURRENT	16A		16A	
VOLTAGE	0-250V AC/DC		0-250V AC/DC	

HOUSING	CABLE ENTRY PG9: .23 - .31" [6-8mm] PG11: .31 - .39" [8-10mm]					
	PG9 FIG 1	PG11 FIG 1	1/2" NPT FIG 1	PG9 FIG 2	PG11 FIG 2	1/2" NPT FIG 2
BLACK	C18209N21	C18211N21	C18213N21	C18309N21	C18311N21	C18313N21
GRAY	C18209G21	C18211G21	C18213G21	C18309G21	C18311G21	C18313G21

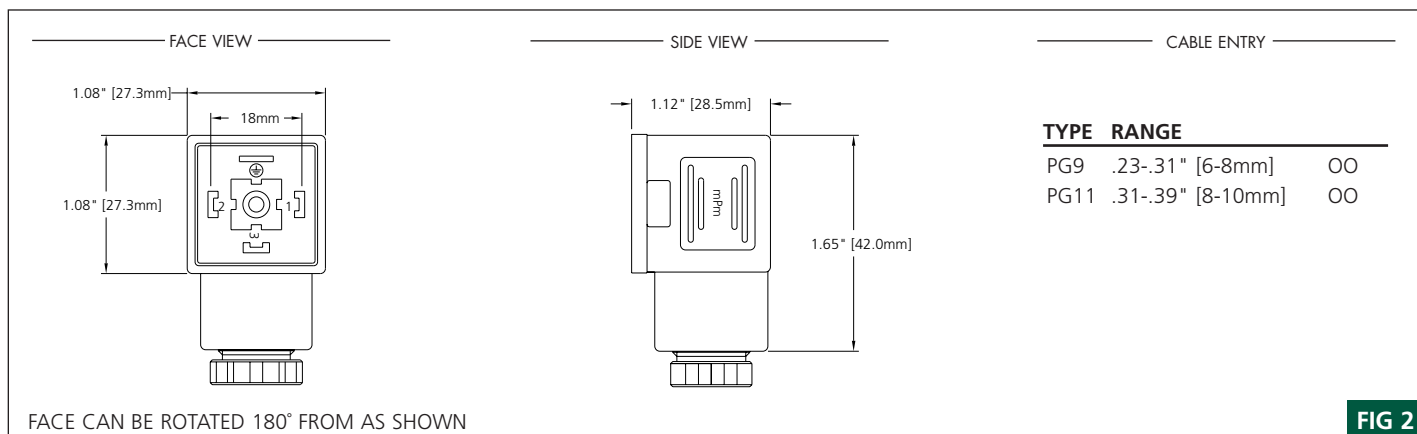
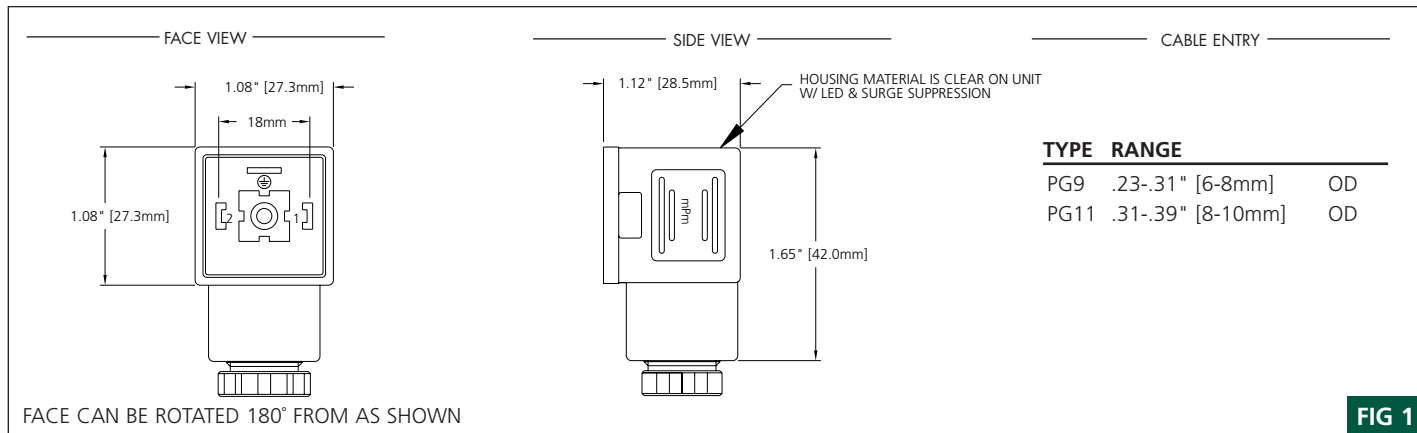


Specifications



- MECHANICAL**
 CONNECTOR FACE: GLASS REINFORCED POLYAMIDE
 MOLDED BODY: GLASS REINFORCED POLYAMIDE
 GASKET: NITRILE RUBBER
 MOUNTING SCREW: ZINC PLATED STEEL
 CABLE RANGE: PG9: .23" - .31" (6 - 8mm)
 PG11: .31" - .39" (8 - 10mm)
- ELECTRICAL**
 VOLTAGE RATING: 250V AC, 300V DC STRAIGHT-WIRED
 24V AC/DC W/ LED & VDR
 115V AC/DC W/ LED & VDR
 230V AC/DC W/ LED & VDR
 AMPERAGE: 16A STRAIGHT-WIRED & LED/VDR TYPES
 MAXIMUM CONDUCTOR: #16 AWG
 VDR CLAMPING VOLTAGE: 24V AC/DC DEVICES - 34V
 115V AC/DC DEVICES - 185V
 230V AC/DC DEVICES - 350V
- ENVIRONMENTAL**
 PROTECTION: P65
 AMBIENT OPERATING TEMPERATURE: -40° TO 194° F (-40° TO 90° C)
- CERTIFICATIONS:**
 UL: UL RECOGNIZED E186708 (C182 & C183 SERIES) SPACING TO VDE0110
 LR6837
 CSA:

CONNECTOR DIMENSIONS

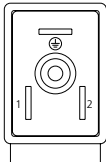
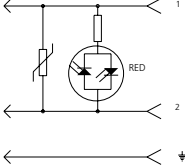




Field-Wired Connectors

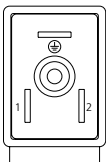
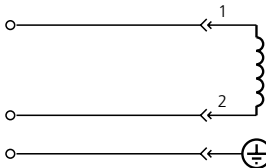
Red LED and VDR surge suppression or straight-wired circuit types
 Clear housing for LED and VDR, black or gray housing for straight-wired
 Field-replaceable nitrile gasket and mounting screw included
 Screw terminals accept up to #16 AWG conductors

RED LED & VDR SURGE SUPPRESSION

FEMALE FACE VIEW		H6 or H12 ground position can be achieved by rotating connector face 180°
WIRING DIAGRAM		
POLES	2-POLE + GROUND	
CURRENT	16A	

VOLTAGE AC/DC	CABLE ENTRY PG7: .16 - .23" [4-6mm] PG9: .23 - .31" [6-8mm]	
	PG 7 FIG 1	PG 9 FIG 1
24	S02207TC421	S02209TC421
115	S02207TC441	S02209TC441
230	S02207TC451	S02209TC451

STRAIGHT-WIRED

FEMALE FACE VIEW		H6 or H12 ground position can be achieved by rotating connector face 180°
WIRING DIAGRAM		
POLES	2-POLE + GROUND	
CURRENT	16A	
VOLTAGE	0-250 AC/DC	

HOUSING	CABLE ENTRY PG7: .16 - .23" (4-6mm) PG9: .23 - .31" (6-8mm)		
	PG 7 FIG 1	PG 9 FIG 1	1/2 NPT FIG 1
BLACK	C12207N21	C12209N21	C12213N21
GRAY	C12207G21	C12209G21	C12313G21



Specifications



- MECHANICAL**
 CONNECTOR FACE: GLASS REINFORCED POLYAMIDE
 MOLDED BODY: GLASS REINFORCED POLYAMIDE
 GASKET: NITRILE RUBBER
 MOUNTING SCREW: ZINC PLATED STEEL
 CABLE RANGE: PG7: .16" - .23" (4 - 6mm)
 PG9: .23" - .31" (6 - 8mm)
- ELECTRICAL**
 VOLTAGE RATING: 250V AC, 300 V DC STRAIGHT-WIRED
 24V AC/DC W/ LED & VDR
 115V AC/DC W/ LED & VDR
 230V AC/DC W/ LED & VDR
 AMPERAGE: 16A STRAIGHT-WIRED & LED/VDR TYPES
 MAXIMUM CONDUCTOR: #16 AWG
 VDR CLAMPING VOLTAGE: 24V AC/DC DEVICES - 34V
 115V AC/DC DEVICES - 185V
 230V AC/DC DEVICES - 350V
- ENVIRONMENTAL**
 PROTECTION: IP65
 AMBIENT OPERATING TEMPERATURE: -40° TO 194° F (-40° TO 90° C)
- CERTIFICATIONS:**
 UL: UL RECOGNIZED E186708 (C182 & C183 SERIES) SPACING TO VDE0110 LR6837
 CSA: LR6837

CONNECTOR DIMENSIONS

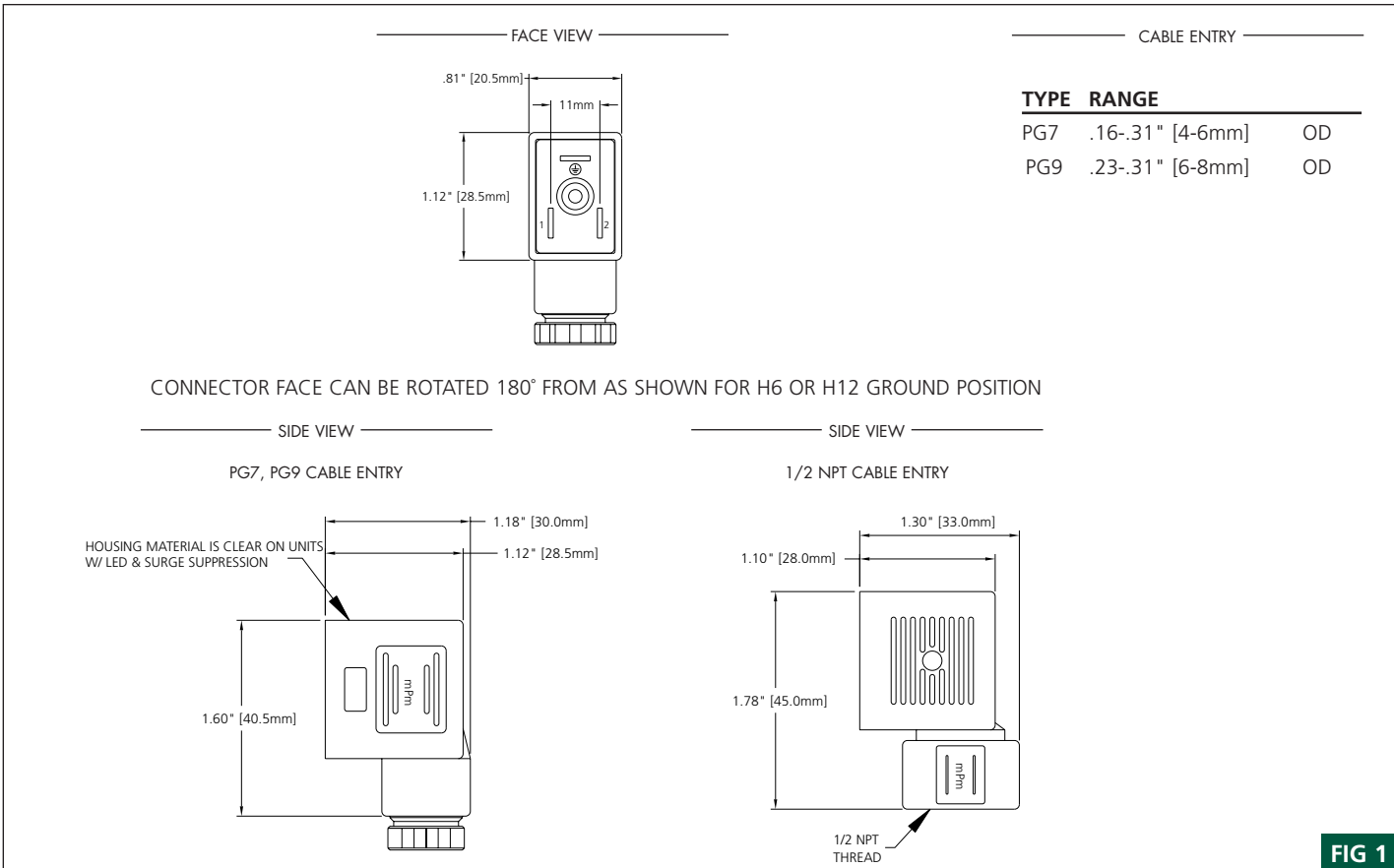


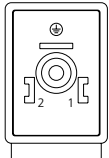
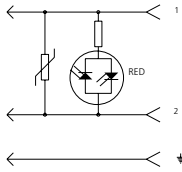
FIG 1



Field-Wired Connectors

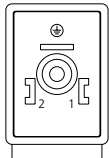
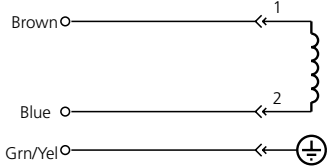
Red LED and VDR surge suppression or straight-wired circuit types
 Clear housing for LED and VDR, black or gray housing for straight-wired
 Nitrile gasket and mounting screw included
 Screw terminals accept up to #16 AWG conductors

RED LED & VDR SURGE SUPPRESSION

FEMALE FACE VIEW		H6 or H12 ground position can be achieved by rotating connector face 180°
WIRING DIAGRAM		
POLES	2-POLE + GROUND	
CURRENT	16A	

VOLTAGE AC/DC	CABLE ENTRY PG7: .16 - .23" [4-6mm] PG9: .23 - .31" [6-8mm]	
	PG 7 FIG 1	PG 9 FIG 1
24	S62207TC421	S62209TC421
115	S62207TC441	S62209TC441
230	S62207TC451	S62209TC451

STRAIGHT-WIRED

FEMALE FACE VIEW		H6 or H12 ground position can be achieved by rotating connector face 180°
WIRING DIAGRAM		
POLES	2-POLE + GROUND	
CURRENT	16A	
VOLTAGE	250V AC / 300V DC	

HOUSING	CABLE ENTRY PG9: .23 - .31" [6-8mm]	
	PG 9	
BLACK	C62209N21	
GRAY	C62209G21	



Specifications



MECHANICAL	
CONNECTOR FACE:	GLASS REINFORCED POLYAMIDE
MOLDED BODY:	GLASS REINFORCED POLYAMIDE
GASKET:	NITRILE RUBBER
MOUNTING SCREW:	ZINC PLATED STEEL
CABLE RANGE:	PG9: .23" - .31" (6 - 8mm)
ELECTRICAL	
VOLTAGE RATING:	250V AC, 300 V DC STRAIGHT-WIRED 24V AC/DC W/ LED & VDR 115V AC/DC W/ LED & VDR 230V AC/DC W/ LED & VDR
AMPERAGE:	16A STRAIGHT-WIRED & LED/VDR TYPES
MAXIMUM CONDUCTOR:	#16 AWG
VDR CLAMPING VOLTAGE:	24V AC/DC DEVICES - 34V 115V AC/DC DEVICES - 185V 230V AC/DC DEVICES - 350V
ENVIRONMENTAL	
PROTECTION:	IP65
AMBIENT OPERATING TEMPERATURE:	-40° TO 194° F (-40° TO 90° C)
CERTIFICATIONS:	SPACING TO VDE0110
CSA:	LR6837

CONNECTOR DIMENSIONS

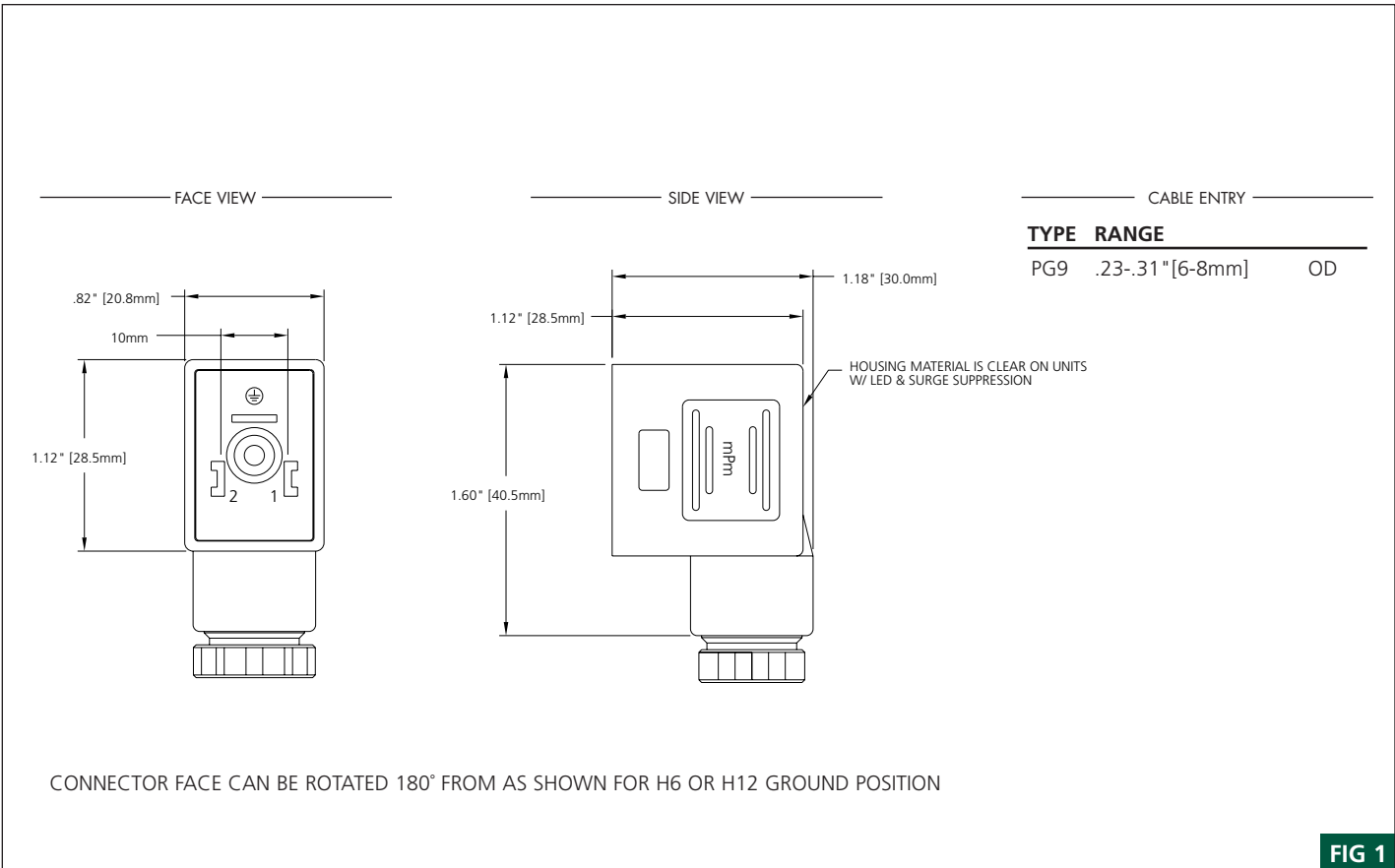


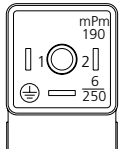
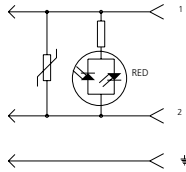
FIG 1



Field-Wired Connectors

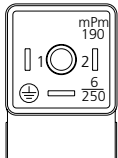
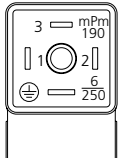
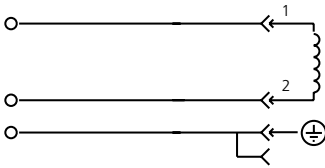
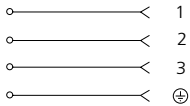
Red LED and VDR surge suppression or straight-wired circuit types
 Clear housing for LED and VDR, black or gray housing for straight-wired
 Field-replaceable nitrile gasket and mounting screw included
 Screw terminals accept up to #18 AWG conductors

RED LED & VDR SURGE SUPPRESSION

FEMALE FACE VIEW		H6 or H12 ground position can be achieved by rotating connector face 180°
WIRING DIAGRAM		
POLES	2-POLE + GROUND	
CURRENT	10A	

VOLTAGE AC/DC	CABLE ENTRY PG7: .16 - .23" [4-6mm]	
	PG 7 FIG 1	
	24	S19207TC422
115	S19207TC442	

STRAIGHT-WIRED

FEMALE FACE VIEW		H6 or H12 ground position can be achieved by rotating connector face 180°		H6 or H12 ground position can be achieved by rotating connector face 180°
WIRING DIAGRAM				
POLES	2 POLE + GROUND		3 POLE + GROUND	
CURRENT	10A		10A	
VOLTAGE	250V AC / 300V DC		250V AC / 300V DC	

HOUSING	CABLE ENTRY PG7: .16 - .23" [4-6mm]	
	PG 7 FIG 1	PG 7 FIG 2
	BLACK	C19207N62
GRAY	C19207G62	C19307G62

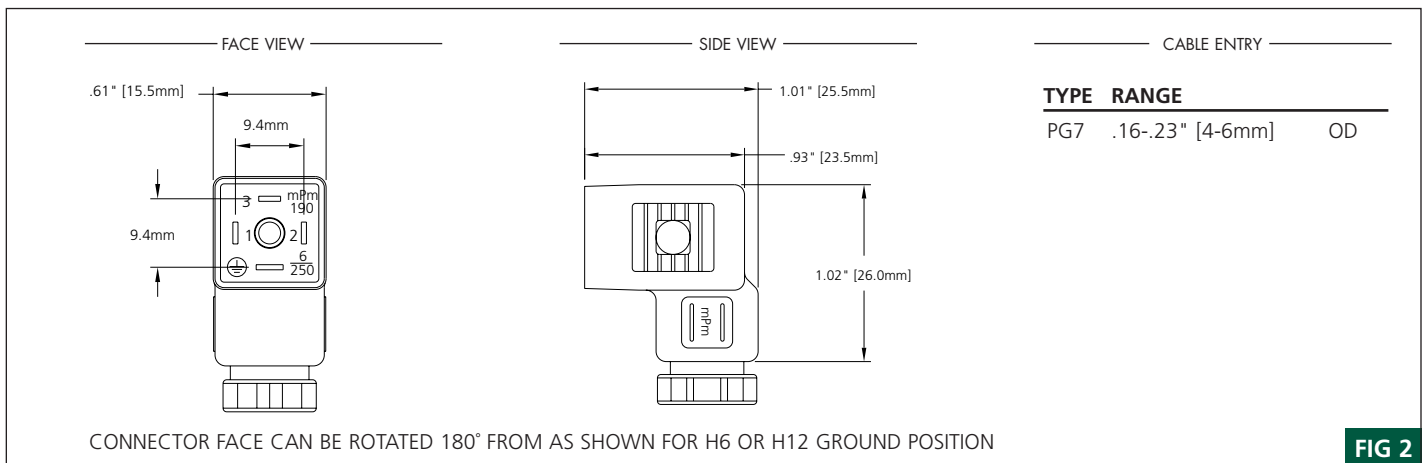
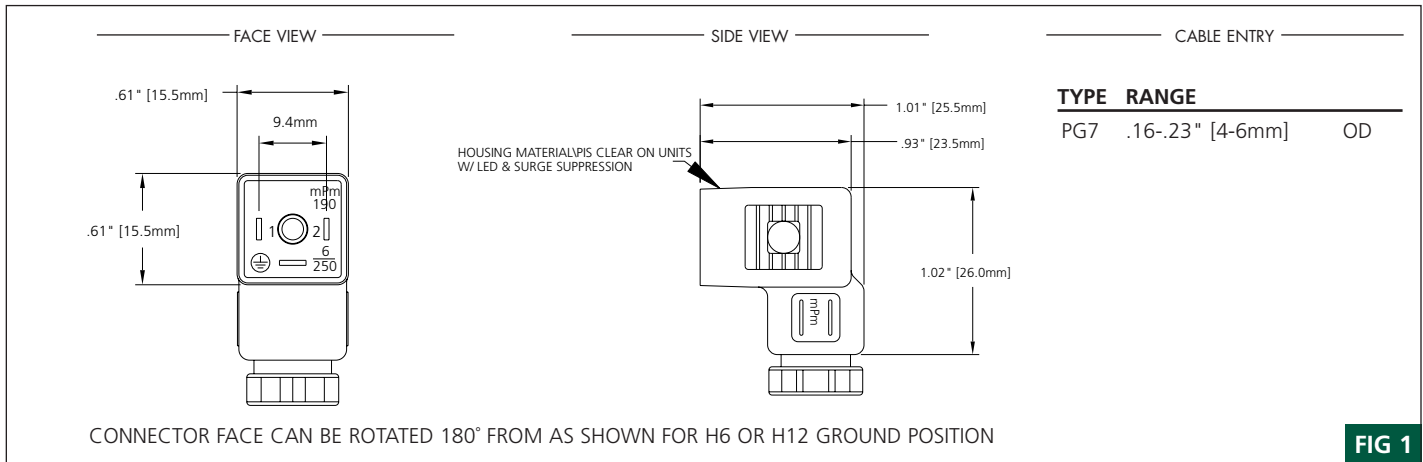


Specifications



- MECHANICAL**
- CONNECTOR FACE: GLASS REINFORCED POLYAMIDE
- MOLDED BODY: GLASS REINFORCED POLYAMIDE
- GASKET: NITRILE RUBBER
- MOUNTING SCREW: ZINC PLATED STEEL
- CABLE RANGE: PG7: .16" - .23" (4 - 6mm)
- ELECTRICAL**
- VOLTAGE RATING: 250V AC, 300V DC STRAIGHT-WIRED
24V AC/DC W/ LED & VDR
115V AC/DC W/ LED & VDR
- AMPERAGE: 10A STRAIGHT-WIRED & LED/VDR TYPES
- MAXIMUM CONDUCTOR: #18 AWG
- VDR CLAMPING VOLTAGE: 24V AC/DC DEVICES - 34V
115V AC/DC DEVICES - 185V
- ENVIRONMENTAL**
- PROTECTION: IP65
- AMBIENT OPERATING TEMPERATURE: -40° TO 194° F (-40° TO 90° C)
- CERTIFICATIONS: SPACING TO VDE0110
- CSA: LR6837

CONNECTOR DIMENSIONS





Field-Wired Connectors

Red LED and VDR surge suppression or straight-wired circuit types
 Clear housing for LED and VDR, black or gray housing for straight-wired
 Field-replaceable nitrile gasket and mounting screw included
 Screw terminals accept up to #18 AWG conductors

RED LED & VDR SURGE SUPPRESSION

FEMALE FACE VIEW	<p>H6 or H12 ground position can be achieved by rotating connector face 180°</p>
WIRING DIAGRAM	
POLES	2-POLE + GROUND
CURRENT	10A

VOLTAGE AC/DC	CABLE ENTRY PG7: .16 - .23" [4-6mm]
	PG 7 FIG 1
	24 S05207TC422
	115 S05207TC442
230 S05207TC452	

STRAIGHT-WIRED

FEMALE FACE VIEW	<p>H6 or H12 ground position can be achieved by rotating connector face 180°</p>	<p>H6 or H12 ground position can be achieved by rotating connector face 180°</p>
WIRING DIAGRAM		
POLES	2-POLE + GROUND	3-POLE + GROUND
CURRENT	10A	10A
VOLTAGE	250V AC / 300V DC	250V AC / 300V DC

HOUSING	CABLE ENTRY PG7: .16 - .23" [4-6mm]
	PG 7 FIG 1
	PG 7 FIG 2
BLACK	C05207N62
GRAY	C05207G62
	C05307N62
	C05307G62

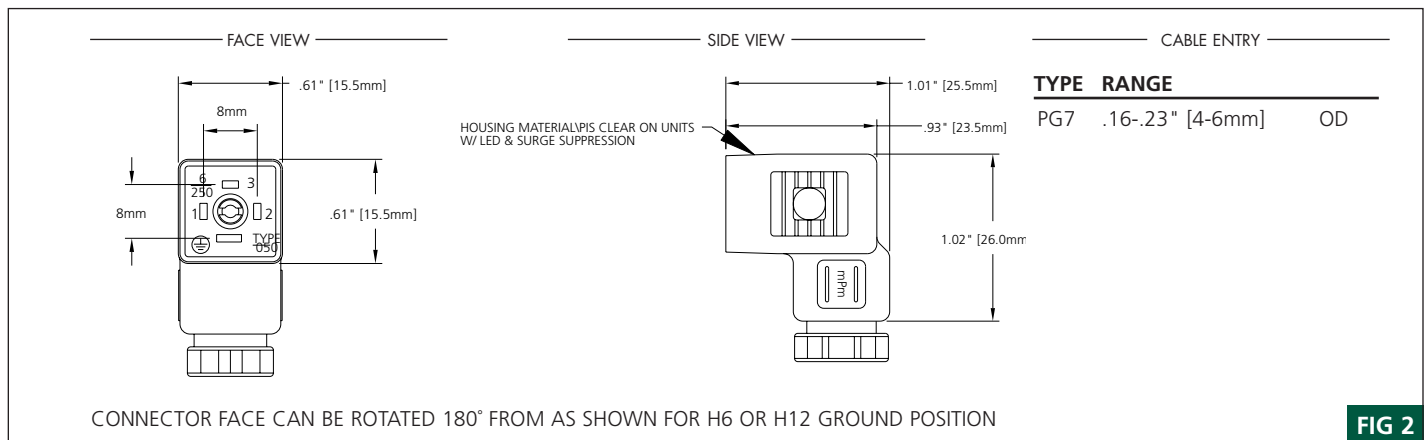
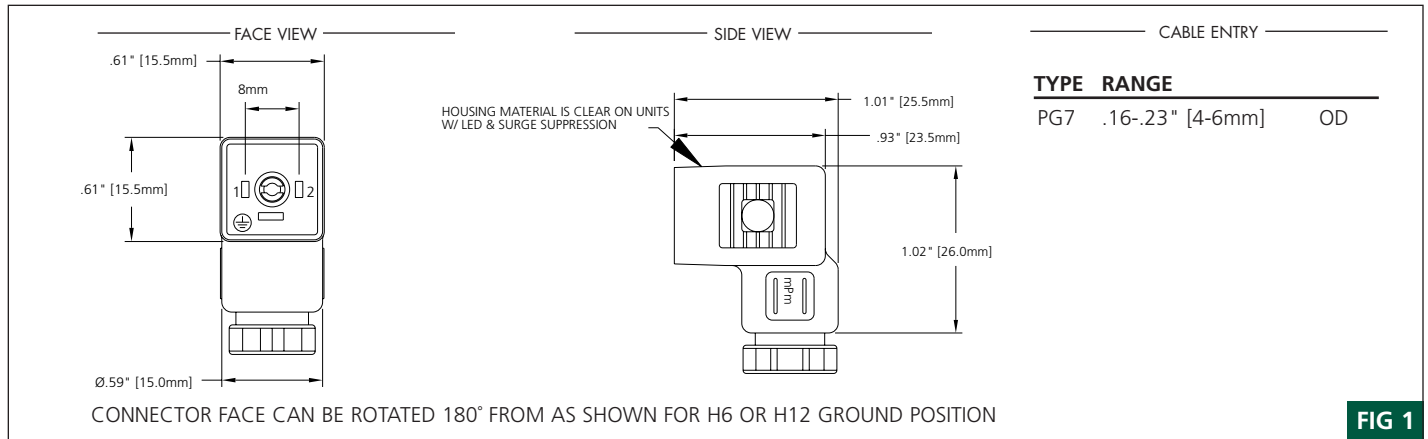


Specifications



MECHANICAL	
CONNECTOR FACE:	GLASS REINFORCED POLYAMIDE
MOLDED BODY:	GLASS REINFORCED POLYAMIDE
GASKET:	NITRILE RUBBER
MOUNTING SCREW:	ZINC PLATED STEEL
CABLE RANGE:	PG7: .16" - .23" (4 - 6mm)
ELECTRICAL	
VOLTAGE RATING:	250V AC, 300V DC STRAIGHT-WIRED 24V AC/DC W/ LED & VDR 115V AC/DC W/ LED & VDR 230V AC/DC W/LED & VDR
AMPERAGE:	10A STRAIGHT-WIRED & LED/VDR TYPES
MAXIMUM CONDUCTOR:	#18 AWG
VDR CLAMPING VOLTAGE:	24V AC/DC DEVICES - 34V 115V AC/DC DEVICES - 185V 230V AC/DC DEVICES - 350V
ENVIRONMENTAL	
PROTECTION:	IP65
AMBIENT OPERATING TEMPERATURE:	-40° TO 194° F (-40° TO 90° C)
CERTIFICATIONS:	SPACING TO VDE0110
CSA:	LR6837

CONNECTOR DIMENSIONS





Adapter Suppressor Modules

Easy addition of LED indication and surge suppression to existing DIN connectors
 Extends life of solenoids on existing DIN installations
 Yellow bi-polar LED for AC and DC circuits
 VDR voltage-dependent resistor surge suppression

18mm ADAPTER SUPPRESSOR CATALOG NUMBER

VOLTAGE AC/DC	YELLOW LED AT TOP FIG 1	YELLOW LED AT END FIG 2
24	A06C4H	A07C4H
115	A06C4L	A07C4L
230	A06C4M	A07C4M

11mm ADAPTER SUPPRESSOR CATALOG NUMBER

VOLTAGE AC/DC	YELLOW LED AT TOP AND		YELLOW LED AT END AND	
	AT GND FIG 3	AT OPPOSITE GND FIG 4	AT GND FIG 5	AT OPPOSITE GND FIG 6
24	A02C4H	A03C4H	A04C4H	A05C4H
115	A02C4L	A03C4L	A04C4L	A05C4L
230	A02C4M	A03C4M	A04C4M	A05C4M

10mm ADAPTER SUPPRESSOR CATALOG NUMBER

VOLTAGE AC/DC	YELLOW LED AT TOP AND		YELLOW LED AT END AND	
	AT GROUND FIG 3	AT OPPOSITE GRD FIG 4	AT GROUND FIG 5	AT OPPOSITE GRD FIG 6
24	A08C4H	A09C4H	A10C4H	A11C4H
115	A08C4L	A09C4L	A10C4L	A11C4L
230	A08C4M	A09C4M	A10C4M	A11C4M

9.4mm ADAPTER SUPPRESSOR CATALOG NUMBER

VOLTAGE AC/DC	YELLOW LED AT TOP FIG 7
24	A01C4H
115	A01C4L

Specifications



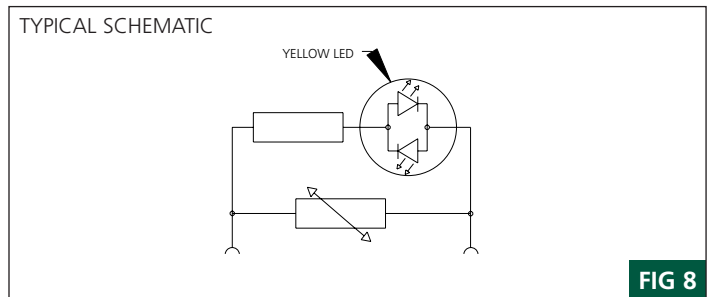
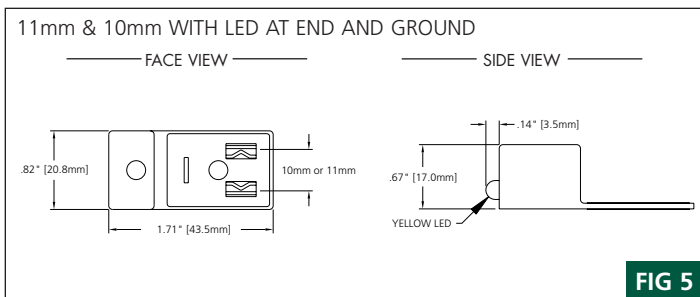
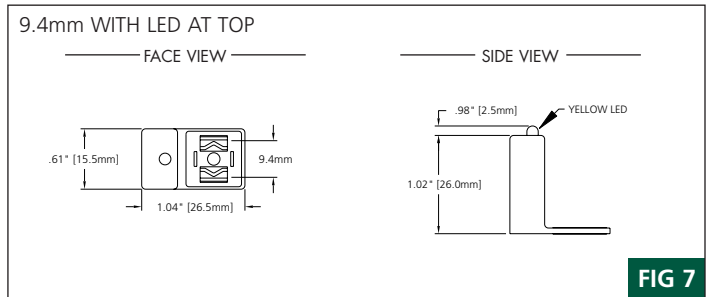
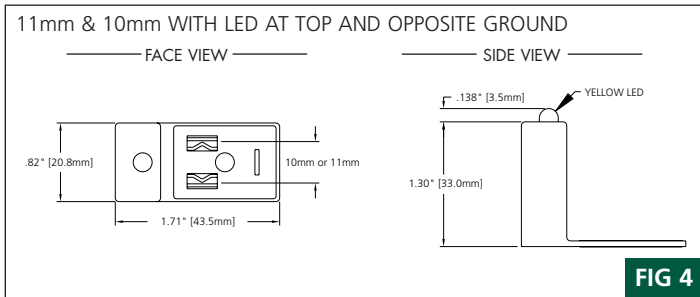
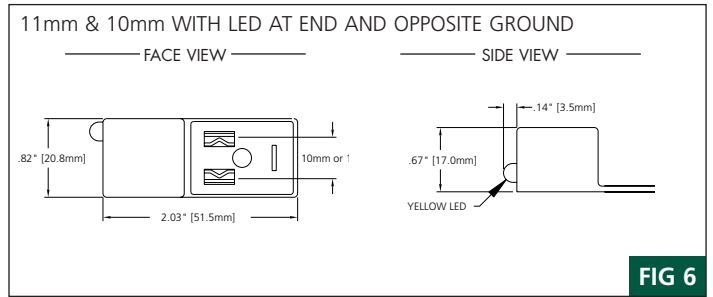
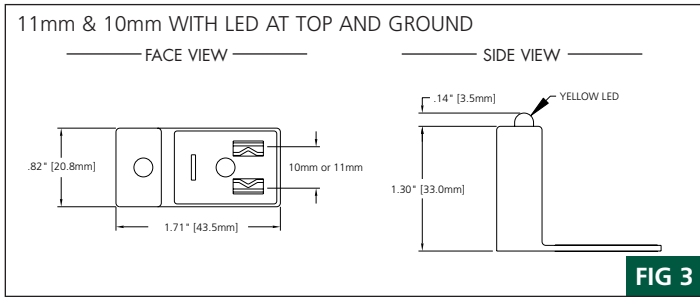
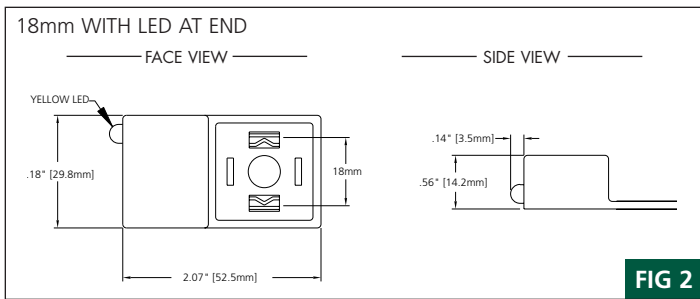
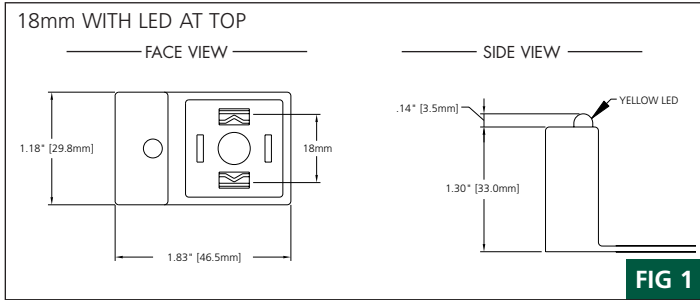
MECHANICAL
 ADAPTER BODY: GLASS REINFORCED POLYAMIDE
 POTTING MATERIAL: EPOXY RESIN

ELECTRICAL
 VOLTAGE RATING: 24V AC/DC
 115V AC/DC
 230V AC/DC

VDR CLAMPING VOLTAGE: 24V AC/DC DEVICES - 34V
 115V AC/DC DEVICES - 185V
 230V AC/DC DEVICES - 350V

ENVIRONMENTAL
 PROTECTION: IP65
 AMBIENT OPERATING TEMPERATURE: -4° TO 248° C (-20° TO 120° F)

ADAPTER SUPPRESSOR DIMENSIONS



(MPIS®)

Multi-port Interconnection Systems

Consolidating Wiring with Flexibility and Ease.

Brad Harrison® Multi-Port Interconnection Systems (MPIS®) provide a simple, efficient solution for consolidating wiring within a control system. MPIS systems reduce up to 16 distinct connections to one single multi-conductor, pre-wired cable, while eliminating the need for knockouts, terminal strips and separate enclosures. Choose one of the Brad Harrison MPIS systems, and control system wiring and maintenance will never be more simple...or more flexible. Components can be changed in seconds, eliminating wiring errors and greatly reducing maintenance costs. The pre-wired molded junction boxes provide fast machine start-ups. MPIS junction boxes can be found installed on anything from portable lighting systems, where the natural elements are at work, to machining centers where they are under the constant spray of harsh cutting fluids.

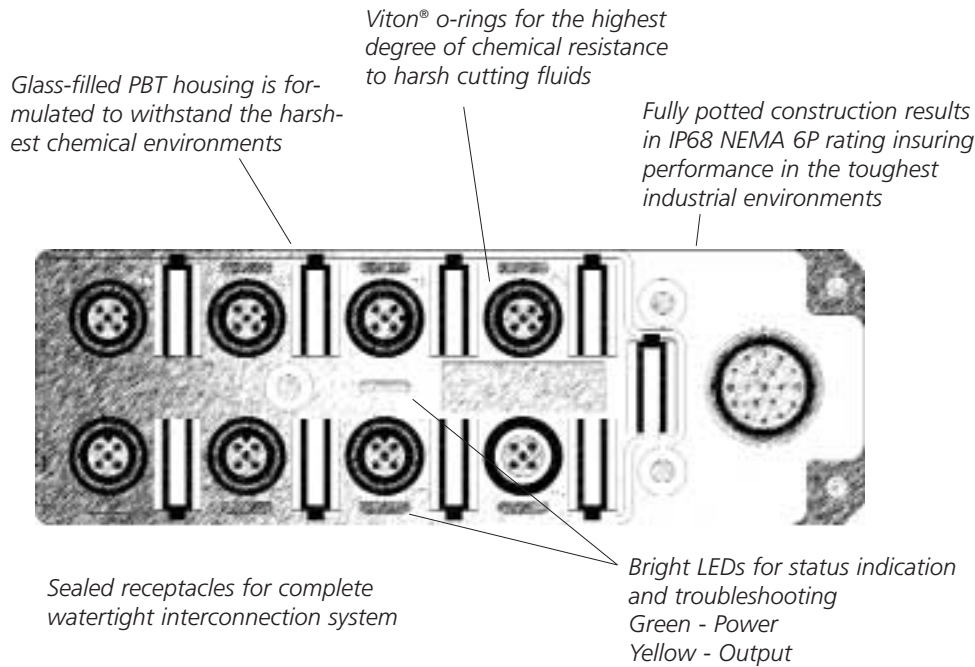
As the innovator of MPIS systems nearly 20 years ago, Brad Harrison MPIS products span across its entire family of products. From high density 16 input Nano-Change MPIS blocks to specialty wired and configured Mini-Change® MPIS blocks, Brad Harrison has a product solution for you. Mini-Change MPIS configurations include series, parallel versions, and 3- and 5-pole versions, as well as versions designated for selected outputs. The Micro-Change® MPIS family spans single (DC) and dual (AC) keyway versions in both side-mount and top-mount connect points for application versatility. Both single and dual-wired input versions are available for applications and connection flexibility. Most product family members are configured in a variety of molded homerun cables, molded homerun connector and connectorized versions in PNP, NPN or NO LED versions. Nano-Change® MPIS blocks are configured for 4 through 16 ports. Nano-Change Multi-ports are designed to facilitate simple mounting and connections. They can either be mounted with fastening screws from the top or the side in the same housing while fitting into very tight quarters.

Applications

Applications with a high-density of input or output connections can greatly benefit from an MPIS system. Typical industries where these pre-wired, potted junction boxes are used include machine tool, electrical products fabrication, packaging machinery and valve banks. MPIS systems have replaced junction boxes in such demanding applications as outside lighting, rail cars, and offshore oil rigs - anywhere that a molded, potted pre-wired connection solution saves wiring time, prevents mis-wiring and is exposed to harsh environments.



(MPIS®) Interconnects
Section Quick Finder



Design and Quality

As with all Brad Harrison® brand products, high quality and high reliability is designed into the entire MPIS product line. No shortcuts are taken when selecting Brad Harrison components or the high quality materials for products such as the DC Micro-Change® top mount MPIS. These boxes feature a new glass-filled PBT housing, tested to withstand the harshest cutting fluid environments, as well as Viton® o-rings to protect against these same fluids at the connector interface. Brad Harrison MPIS units are built to last. Mini-Change MPIS units feature the patented Quad Beam™ contact technology designed to ensure electrical integrity time and time again for critical control signaling. All housings are potted with a specially formulated resin to withstand chemicals, maintain electrical insulation and provide mechanical rigidity over the entire range of temperature and humidity ranges specified.

MINI-CHANGE
PAGES 226 - 261

MICRO-CHANGE
PAGES 262 - 285
SINGLE KEYWAY

3P PARALLEL WIRING HOME RUN CONNECTOR, PAGE 226

TOP MOUNT, SINGLE INPUT WITH MINI-CHANGE HOME RUN CONNECTOR, PAGE 262

3P PARALLEL WIRING WITH MOLDED HOME RUN CABLE, PAGE 230

TOP MOUNT, SINGLE INPUT WITH M23 HOME RUN CONNECTOR, PAGE 266

4P/3W PARALLEL WIRING HOME RUN CONNECTOR, PAGE 234

TOP MOUNT, SINGLE INPUT WITH MOLDED HOME RUN CABLE, PAGE 270

3P/4W PARALLEL WIRING WITH MOLDED HOME RUN CABLE, PAGE 238

TOP MOUNT, TWIN-WIRED WITH FIELD-ATTACHABLE HOME RUN CABLE, PAGE 272

3P WITH LED WITH HOME RUN CONNECTOR, PAGE 242

TOP MOUNT, TWIN-WIRED WITH MOLDED HOME RUN CONNECTOR, PAGE 274

3P WITH LED WITH MOLDED HOME RUN CONNECTOR, PAGE 246

3P SERIES WIRING HOME RUN CONNECTOR, PAGE 250

TOP MOUNT, TWIN-WIRED WITH MOLDED HOME RUN CABLE, PAGE 276

3P SERIES WIRING WITH MOLDED HOME RUN CABLE, PAGE 254

SIDE MOUNT, SINGLE INPUT WITH HOME RUN CONNECTOR, PAGE 280

5P WITH HOME RUN CABLE, PAGE 258

SIDE MOUNT, SINGLE INPUT WITH MOLDED HOME RUN CABLE, PAGE 284

5P WITH MOLDED HOME RUN CONNECTOR, PAGE 260

Look for these new (MPIS®) Interconnect products



Top Mount, Single Keyway with Mini-Change Homerun Connector



Top Mount, Single Keyway with M23 Homerun Connector



Top Mount, Single Keyway with Molded Homerun Connector



Top Mount, Single Keyway Dual Input with Field-attachable Homerun Cable



Top Mount, Single Keyway Dual Input with Molded Homerun Connector



Top Mount, Single Keyway Dual Input with Molded Homerun Cable

NANO-CHANGE
PAGES 302 - 315
4, 6, 8 & 10 PORT

MICRO-CHANGE
PAGES 286 - 297
DUAL KEYWAY

TOP ENTRY WITH M16 HOME RUN CONNECTOR, PAGE 302

SIDE MOUNT, SINGLE INPUT SERIES WIRED WITH HOME RUN CONNECTOR, PAGE 286

TOP ENTRY WITH MOLDED HOME RUN CABLE, PAGE 306

SIDE MOUNT, SINGLE INPUT WITH LED AND HOME RUN CONNECTOR, PAGE 290

END ENTRY WITH MOLDED HOME RUN CONNECTOR, PAGE 310

SIDE MOUNT, PARALLEL WIRING WITH HOME RUN CONNECTOR, PAGE 294

16 PORT HIGH DENSITY, PAGE 314

ACCESSORIES
PAGES 298 - 301

CLOSURE CAPS

SHORTING PLUGS

SPLITTERS



Side Mount Parallel 3P Wiring, Home Run Connector

Connectorized Mini-Change home run cable connection for maximum flexibility
 Parallel-wired for OR logic wiring of 3P male cordsets
 Flexibility with 4, 6 and 8 port configurations

	4 Port SCHEMATIC, FIG 1	6 Port SCHEMATIC, FIG 2	8 Port SCHEMATIC, FIG 3
FUNCTIONAL WIRING DIAGRAM	<p>1- GROUND 2- LOAD (L2) 3- COMMON (L1)</p>		
HOME RUN CONNECTOR PINOUTS	1- common (L1) 2- port #1 load 3- gnd 4- port #2 load 5- port #3 load 6- port #4 load	1- port #2 load 2- port #4 load 3- port #5 load 4- port #3 load 5- common (L1) 6- port #1 load 7- gnd 8- port #6 load	1- port #2 load 2- port #4 load 3- port #5 load 4- port #6 load 5- port #7 load 6- port #8 load 7- port #1 load 8- gnd 9- port #3 load 10- common (L1)
HOME RUN CONNECTOR MALE FACE VIEW			

MPIS, 3P PARALLEL WIRING WITH HOME RUN CONNECTOR						
	FIG		FIG		FIG	
MPIS	4	409P401	5	409P601	6	409P801

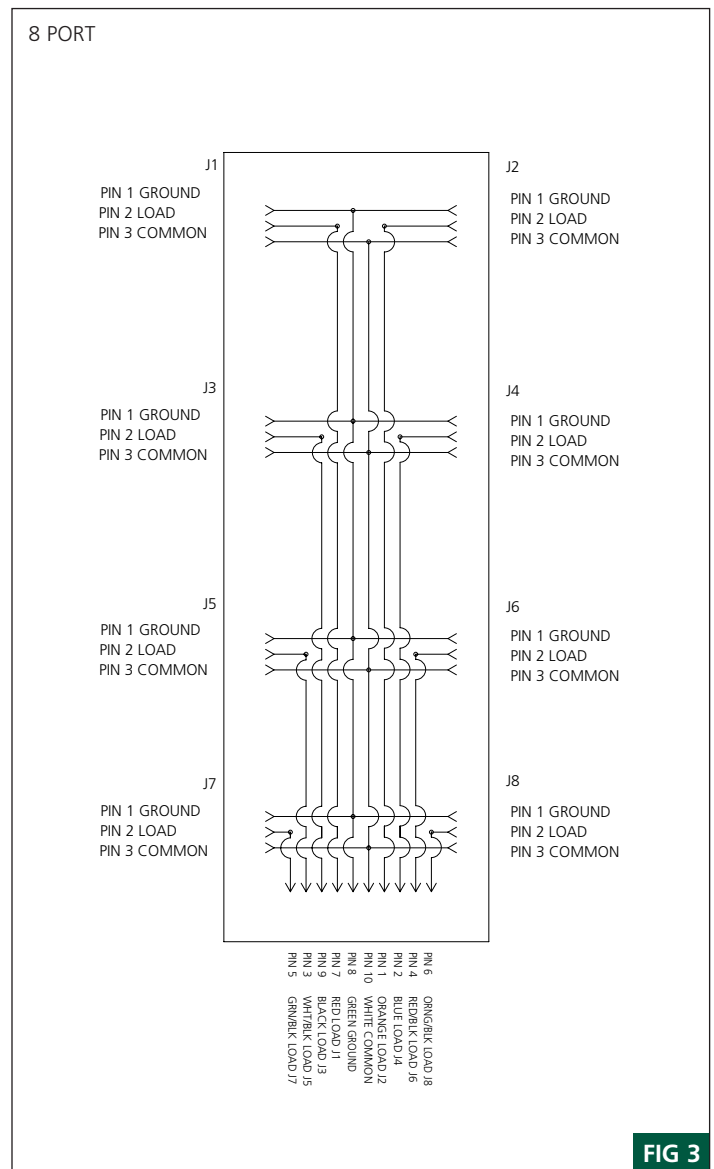
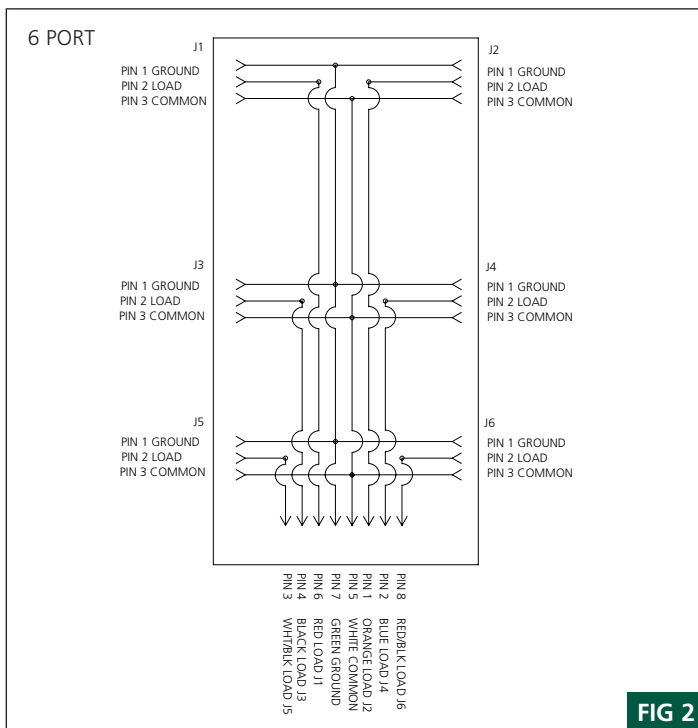
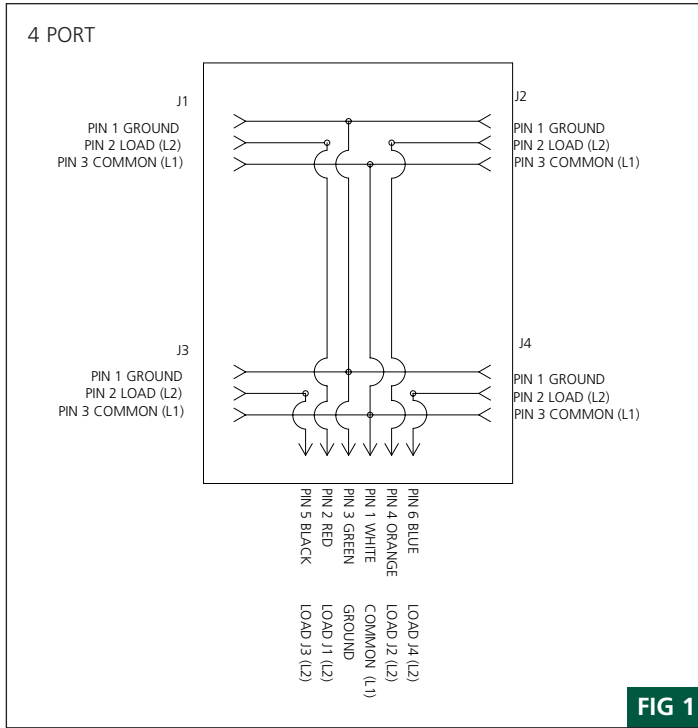
*Use 3P male Mini-Change to cordsets page 42 or female-male cordsets page 44 to connect to the MPIS ports

FEMALE SINGLE-ENDED HOME RUN CABLE - PVC						
	FIG		FIG		FIG	
HOME RUN CABLE 6'	7	106000A01F060	8	208000A01F060	9	301000A01F060
HOME RUN CABLE 12'	7	106000A01F120	8	208000A01F120	9	301000A01F120
HOME RUN CABLE 20'	7	106000A01F200	8	208000A01F200	9	301000A01F200
FEMALE/MALE DOUBLE ENDED HOME RUN CABLE EXTENSION - PVC						
HOME RUN EXTENSION 6'	10	116020A01F060	11	228020A01F060	12	331020A01F060
HOME RUN EXTENSION 12'	10	116020A01F120	11	228020A01F120	12	331020A01F120
HOME RUN EXTENSION 20'	10	116020A01F200	11	228020A01F200	12	331020A01F200
FEMALE RECEPTACLE WITH 12" LEADS TO ACCEPT HOME RUN CABLE EXTENSION						
FEMALE RECEPTACLE	13	1R6004A20A120	14	2R8004A20A120	15	3R1004A20A120

Specifications



SCHEMATICS



MECHANICAL
 INSERT: PVC
 HOUSING: ZINC DIE CAST WITH EPOXY COAT
 RECEPTACLE HOUSING: ABS
 ID LABEL: HOME RUN CONNECTOR

OUTSIDE DIAMETER:

ELECTRICAL

VOLTAGE RATING: 600V AC/DC
 AMPERAGE: 7A TOTAL PER MPIS UNIT

ENVIRONMENTAL

PROTECTION: IP68, NEMA 6P
 AMBIENT OPERATING TEMPERATURE: -13° TO 194°F (-25° TO 90°C)

CERTIFICATIONS

UL: UL RECOGNIZED, FILE NO. E46237
 CSA: CSA CERTIFIED, FILE NO. LR6837

Side Mount Parallel 3P Wiring, Home Run Connector

MECHANICALS

4 PORT

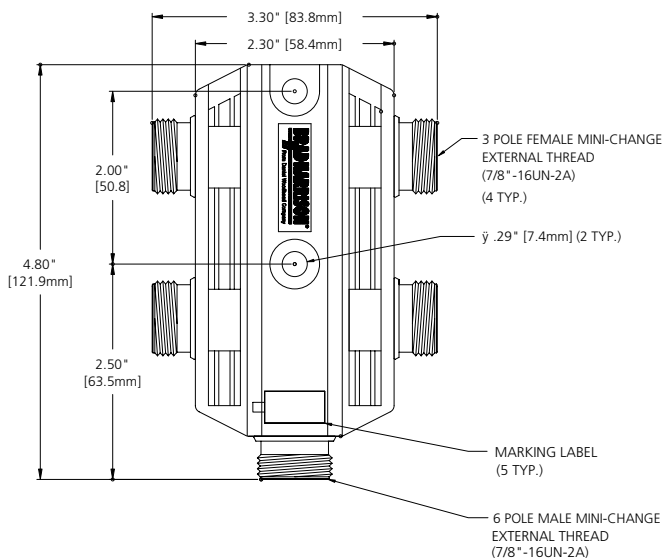


FIG 4

8 PORT

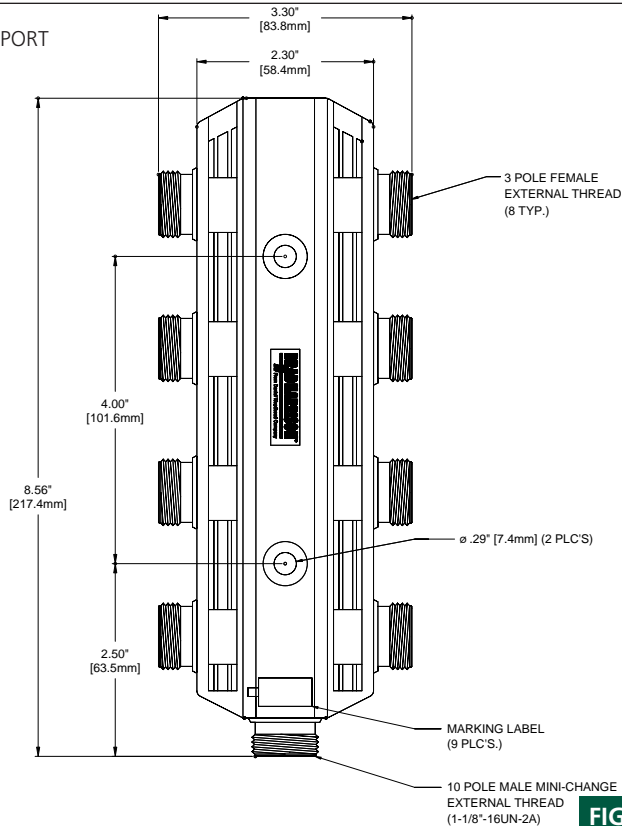


FIG 6

6 PORT

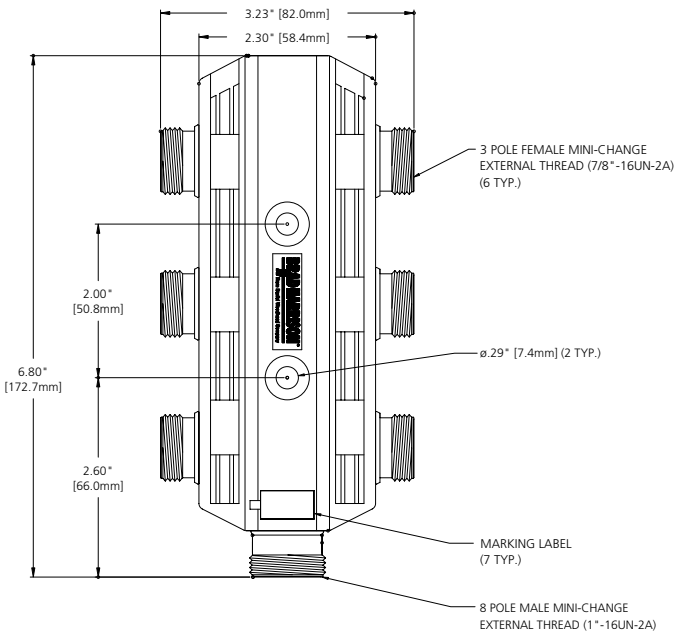


FIG 5

FEMALE SINGLE-ENDED HOME RUN CABLE

4 PORT

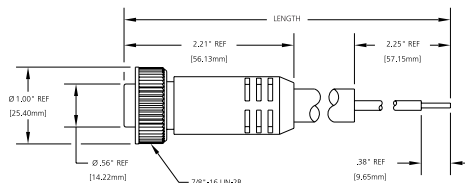


FIG 7

6 PORT

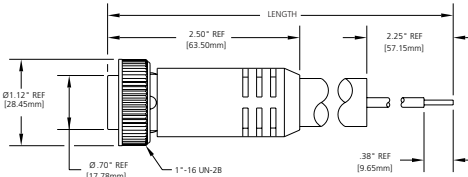


FIG 8

8 PORT

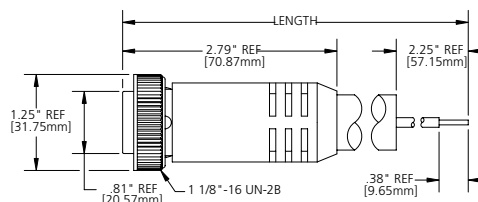
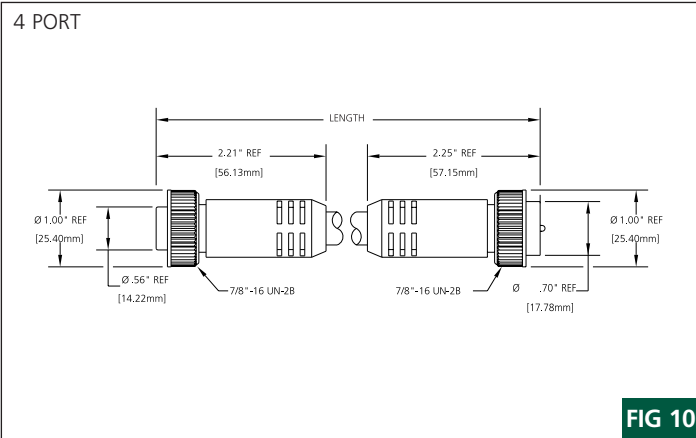


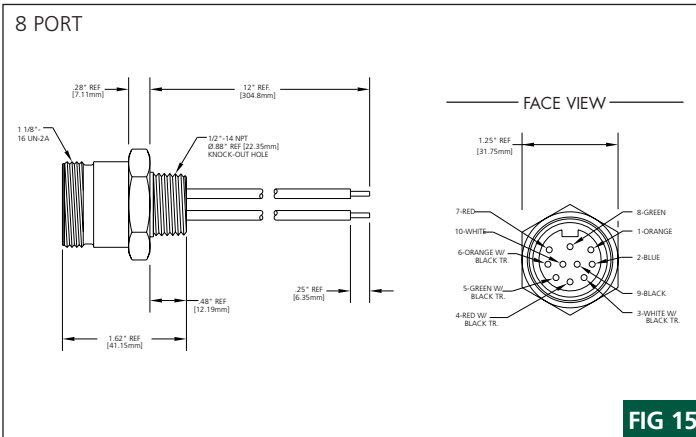
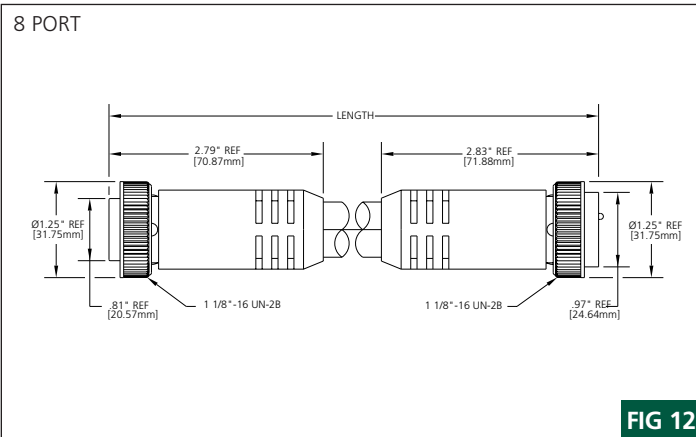
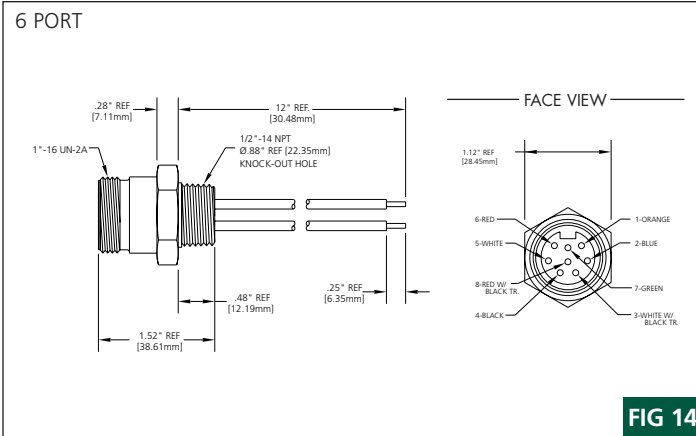
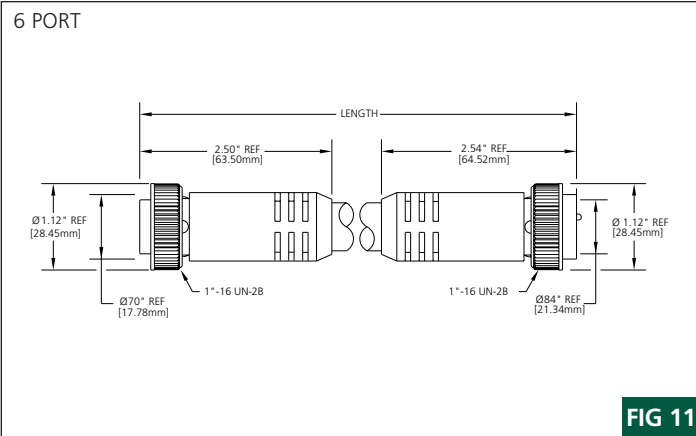
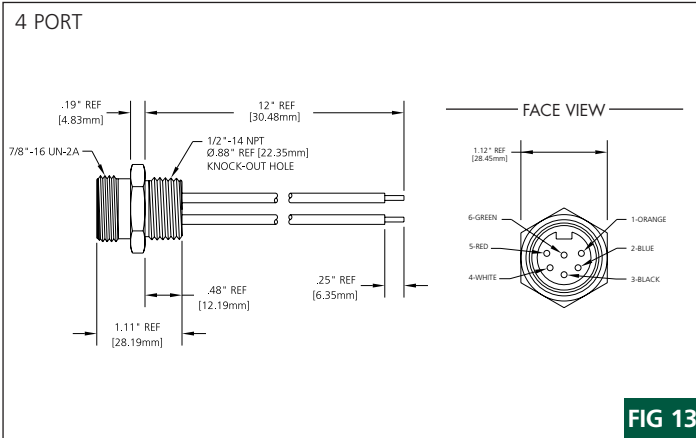
FIG 9

Side Mount Parallel 3P Wiring, Home Run Connector

FEMALE/MALE DOUBLE-ENDED HOME RUN CABLE



FEMALE RECEPTACLE FOR HOME RUN CABLE



Standard Accessories - marking labels and (2) closure caps for each MPIS
 * Other Accessories - see page 298 for other accessories
 * Refer to Mini-Change section for complete homerun/receptacle specifications



Side Mount Parallel 3P Wiring, Molded Home Run Cable

Simplifies wiring installation – integrated molded home run cable
 Parallel-wired for OR logic wiring of 3P male Mini-Change cordsets
 Flexibility with 4, 6 and 8 port configurations

	4 Port SCHEMATIC, FIG 1	6 Port SCHEMATIC, FIG 2	8 Port SCHEMATIC, FIG 3
FUNCTIONAL WIRING DIAGRAM	<p>1- GROUND 2- LOAD (L2) 3- COMMON (L1)</p>		
HOME RUN CABLE COLOR CODE	white- common green- gnd red- port #1 load orange- port #2 load black- port #3 load blue- port #4 load	white- common green- gnd red- port #1 load orange- port #2 load black- port #3 load blue- port #4 load white w/ blk trace- port #5 load red w/ blk trace- port #6 load	white- common green- gnd red- port #1 load orange- port #2 load black- port #3 load blue- port #4 load white w/ blk trace- port #5 load red w/ blk trace- port #6 load green w/ blk trace- port #7 load orange w/ blk trace- port #8 load

MPIS 3P PARALLEL WIRING WITH 20 FEET MOLDED PVC HOME RUN CABLE #16 AWG						
	FIG		FIG		FIG	
PVC HOME RUN CABLE 20'	4	409P406-20	5	409P606-20	6	409P806-20

* Use 3P male Mini-Change® Cordsets page 42 or female-male extensions page 44 to connect to the MPIS ports

CATALOG OPTIONS

Use the following chart to modify your part's specifications

409P606-20

NO. OF PORTS

4 PORT	4
6 PORT	6
8 PORT	8

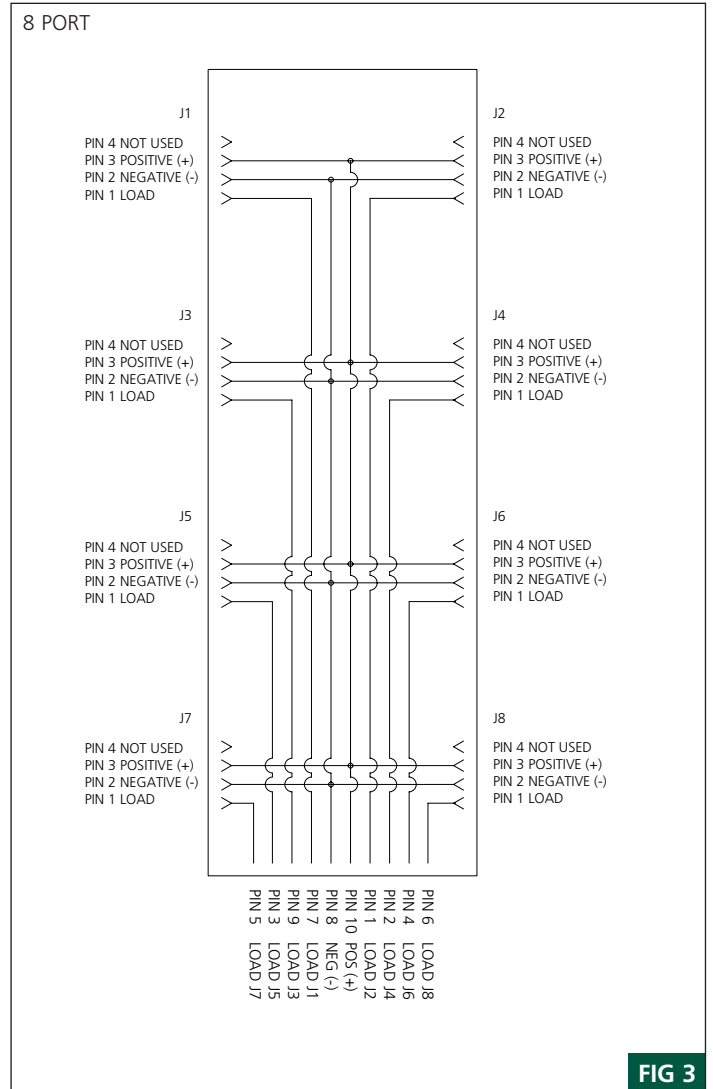
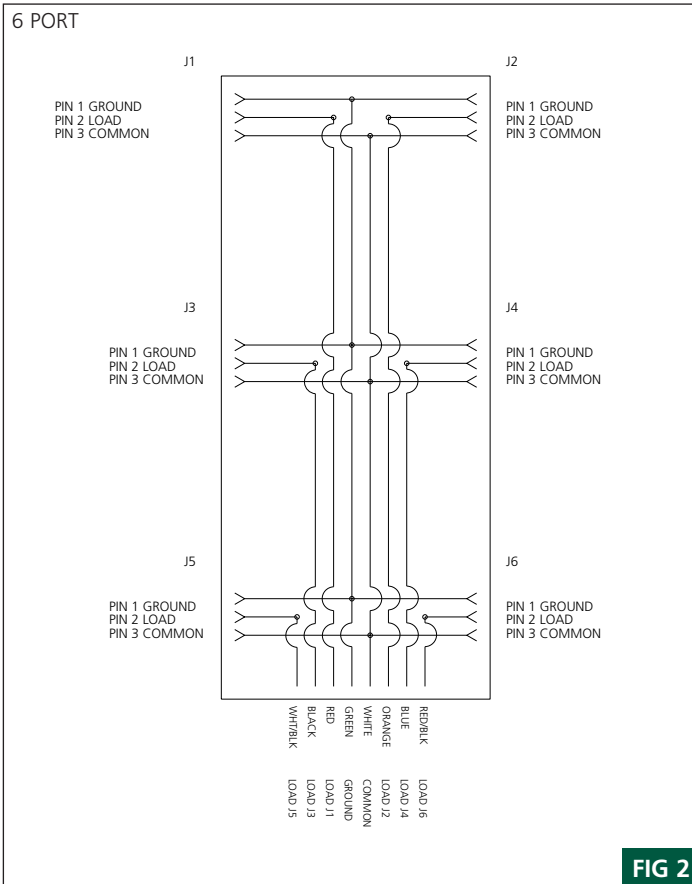
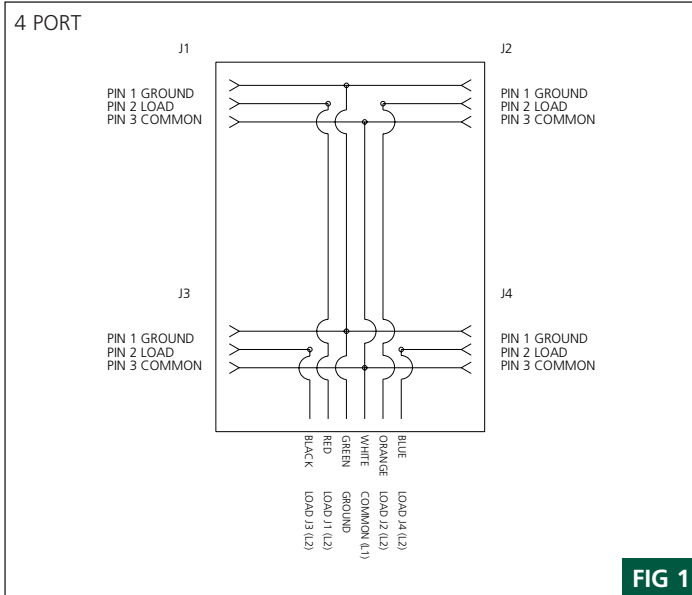
CABLE LENGTH

10'	10
20'	20

Specifications



SCHEMATICS



MECHANICAL

INSERT: PVC
 HOUSING: PET (POLYESTER)
 RECEPTACLE HOUSING: ZINC DIE CAST WITH EPOXY COAT
 ID LABEL: ABS
HOME RUN CABLE YELLOW WITH PVC JACKET, #16/6,8 AND 10 CONDUCTOR PVC WITH INSULATION OVER, 65 X #34 COPPER STRANDING, UL LISTED ST00W 105°C, CSA CERTIFIED ST 105°C, 600 V
 OUTSIDE DIAMETER: 4 PORT: 0.54" (13.72mm)
 6 PORT: 0.61" (15.49mm)
 8 PORT: 0.66" (16.76mm)

ELECTRICAL

VOLTAGE RATING: 600V AC/DC
 AMPERAGE: 7A TOTAL PER MPIS UNIT

ENVIRONMENTAL

PROTECTION: IP68, NEMA 6P
 AMBIENT OPERATING TEMPERATURE: -13°F TO 194°F (-25° C TO 90°C)

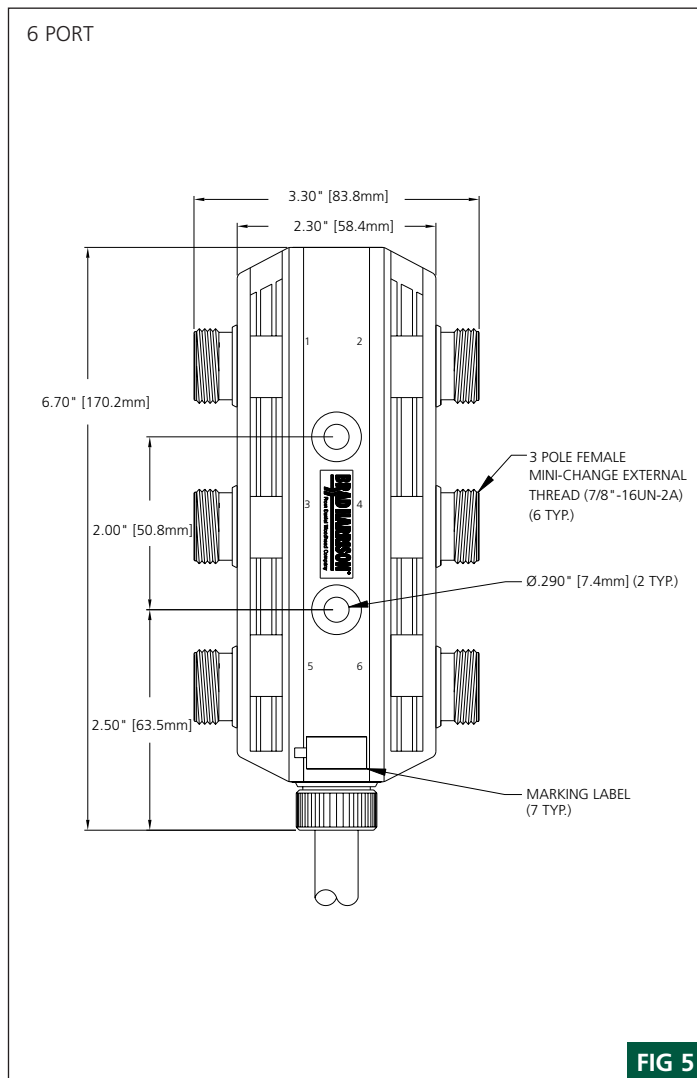
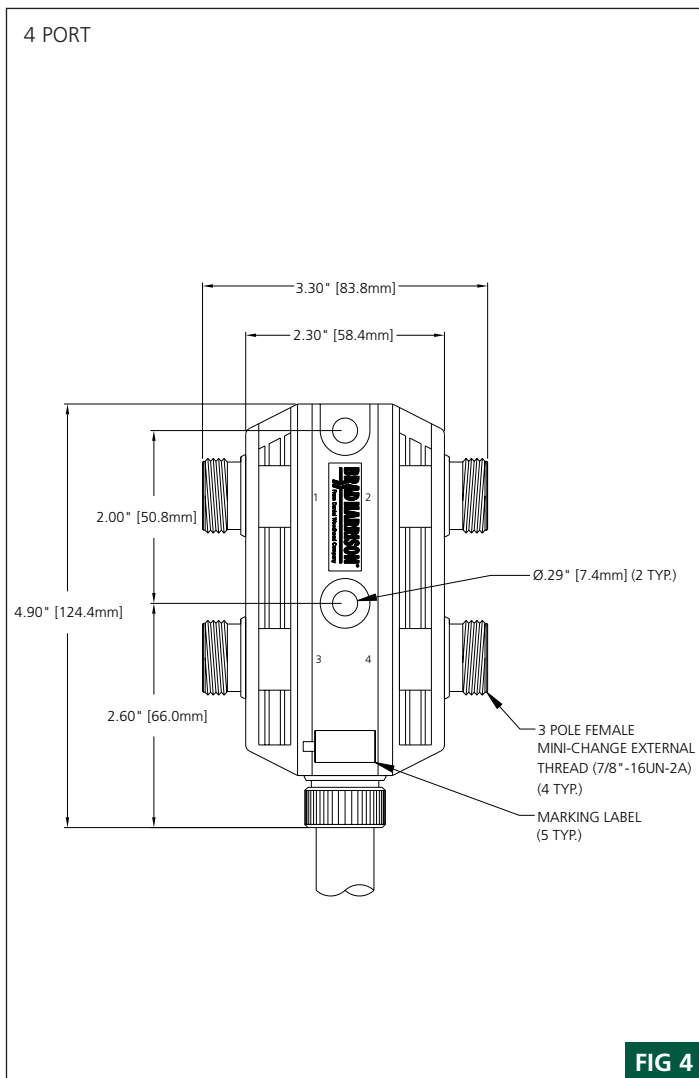
CERTIFICATIONS

UL: UL RECOGNIZED, FILE NO. E46237
 CSA: CSA CERTIFIED, FILE NO. LR6837

Standard Accessories - marking labels and (2) closure caps for each MPIS
 * Accessories - see page 298

Side Mount Parallel 3P Wiring, Molded Home Run Cable

MECHANICALS



Side Mount Parallel 3P Wiring, Molded Home Run Cable

MECHANICALS

8 PORT

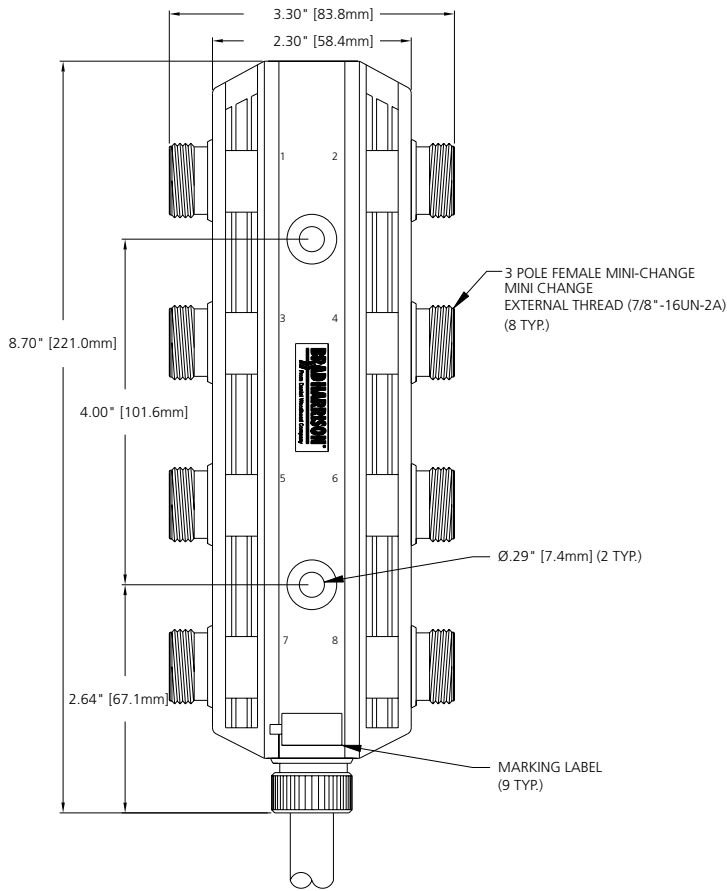


FIG 6



Side Mount 4P/3W Parallel Wiring, Home Run Connector

Connectorized Mini-Change home run cable connection for maximum flexibility
 Parallel-wired for OR logic wiring of 4P male Mini-Change cordsets
 Flexibility with 4, 6 and 8 port configurations

	4 Port SCHEMATIC, FIG 1	6 Port SCHEMATIC, FIG 2	8 Port SCHEMATIC, FIG 3
FUNCTIONAL WIRING DIAGRAM			
HOME RUN CONNECTOR PINOUTS	1- V+ 2- port #1 load 3- V- 4- port #2 load 5- port #3 load 6- port #4 load	1- port #2 load 2- port #4 load 3- port #5 load 4- port #3 load 5- V+ 6- port #1 load 7- V- 8- port #6 load	1- port #2 load 2- port #4 load 3- port #5 load 4- port #6 load 5- port #7 load 6- port #8 load 7- port #1 load 8- V- 9- port #3 load 10- V+
HOME RUN CONNECTOR MALE FACE VIEW			

MPIS, 4P/3 WIRE PARALLEL WIRING WITH MINI-CHANGE HOME RUN CONNECTOR						
	FIG		FIG		FIG	
MPIS	4	411P401	5	411P601	6	411P801

* Use 4P male cordsets page 42 or female/male cordsets page 44 to connect to the MPIS ports

FEMALE SINGLE-ENDED HOME RUN CABLE - PVC JACKET AND #16 AWG CONDUCTORS						
	FIG		FIG		FIG	
HOME RUN CABLE 6'	7	106000A01F060	8	208000A01F060	9	301000A01F060
HOME RUN CABLE 12'	7	106000A01F120	8	208000A01F120	9	301000A01F120
HOME RUN CABLE 20'	7	106000A01F200	8	208000A01F200	9	301000A01F200
FEMALE/MALE DOUBLE ENDED HOME RUN CABLE - PVC JACKET AND #16 AWG CONDUCTORS						
HOME RUN CABLE 6'	10	116020A01F060	11	228020A01F060	12	331020A01F060
HOME RUN CABLE 12'	10	116020A01F120	11	228020A01F120	12	331020A01F120
HOME RUN CABLE 20'	10	116020A01F200	11	228020A01F200	12	331020A01F200
FEMALE RECEPTACLE WITH #16 AWG PVC LEADS 12" LONG TO ACCEPT HOME RUN CABLE EXTENSION						
FEMALE RECEPTACLE	13	1R6004A20A120	14	2R8004A20A120	15	3R1004A20A120

Specifications



MECHANICAL
 INSERT: PVC
 HOUSING: PET (POLYESTER)
 RECEPTACLE HOUSING: ZINC DIE CAST WITH EPOXY COAT
 ID LABEL: ABS
HOME RUN CONNECTOR
 YELLOW CABLE WITH PVC JACKET,
 #16/6,8 AND 10 CONDUCTORS WITH
 PVC INSULATION OVER 65 X #34
 COPPER STRANDING,
 UL LISTED ST00W 105°C,
 CSA CERTIFIED ST 105°C, 600 V
 4 PORT: 0.54" (13.72mm)
 6 PORT: 0.61" (15.49mm)
 8 PORT: 0.66" (16.76mm)

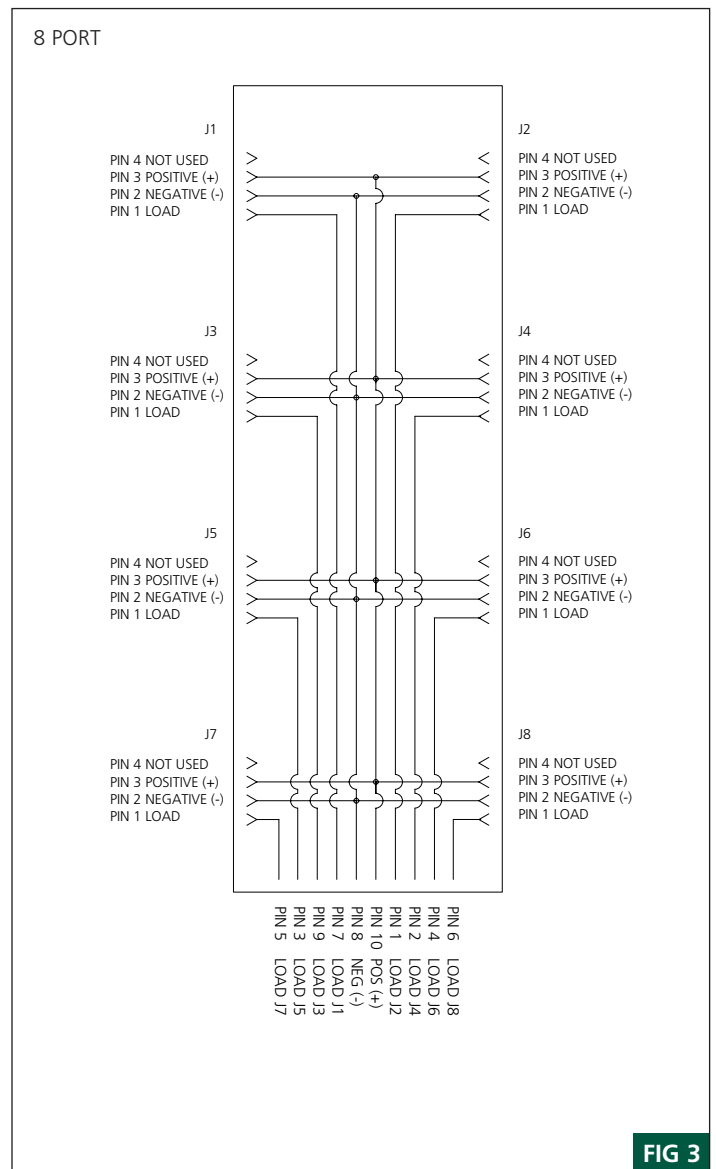
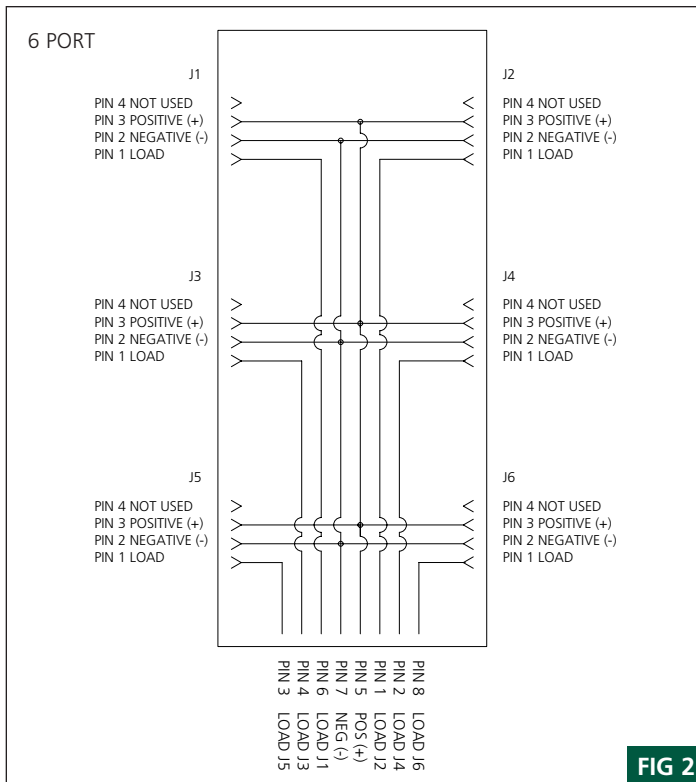
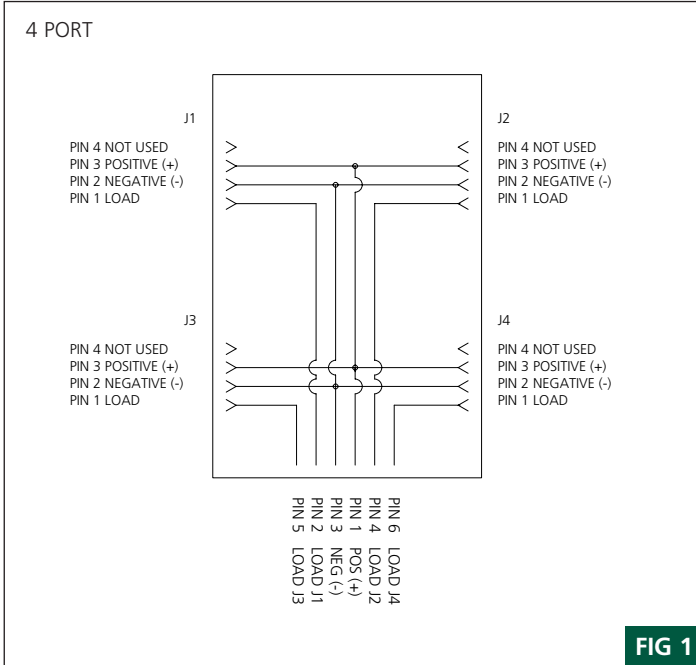
OUTSIDE DIAMETER:
 4 PORT: 0.54" (13.72mm)
 6 PORT: 0.61" (15.49mm)
 8 PORT: 0.66" (16.76mm)

ELECTRICAL
 VOLTAGE RATING: 600V AC/DC
 AMPERAGE: 7A MAX PER UNIT

ENVIRONMENTAL
 PROTECTION: IP68, NEMA 6P
 AMBIENT OPERATING TEMPERATURE: -13° TO 194°F (-25° TO 90°C)

CERTIFICATIONS
 UL: RECOGNIZED, FILE NO. E46237
 CSA: CSA CERTIFIED, FILE NO. LR6837

SCHEMATICS



Side Mount 4P/3W Parallel Wiring, Home Run Connector

MECHANICALS

4 PORT

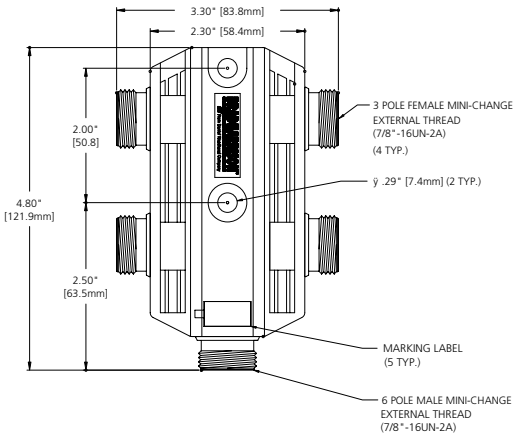


FIG 4

8 PORT

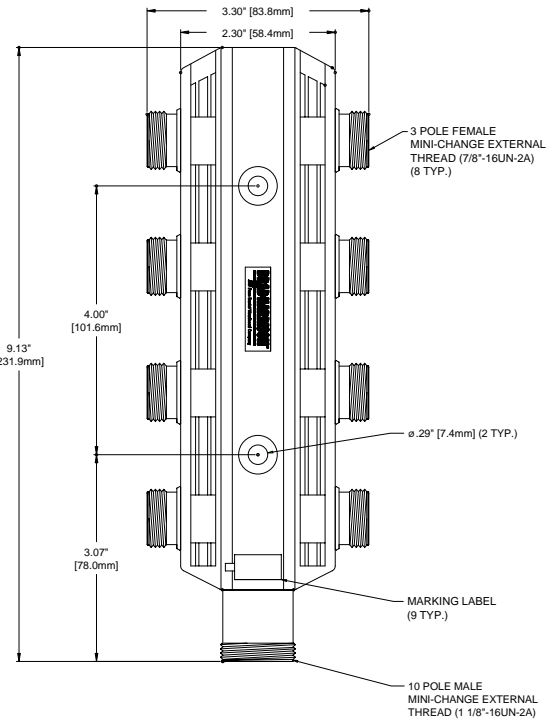


FIG 6

6 PORT

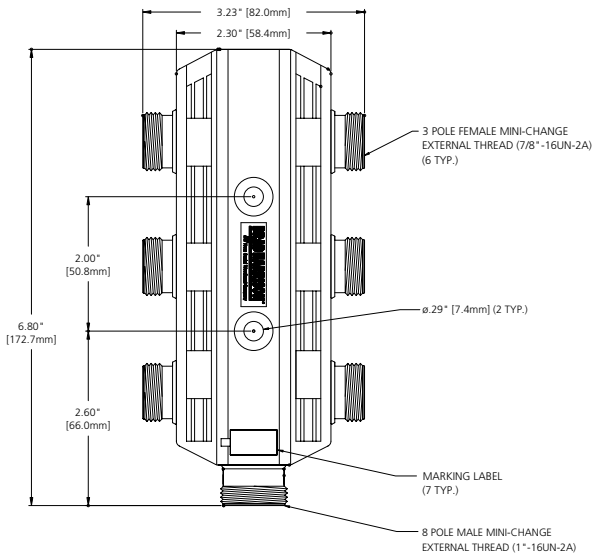


FIG 5

FEMALE SINGLE-ENDED HOME RUN CABLE

4 PORT

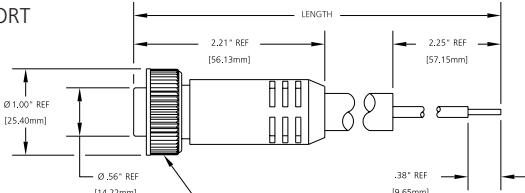


FIG 7

6 PORT

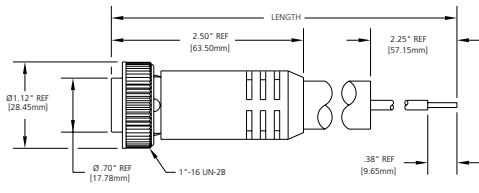


FIG 8

8 PORT

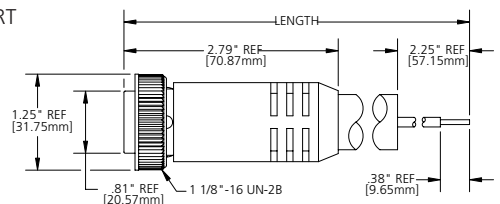
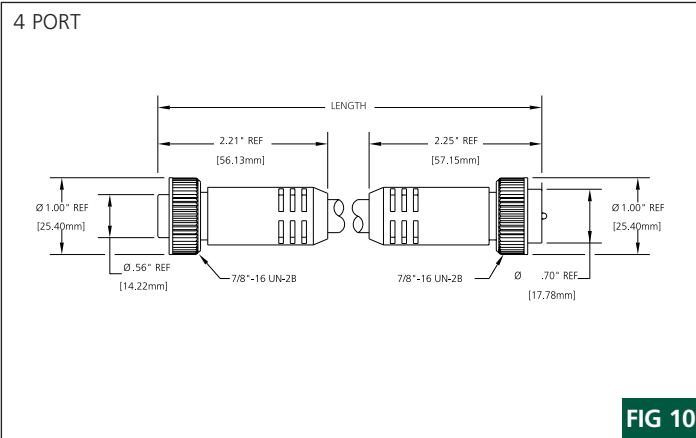


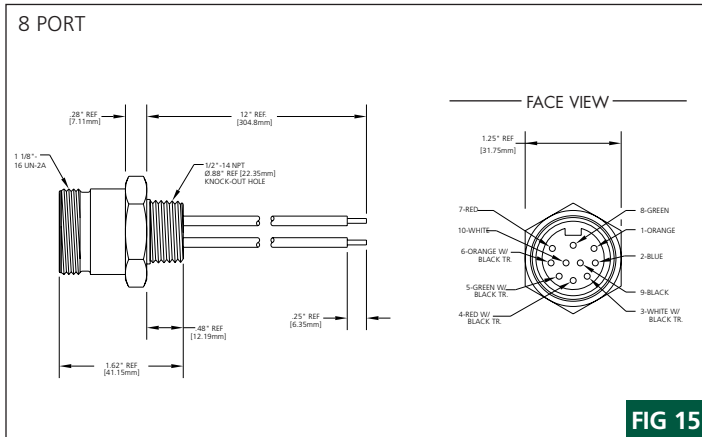
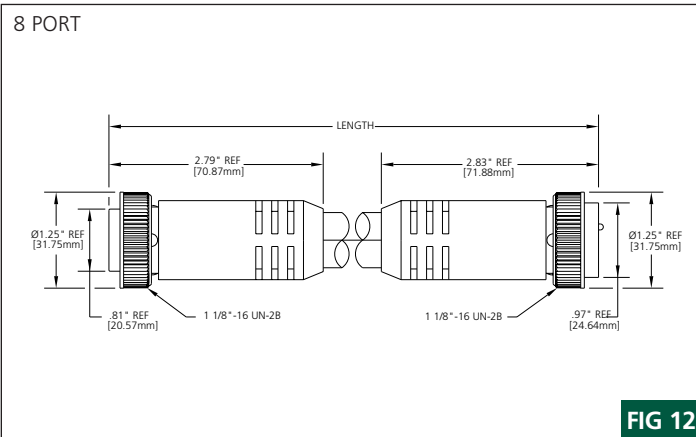
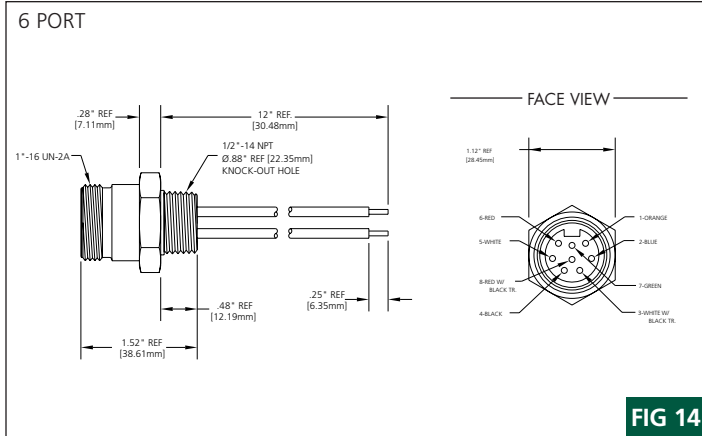
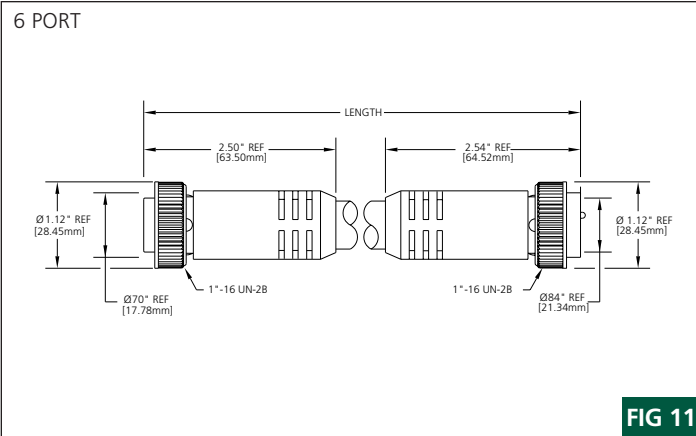
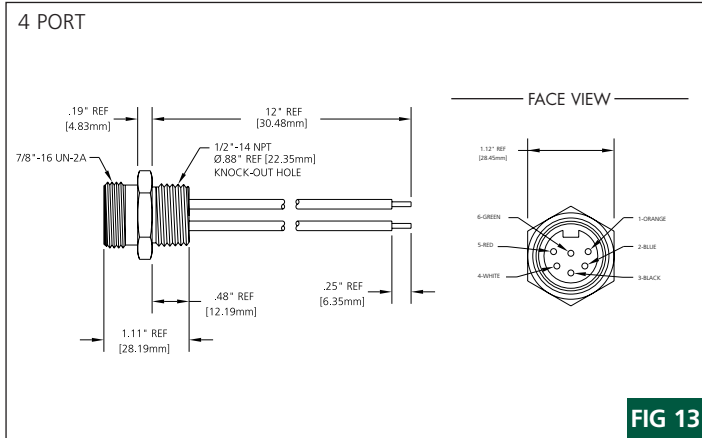
FIG 9

Side Mount 4P/3W Parallel Wiring, Home Run Connector

FEMALE/MALE DOUBLE-ENDED HOME RUN CABLE



FEMALE RECEPTACLE FOR HOME RUN CABLE





Side Mount 4P/3W Parallel Wiring, Molded Home Run Cable

Simplifies wiring installation – integrated home run cable
 Parallel-wired for OR logic wiring of 4P male Mini-Change cordsets
 Flexibility with 4, 6 and 8 port configurations

	4 Port SCHEMATIC, FIG 1	6 Port SCHEMATIC, FIG 2	8 Port SCHEMATIC, FIG 3
FUNCTIONAL WIRING DIAGRAM			
HOME RUN CABLE COLOR CODE	white- V+ green- V- red- port #1 load orange- port #2 load black- port #3 load blue- port #4 load	white- V+ green- V- red- port #1 load orange- port #2 load black- port #3 load blue- port #4 load white w/ blk trace- port #5 load red w/ blk trace- port #6 load	white- V+ green- V- red- port #1 load orange- port #2 load black- port #3 load blue- port #4 load white w/ blk trace- port #5 load red w/ blk trace- port #6 load green w/ blk trace- port #7 load orange w/ blk trace- port #8 load

MPIS 3P PARALLEL WIRING WITH 20 FEET OF MOLDED HOME RUN CABLE #16 AWG						
	FIG		FIG		FIG	
PVC HOME RUN CABLE 20'	4	411P406-20	5	411P606-20	6	411P806-20

* Use 4P male Mini-Change® Cordsets page 42 or female/male cordsets page 44 to connect to the MPIS ports

CATALOG OPTIONS

Use the following chart to modify your part's specifications

411P406-20

NO. OF PORTS

4 PORT	4
6 PORT	6
8 PORT	8

CABLE LENGTH

10'	10
20'	20

Specifications



MECHANICAL

INSERT: PVC
 HOUSING: PET (POLYESTER)
 RECEPTACLE HOUSING: ZINC DIE CAST WITH EPOXY COAT
 ID LABEL: ABS

HOME RUN CABLE

YELLOW WITH PVC JACKET,
 #16/6,8 AND 10 CONDUCTORS
 WITH PVC INSULATION OVER
 65 X #34 COPPER STRANDING, UL
 LISTED ST00W 105°C, CSA
 CERTIFIED ST 105°C, 600 V

OUTSIDE DIAMETER:

4 PORT: 0.54" (13.72mm)

6 PORT: 0.61" (15.49mm)

8 PORT: 0.66" (16.76mm)

ELECTRICAL

VOLTAGE RATING: 600V AC/DC
 AMPERAGE: 7A TOTAL PER MPIS UNIT

ENVIRONMENTAL

PROTECTION: IP68, NEMA 6P
 AMBIENT OPERATING TEMPERATURE: -13° TO 194° F (-25° TO 90°C)

CERTIFICATIONS

UL: UL RECOGNIZED, FILE NO. E46237
 CSA: CSA CERTIFIED, FILE NO. LR6837

SCHEMATICS

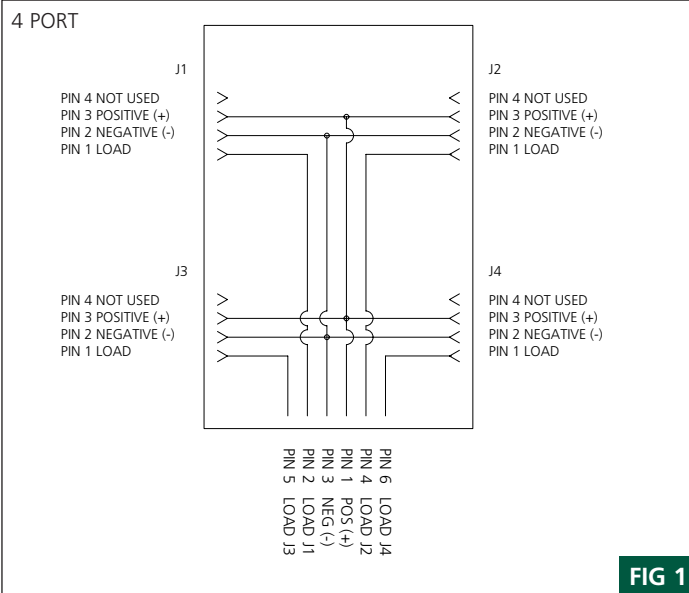


FIG 1

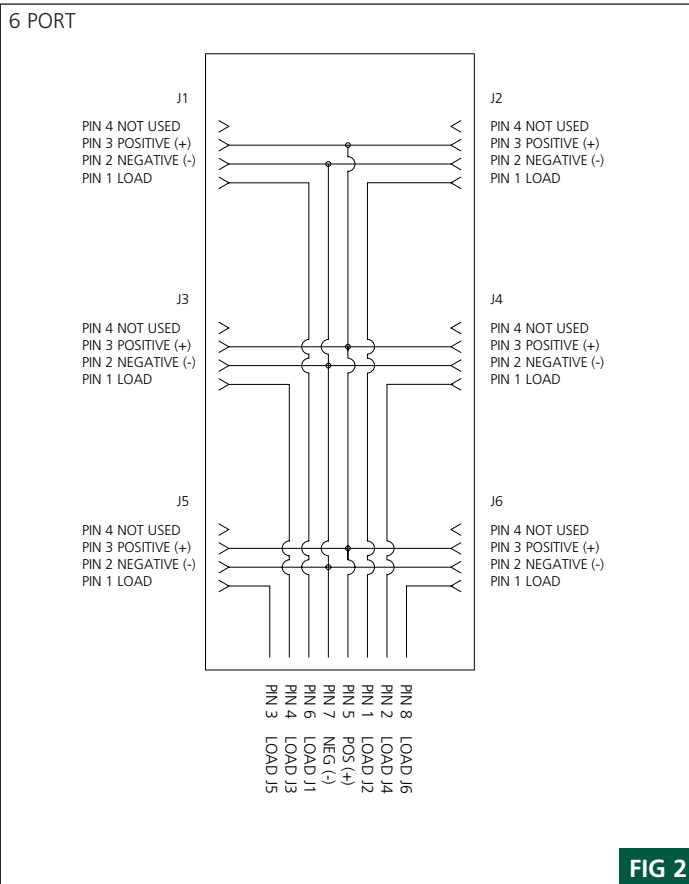


FIG 2

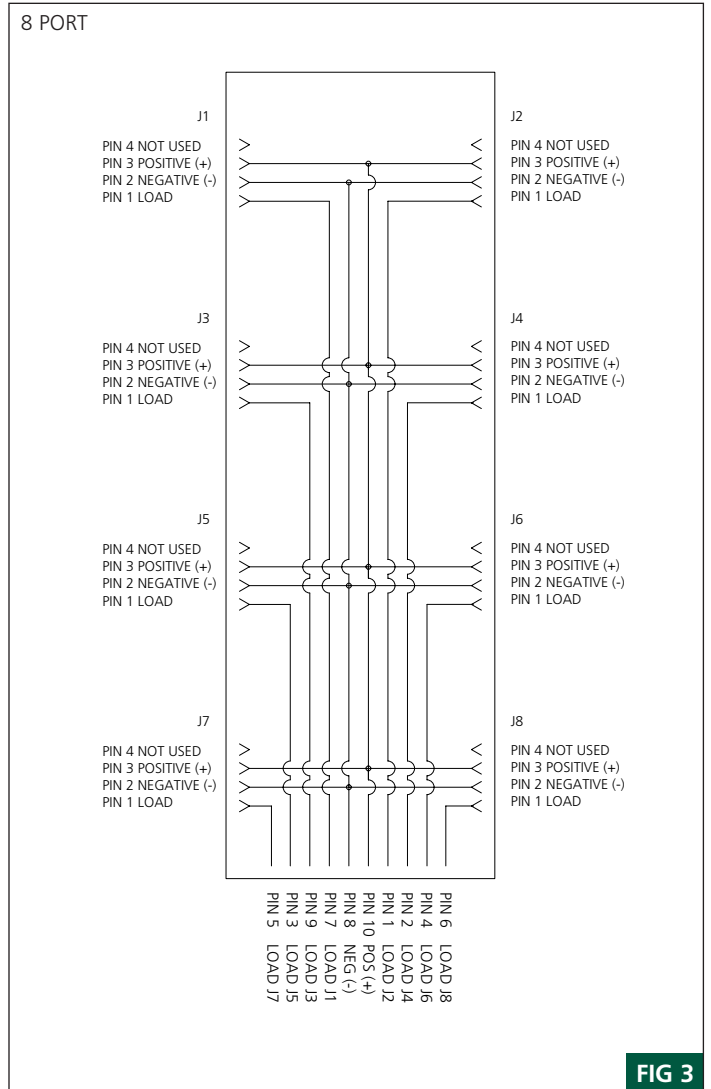


FIG 3

Side Mount 4P/3W Parallel Wiring, Molded Home Run Cable

MECHANICALS

4 PORT

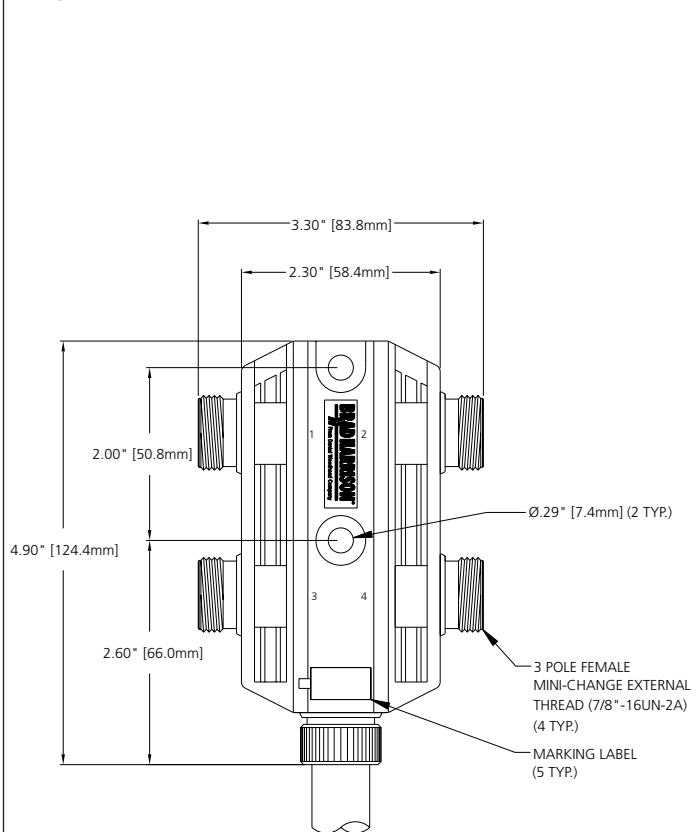


FIG 4

6 PORT

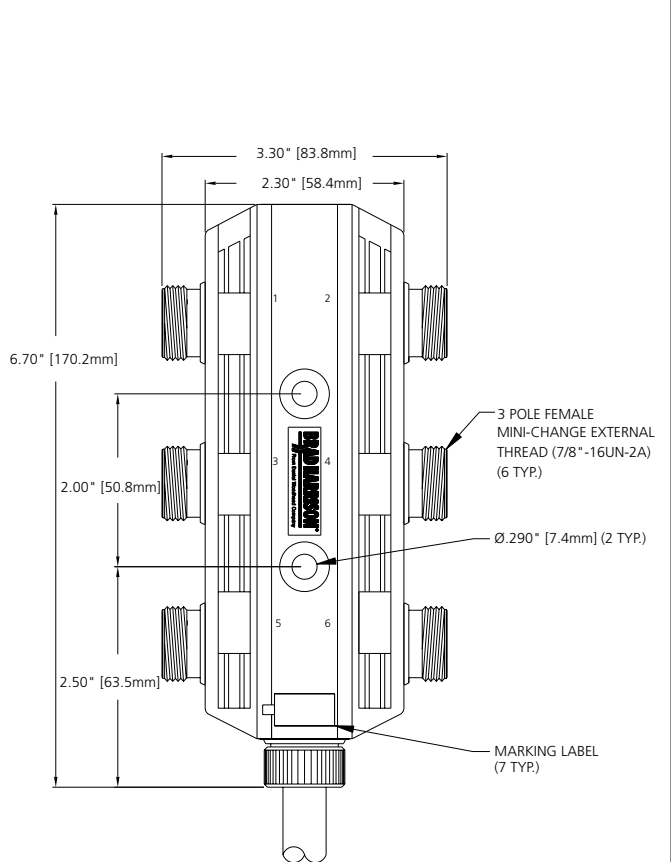


FIG 5

Side Mount 4P/3W Parallel Wiring, Molded Home Run Cable

MPIS® Molded JNX Boxes

Mini-Change®

MECHANICALS

8 PORT

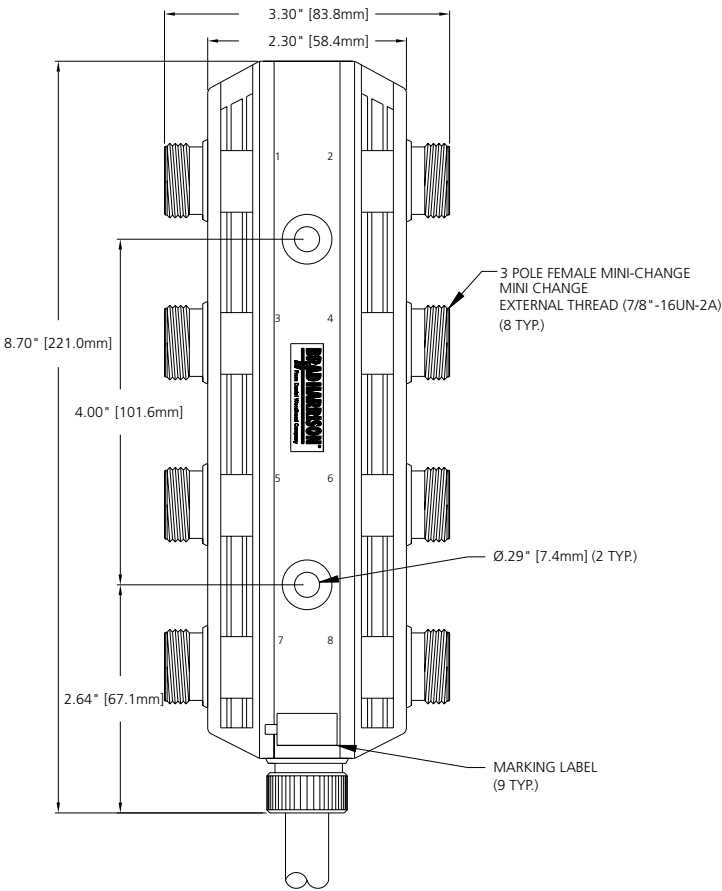


FIG 6



Side Mount 3P-LED Parallel Wiring, Molded Home Run Cable

Simplifies wiring installation – integrated molded home run cable
 Parallel-wired for, or logic wiring of, 3P male cordsets – with LED for diagnostics
 Flexibility with 4, 6 and 8 port configurations

	4 Port SCHEMATIC, FIG 1	6 Port SCHEMATIC, FIG 2	8 Port SCHEMATIC, FIG 3
FUNCTIONAL WIRING DIAGRAM			
HOME RUN CABLE COLOR CODE	white- common green- gnd red- port #1 load orange- port #2 load black- port #3 load blue- port #4 load white w/ blk trace- LED return	white- common green- gnd red- port #1 load orange- port #2 load black- port #3 load blue- port #4 load white w/ blk trace- port #5 load red w/ blk trace- port #6 load green w/ blk trace- LED return	white- common green- gnd red- port #1 load orange- port #2 load black- port #3 load blue- port #4 load white w/ blk trace- port #5 load red w/ blk- port #6 load green w/ blk- port #7 load orange w/ blk- port #8 load blue w/ blk- LED return black w/ white- no connection

MPIS 3P WITH LED PARALLEL WIRING WITH 20' OF MOLDED HOME RUN CABLE #16 AWG						
	FIG		FIG		FIG	
PVC HOME RUN CABLE 20'	4	410P406-20	5	410P606-20	6	410P806-20

* Use 3P male Mini-Change® Cordsets page 42 or female/male cordsets page 44 to connect to the MPIS ports

CATALOG OPTIONS

Use the following chart to modify your MPIS units specifications

410P406-20

NO. OF PORTS

4 PORT	4
6 PORT	6
8 PORT	8

CABLE LENGTH

20'	20
-----	----

Specifications



SCHEMATICS

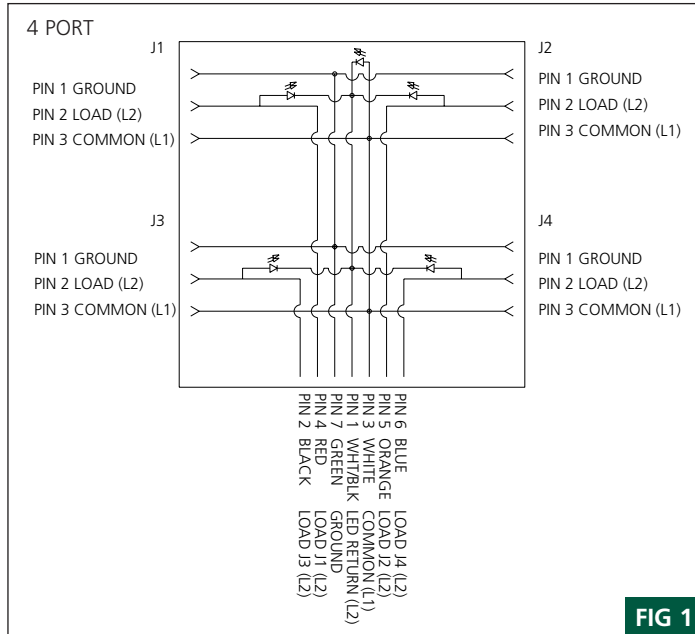


FIG 1

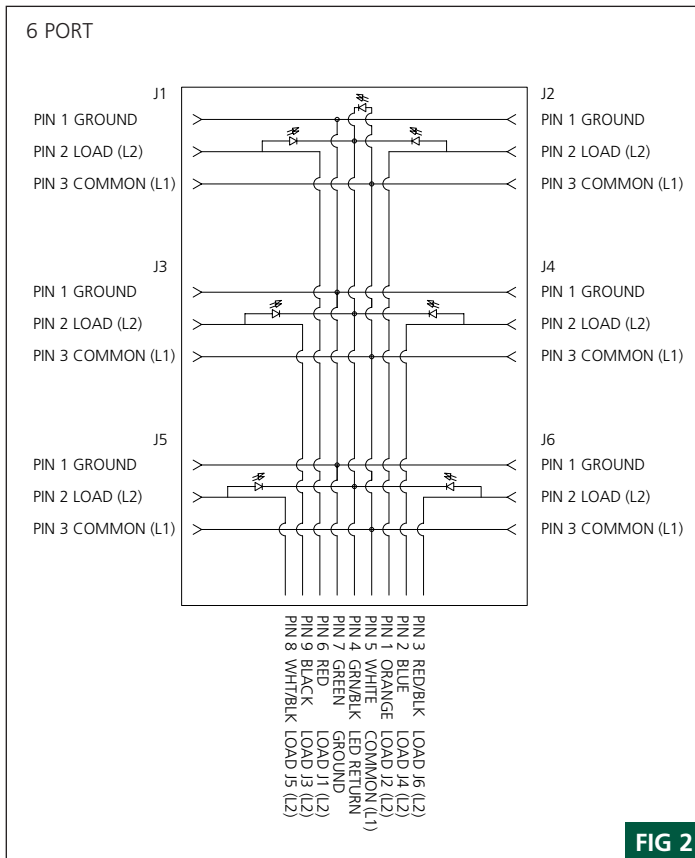


FIG 2

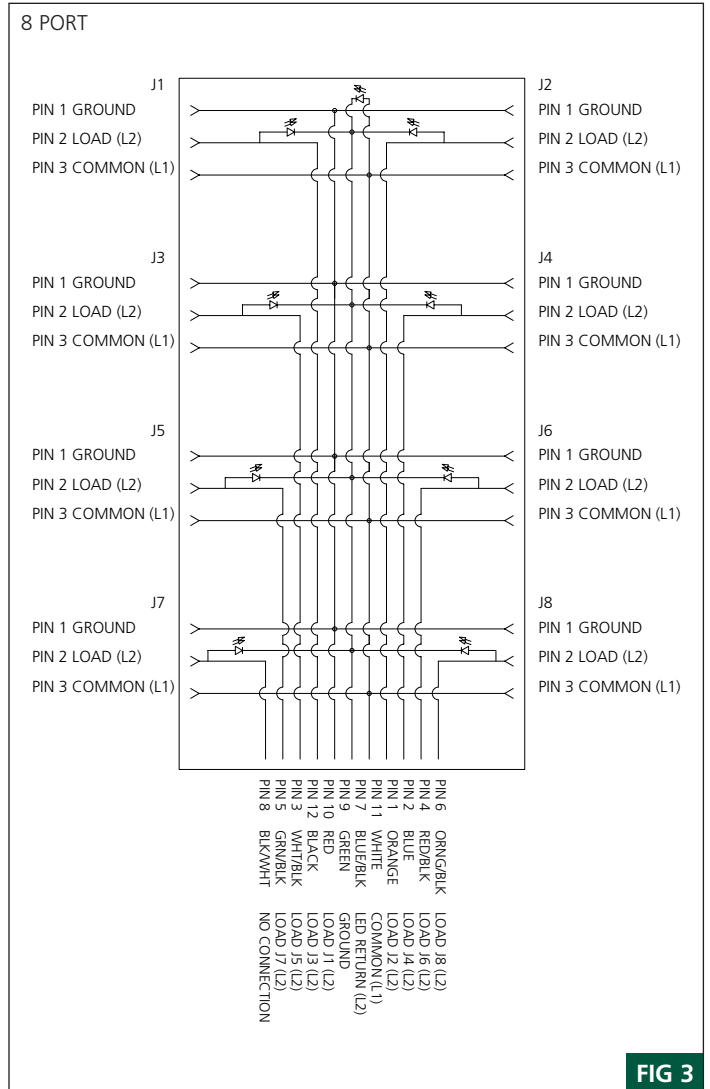


FIG 3

- MECHANICAL**
- INSERT: PVC
- HOUSING: PET (POLYESTER)
- RECEPTACLE HOUSING: ZINC DIE CAST WITH BLACK EPOXY COAT
- ID LABEL: ABS
- HOME RUN CABLE**
- YELLOW WITH PVC JACKET, #16/7,9 AND 12 CONDUCTORS WITH PVC INSULATION OVER 65 X #34 COPPER STRANDING, UL LISTED STOOV 105°C, CSA CERTIFIED 105°C, 600 V
- OUTSIDE DIAMETER:
 - 4 PORT: 0.54" (13.7mm)
 - 6 PORT: 0.66" (16.7mm)
 - 8 PORT: 0.71" (18.3mm)
- ELECTRICAL**
- VOLTAGE RATING: 600V AC/DC
- AMPERAGE: 7A TOTAL PER MPIS UNIT
- INDICATING LIGHTS: GREEN LED-POWER, YELLOW LED-FUNCTION
- AVERAGE LED EXPECTANCY: 100,000 HOURS
- ENVIRONMENTAL**
- PROTECTION: IP68, NEMA 6P
- AMBIENT OPERATING TEMPERATURE: -13° TO 194° F (-25° TO 90° C)
- CERTIFICATIONS**
- UL: UL RECOGNIZED, FILE NO. E46237
- CSA: CSA CERTIFIED, FILE NO. LR6837

Standard Accessories - marking labels and (2) closure caps for each MPIS
 * Other Accessories - see page 298

Side Mount 4P/3W Parallel Wiring, Molded Home Run Cable

MECHANICALS

4 PORT

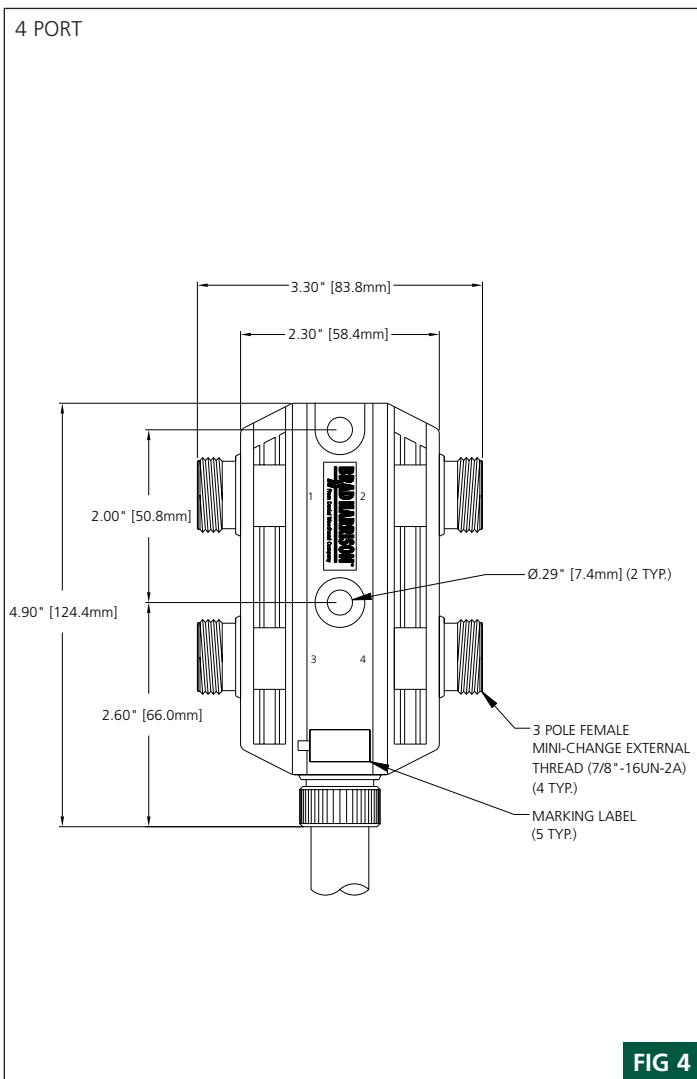


FIG 4

6 PORT

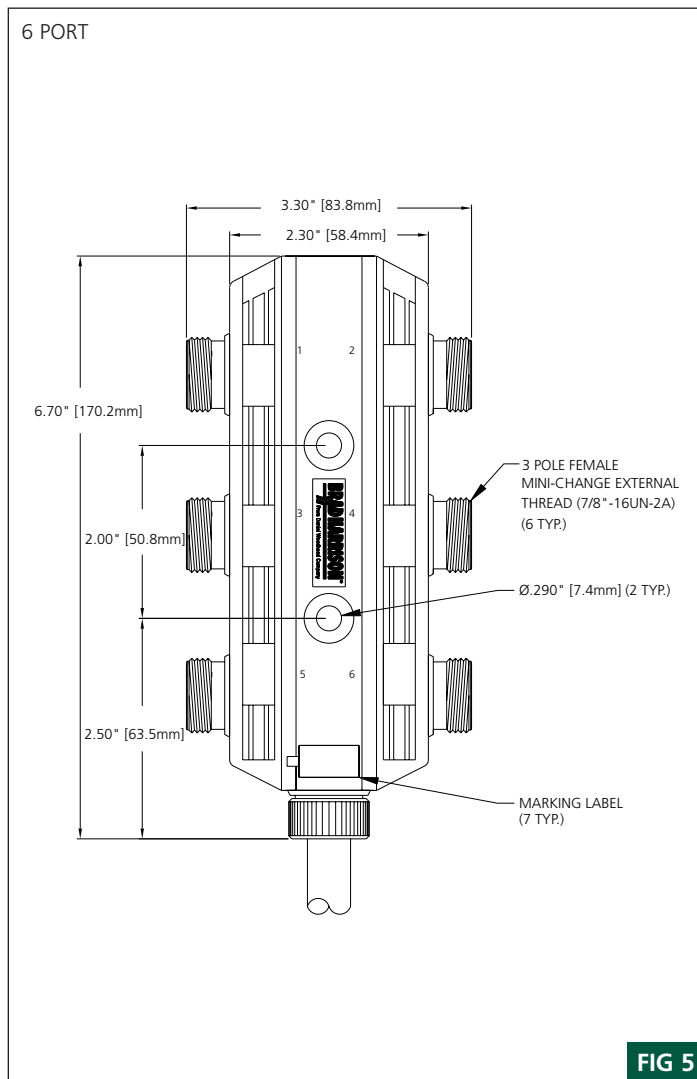


FIG 5

Side Mount 4P/3W Parallel Wiring, Molded Home Run Cable

MPIS® Molded JNX Boxes

Mini-Change®

MECHANICALS

8 PORT

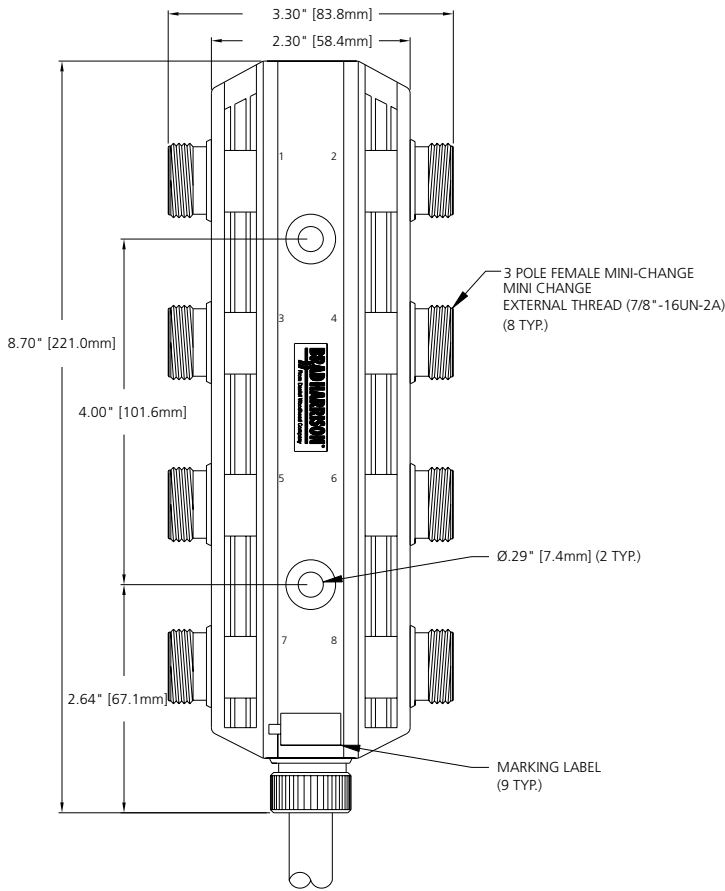


FIG 6



Side Mount 3P-LED Parallel Wiring, Home Run Connector

Connectorized Mini-Change home run cable connection for maximum flexibility
 Parallel-wired for OR logic wiring of 3P male Mini-Change cordsets – with LED's for power and output diagnostics
 Flexibility with 4, 6 and 8 port configurations

	4 Port SCHEMATIC, FIG 1	6 Port SCHEMATIC, FIG 2	8 Port SCHEMATIC, FIG 3
FUNCTIONAL WIRING DIAGRAM			
HOME RUN CONNECTOR PINOUTS	1- LED return 2- port #3 load 3- common 4- port #1 load 5- port #2 load 6- port #4 load 7- gnd	1- port #2 load 2- port #4 load 3- port #6 load 4- LED return 5- common 6- port #1 load 7- gnd-load 8- port #5 load 9- port #3 load	1- port #2 load 2- port #4 load 3- port #5 load 4- port #6 load 5- port #7 load 6- port #8 load 7- LED return 8- no connection 9- gnd 10- port #1 load 11- common 12- port #3 load
HOME RUN CONNECTOR MALE FACE VIEW			

MPIS 3P WITH LED WITH MINI-CHANGE HOME RUN CONNECTOR					
	FIG		FIG		FIG
MPIS	4	410P401	5	410P601	6 410P801

* Use 3P male cordsets page 42 or female/male cordsets page 44 to connect to the MPIS units

FEMALE SINGLE-ENDED HOME RUN CABLE -PVC JACKET AND #16 AWG CONDUCTORS					
	FIG		FIG		FIG
HOME RUN CABLE 6'	7	207000A01F060	8	309000A01F060	9 302000A01F060
HOME RUN CABLE 12'	7	207000A01F120	8	309000A01F120	9 302000A01F120
HOME RUN CABLE 20'	7	207000A01F200	8	309000A01F200	9 302000A01F200
FEMALE/MALE DOUBLE-ENDED HOME RUN CABLE -PVC JACKET AND #16 AWG CONDUCTORS					
HOME RUN EXTENSION 6'	10	227020A01F060	11	339020A01F060	12 332020A01F060
HOME RUN CABLE 12'	10	227020A01F120	11	339020A01F120	12 332020A01F120
HOME RUN CABLE 20'	10	227020A01F200	11	339020A01F200	12 332020A01F200
FEMALE RECEPTACLE WITH #16 AWG PVC LEADS 12" LONG TO ACCEPT HOME RUN CABLE EXTENSION					
FEMALE RECEPTACLE	13	2R7004A20A120	14	3R9004A20A120	15 3R2004A20A120

Specifications



MECHANICAL
 INSERT: PVC
 HOUSING: PET (POLYESTER)
 RECEPTACLE HOUSING: ZINC DIE CAST WITH EPOXY COAT
 ID LABEL: ABS
HOME RUN CONNECTOR
 YELLOW CABLE WITH PVC JACKET, #16/7,9 AND 12 CONDUCTORS WITH PVC INSULATION OVER 65 X #34 COPPER STRANDING, UL LISTED STOOV 105°C, CSA CERTIFIED 105°C, 600 V
 4 PORT: 0.54" (13.7mm)
 6 PORT: 0.66" (16.7mm)
 8 PORT: 0.71" (18.3mm)

ELECTRICAL
 VOLTAGE RATING: 600V AC/DC
 AMPERAGE: 7A TOTAL PER MPIS UNIT
 INDICATING LIGHTS: GREEN LED-POWER, YELLOW LED-FUNCTION
 AVERAGE LED EXPECTANCY: 100,000 HOURS
 ENVIRONMENTAL PROTECTION: IP68, NEMA 6P
 AMBIENT OPERATING TEMPERATURE: -13°F TO 194°F (-25° C TO 90°C)

CERTIFICATIONS
 UL: UL RECOGNIZED, FILE NO. E46237
 CSA: CSA CERTIFIED, FILE NO. LR6837

SCHEMATICS

4 PORT

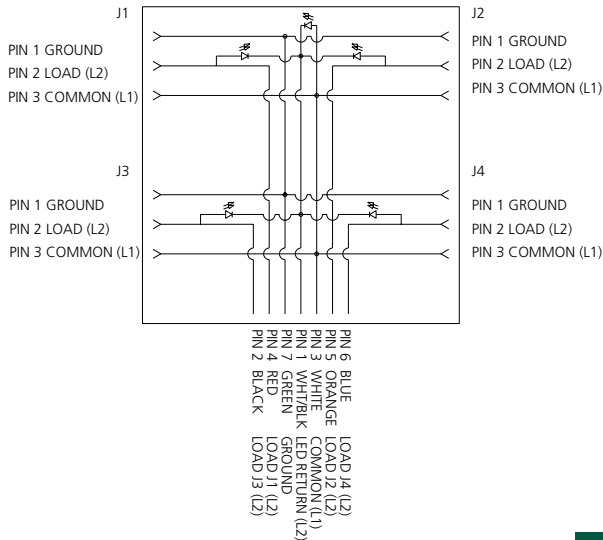


FIG 1

6 PORT

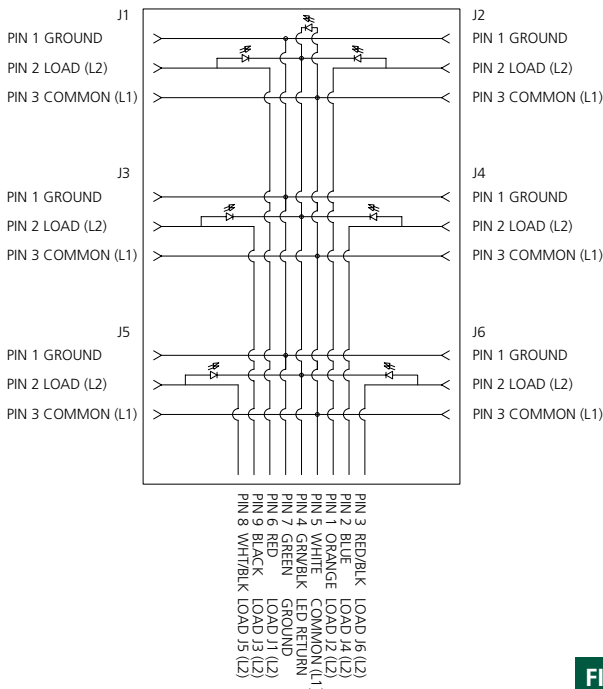


FIG 2

8 PORT

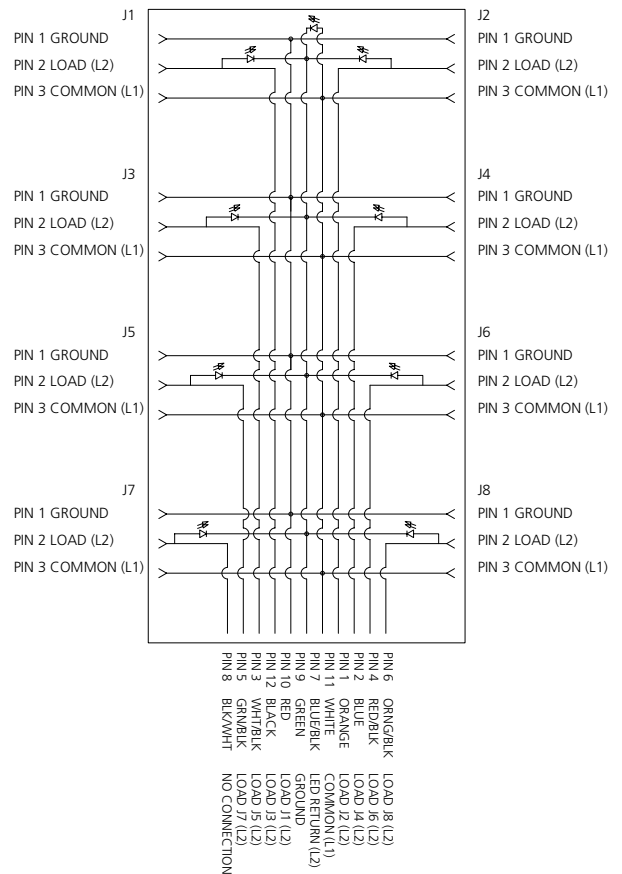


FIG 3

Side Mount 3P-LED Parallel Wiring, Home Run Connector

MECHANICALS

4 PORT

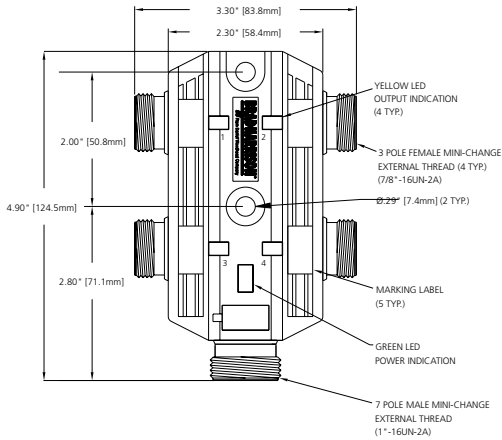


FIG 4

8 PORT

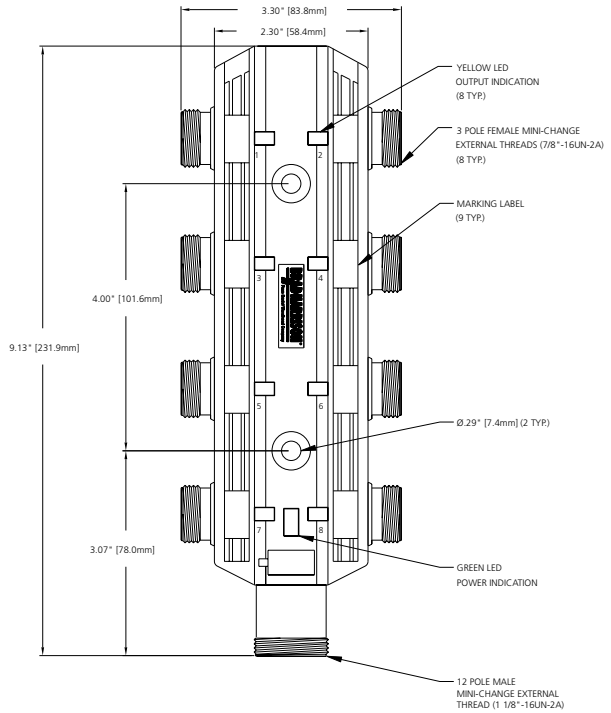


FIG 6

6 PORT

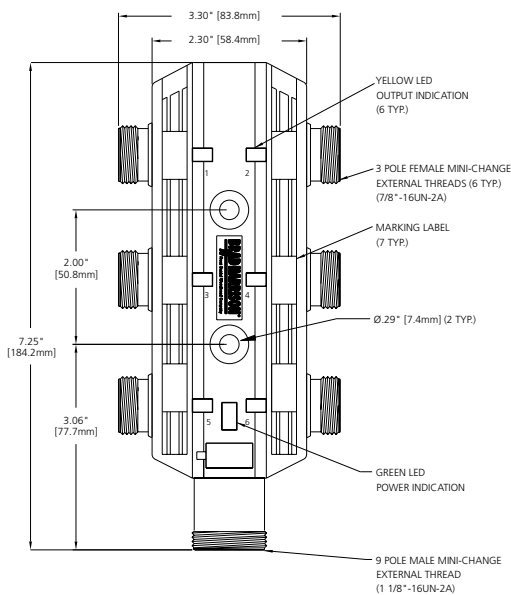


FIG 5

FEMALE SINGLE-ENDED HOME RUN CABLE

4 PORT

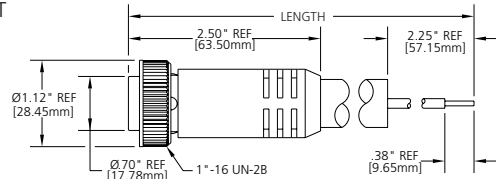


FIG 7

6 PORT

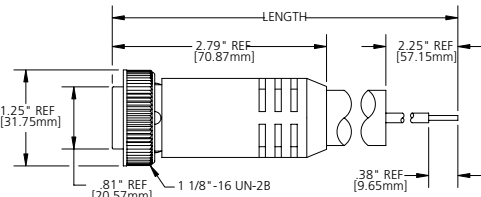


FIG 8

8 PORT

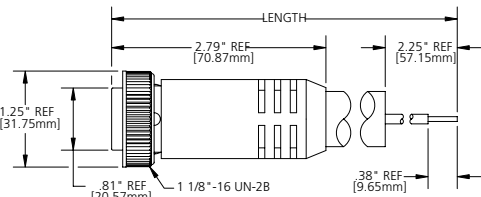
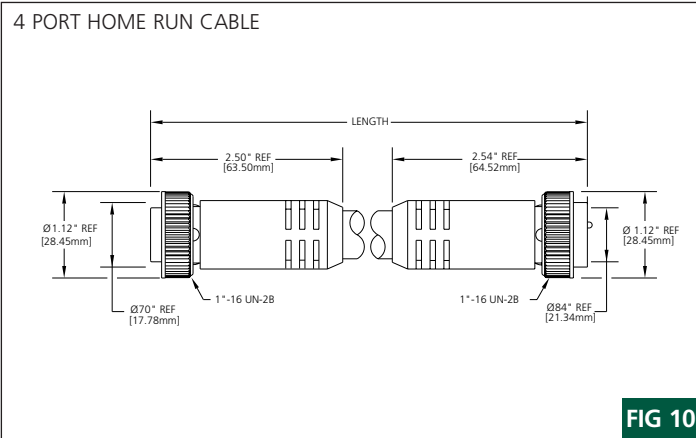


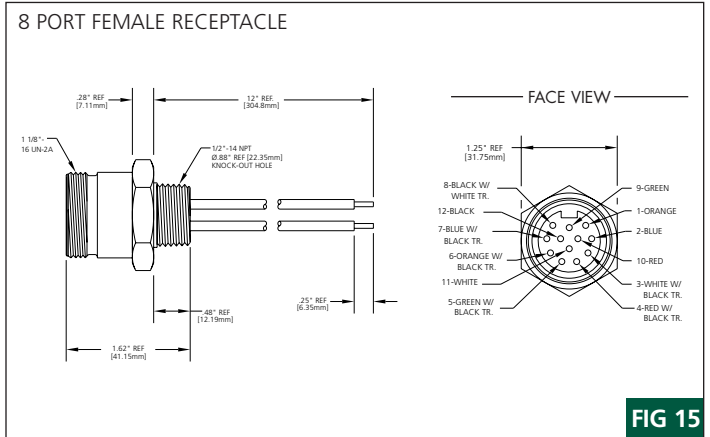
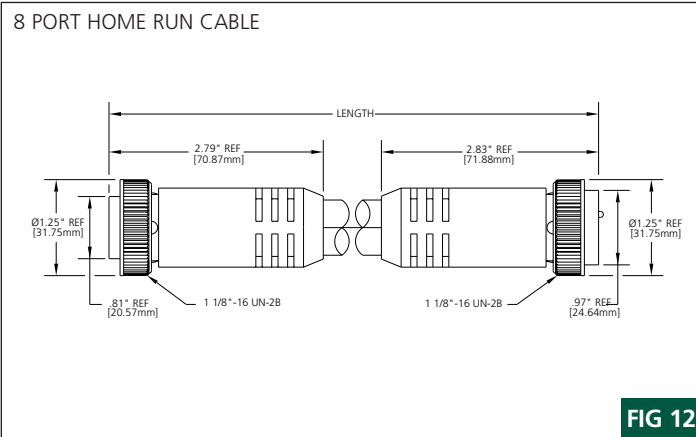
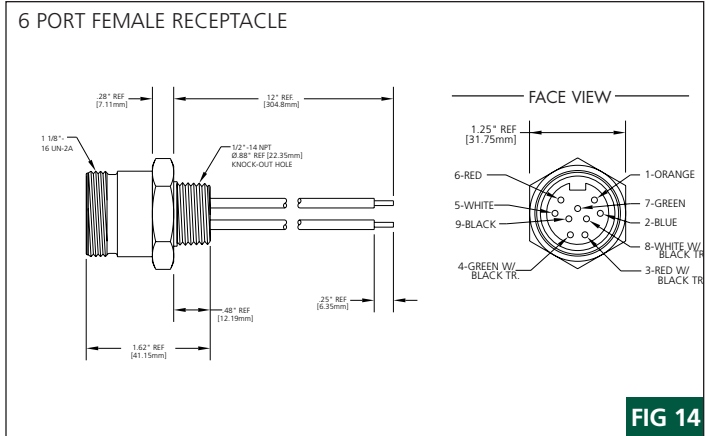
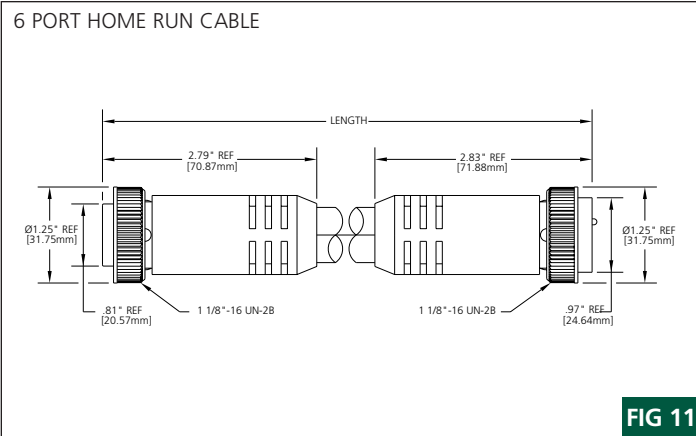
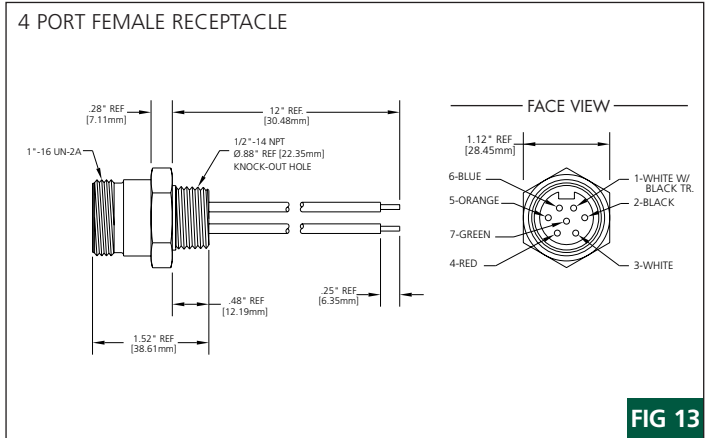
FIG 9

Side Mount 3P-LED Parallel Wiring, Home Run Connector

MALE/FEMALE DOUBLE-ENDED HOME RUN CABLE



FEMALE RECEPTACLE FOR HOME RUN CABLE EXTENSIONS





Side Mount 3P Series Wiring, Home Run Connector

Connectorized home run cable connection for maximum flexibility
Series-wired for AND or NOR logic wiring of 3P male cordsets
Flexibility with 4, 6 and 8 port configurations

	4 Port SCHEMATIC, FIG 1	6 Port SCHEMATIC, FIG 2	8 Port SCHEMATIC, FIG 3
FUNCTIONAL WIRING DIAGRAM			
HOME RUN CONNECTOR PINOUTS		1- gnd 2- load 3- common	
HOME RUN CONNECTOR FACE VIEW			

MPIS 3P SERIES WIRING WITH HOME RUN CONNECTORS						
	FIG		FIG		FIG	
MPIS	4	409P403	5	409P603	6	409P803

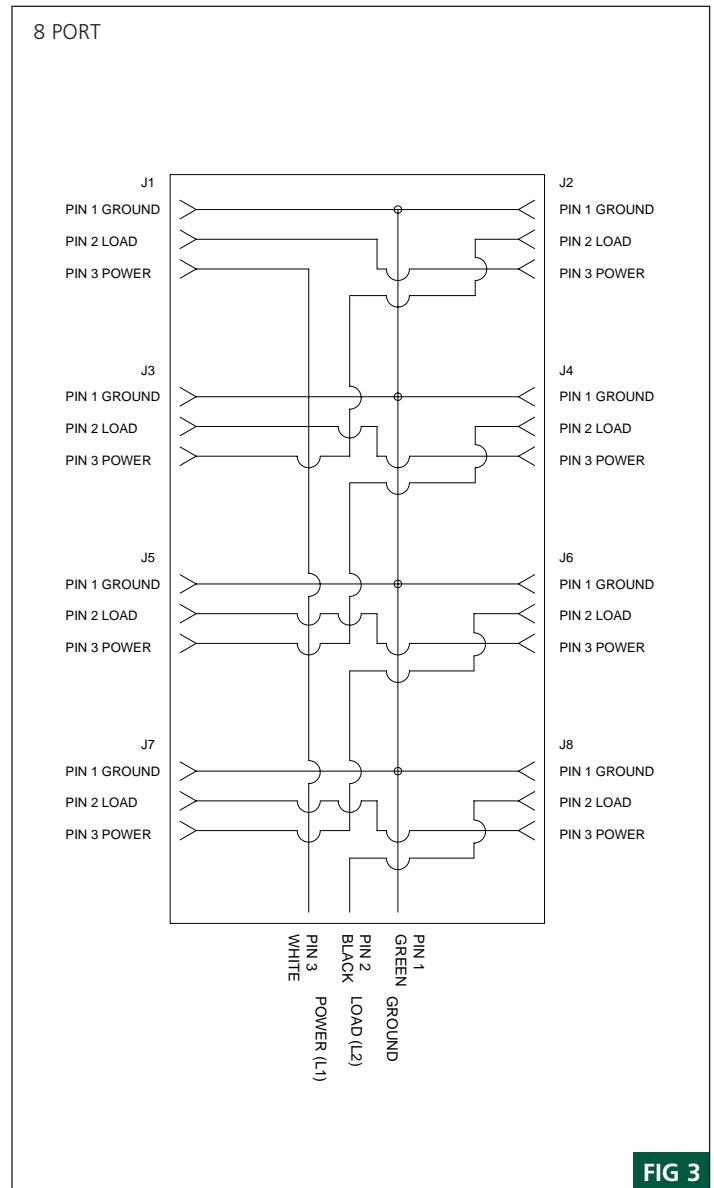
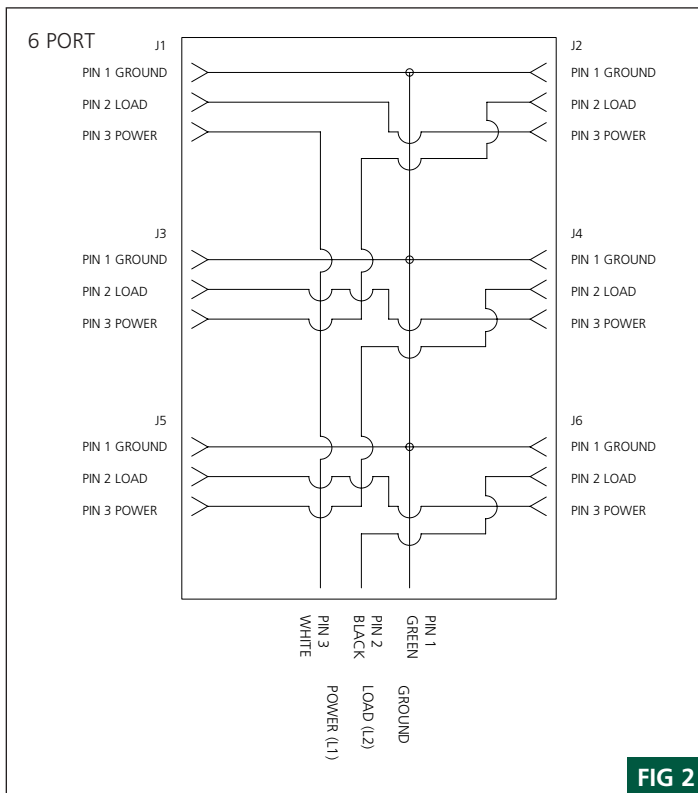
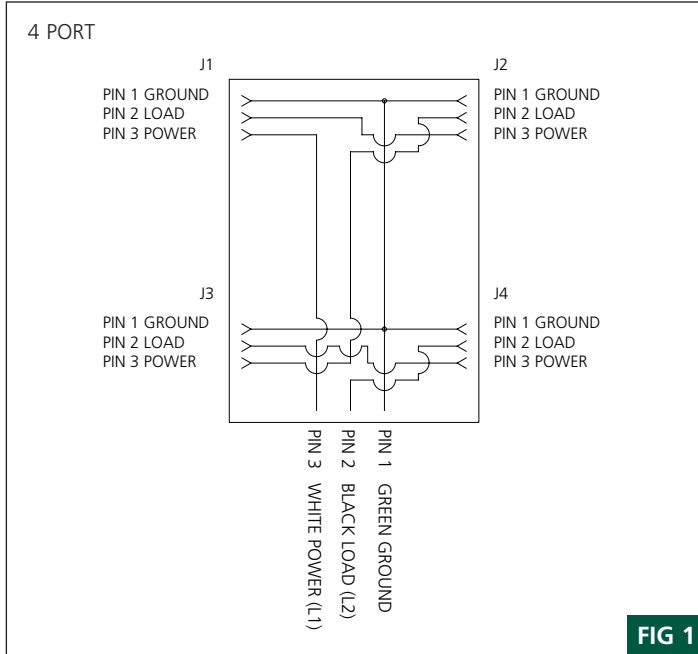
* Use 3P male cordsets page 42 or female-male cordsets page 44 to connect to the MPIS ports
* For unused input ports use jumper plugs P/N 40936 found on page 298

FEMALE SINGLE-ENDED HOME RUN CABLE -PVC JACKET AND #16 AWG CONDUCTORS						
	FIG		FIG		FIG	
HOME RUN CABLE 6'	7	103000A01F060	7	103000A01F060	7	103000A01F060
HOME RUN CABLE 12'	7	103000A01F120	7	103000A01F120	7	103000A01F120
HOME RUN CABLE 20'	7	103000A01F200	7	103000A01F200	7	103000A01F200
FEMALE/MALE DOUBLE-ENDED HOME RUN CABLE -PVC JACKET AND #16 AWG CONDUCTORS						
HOME RUN EXTENSION 6'	8	113020A01F060	8	113020A01F060	8	113020A01F060
HOME RUN EXTENSION 12'	8	113020A01F120	8	113020A01F120	8	113020A01F120
HOME RUN EXTENSION 20'	8	113020A01F200	8	113020A01F200	8	113020A01F200
FEMALE RECEPTACLE WITH #16 PVC LEADS 12" LONG TO ACCEPT HOME RUN CABLE EXTENSION						
FEMALE RECEPTACLE	9	1R3004A20A120	9	1R3004A20A120	9	1R3004A20A120

Specifications



SCHEMATICS



MECHANICAL
 INSERT: PVC
 HOUSING: PET (POLYESTER)
 RECEPTACLE HOUSING: ZINC DIE CAST WITH BLACK EPOXY COAT
 ID LABEL MATERIAL: ABS
HOME RUN CONNECTOR

YELLOW, PVC CABLE JACKET, #16/3 AWG AND PVC CONDUCTOR CABLING INSULATION OVER 65 X #34 COPPER STRANDING, UL LISTED STOOV 105°C, CSA CERTIFIED 105°C, 600 V
 OUTSIDE DIAMETER: 0.41" (10.4mm)

ELECTRICAL
 VOLTAGE RATING: 600V AC/DC
 AMPERAGE: 7A TOTAL PER MPIS UNIT
ENVIRONMENTAL
 PROTECTION: IP68, NEMA 6P
 AMBIENT OPERATING TEMPERATURE: 32°F TO 140°F (0° C TO 60°C)

CERTIFICATIONS
 UL: UL RECOGNIZED, FILE NO. E46237
 CSA: CSA CERTIFIED, FILE NO. LR6837

MECHANICALS

4 PORT

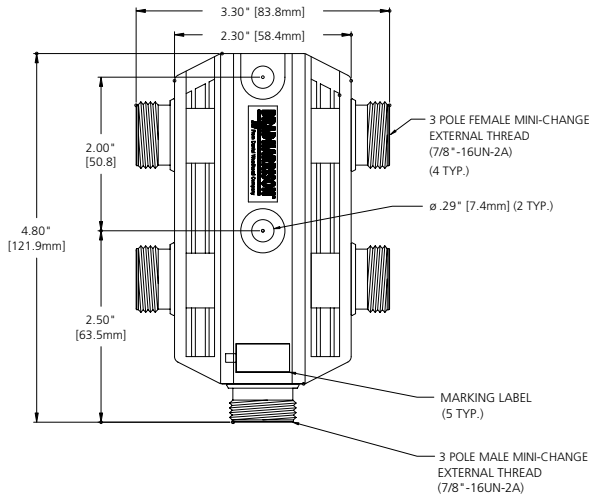


FIG 4

6 PORT

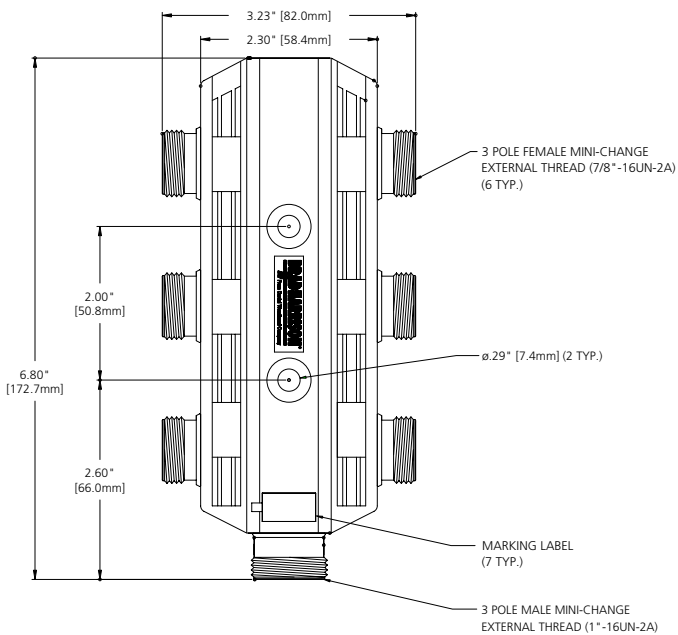


FIG 5

8 PORT

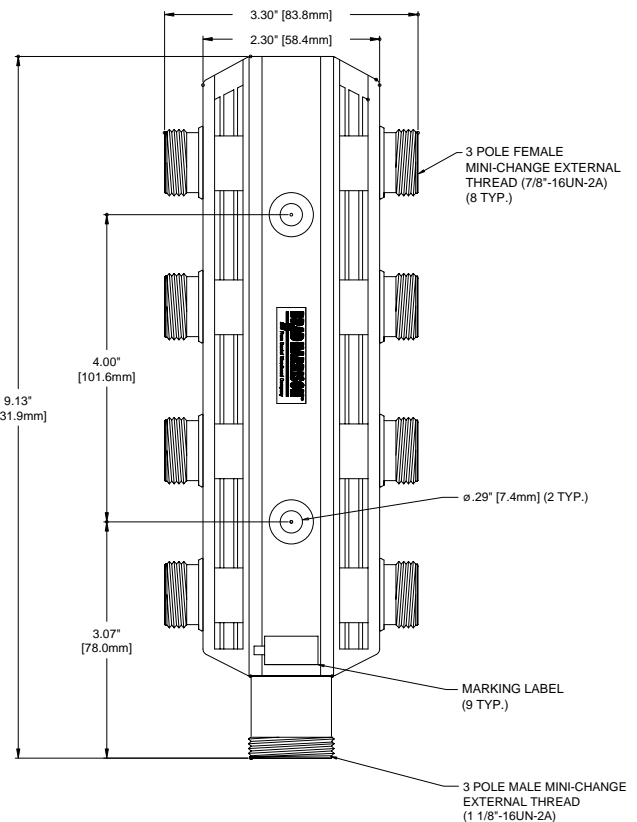


FIG 6

HOME RUN CABLES

FEMALE SINGLE-ENDED

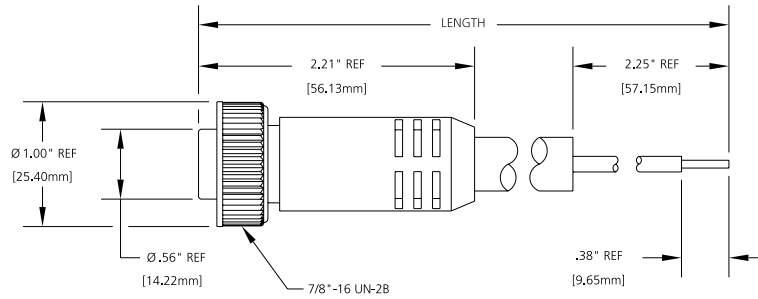


FIG 7

FEMALE/MALE DOUBLE-ENDED

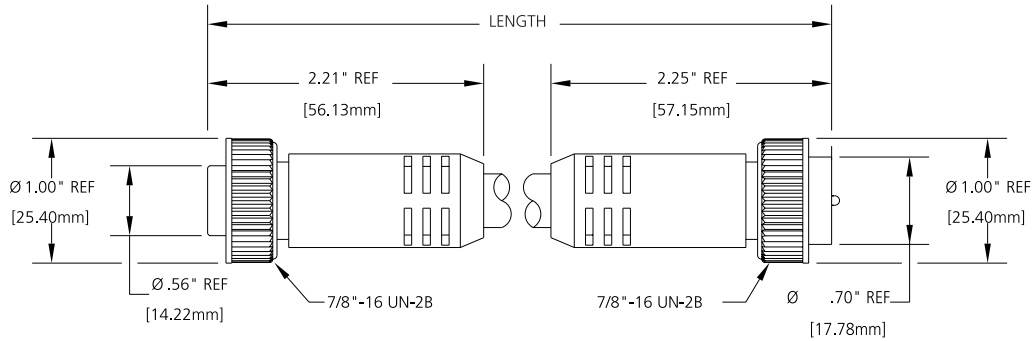


FIG 8

FEMALE RECEPTACLE FOR HOME RUN CABLE EXTENSIONS

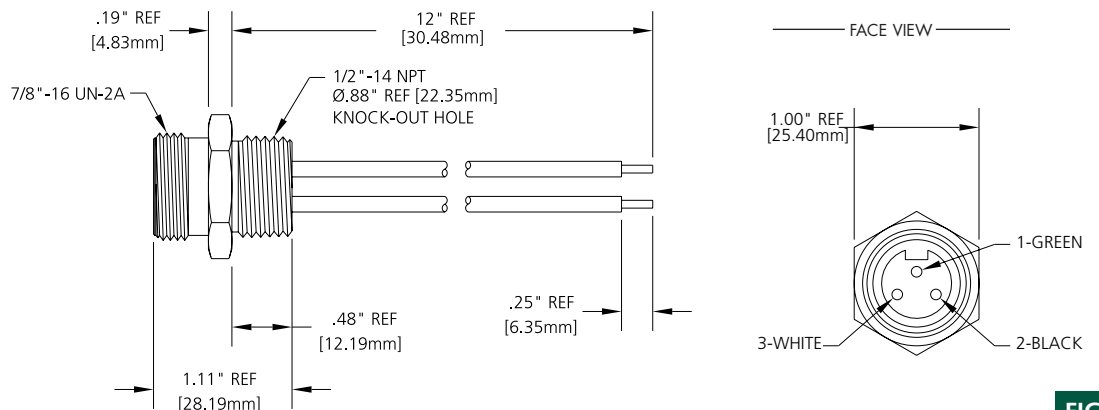


FIG 9

Standard Accessories - marking labels and (2) closure caps for each MPIS
 * Other Accessories - see page 298 for other accessories
 * Refer to Mini-Change section for complete homerun/receptacle specifications



Side Mount 3P Series Wiring, Home Run Cable

Simplifies wiring installation-integrated molded home run cable
 Series-wired for AND or NOR logic wiring of 3P Mini-Change male cordsets
 Flexibility with 4, 6 and 8 port configurations

	4 Port SCHEMATIC, FIG 1	6 Port SCHEMATIC, FIG 2	8 Port SCHEMATIC, FIG 3
FUNCTIONAL WIRING DIAGRAM			
HOME RUN CABLE COLOR CODE	<p>white- common green- gnd black- load</p>		

MPIS, 3P SERIES WIRING WITH 20 FOOT MOLDED HOME RUN CABLE PVC #16 AWG						
	FIG		FIG		FIG	
PVC HOME RUN CABLE 20'	4	409P408-20	5	409P608-20	6	409P808-20

*Use 3P Mini-Change Male Cordsets Page 42 or female-male cordsets page 44 to connect the MPIS Ports
 *For Unused Input Ports Use Jumper Plugs Pin 40936 page 298

CATALOG OPTIONS

Use the following chart to modify your part's specifications

409P606-10

NO. OF PORTS

4 PORT	4
6 PORT	6
8 PORT	8

CABLE LENGTH

10'	10
20'	20

Specifications



MECHANICAL

INSERT: PVC
 HOUSING: PET (POLYESTER)
 RECEPTACLE HOUSING: ZINC DIE CAST WITH EPOXY COAT
 ID LABEL: ABS

HOME RUN CABLE

YELLOW WITH PVC JACKET,
 #16/3 AWG CONDUCTOR WITH PVC INSULATION OVER 65 X #34 COPPER STRANDING, UL LISTED STOOV 105°C, CSA CERTIFIED ST 105°C, 600 V

OUTSIDE DIAMETER: 0.41" (10.4mm)

ELECTRICAL

VOLTAGE RATING: 600V AC/DC
 AMPERAGE: 7A MAX PER MPIS UNIT

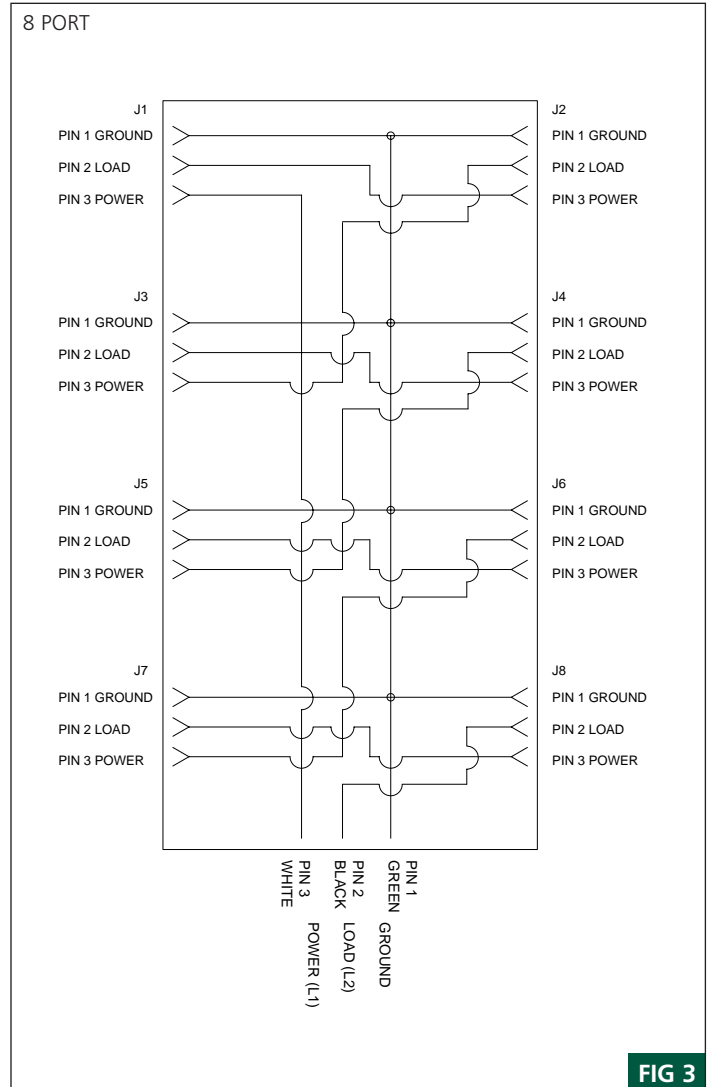
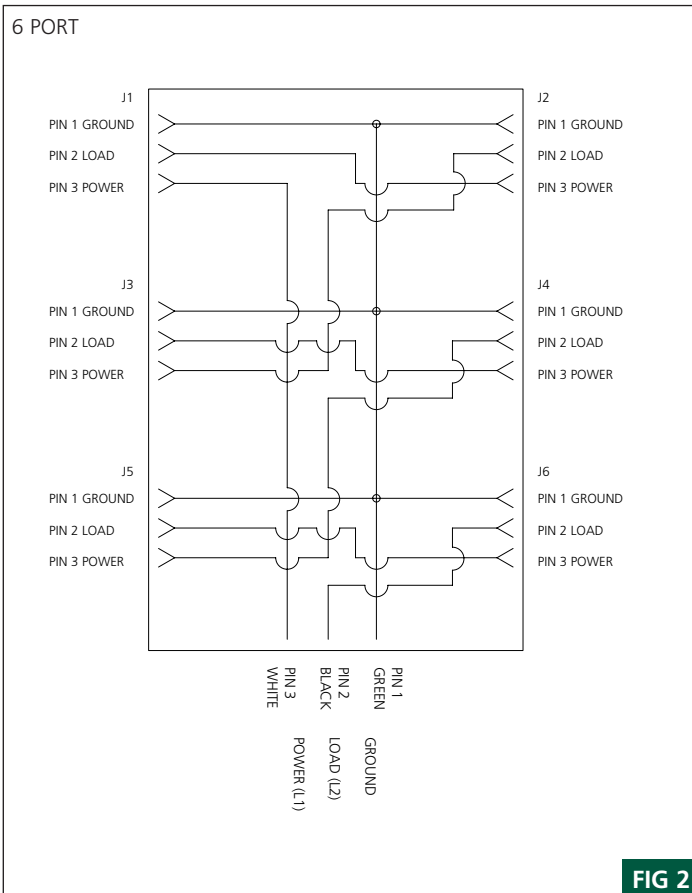
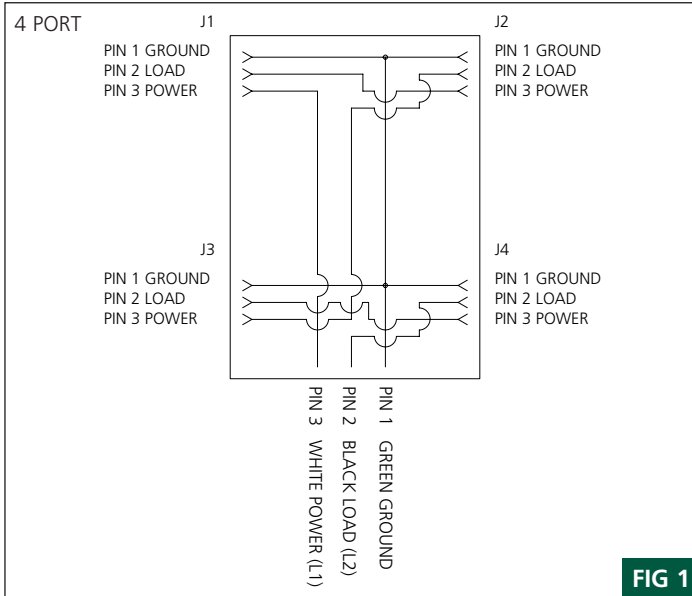
ENVIRONMENTAL

PROTECTION: IP68, NEMA 6P
 AMBIENT OPERATING TEMPERATURE: -13° TO 194° F (-25° TO 90° C)

CERTIFICATIONS

UL: UL RECOGNIZED, FILE NO. E46237
 CSA: CSA CERTIFIED, FILE NO. LR6837

SCHEMATICS



Standard Accessories - marking labels and (2) closure caps for each MPIS
 * For optional accessories - see page 298

Side Mount 3P Series Wiring, Home Run Cable

MECHANICALS

4 PORT

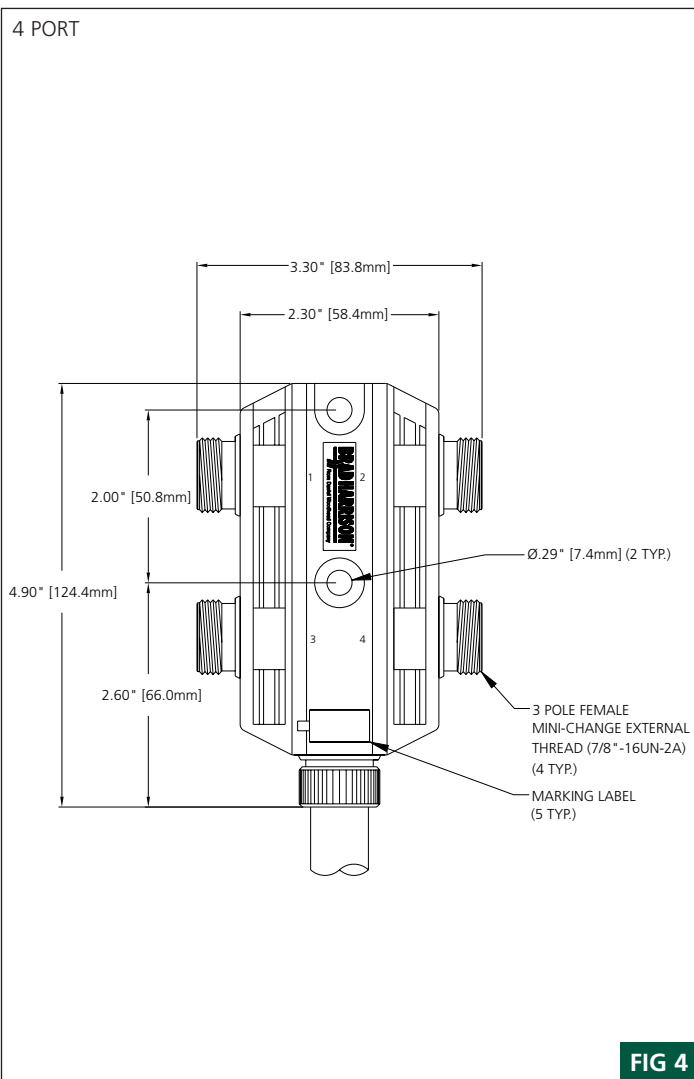


FIG 4

6 PORT

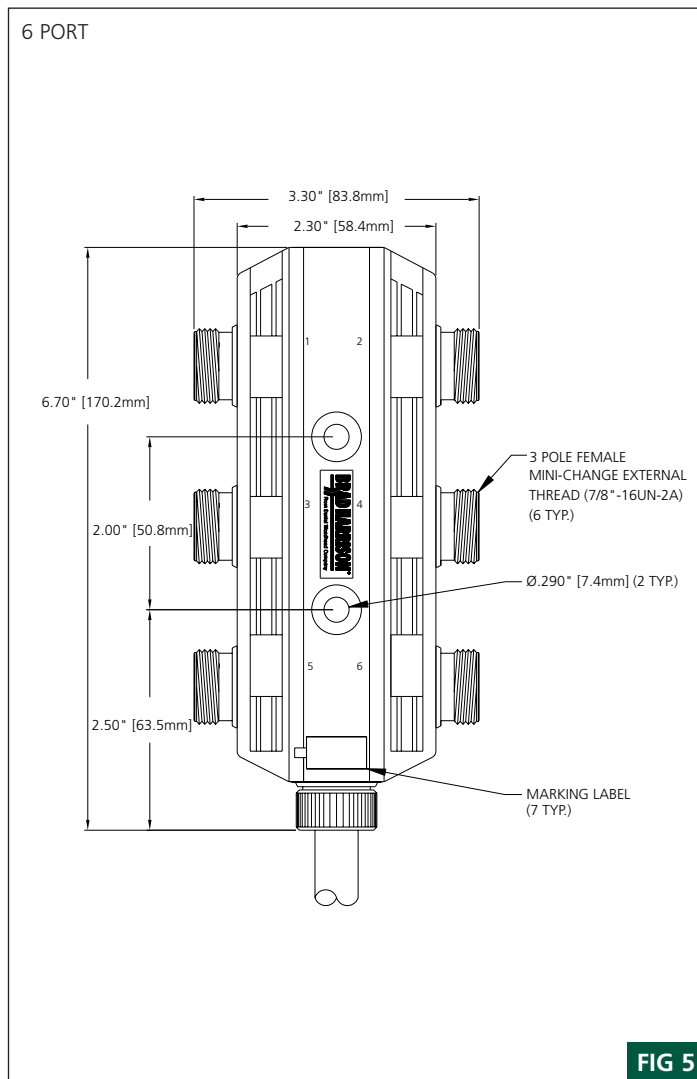


FIG 5

Side Mount 3P Series Wiring, Home Run Cable

MECHANICALS

8 PORT

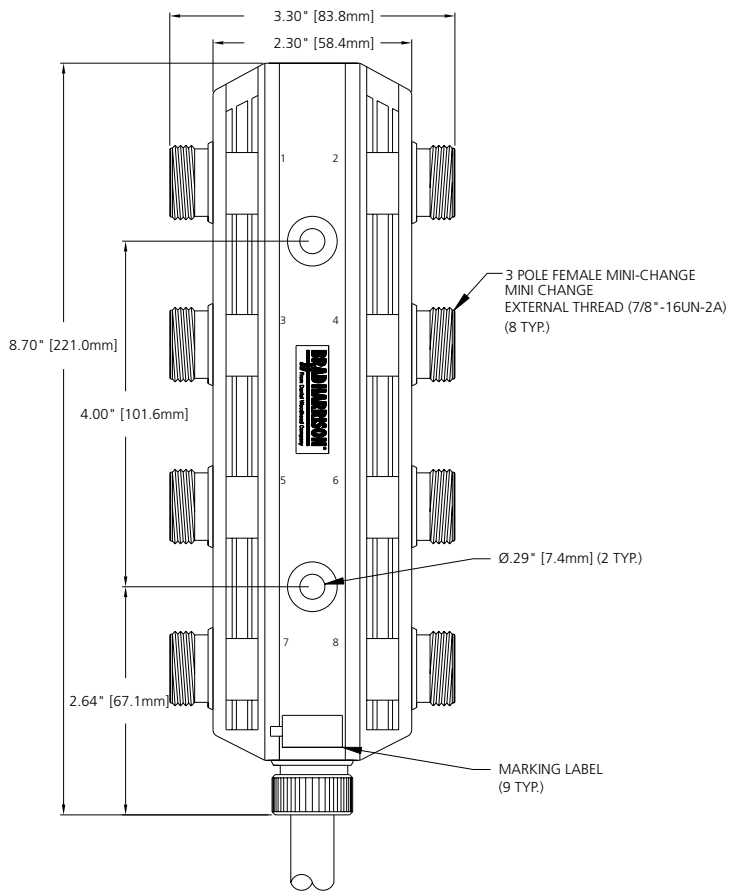


FIG 6



Side Mount 5P Home Run Cable

Simplifies wiring installation – integrated home run cable
 4 Port configuration
 For use with 5P male cordsets

	5P for Solenoids SCHEMATIC, FIG 1	5 Pole SCHEMATIC, FIG 2
FUNCTIONAL WIRING DIAGRAM		
HOME RUN CABLE COLOR CODES	white- common (L1) green- gnd orange- solenoid valve #1 blue- solenoid valve #2 white w/ blk trace- solenoid valve #3 red w/ blk trace- solenoid valve #4 green w/ blk trace- solenoid valve #5 orange w/ blk trace- solenoid valve #6 red- solenoid valve #7 black- solenoid valve #8	white- common (L1) green- gnd orange- port #1 load blue- port #2 load white w/ blk trace- port #3 load red w/ blk trace- port #4 load green w/ blk trace- port #5 load orange w/ blk trace- port #6 load red- port #7 load black- port #8 load

MPIS 3P SERIES WIRING WITH 20 FEET OF PVC HOME RUN CABLE #16 AWG			
FIG		FIG	
3	413P406-20	3	413P46-20

* Use 5P Mini-Change™ male cordsets page 42 or female-male cordsets page 44 to connect to the MPIS ports

CATALOG OPTIONS

Use the following chart to modify your part's specifications

413P406-20

CABLE LENGTH

10'	10
20'	20

Specifications



MECHANICAL

INSERT: PVC
 HOUSING: PET (POLYESTER)
 RECEPTACLE HOUSING: ZINC DIE CAST WITH EPOXY COAT
 ID LABEL: ABS

HOME RUN CABLE

YELLOW WITH PVC JACKET, #16/10 AWG CONDUCTORS WITH PVC INSULATION OVER, 65 X #34 COPPER STRANDING, UL LISTED ST00W 105°C CSA CERTIFIED ST 105°C, 600 V 0.66" (16.8mm)

OUTSIDE DIAMETER:

ELECTRICAL

VOLTAGE RATING: 600V AC/DC
 AMPERAGE: 7A TOTAL PER MPIS UNIT

ENVIRONMENTAL

PROTECTION: IP68, NEMA 6P
 AMBIENT OPERATING TEMPERATURE: -13° TO 194° F (-25° TO 90° C)

CERTIFICATIONS
 UL: UL RECOGNIZED, FILE NO. E46237
 CSA: CSA CERTIFIED, FILE NO. LR6837

SCHEMATICS

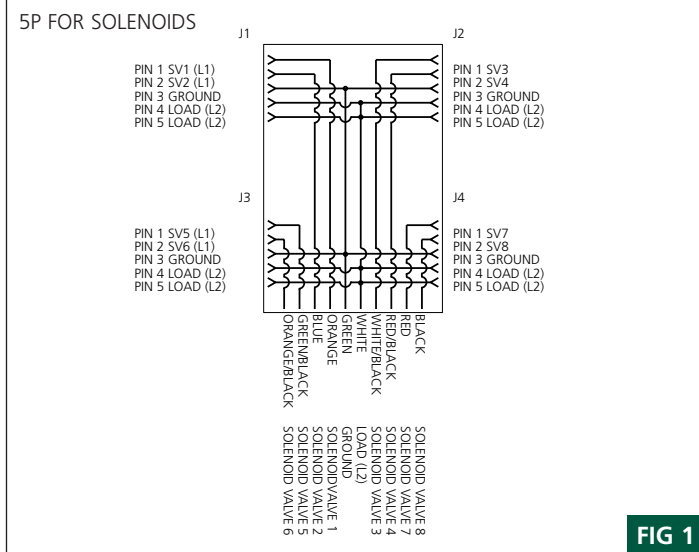


FIG 1

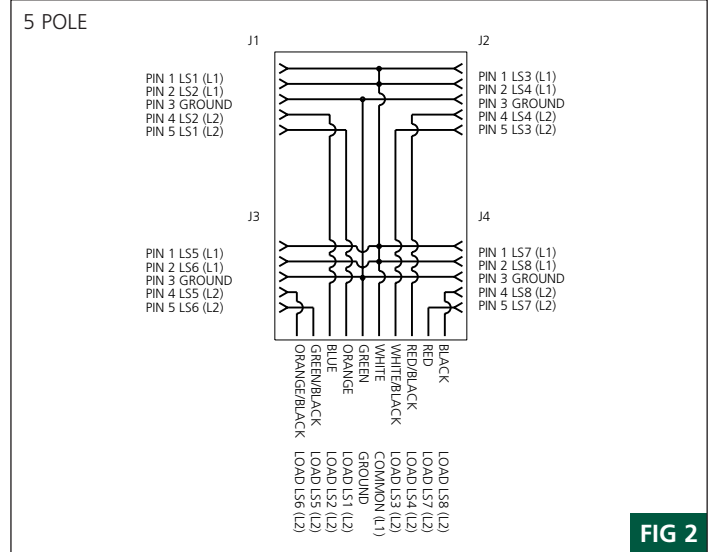


FIG 2

MECHANICALS

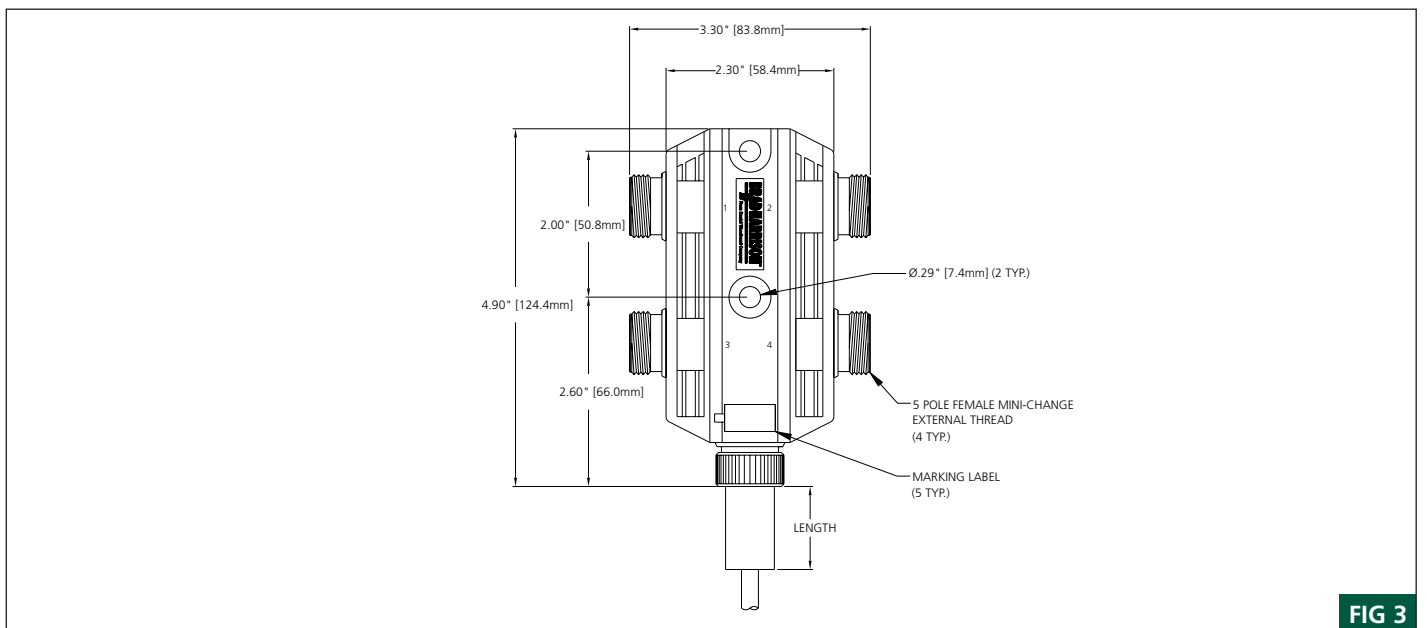


FIG 3

Standard Accessories - marking labels and (2) closure caps for each MPIS
 * For optional accessories - see page 298



Side Mount 5P Home Run Connector

Connectorized home run cable connection for maximum flexibility
 4 port configuration
 For use with 5P Mini-Change male cordsets

	5P for Solenoids SCHEMATIC, FIG 1	5 Pole SCHEMATIC, FIG 2
FUNCTIONAL WIRING DIAGRAM		
HOME RUN CONNECTOR PINOUTS	1- solenoid valve #1 2- solenoid valve #2 3- solenoid valve #3 4- solenoid valve #4 5- solenoid valve #5 6- solenoid valve #6 7- solenoid valve #7 8- gnd 9- solenoid valve #8 10- load (L2)	1- port #1 load 2- port #2 load 3- port #3 load 4- port #4 load 5- port #5 load 6- port #6 load 7- port #7 load 8- gnd 9- port #8 load 10- common (L1)
HOME RUN CONNECTOR MALE FACE VIEW		

MPIS 3P SERIES WIRING WITH 10P MINI-CHANGE CONNECTOR			
	FIG		FIG
MPIS	3	413P401	3
			413P411

*Use 5P Male Mini-Change Cordsets Page 42 or female-male cordsets page 44 to connect to the MPIS Ports

FEMALE SINGLE - ENDED HOME RUN CABLE -PVC JACKET AND #16 AWG CONDUCTORS			
	FIG		FIG
HOME RUN CABLE 6'	4	301000A01F060	4
HOME RUN CABLE 12'	4	301000A01F120	4
HOME RUN CABLE 20'	4	301000A01F200	4
FEMALE/MALE DOUBLE - ENDED HOME RUN CABLE EXTENSION -PVC JACKET AND #16 AWG CONDUCTORS			
HOME RUN EXTENSION 6'	5	331020A01F060	5
HOME RUN EXTENSION 12'	5	331020A01F120	5
HOME RUN EXTENSION 20'	5	331020A01F200	5
FEMALE RECEPTACLE WITH #16 AWG PVC LEADS 12" LONG TO ACCEPT HOME RUN CABLE EXTENSION			
FEMALE RECEPTACLE	6	3R1004A20A120	6

Specifications



MECHANICAL
 INSERT: PVC
 HOUSING: PET (POLYESTER)
 RECEPTACLE HOUSING: ZINC DIE CAST WITH EPOXY COAT
 ID LABEL: ABS
HOME RUN CONNECTOR
 YELLOW CABLE WITH PVC JACKET, #16/10 AWG CONDUCTORS WITH PVC INSULATION OVER 65 X #34 COPPER STRANDING, UL LISTED STOOV 105°C CSA CERTIFIED ST 105°C, 600 V
 OUTSIDE DIAMETER: 0.66" (16.8mm)
ELECTRICAL
 VOLTAGE RATING: 600V AC/DC
 AMPERAGE: 7A TOTAL PER MPIS UNIT
ENVIRONMENTAL
 PROTECTION: IP68, NEMA 6P
 AMBIENT OPERATING TEMPERATURE: -13° TO 194° F (-25° TO 90° C)
CERTIFICATIONS
 UL: UL RECOGNIZED, FILE NO. E46237
 CSA: CSA CERTIFIED, FILE NO. LR6837

SCHEMATICS

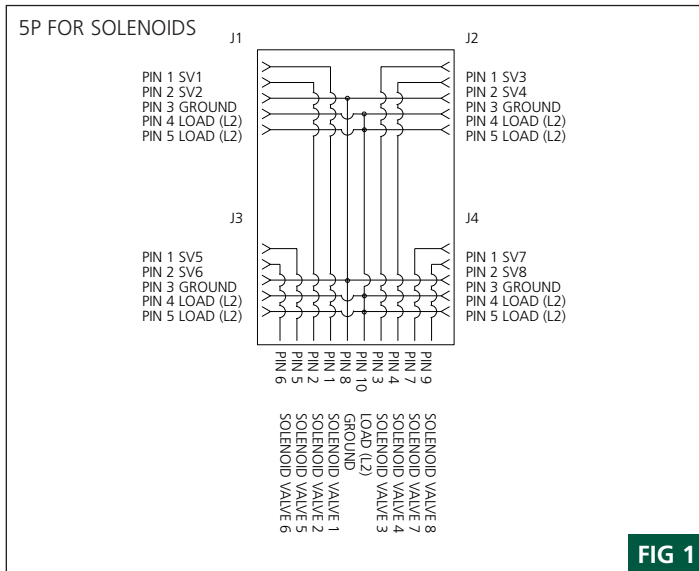


FIG 1

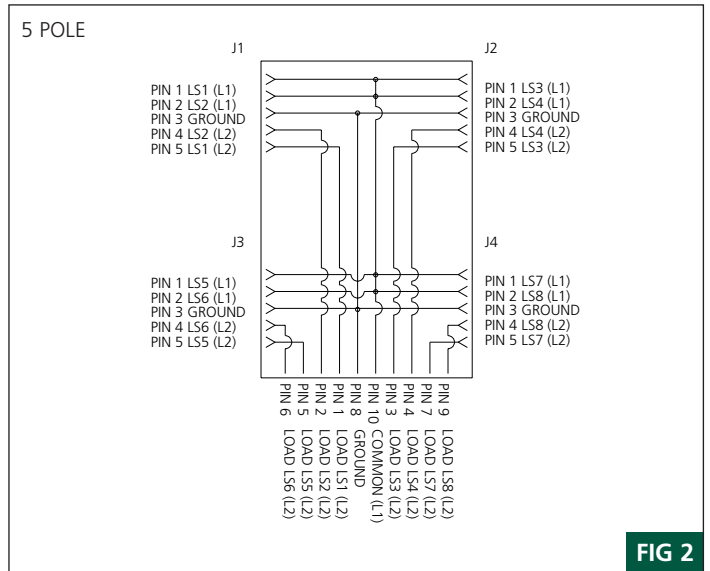


FIG 2

MECHANICALS

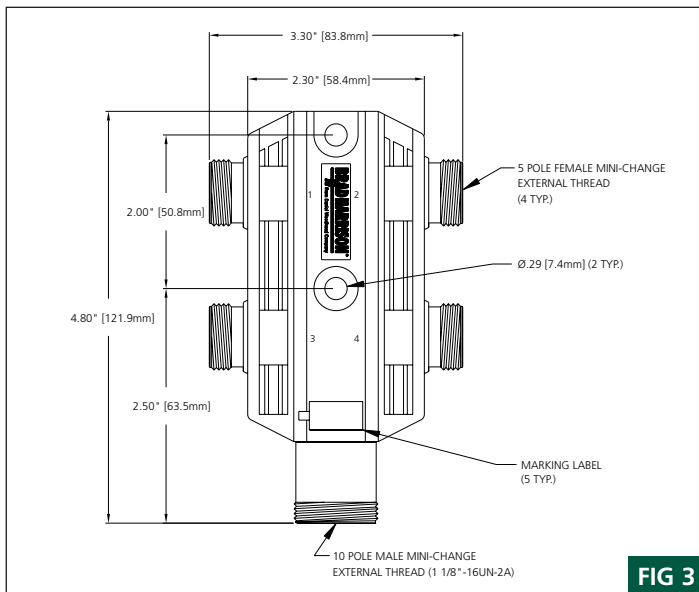


FIG 3

HOME RUN CABLES

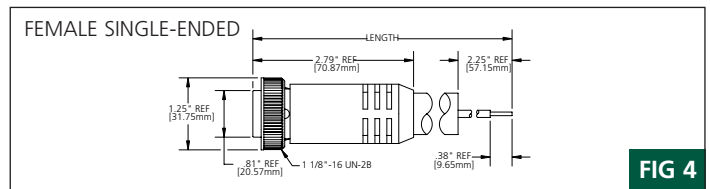


FIG 4

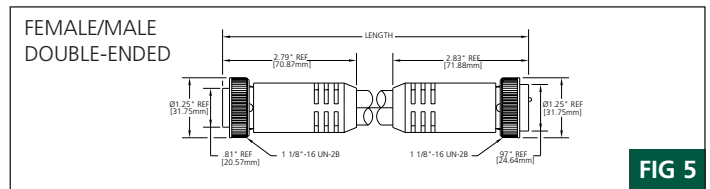


FIG 5

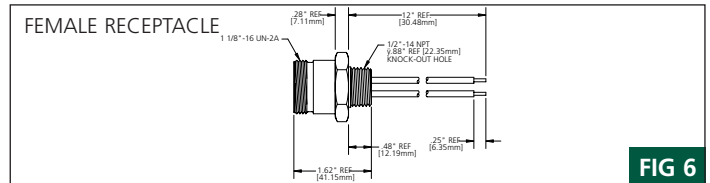


FIG 6

Standard Accessories - marking labels and (2) closure caps for each MPIS
 * For optional accessories - see page 298
 * Refer to Mini-Change section for complete homerun cable/receptacle specifications



Top Mount, Single Keyway with Mini-Change® Home Run Connector

Connectorized home run cable connector version for maximum flexibility
Flexibility with 4 and 8 port configurations
PNP and NPN versions for use with a variety of DC sensors

NEW	4 Port	8 Port
HOME RUN CONNECTOR MALE FACE VIEW		
HOME RUN CONNECTOR PINOUTS	1- port #1 load 2- port #2 load 3- port #3 load 4- port #4 load 5- n/c 6- n/c	7- n/c 8- n/c 9- gnd 10- V+ 11- V- 12- n/c
		1- port #1 load 2- port #2 load 3- port #3 load 4- port #4 load 5- port #5 load 6- port #6 load
		7- port #7 load 8- port #8 load 9- gnd 10- V+ 11- V- 12- n/c

FUNCTIONAL WIRING	MPIS SINGLE KEYWAY WITH HOME RUN CONNECTOR			
	FIG		FIG	
PNP SCHEMATIC, FIG 1 	3	BTY401P-FBB	4	BTY801P-FBB
NPN SCHEMATIC, FIG 2 	3	BTY401N-FBB	4	BTY801N-FBB

90° FEMALE SINGLE- ENDED HOME RUN CABLE PVC JACKET & #16 AWG CONDUCTORS				
	FIG		FIG	
HOME RUN CABLE 5M	5	302101A04M050	6	302101A04M050
HOME RUN CABLE 10M	5	302101A04M100	6	302101A04M100
FEMALE 90°/MALE HOME RUN CABLE EXTENSION PVC JACKET & #16 AWG CONDUCTORS				
HOME RUN CABLE 5M	6	332121A04M050	5	332121A04M050
HOME RUN CABLE 10M	6	332121A04M100	5	332121A04M100
FEMALE RECEPTACLE WITH #18 AWG PVC 12" LEADS TO ACCEPT HOME RUN CABLE EXTENSION				
FEMALE RECEPTACLE	7	3R2104A16A120	7	3R2104A16A120

*Use 4P/3W male single keyway, Micro Change™ cordsets page 94 or female/male cordsets page 96 to connect to those MPIS ports

Specifications



HOME RUN CONNECTOR CABLING

MECHANICAL

INSERT: PA
 HOUSING: GLASS-FILLED PBT
 RECEPTACLE HOUSING: NICKEL-PLATED BRASS
 ID LABEL: ABS
 YELLOW, PVC CABLE JACKET, #18 AWG AND #22 AWG CABLING AND PVC CONDUCTOR INSULATION OVER 41 X #34 (#18 AWG) AND 26 X #36 (#22 AWG) COPPER STRANDING, UL LISTED VW-1 STYLE 2661, CSA CERTIFIED AWM CLASS II GROUP A/B FT1 105°C, 600 V

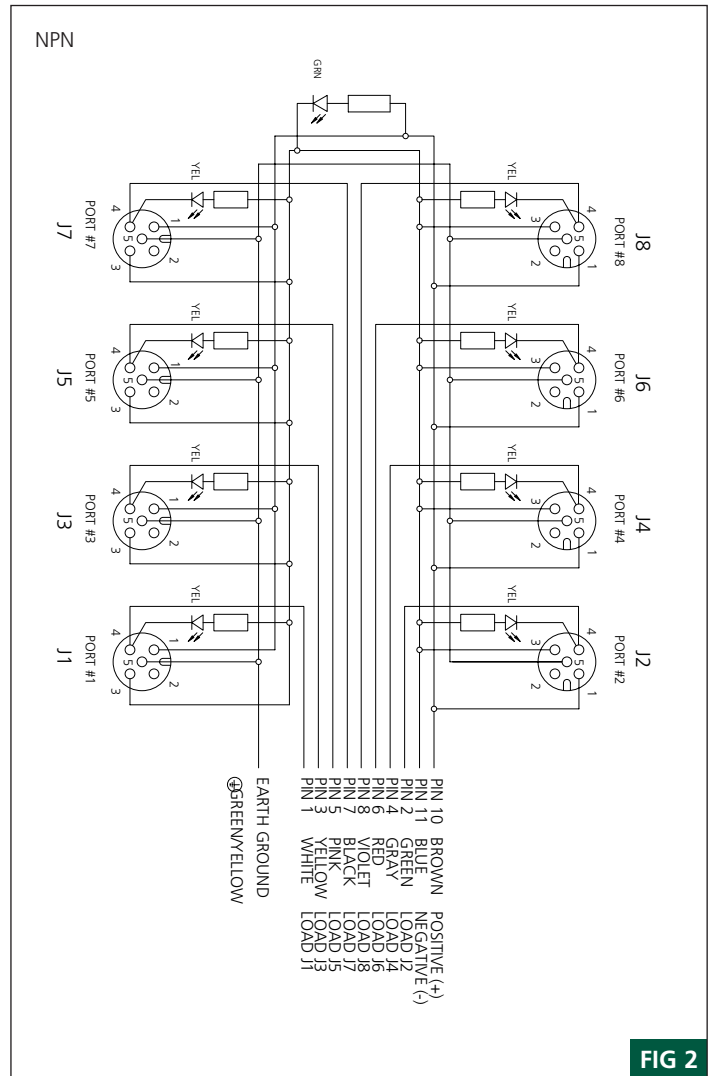
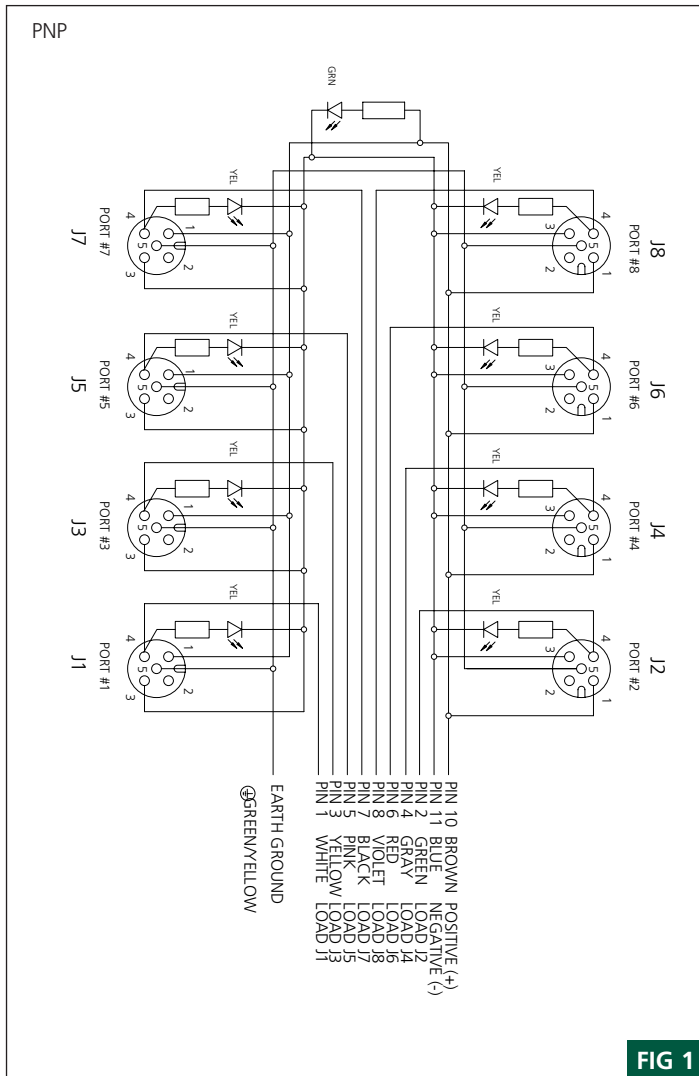
OUTSIDE DIAMETER: 0.71" (18.0mm)

ELECTRICAL

VOLTAGE RATING: 10-30V DC
 AMPERAGE: 4A PER PORT, 12A TOTAL PER MPIS UNIT
 INDICATING LIGHTS: GREEN LED-POWER, YELLOW LED-FUNCTION

AVERAGE LED EXPECTANCY: 100,000 HOURS
 ENVIRONMENTAL PROTECTION: IP68, NEMA 6P
 AMBIENT OPERATING TEMPERATURE: -13°F TO 194°F (-25° C TO 90°C)
 CERTIFICATIONS: UL: UL RECOGNIZED, FILE NO. E46237
 CSA: CSA CERTIFIED, FILE NO. LR6837

SCHEMATICS



Top Mount, Single Keyway with Mini-Change® Home Run Connector

MECHANICALS

4 PORT

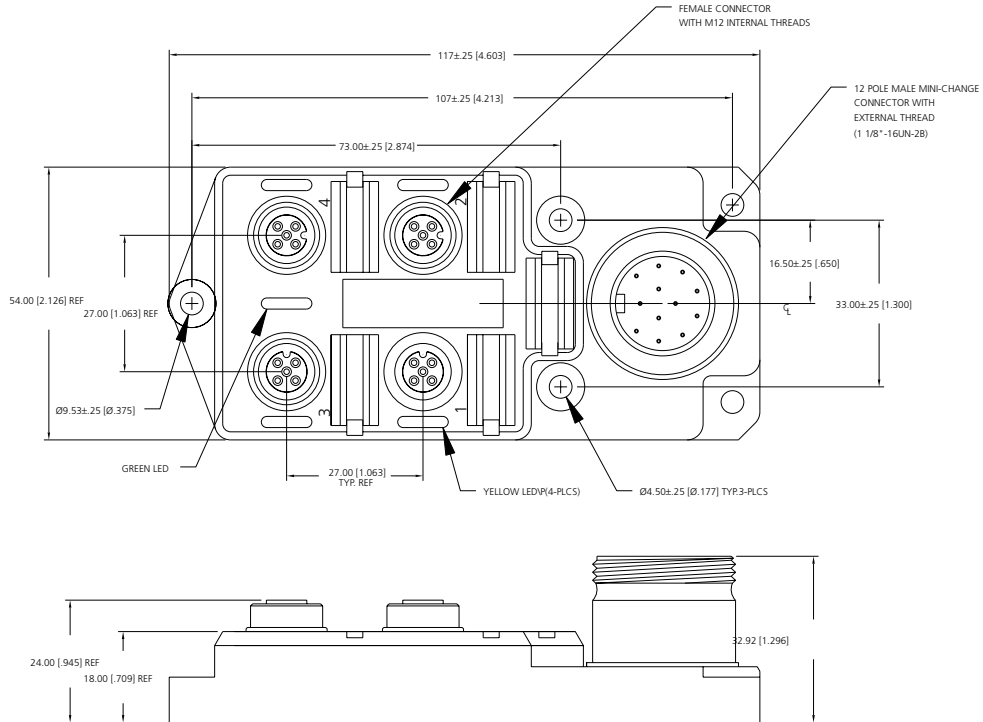


FIG 3

8 PORT

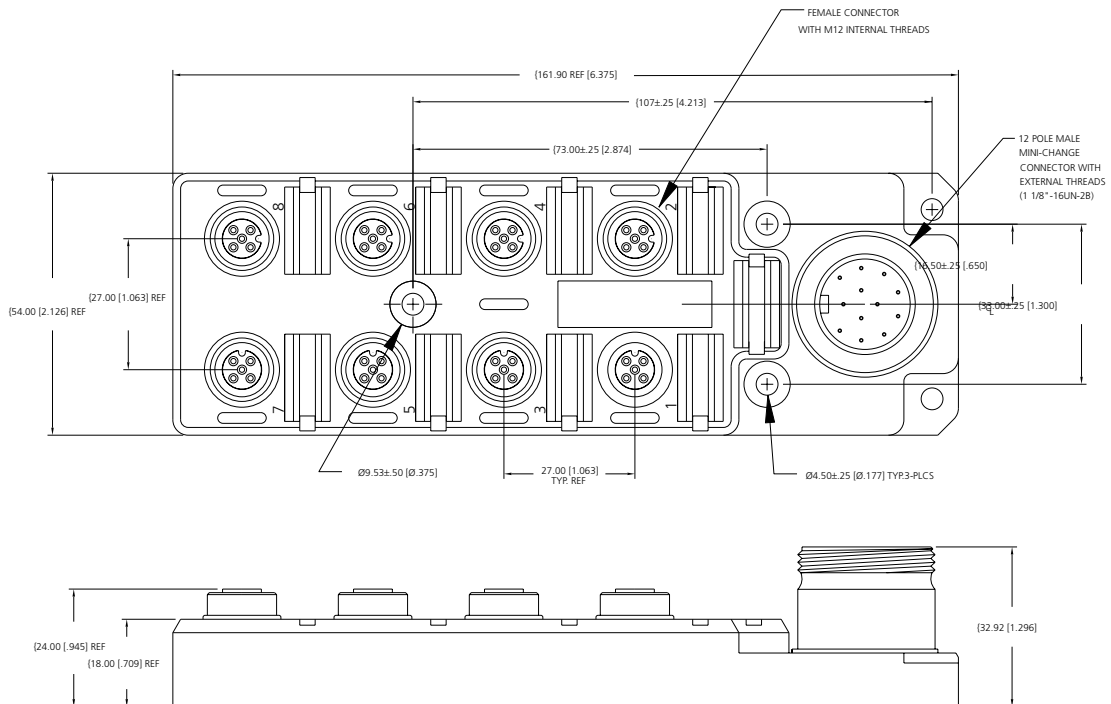


FIG 4

Top Mount, Single Keyway with Mini-Change® Home Run Connector

HOME RUN CABLES

FEMALE 90° SINGLE-ENDED

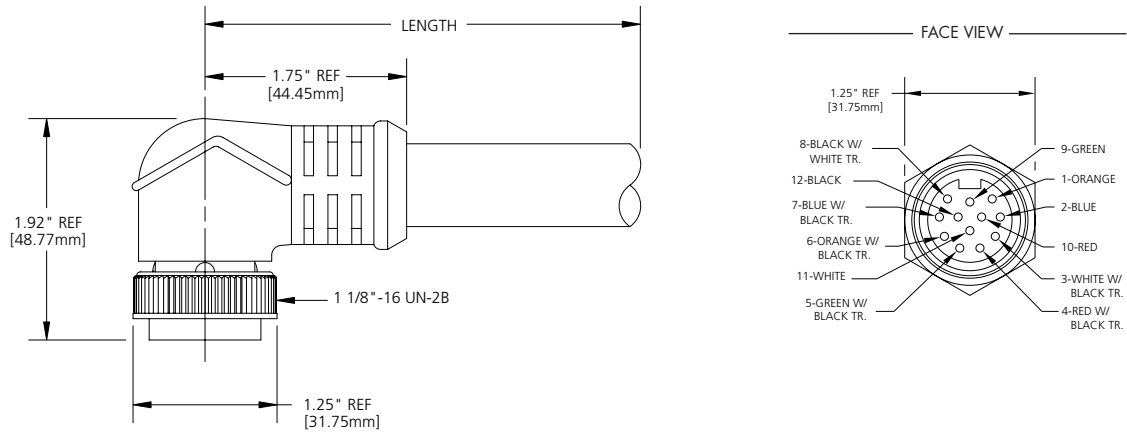


FIG 5

FEMALE 90°/MALE STRAIGHT DOUBLE-ENDED

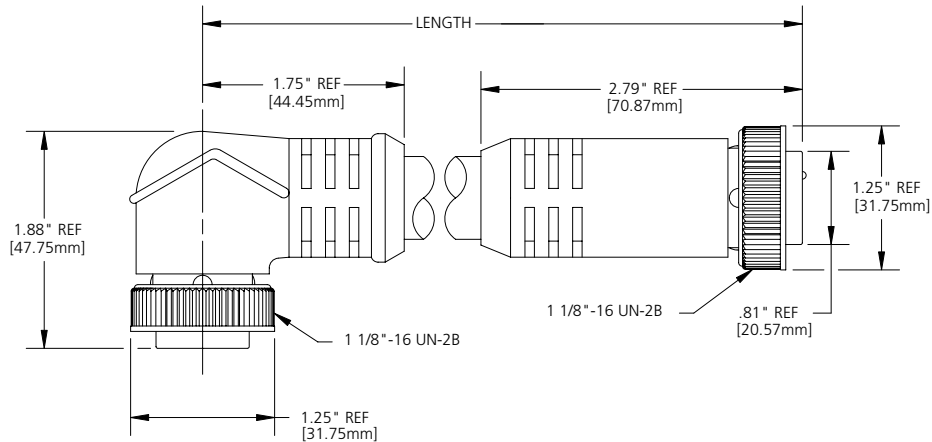


FIG 6

FEMALE RECEPTACLE

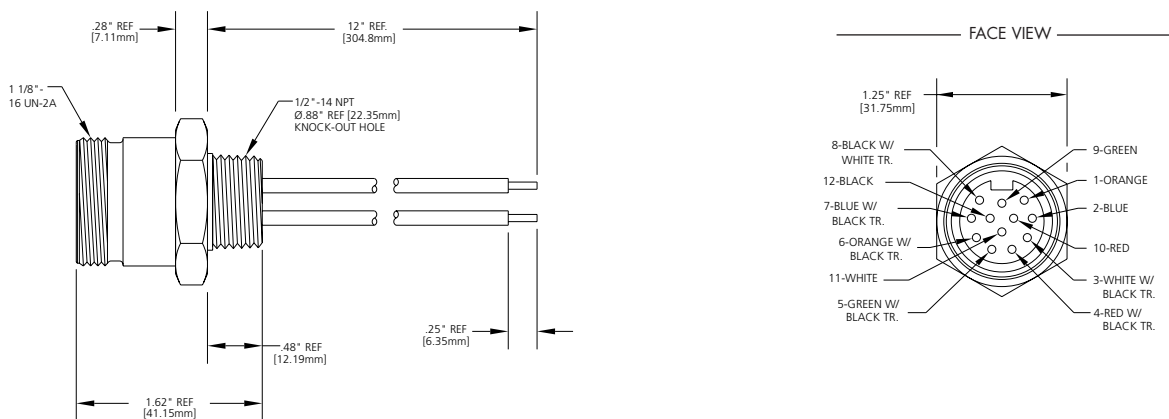


FIG 7



Top Mount, Single Keyway with M23 Home Run Connector

Connectorized home run version for maximum flexibility
Flexibility with 4 and 8 port configurations
PNP and NPN versions for use with a variety of DC sensors

NEW	4 Port	8 Port		
HOME RUN CONNECTOR MALE FACE VIEW				
HOME RUN CONNECTOR PINOUTS	1- port #1 load 2- port #2 load 3- port #3 load 4- port #4 load 5- n/c 6- n/c	7- n/c 8- n/c 9- V- 10- V- 11- V+ 12- gnd	1- port #1 load 2- port #2 load 3- port #3 load 4- port #4 load 5- port #5 load 6- port #6 load	7- port #7 load 8- port #8 load 9- V- 10- V- 11- V+ 12- gnd

MPIS SINGLE KEYWAY WITH M23 HOME RUN CONNECTOR			
	FIG		FIG
PNP SCHEMATIC, FIG 1 	3	BTY401P-FBC	4
NPN SCHEMATIC, FIG 2 	3	BTY401N-FBC	4

MATING FEMALE M23 HOME RUN STRAIGHT CONNECTOR** - FIELD ATTACHABLE			
	FIG		CABLE DIAMETER
STRAIGHT CONNECTOR-FEMALE	5	C12FA01022	0.24" -0.39" (6-10mm)
STRAIGHT CONNECTOR-FEMALE	5	C12FA01023	0.31" -0.47" (8-12mm)
STRAIGHT CONNECTOR-FEMALE	5	C12FA01024	0.39" -0.55" (10-14mm)
MATING FEMALE M23 HOME RUN 90° CONNECTOR** - FIELD ATTACHABLE			
90° CONNECTOR-FEMALE	6	C12FA01122	0.24" -0.39" (6-10mm)
90° CONNECTOR-FEMALE	6	C12FA01123	0.31" -0.47" (8-12mm)
90° CONNECTOR-FEMALE	6	C12FA01124	0.39" -0.55" (10-14mm)

*Use 4P/3W male Micro-Change®, single key cordset page 94 or female/male cordsets page 96 to connect to these MPIS ports

**Connectors only - does not include cable

Specifications



MECHANICAL
 INSERT: PA
 HOUSING: GLASS-FILLED PBT
 RECEPTACLE HOUSING: NICKEL-PLATED BRASS
 ID LABEL: ABS
HOME RUN CONNECTOR
 M23 METAL HARDSHELL CONNECTOR,
 6A MAXIMUM, 1mm² MAXIMUM
 CONDUCTOR SIZE, SOLDER
 CONNECTION

ELECTRICAL
 VOLTAGE RATING: 10-30V DC
 AMPERAGE: 4A PER PORT,
 12A TOTAL PER MPIS UNIT

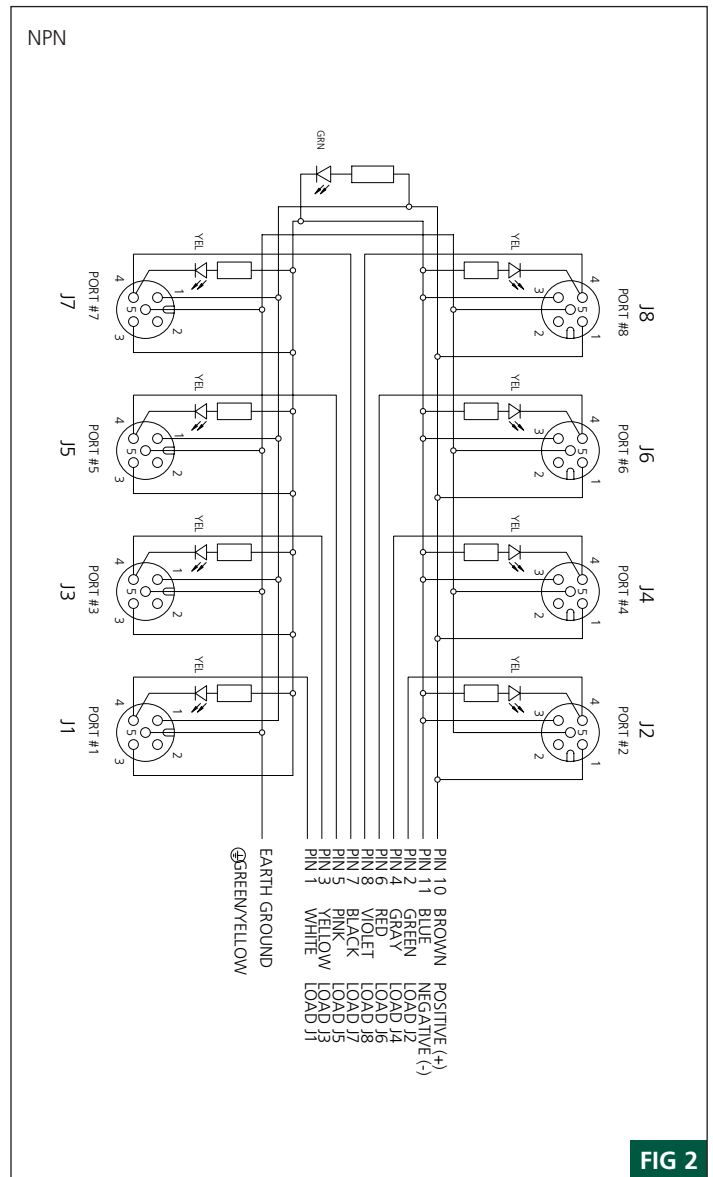
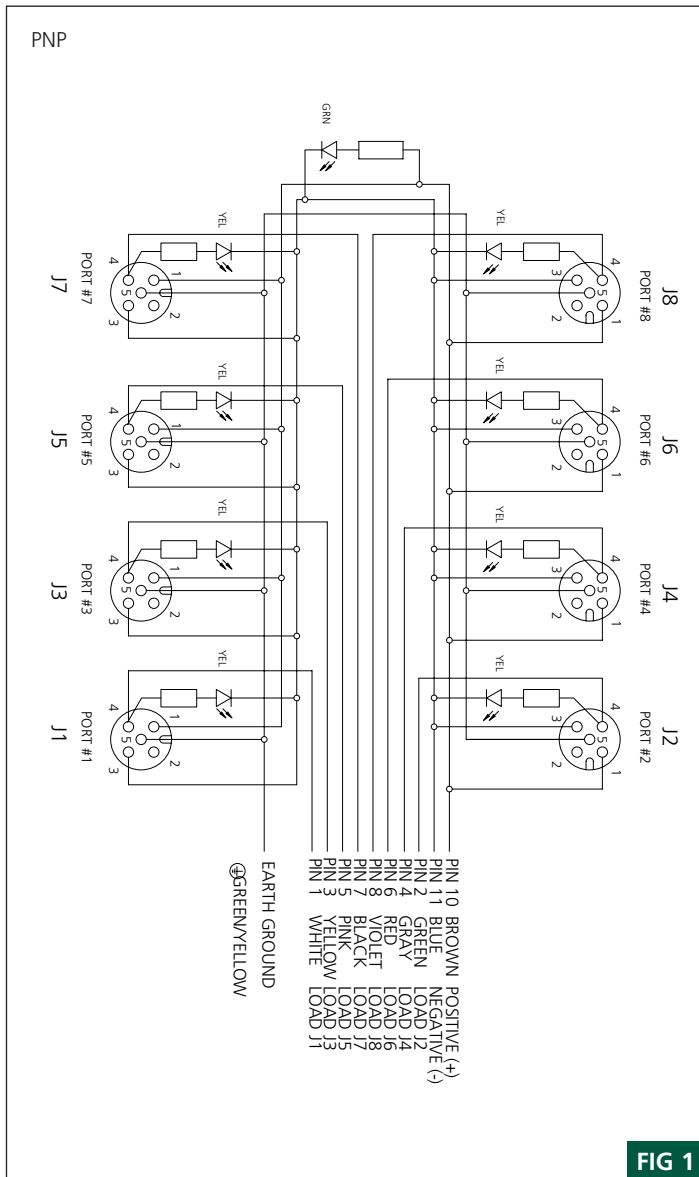
INDICATING LIGHTS:
 GREEN LED-POWER,
 YELLOW LED-FUNCTION
 100,000 HOURS

AVERAGE LED EXPECTANCY:
 100,000 HOURS

ENVIRONMENTAL
 PROTECTION: IP67
 AMBIENT OPERATING TEMPERATURE:
 -13° TO 194° F (-25° TO 90° C)

CERTIFICATIONS
 UL: UL RECOGNIZED, FILE NO. E46237
 CSA: CSA CERTIFIED, FILE NO. LR6837

SCHEMATICS



Top Mount, Single Keyway with M23 Home Run Connector

MECHANICALS

4 POLE

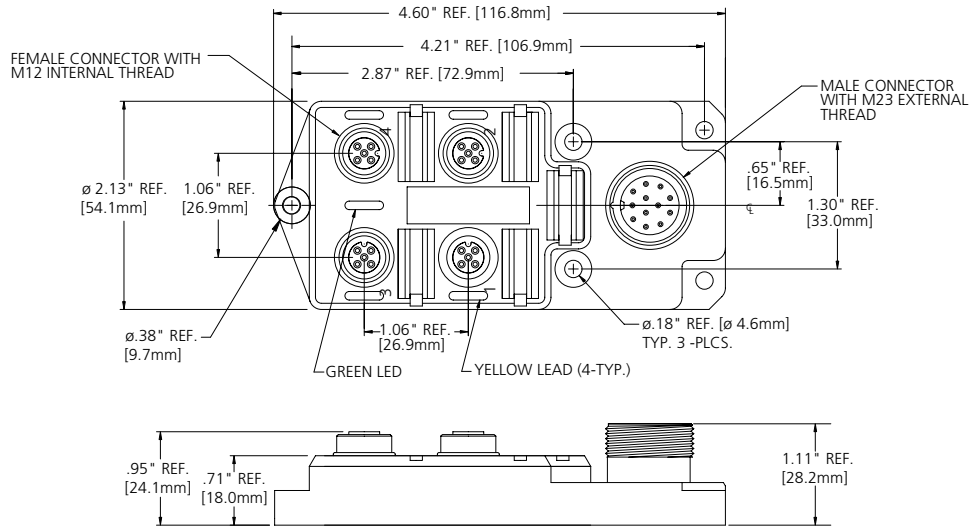


FIG 3

8 POLE

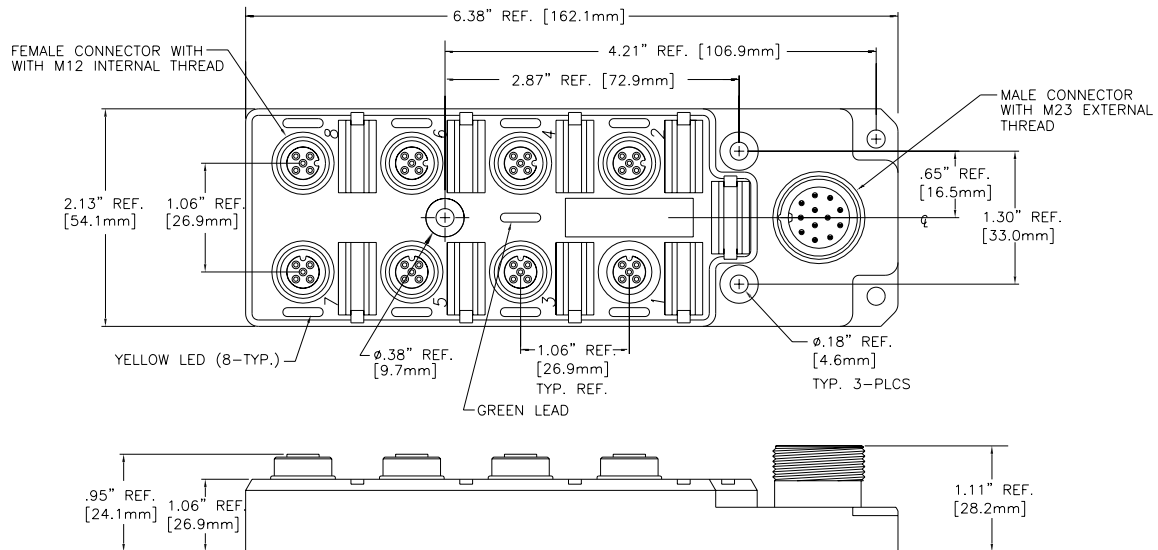


FIG 4

Top Mount, Single Keyway with M23 Home Run Connector

MECHANICALS

HOME RUN CABLE CONNECTOR – FEMALE STRAIGHT

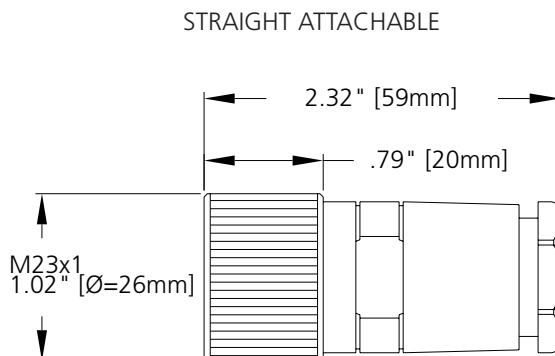


FIG 5

HOME RUN CABLE CONNECTOR – FEMALE 90°

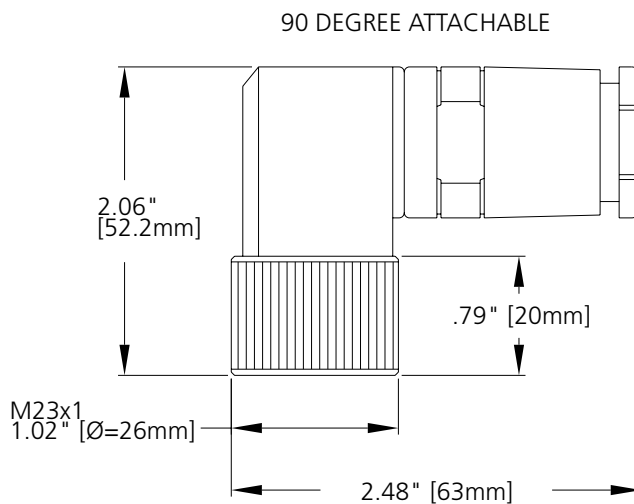


FIG 6

Standard Accessories - Sufficient marking labels and (2) closure caps
* Other Micro-Change MPIS accessories - see page 299



Top Mount, Single Keyway with Molded Home Run Cable

Simplifies wiring installation, molded PVC home run cable
 Flexibility with 4 and 8 port configurations
 PNP and NPN versions for use in a variety of DC sensors

	4 Port	8 Port
HOME RUN CABLE COLOR CODE	white-port #1 load green-port #2 load yellow-port #3 load gray-port #4 load	white-port #1 load green-port #2 load yellow-port #3 load gray-port #4 load pink-port #5 load red-port #6 load black-port #7 load violet-port #8 load green/yellow-gnd brown-V+ blue-V-

FUNCTIONAL WIRING	MPIS SINGLE KEYWAY WITH MOLDED HOME RUN CABLE			
PNP SCHEMATIC, FIG 1 	HOME RUN CABLE 5M PUR		FIG	
	3	BTY401P-FBP-05	4	BTY801P-FBP-05
	HOME RUN CABLE 10M PUR			
	3	BTY401P-FBP-10	4	BTY801P-FBP-10
	HOME RUN CABLE 5M PVC			
	3	BTY401P-FBE-05	4	BTY801P-FBE-05
NPN SCHEMATIC, FIG 2 	HOME RUN CABLE 5M PUR		FIG	
	3	BTY401N-FBP-05	4	BTY801N-FBP-05
	HOME RUN CABLE 10M PUR			
	3	BTY401N-FBP-10	4	BTY801N-FBP-10
	HOME RUN CABLE 5M PVC			
	3	BTY401N-FBE-05	4	BTY801N-FBE-05
HOME RUN CABLE 10M PVC				
3	BTY401N-FBE-10	4	BTY801N-FBE-10	

* Use 5P male Micro-Change® single keyway M12 male cordsets page 94 or female/male cordsets page 96 to connect to the MPIS units

Specifications



MECHANICAL
 INSERT: PA
 HOUSING: GLASS-FILLED PBT
 RECEPTACLE HOUSING: NICKEL-PLATED BRASS
 ID LABEL: ABS
HOME RUN CONNECTOR

BLACK, PUR CABLE JACKET, (3) #16 AWG OVER EITHER (4) OR (8) #22 AWG AND PVC CONDUCTOR INSULATION OVER EITHER 41 X #34 (#16 AWG) OR 26 X #36 (#22AWG) COPPER STRANDING OVER 65 X #34 COPPER STRANDING, 600 V 0.29" (7.4mm)

OUTSIDE DIAMETER:

ELECTRICAL

VOLTAGE RATING: 10-30V DC
 AMPERAGE: 4A PER PORT, 12A MAX PER UNIT
 INDICATING LIGHTS: GREEN LED-POWER, YELLOW LED-FUNCTION
 AVERAGE LED EXPECTANCY: 100,000 HOURS

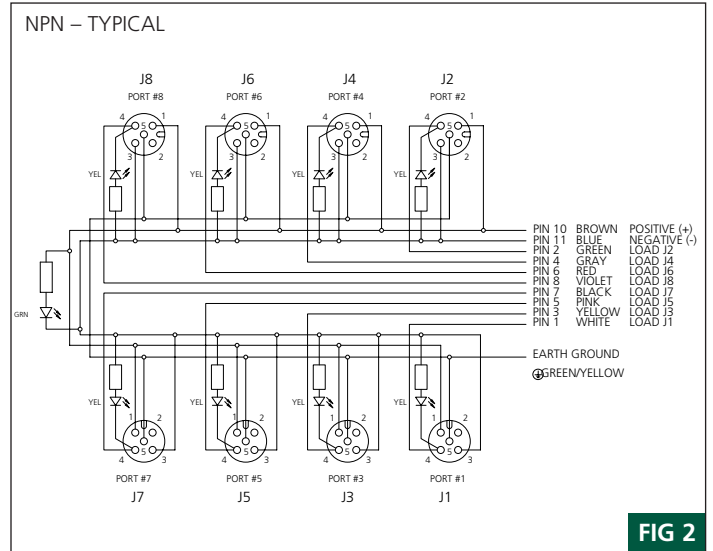
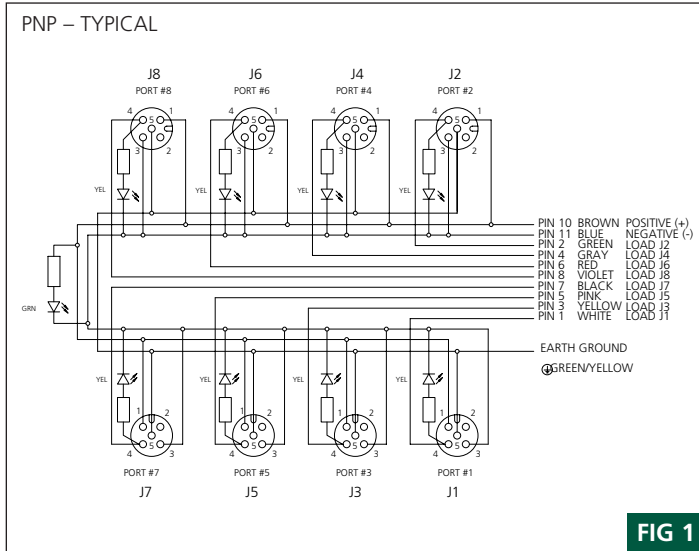
ENVIRONMENTAL

PROTECTION: IP68, NEMA 6P
 AMBIENT OPERATING TEMPERATURE: -13° TO 194° F (-25° TO 90° C)

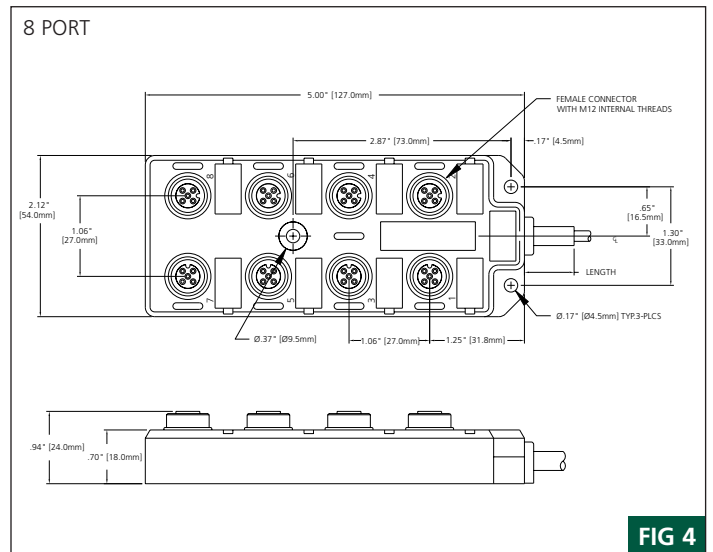
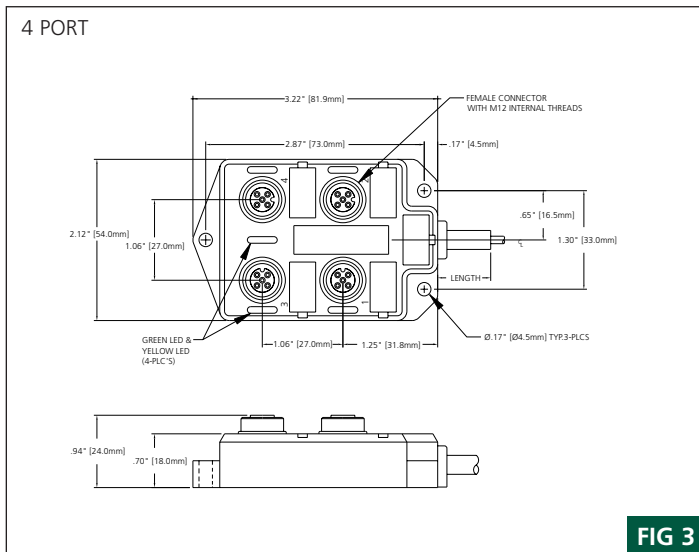
CERTIFICATIONS

UL: UL RECOGNIZED, FILE NO. E46237
 CSA: CSA CERTIFIED, FILE NO. LR6837

SCHEMATICS



MECHANICALS



Standard Accessories - Sufficient marking labels and (2) closure caps
 * Other Micro-Change MPIS accessories - see page 298



Top Mount, Single Keyway Twin-Wired with Field-Attachable Home Run Cable

Field-attachable home run cable provides flexibility in installation
 Allows for specialty user – supplied control cable options
 User can decide home run cable lengths at last minute
 Cable can exit at either top or end of MPIS

NEW	4 Port SCHEMATIC, FIG 1	6 Port SCHEMATIC, FIG 2	8 Port SCHEMATIC, FIG 3
FUNCTIONAL WIRING DIAGRAM			
TERMINAL BLOCK PINOUTS	1- port #1 load #2 2- port #2 load #2 3- port #3 load #2 4- port #4 load #2 5- n/c 6- n/c 7- n/c 8- n/c	9- port #1 load #1 10- port #2 load #1 11- port #3 load #1 12- port #4 load #1 17- V+ 18- V- 19- gnd	1- port #1 load #2 2- port #2 load #2 3- port #3 load #2 4- port #4 load #2 5- port #5 load #2 6- port #6 load #2 9- port #1 load #1 10- port #2 load #1

MPIS SINGLE KEY WAY TWIN-WIRED, PNP WITH FIELD ATTACHABLE CONTROL CABLE						
	FIG		FIG		FIG	
MPIS	2	BTY403P-FBA	3	BTY403P-FBA	4	BTY403P-FBA

* Use 5 pole male Micro-Change® M12 cordsets page 94 or male/female cordsets page 96 to connect to the MPIS ports
 * Home run control cable not supplied
 * Both top entry and side entry home run cables allowed
 * Use Micro-Change® M12 splitter assemblies page 300 to connect dual inputs

Specifications



MECHANICAL
 INSERT: PBT
 HOUSING: PBT
 RECEPTACLE HOUSING: NICKEL-PLATED BRASS
 ID LABEL: PA
HOME RUN CONNECTOR

SCREW TERMINATION; MAXIMUM WIRE GAUGE #18 AWG, CONTROL CABLE DIAMETER TO FIT PG16 GROMMET 0.31-0.51" (8-14mm)

ELECTRICAL
 VOLTAGE RATING:
 AMPERAGE:
 INDICATING LIGHTS:

10-30VDC
 2A MAX PER PORT, 12A MAX PER UNIT
 GREEN LED-POWER,
 YELLOW LED-FUNCTION

AVERAGE LED EXPECTANCY:
ENVIRONMENTAL

100,000 HOURS

PROTECTION:
 AMBIENT OPERATING TEMPERATURE:

IP68, NEMA 6P
 -13° TO 194° F (-25° TO 90° C)

SCHEMATICS

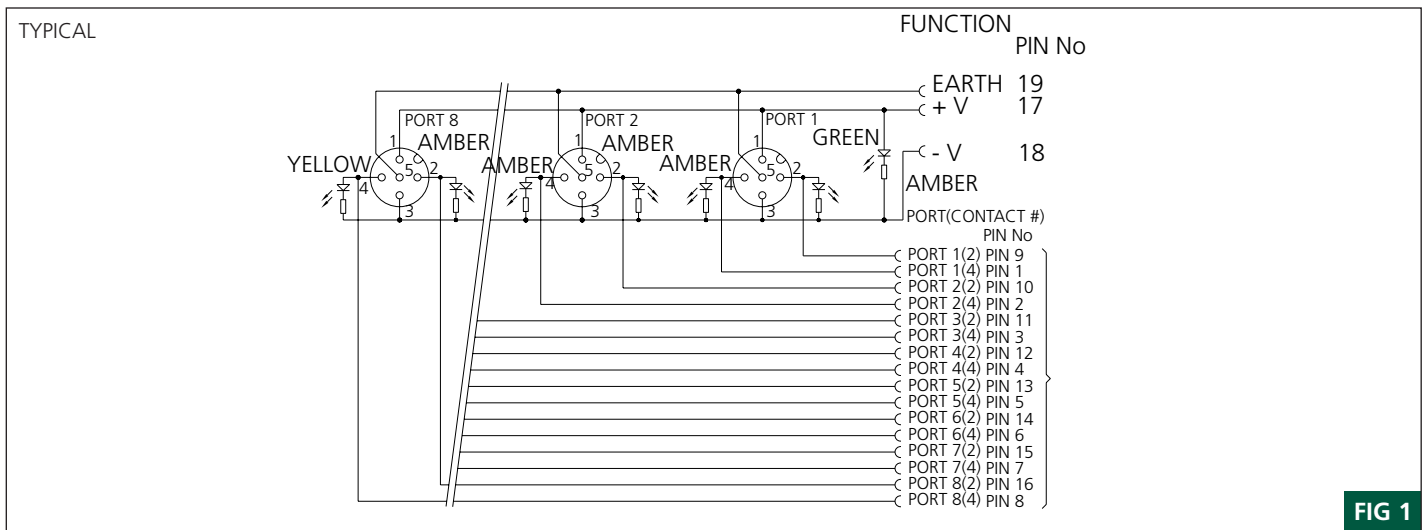


FIG 1

MECHANICALS

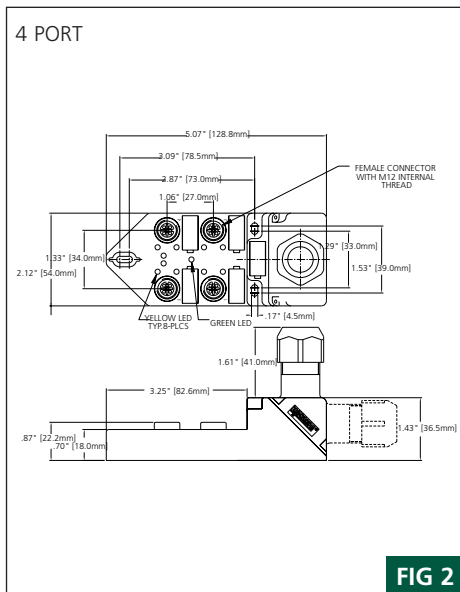


FIG 2

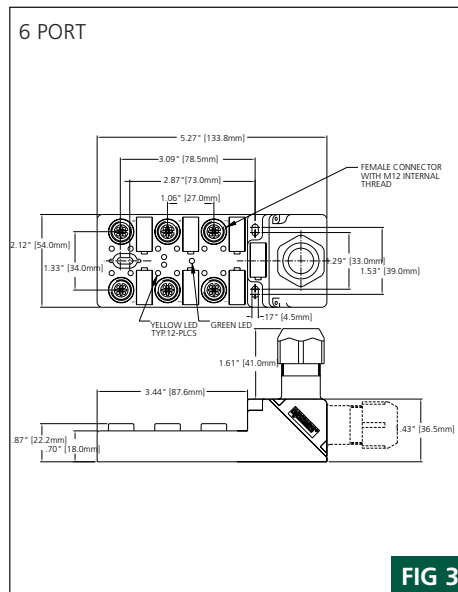


FIG 3

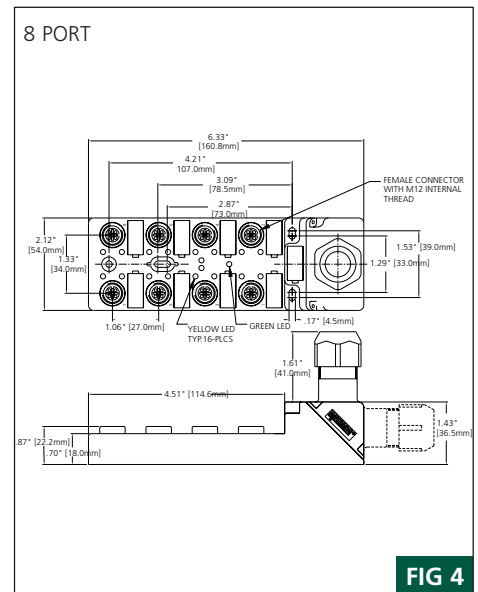


FIG 4

Standard Accessories - Sufficient marking labels and (2) closure caps
 * Other Micro-Change MPIS accessories - see page 299



Top Mount, Single Keyway Twin-Wired with Molded Mini-Change® Home Run Connector

Molded home run Mini-Change connector provides flexibility
Twin-Wired inputs for maximum wiring density
Accommodates 4-wire DC sensors, pin #2 load wired sensors

NEW	4 Port	8 Port	
HOME RUN CONNECTOR MALE FACE VIEW			
HOME RUN CONNECTOR PINOUTS	1- n/c 2- n/c 3- port #4 load #1 4- port #2 load #2 5- V- 6- port #2 load #1 7- V+	8- port #3 load #2 9- n/c 10- n/c 11- n/c 12- gnd 13- n/c 14- port #4 load #2 15- port #1 load #1 16- port #3 load #1 17- n/c 18- n/c 19- port #1 load #2	1- port #8 load #1 2- port #6 load #1 3- port #4 load #1 4- port #2 load #2 5- V- 6- port #2 load #1 7- V+ 8- port #3 load #2 9- port #5 load #2 10- port #7 load #2 11- port #7 load #1 12- gnd 13- port #6 load #2 14- port #4 load #2 15- port #1 load #1 16- port #3 load #1 17- port #5 load #1 18- port #8 load #1 19- port #1 load #2

FUNCTIONAL WIRING	MPIS SINGLE KEYWAY DUAL INPUT WITH MOLDED HOME RUN CONNECTOR			
	FIG		FIG	
PNP SCHEMATIC, FIG 1 	WITH MOLDED CONNECTOR, 5M PUR			
	4	BTY412P-FBP-05	5	BTY812P-FBP-05
	WITH MOLDED CONNECTOR, 10M PUR			
	4	BTY412P-FBP-10	5	BTY812P-FBP-10
	WITH MOLDED CONNECTOR, 5M PUR			
	4	BTY4120-FBP-05	5	BTY8120-FBP-05
NO LED SCHEMATIC, FIG 2 	WITH MOLDED CONNECTOR, 10M PUR			
	4	BTY4120-FBP-10	5	BTY8120-FBP-10
	WITH MOLDED CONNECTOR, 5M PUR			
	4	BTY412N-FBP-05	5	BTY812N-FBP-05
	WITH MOLDED CONNECTOR, 10M PUR			
	4	BTY412N-FBP-10	5	BTY812N-FBP-10

MALE (STRAIGHT) FEMALE (STRAIGHT) DOUBLE-ENDED HOME RUN CABLES EXTENSIONS				
HOME RUN CABLE 5M	6	333030P80M050	6	333030P80M050
HOME RUN CABLE 10M	6	333030P80M100	6	333030P80M100

FEMALE RECEPTACLES 30CM LEADS TO ACCEPT HOME RUN CABLE EXTENSION				
FEMALE RECEPTACLE		3R3N3OE80C300		3R3N3OE80C300

*Use 5 pole male Micro-Change® M12 cordsets page 94 to connect to these MPIS ports
*See page 84 for receptacle dimensions and specifications

Specifications



MECHANICAL
 INSERT: PBT
 HOUSING: PBT
 RECEPTACLE HOUSING: NICKEL-PLATED BRASS
 ID LABEL: ABS
HOME RUN CONNECTOR CABLING

BLACK, #18 AWG (.75mm²) & #22 AWG (.34mm²), PUR JACKET & PVC CONDUCTOR INSULATION OVER, 42 X .15mm (#18) AND 42 X .10mm (#22) COPPER STRANDING
 0.39" (10mm)

ELECTRICAL
 OUTSIDE DIAMETER:
 VOLTAGE RATING:
 AMPERAGE:
 INDICATING LIGHTS:

10-30V DC
 2A PER PORT, 12A MAX PER UNIT
 GREEN LED-POWER,
 YELLOW LED-FUNCTION
 100,000 HOURS

AVERAGE LED EXPECTANCY:
ENVIRONMENTAL
 PROTECTION:
 AMBIENT OPERATING TEMPERATURE:

IP68, NEMA 6P
 -13° TO 194° F (-25° TO 90° C)

SCHEMATICS

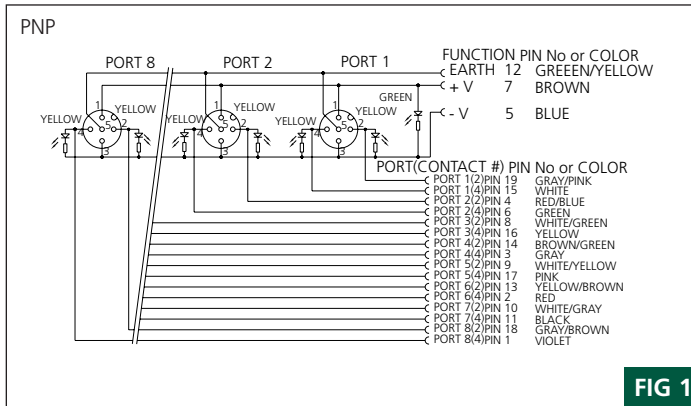


FIG 1

MECHANICALS

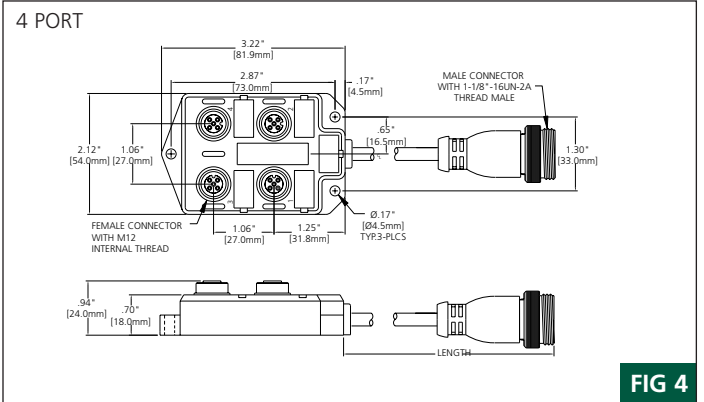


FIG 4

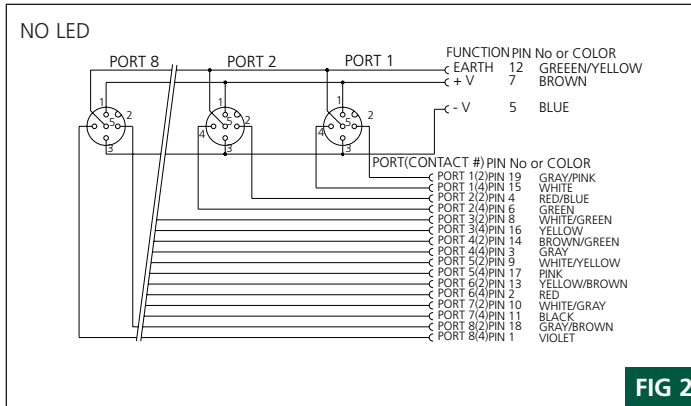


FIG 2

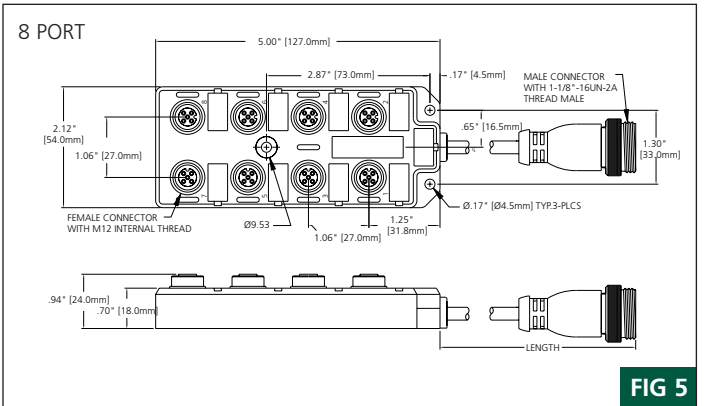


FIG 5

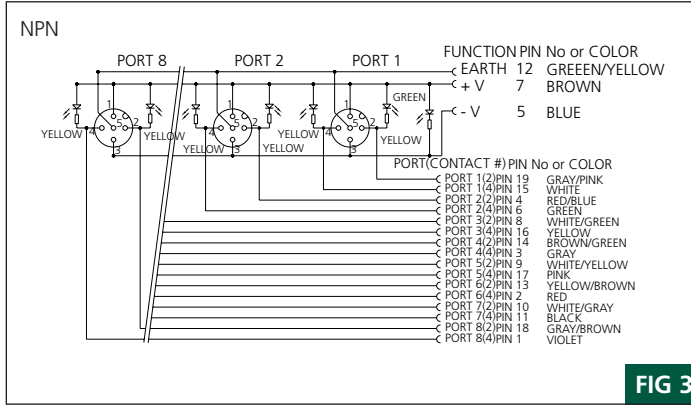


FIG 3

FEMALE/MALE EXTENSION

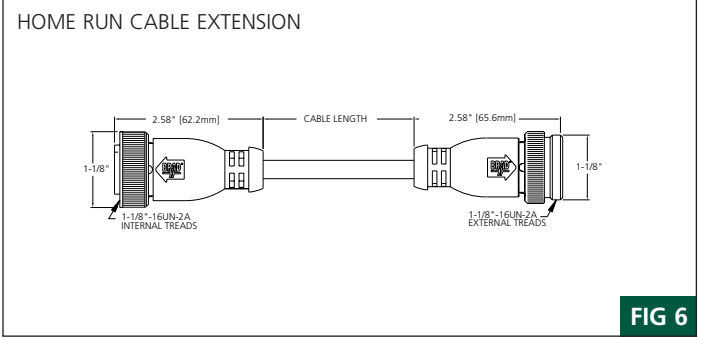


FIG 6

Standard Accessories - Sufficient marking labels and (2) closure caps
 * Other Micro-Change MPIS accessories - see page 299



Top Mount, Single Keyway Twin-Wired with Molded Home Run Cable

Simplifies wiring installation, molded PUR home run cable
Twin-wired for maximum wiring density
Accommodates 4-wire DC sensors, pin #2 load wired sensors

NEW	4 Port	8 Port
HOME RUN CABLE FUNCTIONAL WIRING	pink- port #1 load #2 white- port #1 load #1 red- port #2 load #2 green- port #2 load #1 black- port #3 load #2 yellow- port #3 load #1	violet- port #4 load #2 gray- port #4 load #1 green/yellow- gnd brown- V+ blue- V-
		grey/pink- port #1 load #2 white- port #1 load #1 red/blue- port #2 load #2 green- port #2 load #1 white/green- port #3 load #2 yellow- port #3 load #1 brown/green- port #4 load #2 gray- port #4 load #1 green/yellow- gnd brown- V+
		blue- V- white/yellow- port #5 load #2 pink- port #5 load #1 yellow/brown- port #6 load #2 red- port #6 load #1 white/gray- port #7 load #2 black- port #7 load #1 gray/brown- port #8 load #2 violet- port #8 load #1

FUNCTIONAL WIRING	MPIS SINGLE KEYWAY DUAL INPUT WITH MOLDED HOME RUN CABLE			
	FIG		FIG	
PNP SCHEMATIC, FIG 1 	HOME RUN CABLE 5M PUR			
	4	BTY403P-FBP-05	5	BTY803P-FBP-05
HOME RUN CABLE 10M PUR				
4	BTY403P-FBP-10	5	BTY803P-FBP-10	
NO LED SCHEMATIC, FIG 2 	HOME RUN CABLE 5M PUR			
	4	BTY4030-FBP-05	5	BTY8030-FBP-05
HOME RUN CABLE 10M PUR				
4	BTY4030-FBP-10	5	BTY8030-FBP-10	
NPN SCHEMATIC, FIG 3 	HOME RUN CABLE 5M PUR			
	4	BTY403N-FBP-05	5	BTY803N-FBP-05
HOME RUN CABLE 10M PUR				
4	BTY403N-FBP-10	5	BTY803N-FBP-10	

*Use 5 pole male Micro-Change® M12 cordsets page 94 or female/male cordset page 96 to connect to the MPIS port

*Use Micro-Change® M12 splitter assemblies page 299 to connect dual inputs

Specifications



HOME RUN CONNECTOR CABLING

MECHANICAL

INSERT: PBT
 HOUSING: PBT
 RECEPTACLE HOUSING: NICKEL-PLATED BRASS
 ID LABEL: PA
 BLACK, #18 AWG (.75mm²) & #22 AWG (.34mm²), PUR JACKET & PVC CONDUCTOR INSULATION OVER, 42 X .15mm (#18) AND 42 X .10mm (#22) COPPER STRANDING
 OUTSIDE DIAMETER: 0.39" (10.0mm)

ELECTRICAL

VOLTAGE RATING: 10-30V DC
 AMPERAGE: 2A MAX PER PORT, 12A TOTAL PER MPIS UNIT
 INDICATING LIGHTS: GREEN LED-POWER, YELLOW LED-FUNCTION
 AVERAGE LED EXPECTANCY: 100,000 HOURS

ENVIRONMENTAL

PROTECTION: IP68, NEMA 6P
 AMBIENT OPERATING TEMPERATURE: -13° TO 194° F (-25° TO 90° C)

SCHEMATICS

PNP – TYPICAL

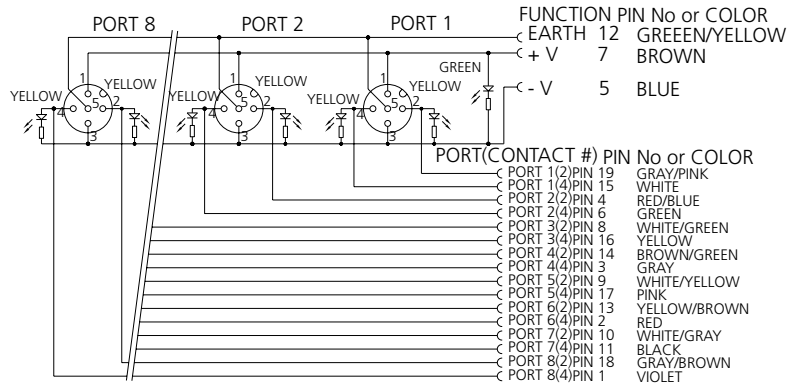


FIG 1

NO LED – TYPICAL

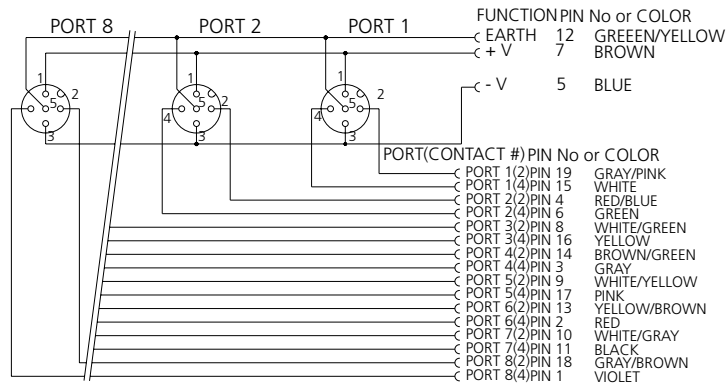


FIG 2

NPN – TYPICAL

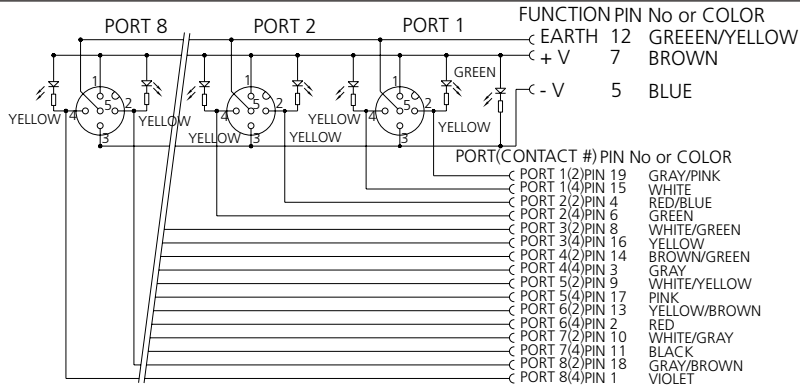


FIG 3

Top Mount, Single Keyway Twin-Wired with Molded Home Run Cable

MECHANICS

4 PORT

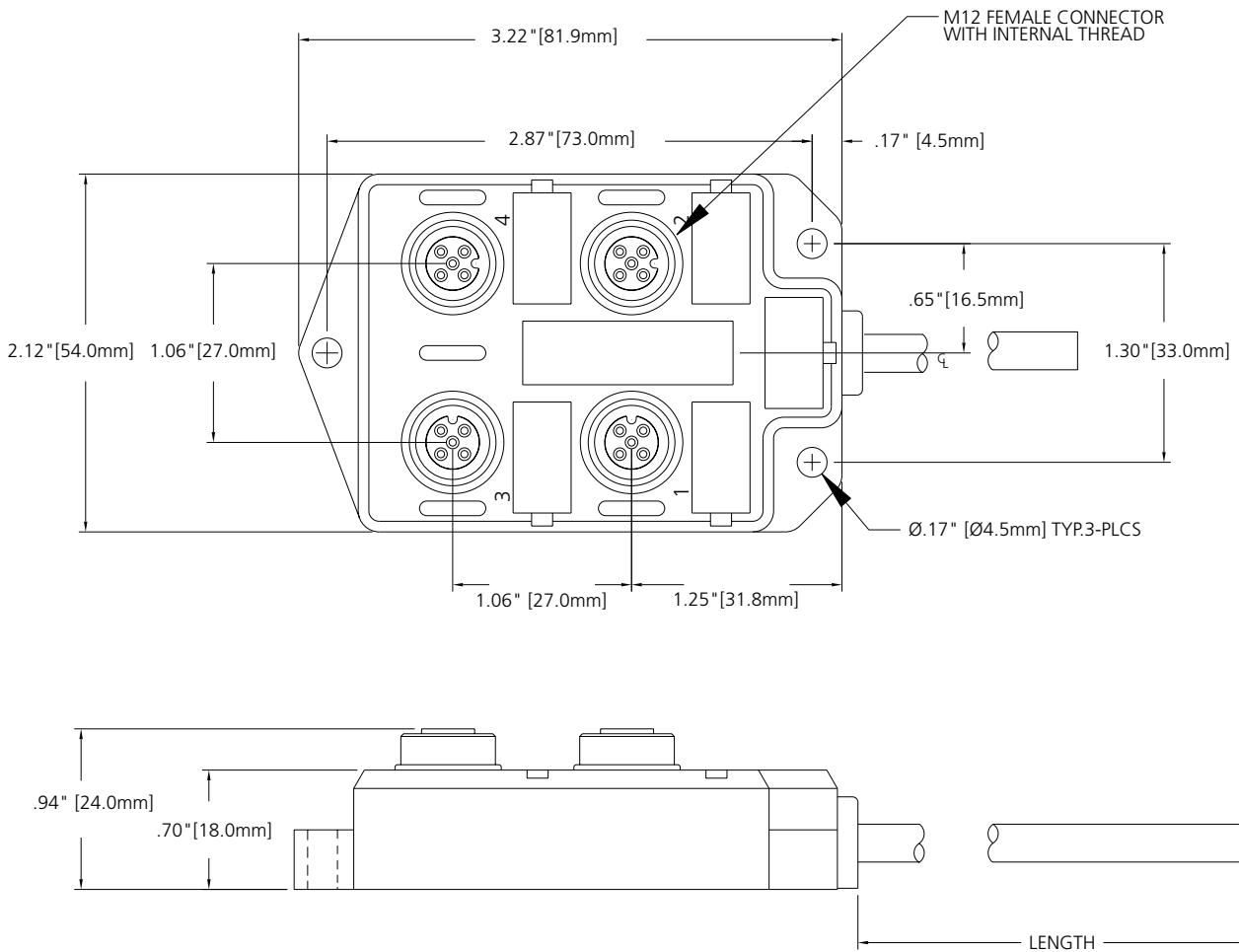


FIG 4

Top Mount, Single Keyway Twin-Wired with Molded Home Run Cable

MECHANICALS

8 PORT

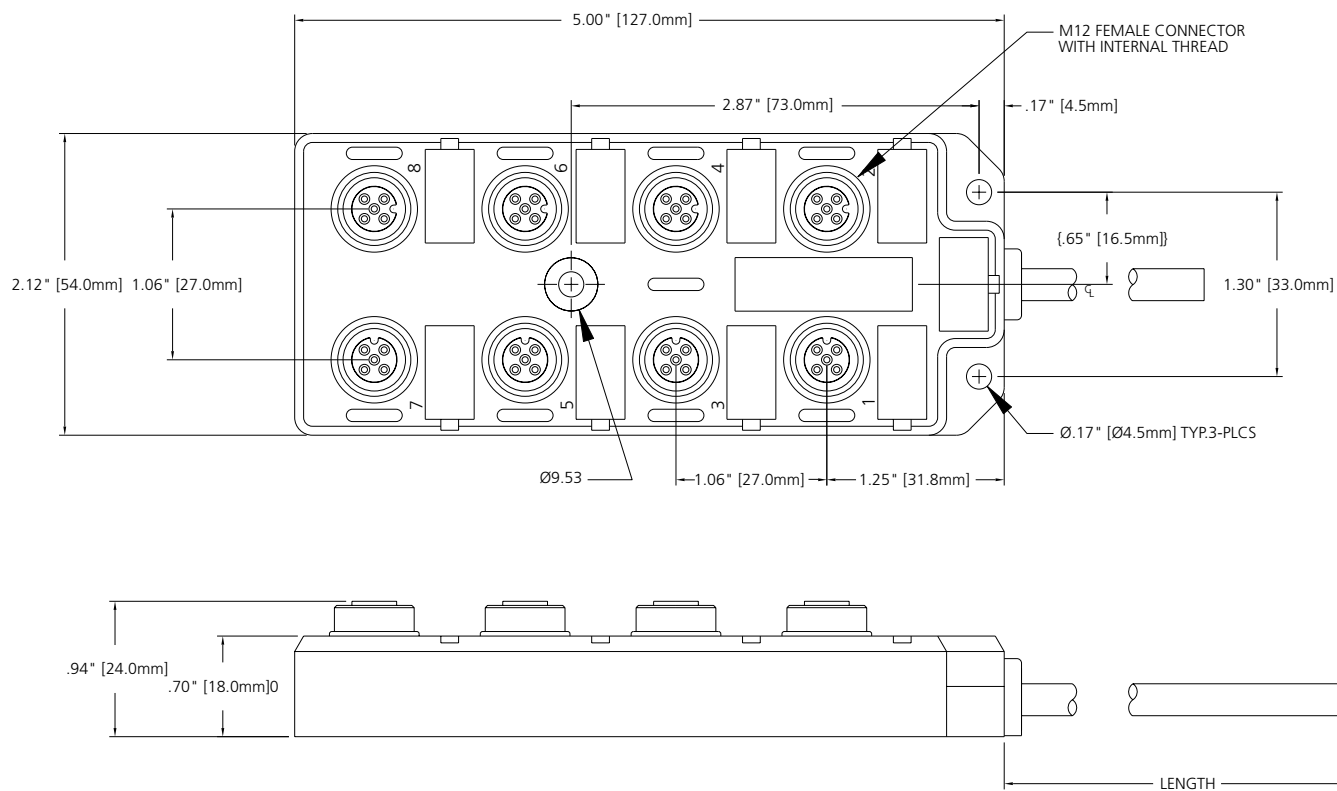


FIG 5



Side Mount, Single Keyway with Mini-Change® Molded with Home Run Connector

Molded home run connector provides flexibility
Flexibility with 4, 6 and 8 port configurations
PNP and NPN versions for use with a variety of DC sensors

	4 Port	6 Port	8 Port
HOME RUN CONNECTOR MALE FACE VIEW			
HOME RUN CONNECTOR PINOUTS AND COLOR CODE	1- green- port #2 load 2- white- port #1 load 3- blue- V- 4- gray- port #4 load 5- yellow- port #3 load 6- brown- V+	1- red- port #6 load 2- pink- port #5 load 3- gray- port #4 load 4- yellow- port #3 load 5- green- port #2 load 6- white- port #1 load 7- blue- V- 8- brown- V+	1- black- port #7 load 2- red- port #6 load 3- pink- port #5 load 4- gray- port #4 load 5- yellow- port #3 load 6- green- port #2 load 7- white- port #1 load 8- blue- V- 9- violet- port #8 load 10- brown- V+

FUNCTIONAL WIRING	MPIS SINGLE KEYWAY WITH 12" LONG MOLDED PVC HOME RUN CONNECTOR					
	FIG		FIG		FIG	
PNP SCHEMATIC, FIG 1 	3	803P402	4	803P602	5	803P802
NPN SCHEMATIC, FIG 2 	3	803N402	4	803N602	5	803N802

DOUBLE-ENDED HOME RUN CABLE PVC JACKET #16 CONDUCTORS						
HOME RUN CABLE 5M	6	116020A01M050	7	228020A01M050	8	331020A01M050
HOME RUN CABLE 5M	6	116020A01M100	7	228020A01M100	8	331020A01M100

FEMALE RECEPTACLE WITH 12" LEADS TO ACCEPT HOME RUN CABLE EXTENSION						
FEMALE RECEPTACLE		1R6004A20A120		2R8004A20A120		3R1004A20A120

* Use (3) pole male Micro-Change™ cordsets page 94 or female/male cordsets page 96 to connect to these MPIS ports
* See page 77 or 83 for home run receptacle dimensions and specifications

Specifications



HOME RUN CONNECTOR CABLING

MECHANICAL

INSERT: NYLON 6/6
 HOUSING: NYLON 6/6
 RECEPTACLE HOUSING: BLACK E-COAT
 ID LABEL: ABS
 YELLOW, PVC CABLE JACKET,
 (1) #18 AWG AND EITHER (5) OR (7)
 #22 AWG CONTROL CABLING AND
 PVC CONDUCTOR INSULATION OVER
 41 X #34 (#18 AWG) AND 26 X #36
 (#22 AWG), UL LISTED STYLE 2661,
 CSA CERTIFIED 105°C, 300V
 0.29" (7.4mm)

OUTSIDE DIAMETER:

ELECTRICAL

VOLTAGE RATING: 10-30V DC
 AMPERAGE: 4A PER PORT,
 12A TOTAL PER MPIS UNIT
 INDICATING LIGHTS: GREEN LED-POWER,
 YELLOW LED-FUNCTION
 100,000 HOURS

AVERAGE LED EXPECTANCY:

ENVIRONMENTAL

PROTECTION:

IP68, NEMA 6P

AMBIENT OPERATING TEMPERATURE:

-13° TO 194° F (-25° TO 90° C)

CERTIFICATIONS

UL: UL RECOGNIZED, FILE NO. E46237
 CSA: CSA CERTIFIED, FILE NO. LR6837

SCHEMATICS

PNP – TYPICAL

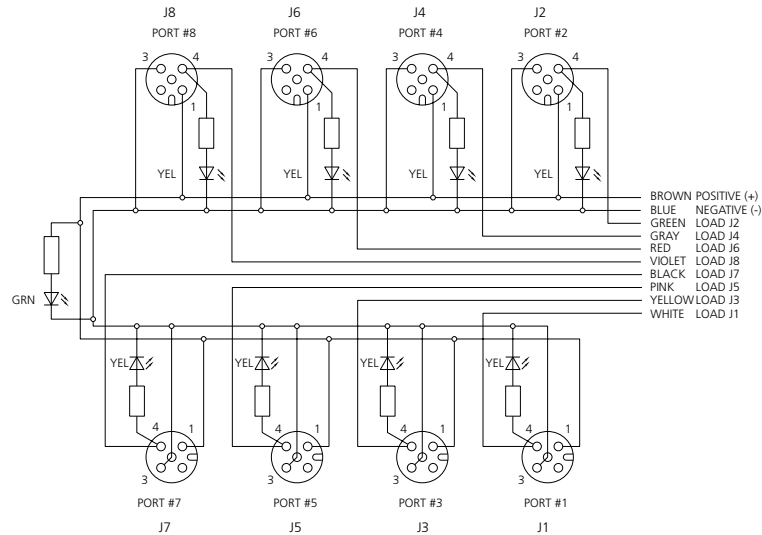


FIG 1

NPN – TYPICAL

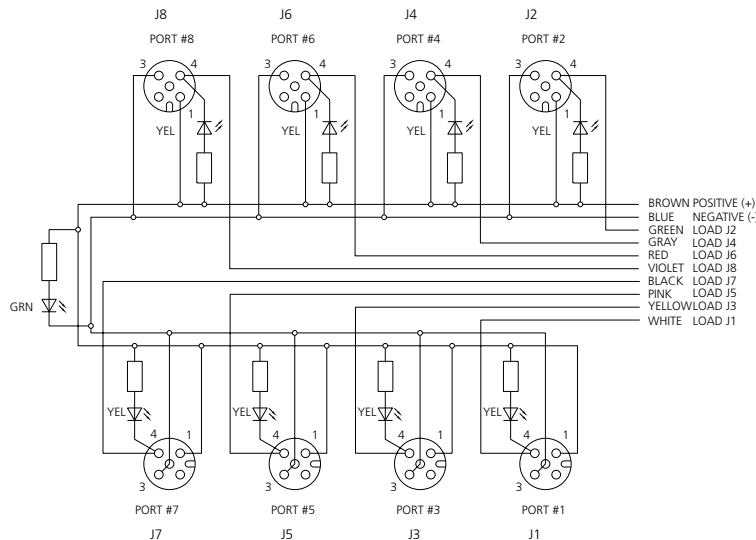


FIG 2

Side Mount, Single Keyway with Mini-Change® Molded with Home Run Connector

MECHANICALS

4 PORT

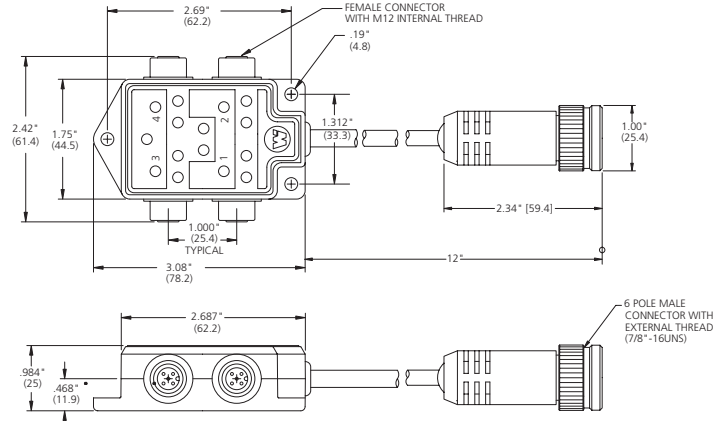


FIG 3

6 PORT

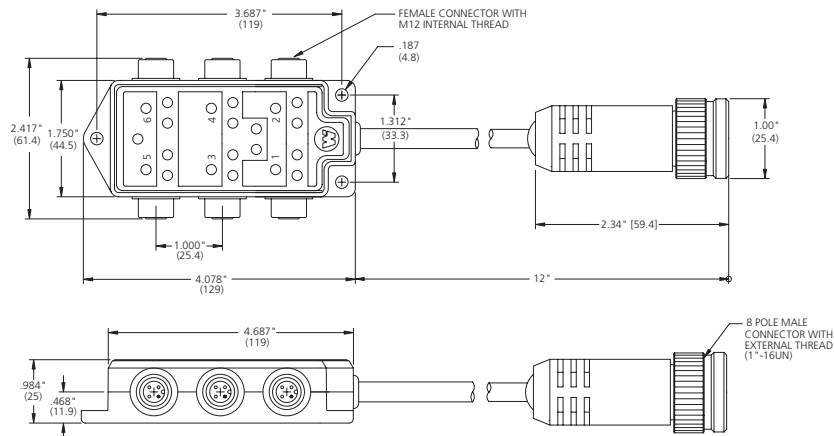


FIG 4

8 PORT

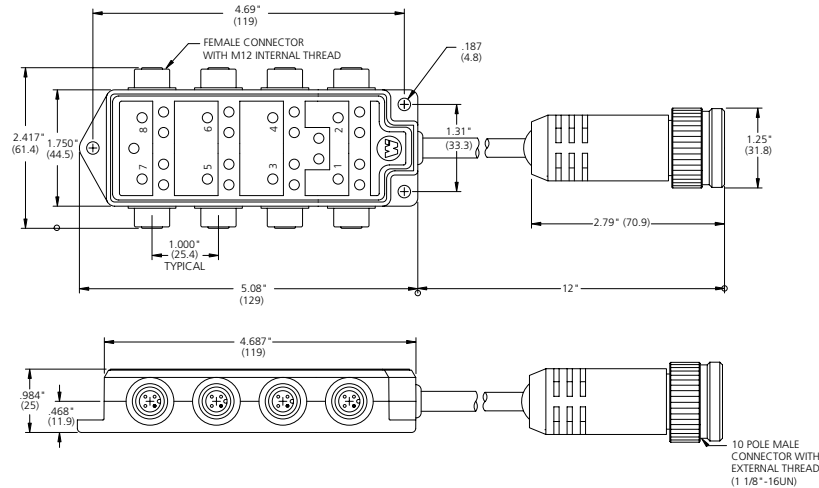


FIG 5

Side Mount, Single Keyway with Mini-Change® Molded with Home Run Connector

MPIS® Molded JXN Boxes

Micro-Change®

FEMALE/MALE DOUBLE-ENDED HOME RUN CABLE EXTENSION

4 PORT

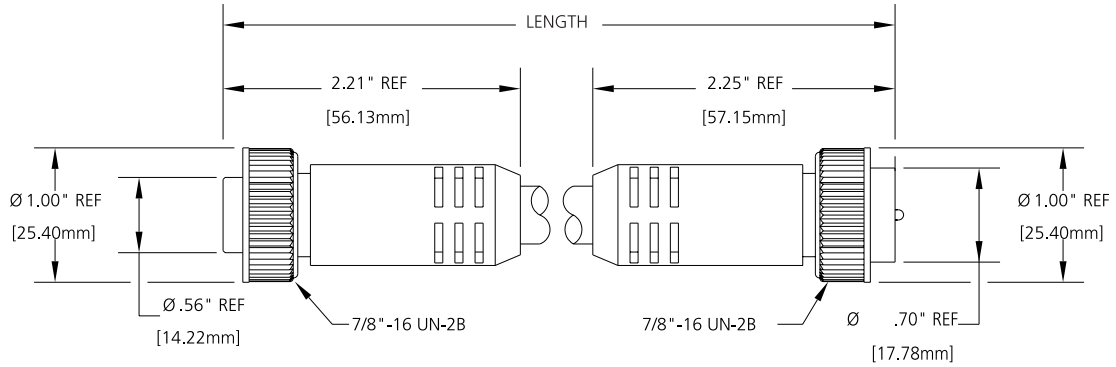


FIG 6

6 PORT

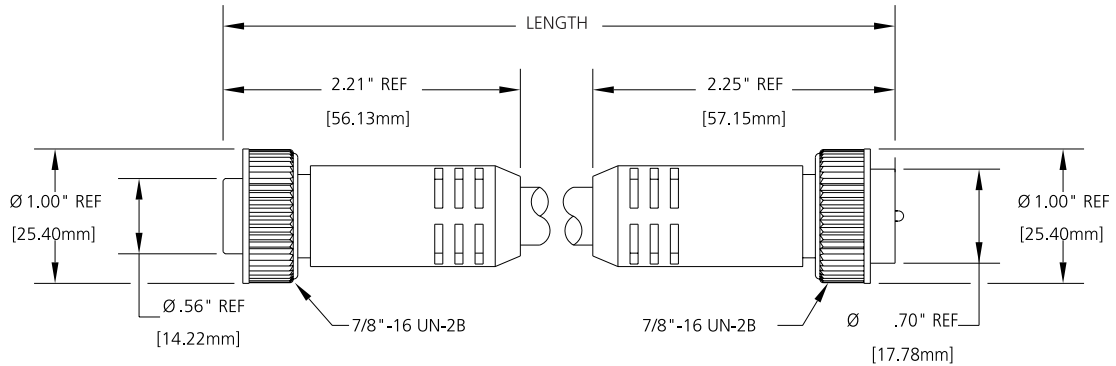


FIG 7

8 PORT

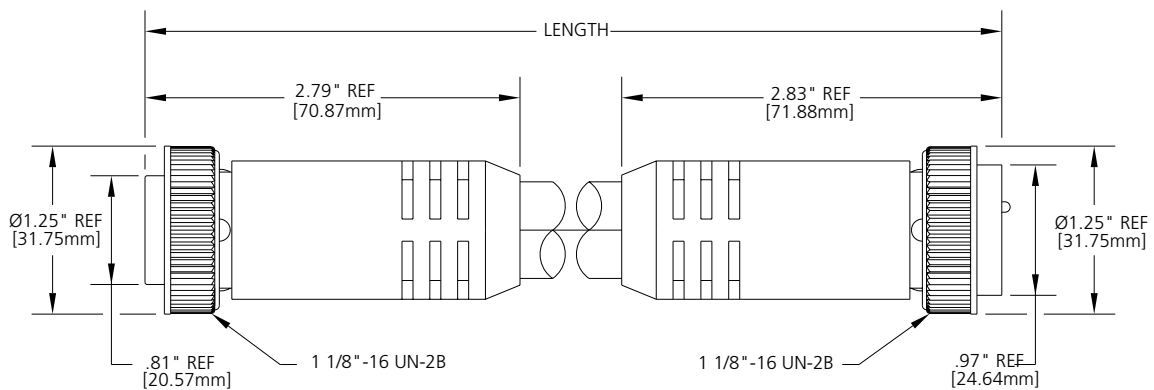


FIG 8

Standard Accessories - marking labels and (2) closure caps for each MPIS
* Other Accessories - see page 299 for other accessories



Side Mount, Single Keyway with Home Run Cable

Simplifies wiring installation, integrated PVC home run cable
Flexibility with 4, 6 and 8 port configurations
PNP and NPN versions for use with a variety of DC sensors

	4 Port	6 Port	8 Port
HOME RUN CABLE COLOR CODE	white- port #1 load green- port #2 load yellow- port #3 load gray- port #4 load blue- V- brown- V+	white- port #1 load green- port #2 load yellow- port #3 load gray- port #4 load pink- port #5 load red- port #6 load blue- V- brown- V+	white- port #1 load green- port #2 load yellow- port #3 load gray- port #4 load pink- port #5 load red- port #6 load black- port #7 load violet- port #8 load blue- V- brown- V+

FUNCTIONAL WIRING	MPIS SINGLE KEYWAY WITH 5 METERS LONG MOLDED HOME RUN CABLE – PVC #18 AWG					
	FIG		FIG		FIG	
PNP SCHEMATIC, FIG 1 	3	803P401	4	803P601	5	803P801
NPN SCHEMATIC, FIG 2 	3	803N401	4	803N601	5	803N801

* Use (3) pole male Micro-Change® M12 cordsets page 94 or female/male cordsets page 96 to connect to these MPIS ports

Specifications



MECHANICAL

INSERT: NYLON 6/6
 HOUSING: NYLON 6/6
 RECEPTACLE HOUSING: BLACK E-COAT
 ID LABEL: ABS
 HOME RUN CONNECTOR CABLING

YELLOW, PVC CABLE JACKET, (1) #18AWG AND EITHER (5) OR (7) #22 AWG CONTROL CABLES AND PVC CONDUCTOR INSULATION OVER 41 X #34 (#18 AWG) AND 26 X #36 (#22 AWG) COPPER STRANDING, UL LISTED STYLE 2661, CSA CERTIFIED 105°C, 300V
 0.29" (7.4mm)

OUTSIDE DIAMETER:

ELECTRICAL

VOLTAGE RATING: 10-30V DC
 AMPERAGE: 4A MAX PER PORT, 12A TOTAL PER MPIS UNIT
 INDICATING LIGHTS: GREEN LED-POWER, YELLOW LED-FUNCTION
 AVERAGE LED EXPECTANCY: 100,000 HOURS

ENVIRONMENTAL

PROTECTION: IP68, NEMA 6P
 AMBIENT OPERATING TEMPERATURE: -13° TO 194° F (-25° TO 90° C)

CERTIFICATIONS

UL: UL RECOGNIZED, FILE NO. E46237
 CSA: CSA CERTIFIED, FILE NO. LR6837

TYPICAL SCHEMATICS

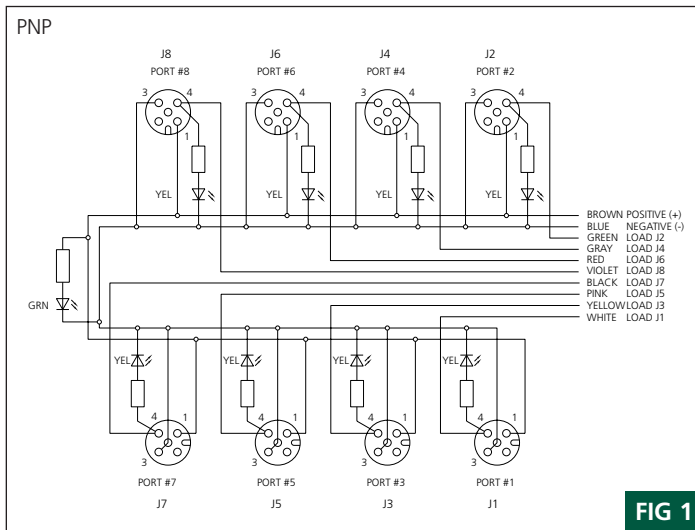


FIG 1

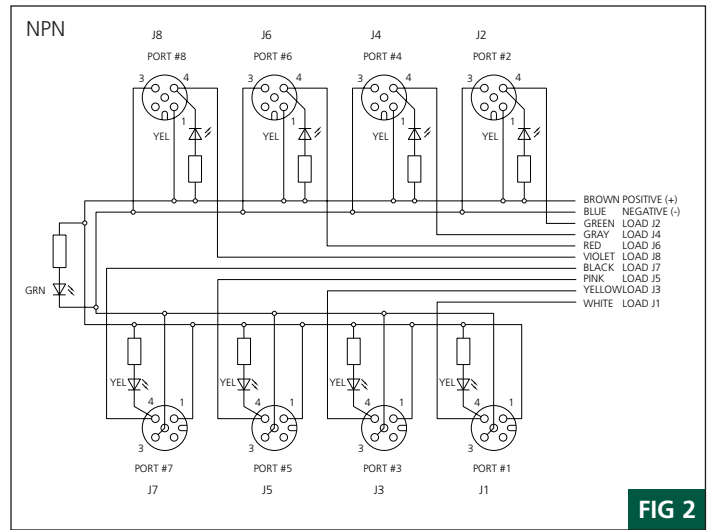


FIG 2

MECHANICALS

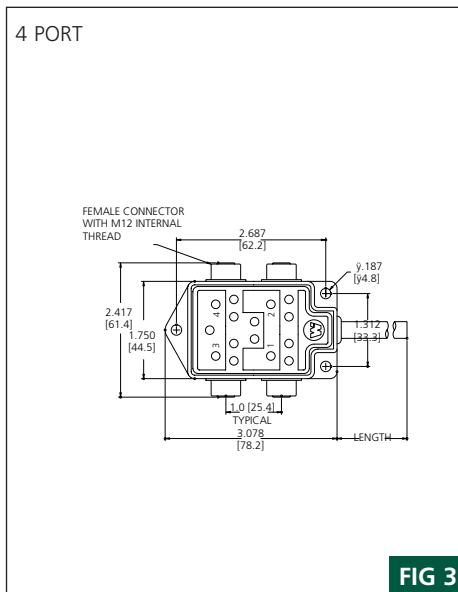


FIG 3

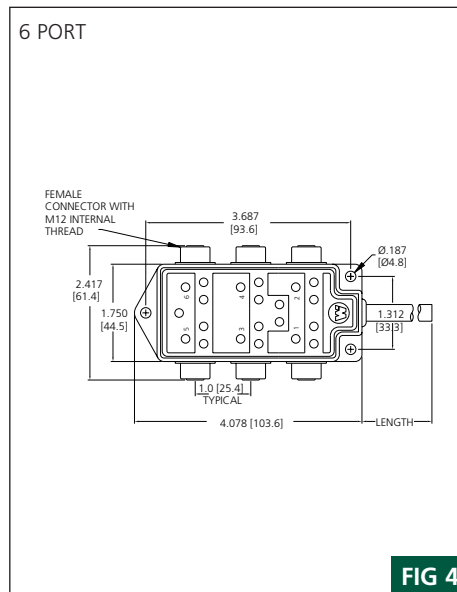


FIG 4

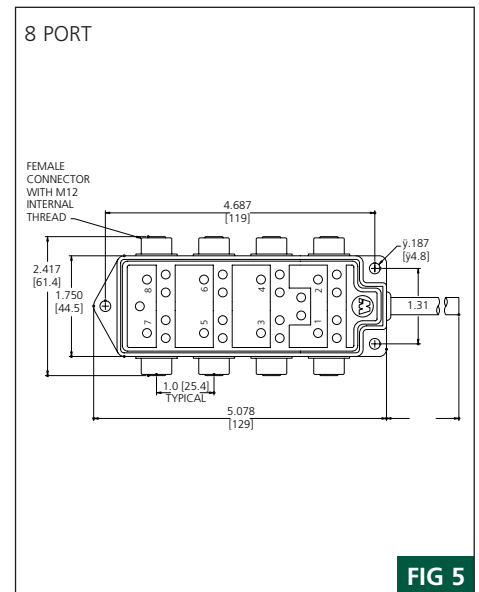


FIG 5



Side Mount, Dual Keyway Series Wiring with Home Run Connector

Connectorized home run connection for maximum flexibility
 Flexibility with 4 and 8 port configurations
 For use with a variety of AC sensors

	4 Port SCHEMATIC, FIG 1	8 Port SCHEMATIC, FIG 2
FUNCTIONAL WIRING DIAGRAM		
HOME RUN CONNECTOR PINOUTS	1- green -gnd 2- black- load (L2) 3- white- power (L1)	
HOME RUN CONNECTOR MALE FACE VIEW		

MPIS 3P SERIES WIRED WITH HOME RUN CONNECTORS			
	FIG		FIG
MPIS	3	702P403	4
			702P803

FEMALE SINGLE-ENDED HOME RUN CABLE			
	FIG		FIG
HOME RUN CABLE 6'	5	103000A01F060	5
HOME RUN CABLE 12'	5	103000A01F120	5
HOME RUN CABLE 20'	5	103000A01F200	5
FEMALE/MALE DOUBLE-ENDED HOME RUN CABLE EXTENSION			
HOME RUN EXTENSION 6'	6	113020A01F060	6
HOME RUN EXTENSION 12'	6	113020A01F120	6
HOME RUN EXTENSION 20'	6	113020A01F200	6
FEMALE RECEPTACLE TO ACCEPT HOME RUN CABLE EXTENSION WITH 30CM (12") LEADS			
FEMALE RECEPTACLE	7	1R3004A20A120	7
			1R3004A2A120

* Use 3P male Micro Change® dual keyway cordsets page 120 or female cordset page 122 to connect to these MPIS ports
 * For unused input ports use jumper plugs P/N 70014 found on page 299

Specifications



MECHANICAL
 INSERT : NYLON 6/6
 HOUSING : PBT
 RECEPTACLE HOUSING : ZINC DIE CAST WITH BLACK EPOXY COAT
 ID LABEL: ABS

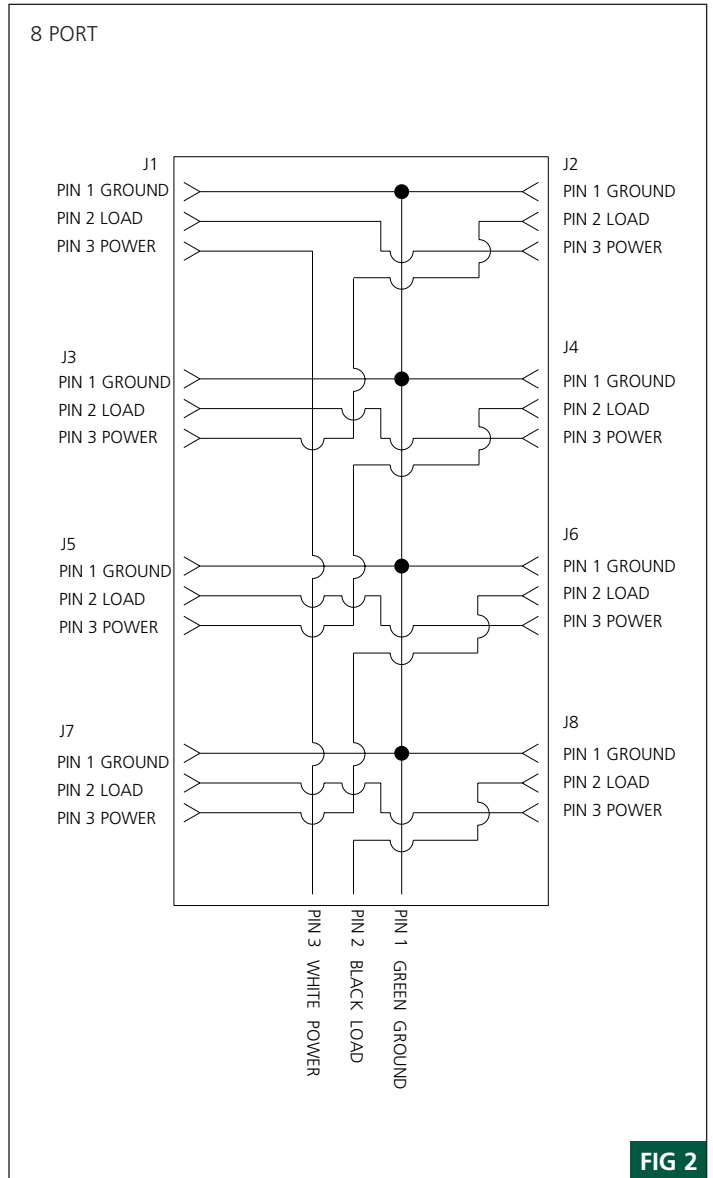
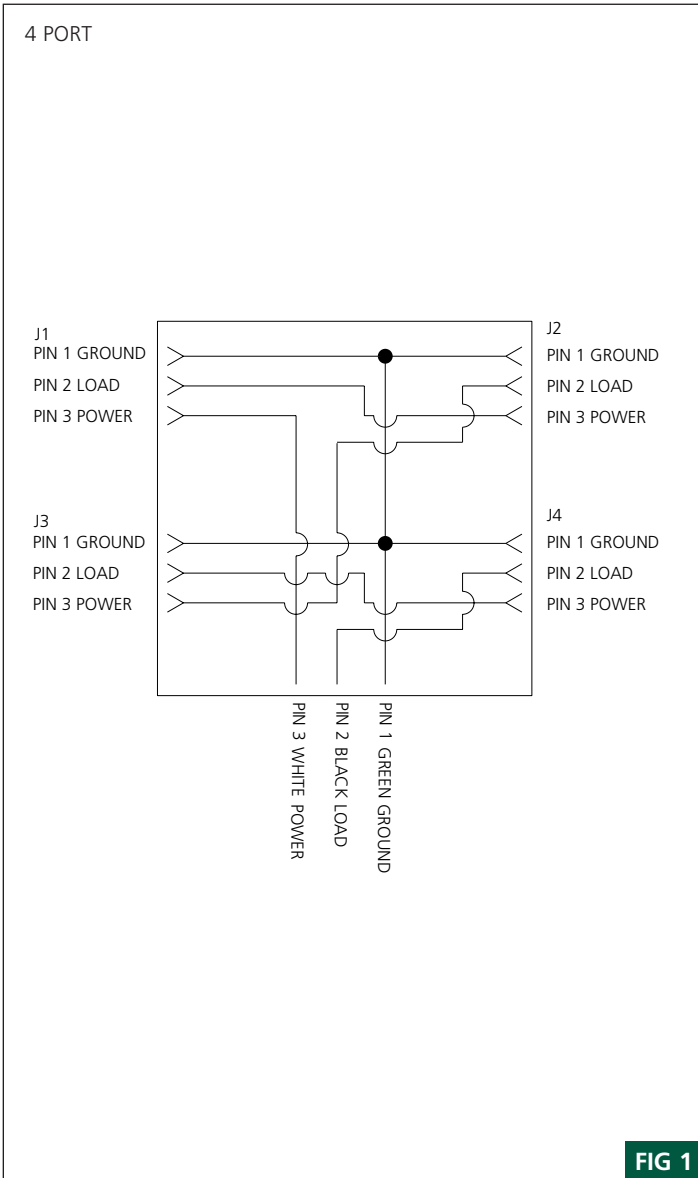
HOME RUN CONNECTOR CABLING
 YELLOW, STOOV PVC CABLE JACKET, #16 AWG AND PVC CONDUCTOR INSULATION OVER 65 X #34 COPPER STRANDING, UL 105°C CERTIFIED 600 V 0.41" (10.4mm)

OUTSIDE DIAMETER:
ELECTRICAL
 VOLTAGE RATING: 120V AC
 AMPERAGE: 4A PER PORT, 12A TOTAL PER MPIS UNIT

ENVIRONMENTAL
 PROTECTION: IP68, NEMA 6P
 AMBIENT OPERATING TEMPERATURE: -13° TO 194° F (-25° TO 90° C)

CERTIFICATIONS
 UL: UL RECOGNIZED, FILE NO. E46237
 CSA: CSA CERTIFIED, FILE NO. LR6837

SCHEMATICS



Side Mount, Dual Keyway Series Wiring with Home Run Connector

MECHANICALS

4 PORT

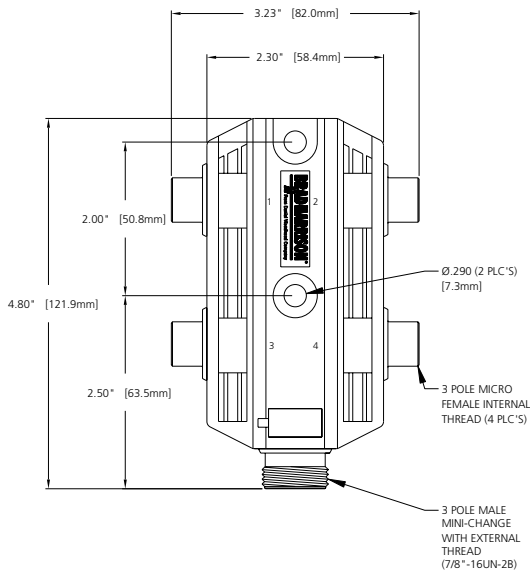


FIG 3

8 PORT

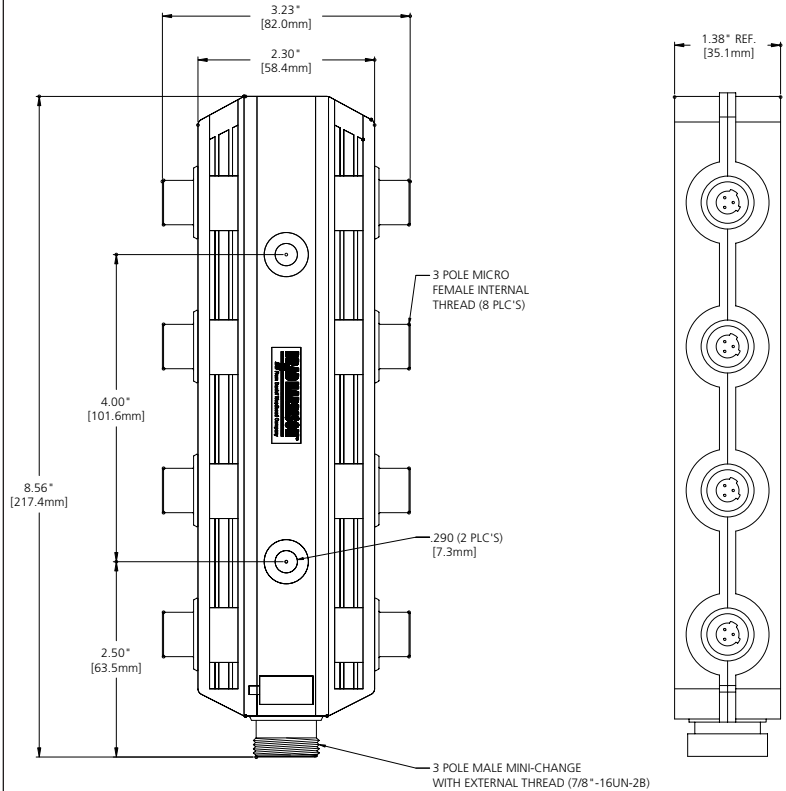


FIG 4

Side Mount, Dual Keyway Series Wiring with Home Run Connector

FEMALE SINGLE-ENDED HOME RUN CABLES

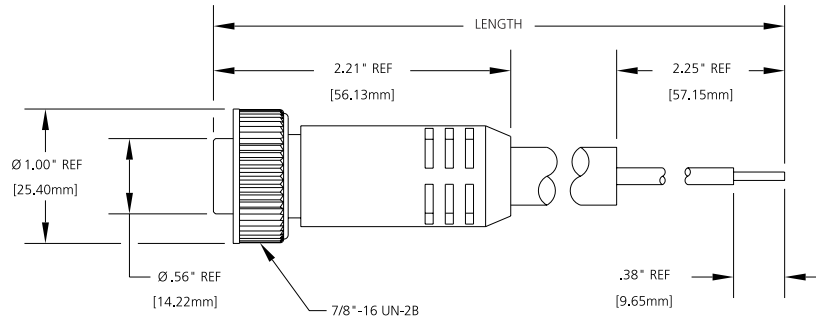


FIG 5

FEMALE/MALE DOUBLE-ENDED HOME RUN CABLE EXTENSION

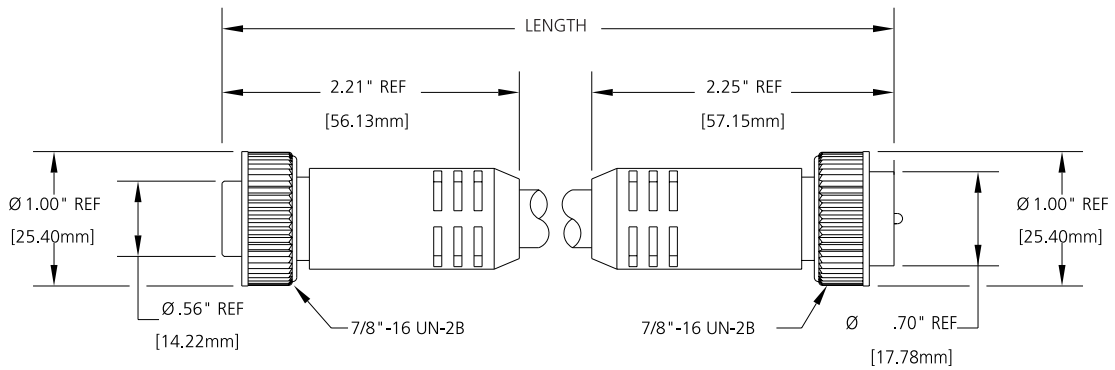


FIG 6

FEMALE RECEPTACLE TO ACCEPT HOME RUN CABLE EXTENSION

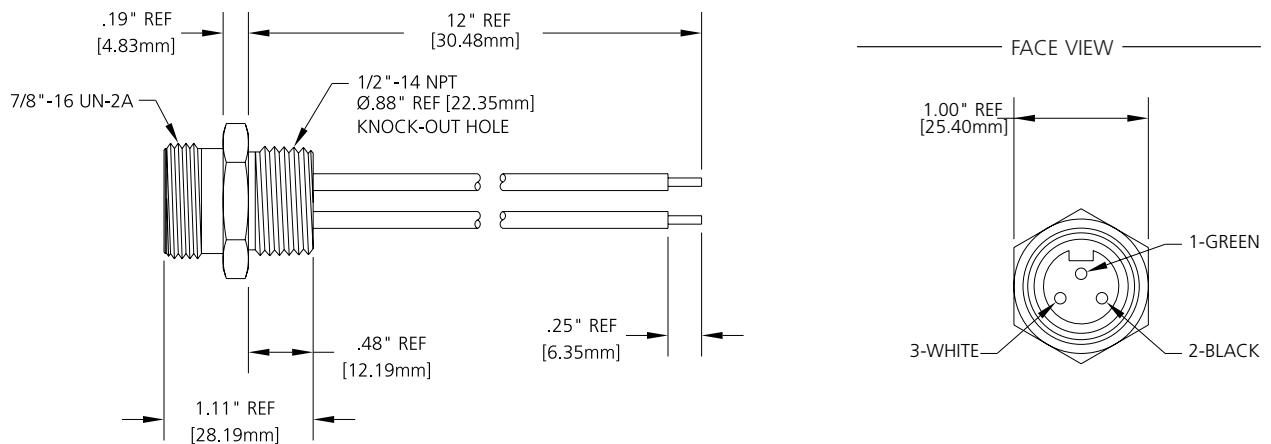


FIG 7



Side Mount, Dual Keyway

Parallel Wiring-LED with Home Run Connector

Connectorized home run connection for maximum flexibility
 Flexibility with 4, 6 and 8 port configurations
 For use with a variety of AC sensors

	4 Port SCHEMATIC, FIG 1	6 Port SCHEMATIC, FIG 2	8 Port SCHEMATIC, FIG 3
FUNCTIONAL WIRING DIAGRAM			
HOME RUN CONNECTOR PINOUTS	1-LED return (L2) 2-port #3 load 3-common (L1) 4-port #1 load	5-port #2 load 6-port #4 load 7-gnd	1-port #2 load 2-port #4 load 3-port #6 load 4-LED return (L2) 5-common (L1)
HOME RUN CONNECTOR FACE VIEW			

MPIS SINGLE KEYWAY, PARALLEL-WIRED-LED WITH HOME RUN CONNECTOR						
	FIG		FIG		FIG	
MPIS	4	712P401	5	712P601	6	712P801

FEMALE 90° SINGLE-ENDED HOME RUN CABLE						
	FIG		FIG		FIG	
HOME RUN CABLE 6'	7	207001A01F060	9	309001A01F060	9	302000A01F060
HOME RUN CABLE 12'	7	207001A01F120	9	309001A01F120	9	302000A01F120
HOME RUN CABLE 20'	7	207001A01F200	9	309001A01F200	9	302000A01F200

FEMALE 90°/MALE STRAIGHT DOUBLE-ENDED HOME RUN CABLE EXTENSION						
	FIG		FIG		FIG	
HOME RUN CABLE 6'	7	227021A01F060	12	339021A01F060	12	332021A01F060
HOME RUN CABLE 12'	7	227021A01F120	12	339021A01F120	12	332021A01F120
HOME RUN CABLE 20'	7	227021A01F200	12	339021A01F200	12	332021A01F200

FEMALE RECEPTACLE TO ACCEPT HOME RUN CABLE EXTENSIONS WITH 12" LEADS						
	FIG		FIG		FIG	
FEMALE RECEPTACLE	8	2R7004A20A120	10	3R9004A20A120	10	3R2004A20A120

* Use 3P male Micro-Change® Dual Keyway cordsets page 120 or female/male cordsets page 122 to connect to these MPIS ports

Specifications



MECHANICAL

INSERT: NYLON 6/6
 HOUSING: PBT
 RECEPTACLE HOUSING: ZINC DIE CAST WITH BLACK EPOXY COAT
 ID LABEL: ABS

HOME RUN CONNECTOR CABLING

YELLOW, PVC CABLE JACKET, #16/7,8 AND #12 AWG AND PVC CONDUCTOR INSULATION OVER 65 X #34 COPPER STRANDING , UL LISTED STOOV 105°C, CSA CERTIFIED ST, 600 V
 OUTSIDE DIAMETER:
 4 PORT 0.54" (13.7mm)
 6 PORT 0.61" (15.5mm)
 8 PORT 0.71" (18.4mm)

ELECTRICAL

VOLTAGE RATING: 120V AC +/- 15%
 AMPERAGE: 4A PER PORT, 12A TOTAL PER MPIS UNIT
 INDICATING LIGHTS: GREEN LED-POWER, YELLOW LED-FUNCTION
 AVERAGE LED EXPECTANCY: 100,000 HOURS

ENVIRONMENTAL

PROTECTION: IP68, NEMA 6P
 AMBIENT OPERATING TEMPERATURE: -13° TO 194° F (-25° TO 90° C)

CERTIFICATIONS

UL: UL RECOGNIZED, FILE NO. E46237
 CSA: CSA CERTIFIED, FILE NO. LR6837

SCHEMATICS

4 PORT

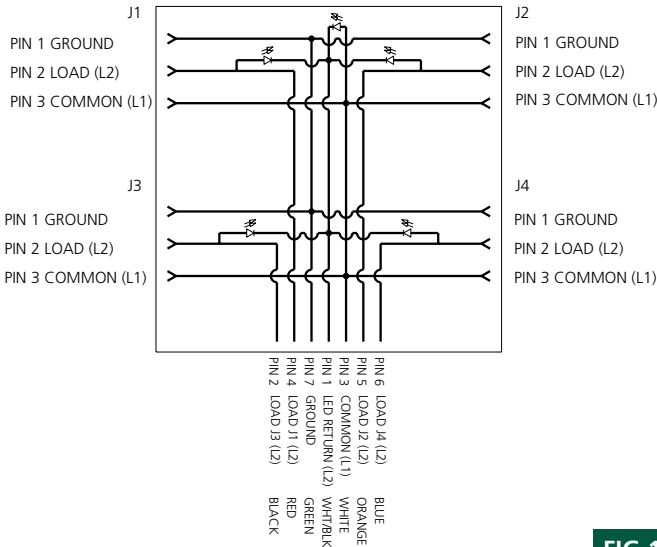


FIG 1

6 PORT

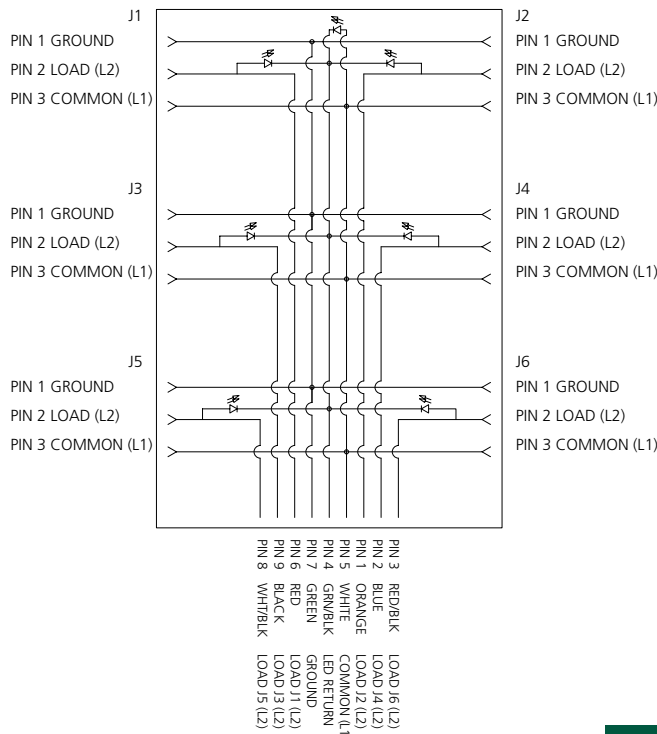


FIG 2

8 PORT

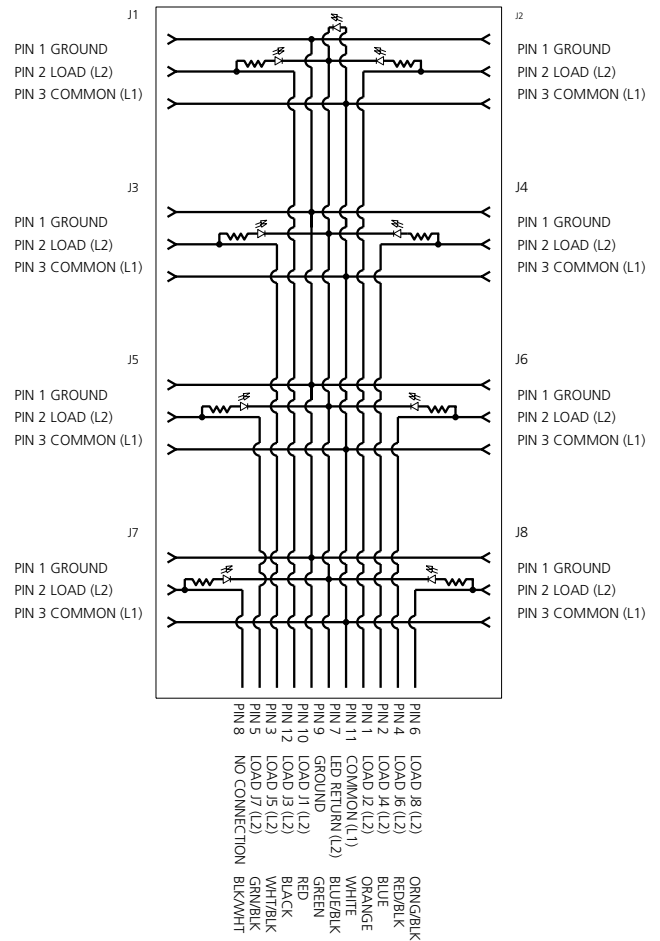


FIG 3

Side Mount, Dual Keyway

Parallel Wiring-LED with Home Run Connector

MECHANICALS

4 PORT

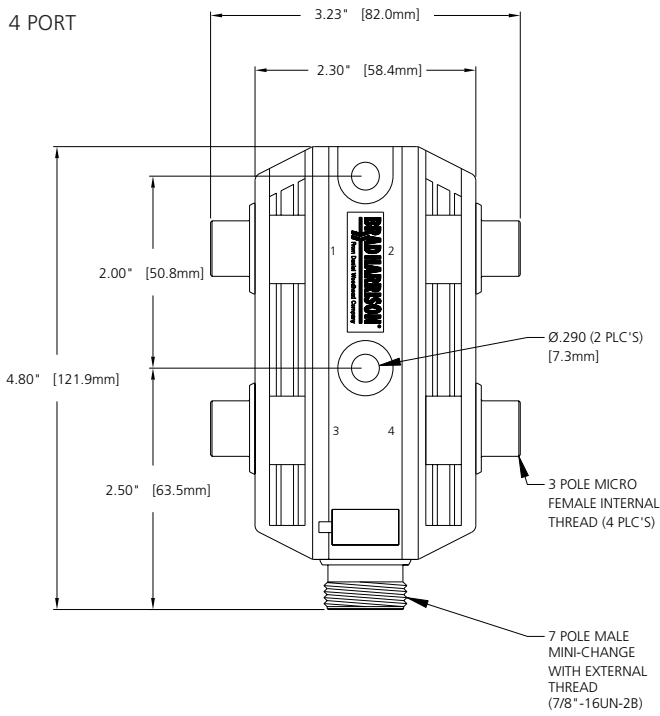


FIG 4

6 PORT

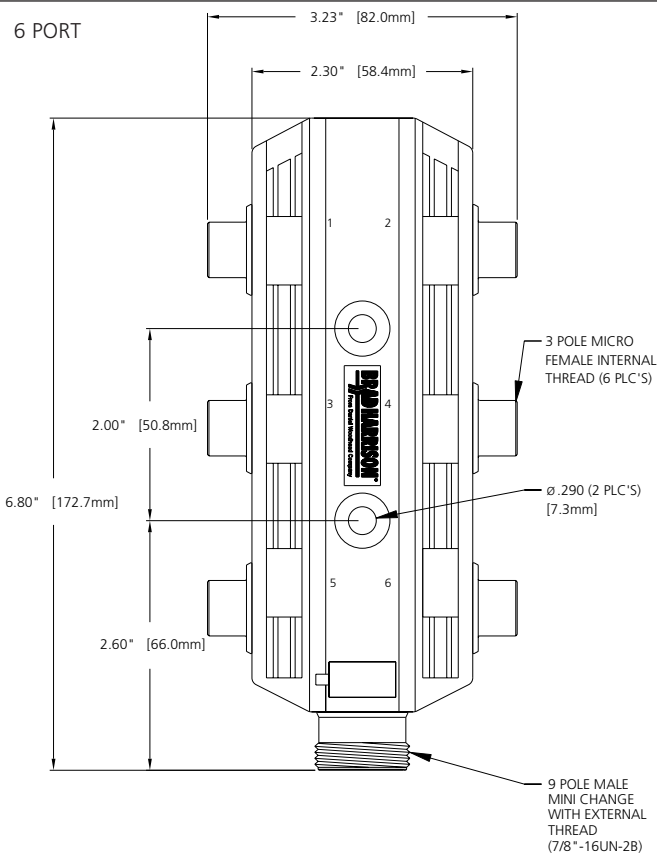


FIG 5

8 PORT

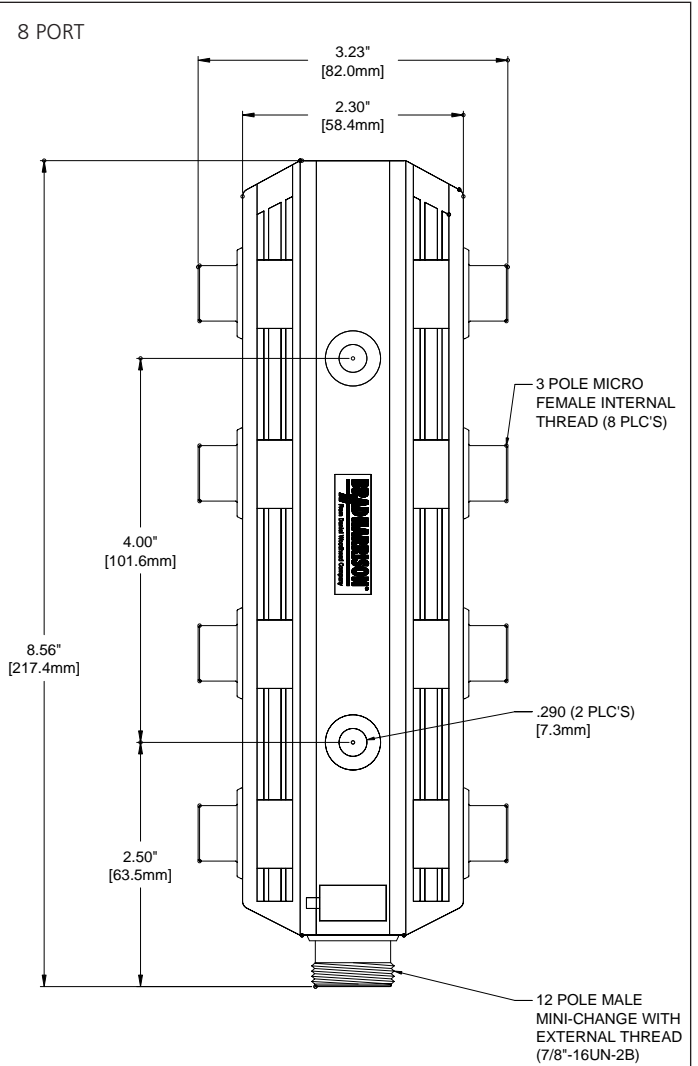


FIG 6

Note: For keyway orientation side view see page 288

Side Mount, Dual Keyway

Parallel Wiring-LED with Home Run Connector

HOME RUN CABLE

FEMALE 90° SINGLE-ENDED HOME RUN/CABLE - 4 PORT

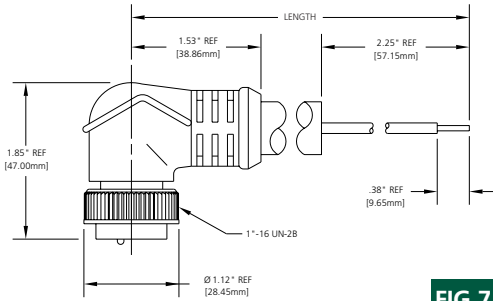


FIG 7

RECEPTACLE

HOME RUN FEMALE RECEPTACLE - 4PORT

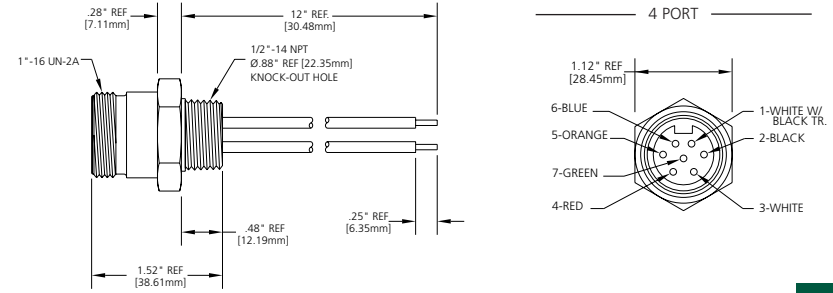


FIG 8

FEMALE 90° SINGLE-ENDED HOME RUN/CABLE - 6 AND 8 PORT

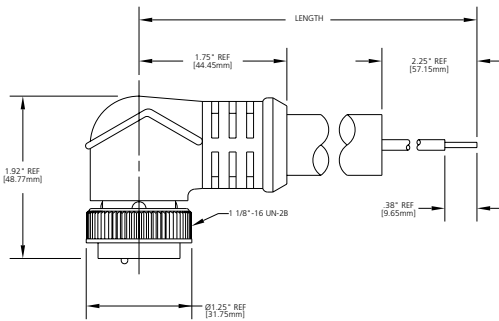


FIG 9

HOME RUN FEMALE RECEPTACLE - 6 AND 8 PORT

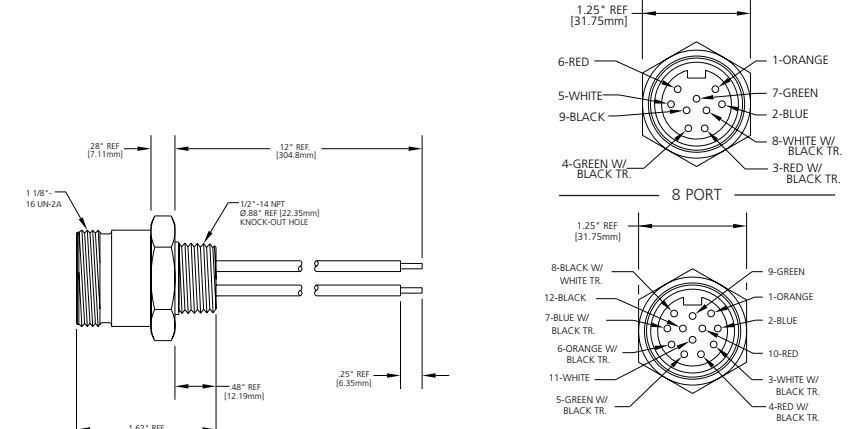


FIG 10

FEMALE 90°/MALE STRAIGHT HOME RUN CABLE EXTENSION - 4 PORT

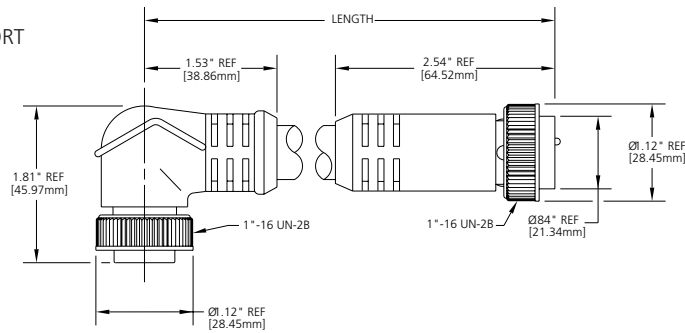


FIG 11

FEMALE 90°/MALE STRAIGHT HOME RUN CABLE EXTENSION - 6 AND 8 PORT

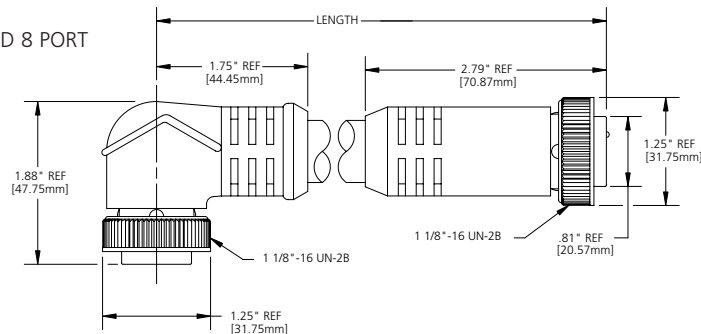


FIG 12



Side Mount, Dual Keyway Parallel Wiring with Home Run Connector

Connectorized home run cable connection for maximum flexibility
Flexibility with 4, 6 and 8 port configurations
For use with a variety of AC sensors

	4 Port SCHEMATIC, FIG 1	6 Port SCHEMATIC, FIG 2	8 Port SCHEMATIC, FIG 3
FUNCTIONAL WIRING DIAGRAM			
HOME RUN CONNECTOR PINOUTS	1- common (L1) 2- port #1 load 3- gnd 4- port #2 load 5- port #3 load 6- port #4 load	1- port #2 load 2- port #4 load 3- port #5 load 4- port #3 load 5- common (L1) 6- port #1 load 7- gnd 8- port #6 load	1- port #2 load 2- port #4 load 3- port #5 load 4- port #6 load 5- port #7 load 6- port #8 load 7- port #1 load 8- gnd 9- port #3 load 10- common (L2)
HOME RUN CONNECTOR MALE FACE VIEW			

MPIS PARALLEL WIRING SIDE MOUNT DUAL KEYWAY WITH HOME RUN CONNECTOR						
	FIG		FIG		FIG	
MPIS	4	702P401	5	702P601	6	702P801

FEMALE 90° SINGLE-ENDED HOME RUN CABLE						
	FIG		FIG		FIG	
HOME RUN CABLE 6'	7	106001A01F060	7	208001A01F060	9	301000A01F060
HOME RUN CABLE 12'	7	106001A01F120	7	208001A01F120	9	301000A01F120
HOME RUN CABLE 20'	7	106001A01F200	7	208001A01F200	9	301000A01F200

FEMALE 90°/MALE STRAIGHT DOUBLE-ENDED HOME RUN CABLE EXTENSION						
	FIG		FIG		FIG	
HOME RUN CABLE 6'	7	116020A01F060	9	228021A01F060	11	331020A01F060
HOME RUN CABLE 12'	7	116020A01F120	9	228021A01F120	11	331020A01F120
HOME RUN CABLE 20'	7	116020A01F200	9	228021A01F200	11	331020A01F200

FEMALE RECEPTACLE TO ACCEPT HOME RUN CABLE EXTENSIONS WITH 12" LEADS						
	FIG		FIG		FIG	
FEMALE RECEPTACLE	8	1R6004A20A120	8	2R8004A20A120	12	3R1004A20A120

* Use 3P male Micro-Change® Dual Keyway cordsets page 120 or female/male cordsets page 122 to connect to the MPIS ports

Specifications



MECHANICAL
 INSERT: NYLON 6/6
 HOUSING: PBT
 RECEPTACLE HOUSING: ZINC DIE CAST WITH BLACK EPOXY COAT
 ID LABEL: ABS
HOME RUN CONNECTOR
 YELLOW, STOOV PVC CABLE JACKET, #16 AWG/6,8 AND 10 CONDUCTOR AND PVC CONDUCTOR INSULATION OVER 65 X #34 COPPER STRANDING, UL LISTED STOOV 105°C, CSA CERTIFIED ST 105°C, 600 V
 OUTSIDE DIAMETER:
 4 PORT 0.54" (13.7mm)
 6 PORT 0.61" (15.6mm)
 8 PORT 0.66" (16.8mm)

ELECTRICAL
 VOLTAGE RATING: 120V AC
 AMPERAGE: 4A PER PORT, 12A TOTAL PER MPIS UNIT

ENVIRONMENTAL
 PROTECTION: IP68, NEMA 6P
 AMBIENT OPERATING TEMPERATURE: -13° TO 194° F (-25° TO 90° C)

CERTIFICATIONS
 UL: UL RECOGNIZED, FILE NO. E46237
 CSA: CSA CERTIFIED, FILE NO. LR6837

SCHEMATICS

4 PORT

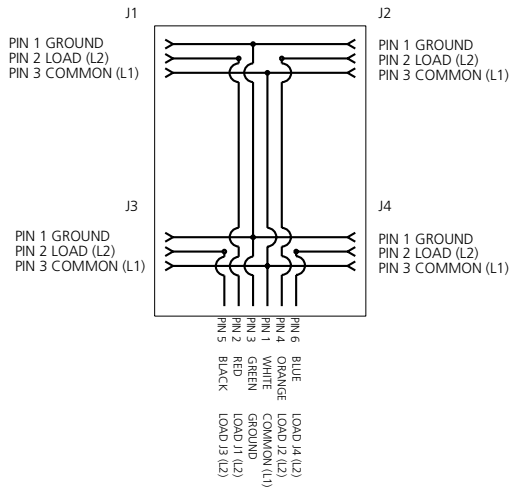


FIG 1

6 PORT

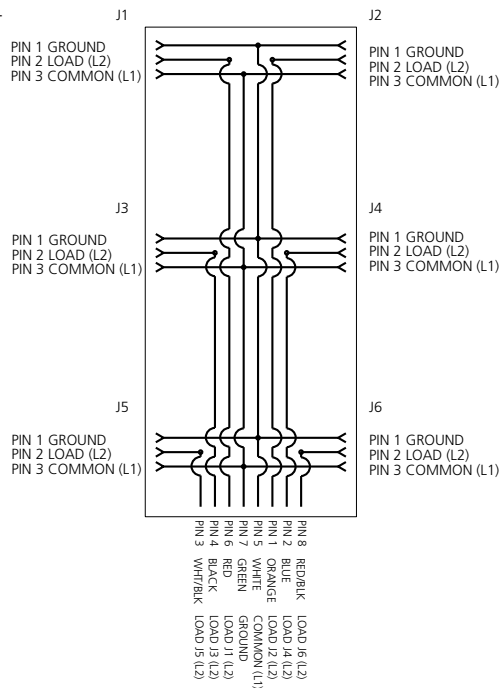


FIG 2

8 PORT

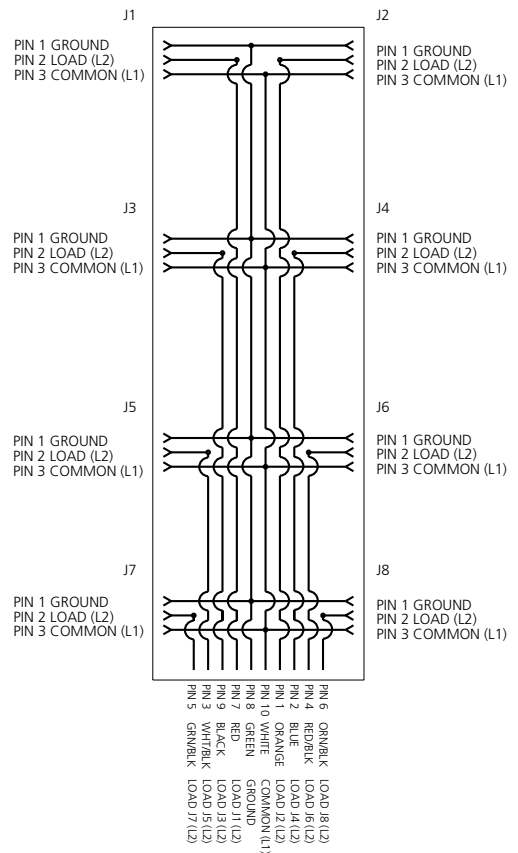
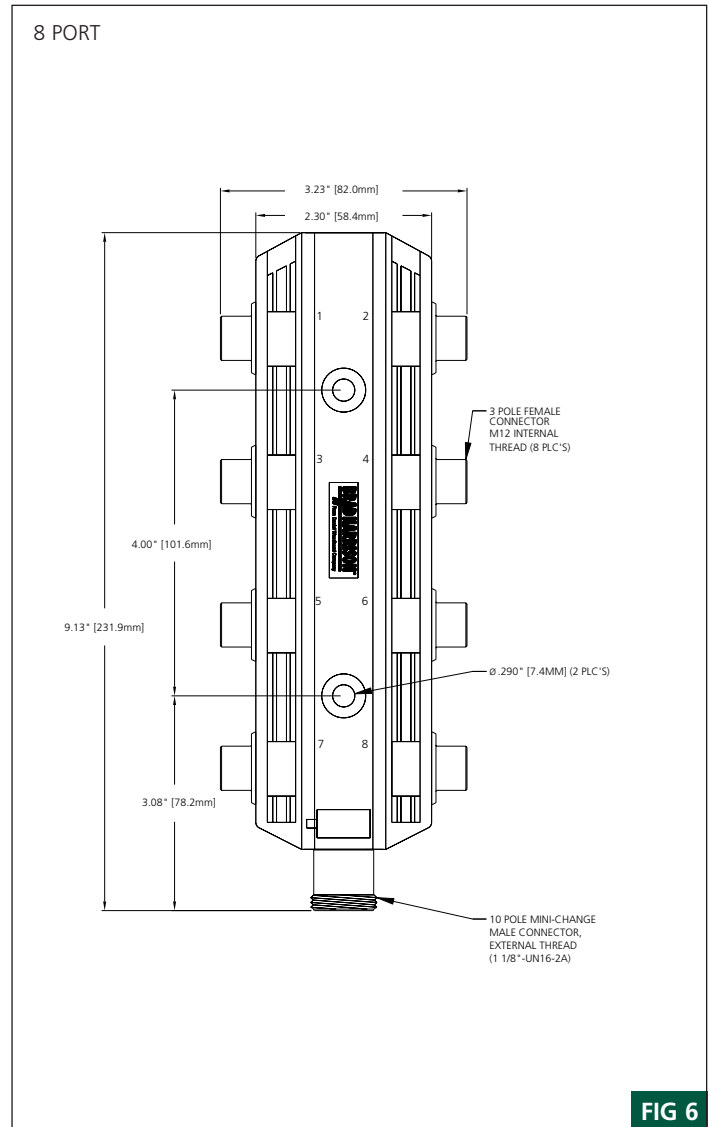
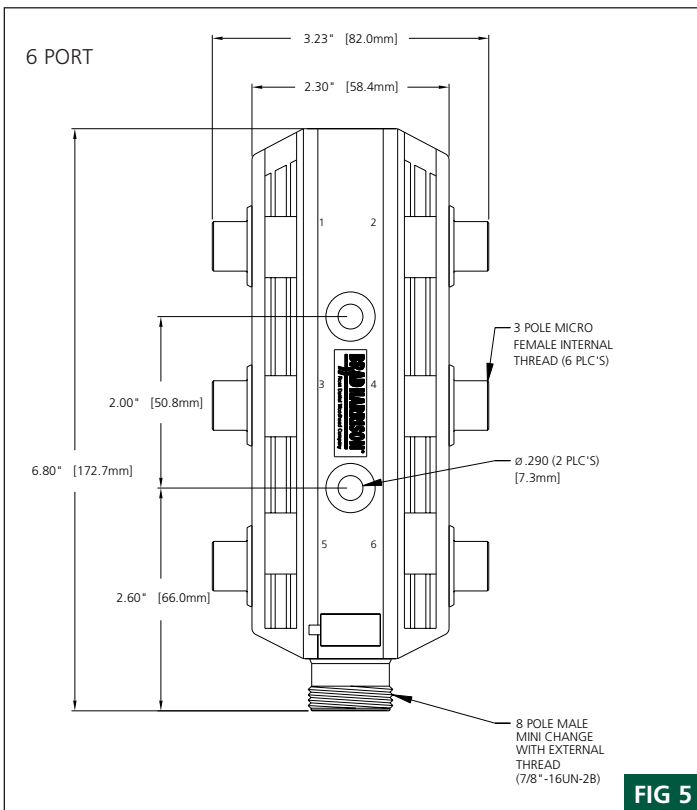
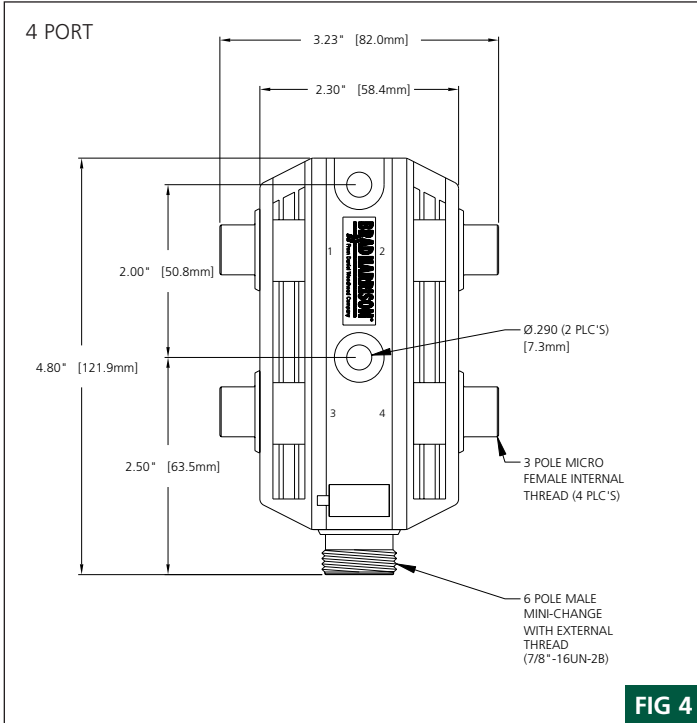


FIG 3

Side Mount, Dual Keyway Parallel Wiring with Home Run Connector

MECHANICALS



Note: Overall height - 1.38"

Side Mount, Dual Keyway Parallel Wiring with Home Run Connector

HOME RUN CABLE

FEMALE 90° SINGLE-ENDED HOME RUN CABLE
4 AND 6 PORT

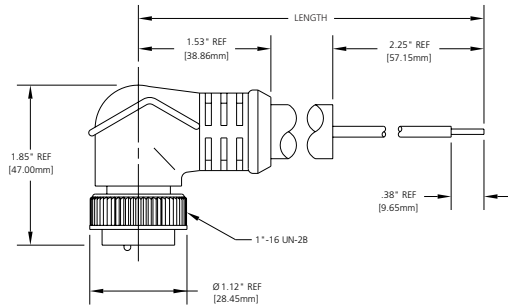


FIG 7

FEMALE RECEPTACLE FOR HOME RUN

FEMALE 90°/MALE STRAIGHT HOME RUN CABLE EXTENSION
8 PORT

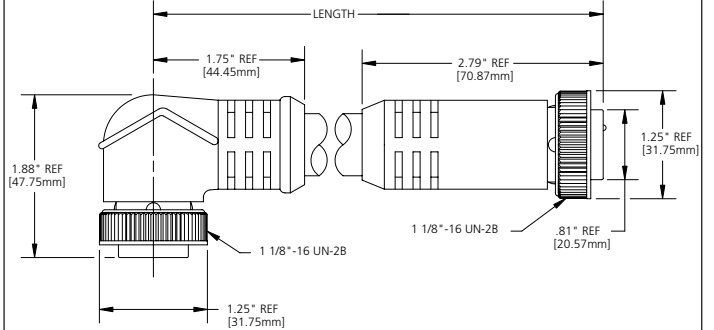


FIG 8

FEMALE 90° SINGLE-ENDED HOME RUN CABLE
8 PORT

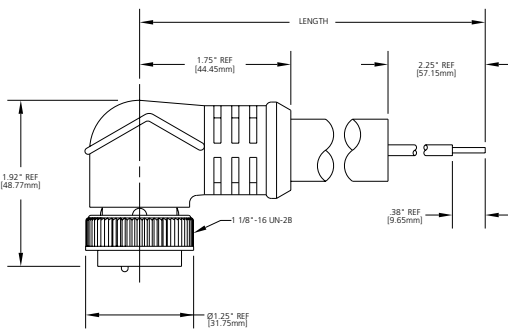


FIG 9

FEMALE RECEPTACLE CABLE EXTENSION
4 AND 6 PORT

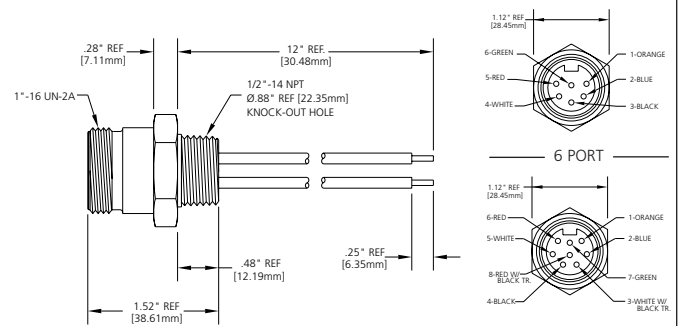


FIG 10

FEMALE 90°/MALE STRAIGHT HOME RUN CABLE EXTENSION
4 AND 6 PORT

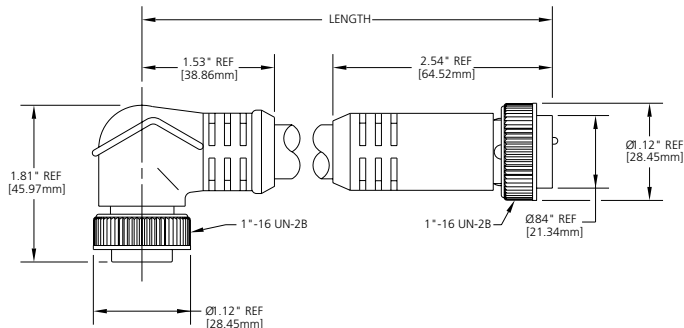


FIG 11

FEMALE RECEPTACLE
8 PORT

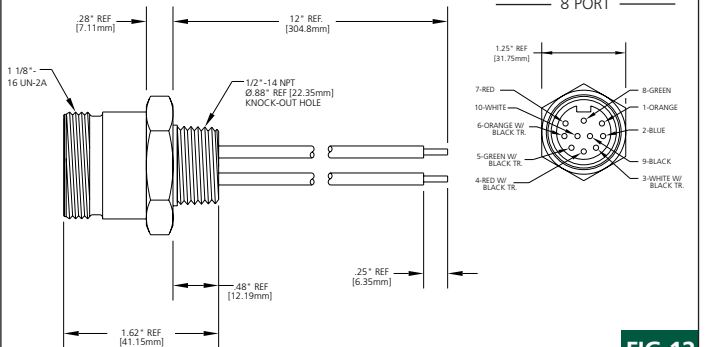


FIG 12



Mini-Change® Multi-port Accessories

For Use with Mini-Change Multiport Products

ACCESSORIES - MINI-CHANGE MULTI-PORTS

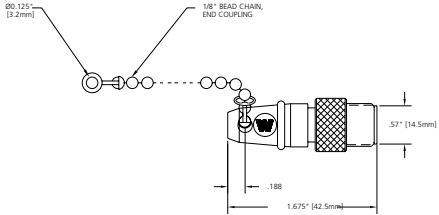
SHORTING PLUG		PART NUMBER			
Used For Series-Wired Mini-Change Multi-ports Shorts Pins #2 and #3 Molded PVC Construction				40936	
MARKING LABELS		PART NUMBER			
Qty (6) Labels On Single Plastic Sprue		70-0051			
CLOSURE CAPS		POLE COUNT		PART NUMBER	
Mates to female receptacles and MPIS female ports		2-6 Pole		65-0086	
		7-8 Pole		65-0103	
		9-12 Pole		65-0105	
2-6 Pole Closure Cap 		7-8 Pole Closure Cap 		9-12 Pole Closure Cap 	
FIELD ATTACHABLE CONNECTOR		POLE	MALE	POLE	FEMALE
Straight Field-Wired Connectors, Screw Terminals		3	1A3002-34	3	1A3000-34
		5	1A5002-34	5	1A5000-34

*See Page 86 For Complete Listing of Field Attachable Connectors

Micro-Change® Multi-port Accessories

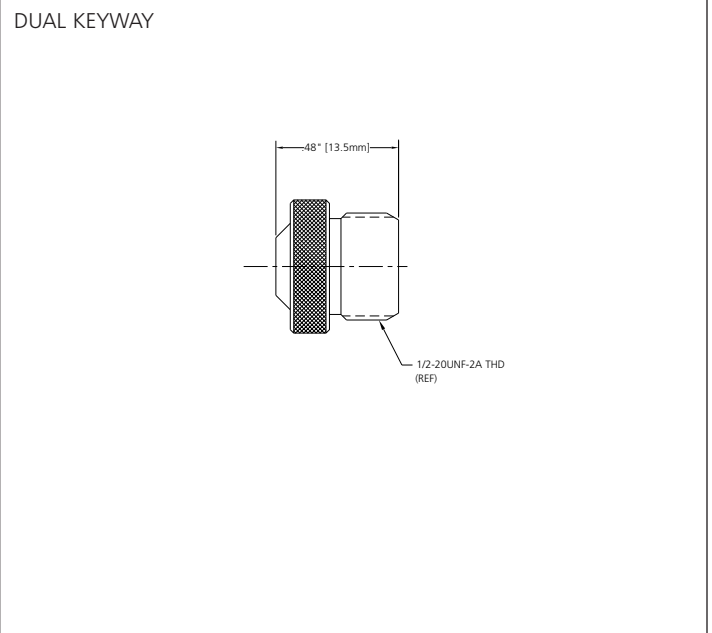
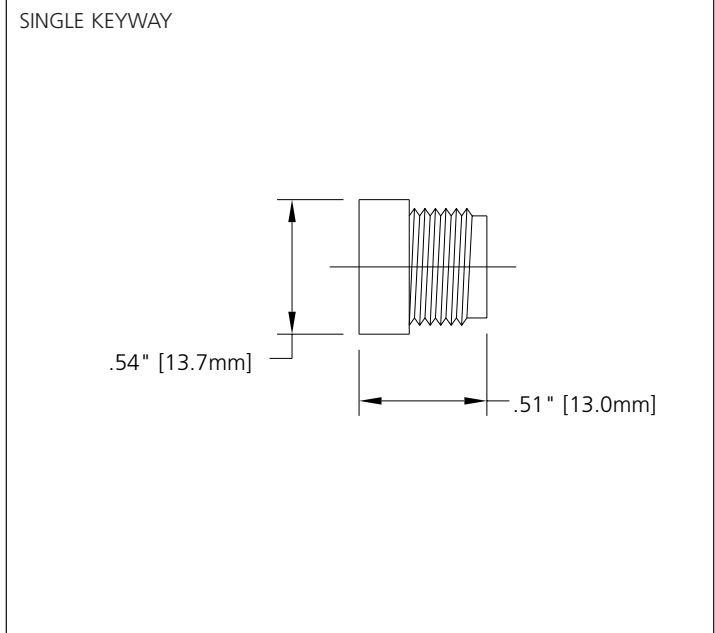
For Use with Micro-Change Multiport Products

ACCESSORIES - MICRO-CHANGE MULTI-PORTS

SHORTING PLUG		PART NUMBER
Shorting Plug Used For Series-Wired Dual Keyway Micro-Change Multi-ports Shorts Pins #2 and #3 Molded PVC Construction		70014

MARKING LABELS		PART NUMBER
Qty (6) Labels On Single Plastic Sprue		70-0051

CLOSURE CAPS	DESCRIPTION	PART NUMBER
Mates to MPIS Female Ports	Closure Cap, Single Keyway	80013
	Closure Cap, Dual Keyway	70015



FIELD ATTACHABLE CONNECTOR	DESCRIPTION	PART NUMBER
Straight, Field-Wired Connectors, Screw Terminals	3 Pole Dual Keyway	7A3006-31
	4 Pole Single Keyway	8A4006-31
	5 Pole Single Keyway	8A5006-31

*See page 112 or 132 For Complete Listing of Micro-Change Field Attachable Connectors



Splitters

- Combines (2) sensors into (1) input cable
- Connects directly to dual input DC Micro-Change MPIS ports
- Variety of configurations for maximum system flexibility

NEW SPLITTERS				
<p>Splitters - combines (2) input signals into (1) cable. These tough body, abrasioned oil-resistant molded splitters are offered in a variety of options for maximum flexibility. Used primarily on dual input DC Micro-Change MPIS units.</p>		<p>Female Face View (2X) Male Face View (1X) Schematic</p>		
<p>Compact, molded splitter connects directly to MPIS port to (2) sensors. Used on all dual input Multi-ports accept</p>		<p>YELLOW MOLDED 1 PC SPLITTER, 1X MALE MICRO, 2X FEMALE MICRO</p>		
<p>Molded splitter with variable length input PVC cables. Connects (2) sensors directly to MPIS port. Can be used with all dual input Multi-ports</p>			<p>SPLITTER 1X MALE MOLDED BODY, 2X FEMALE MICRO-CHANGE FLEXIBLE LENGTH CONNECTORS*</p>	
		<p>FEMALE CABLE LENGTH</p>	<p>PART NUMBER</p>	
		2	884A30A05M020	
		5	884A030A05M050	
		10	884A030A05M100	
<p>Molded splitter with variable length cable on both male and female connectors. Can be used with all dual input Multi-ports.</p>		<p>SPLITTER 1X MALE MICRO-CHANGE FLEXIBLE LENGTH CONNECTOR, 2X FEMALE MICRO-CHANGE FLEXIBLE LENGTH CONNECTORS*</p>		
		CABLE LENGTH MALE	CABLE LENGTH FEMALE	PART NUMBER
		3	2	884F30A09M3M2
		8	2	884F30A09M8M2

*Other lengths available upon request – consult factory.

Nano-Change® Multi-port Accessories

For Use with Nano-Change Multiport products

ACCESSORIES - NANO-CHANGE MULTI-PORTS		
CLOSURE CAPS	<p>.375" [9.5mm]</p>	PART NUMBER
Mates to Female MPIS ports		AG 15042
MARKETING LABELS		PART NUMBER
Qty (22) Labels On Single Plastic Sprue		70014
FIELD ATTACHABLE CONNECTOR	DESCRIPTION	PART NUMBER
Field-wired Connectors, Solder Termination	3 Pole Straight	N03MA03124
	3 Pole 90°	N03MA04124

*see Page 112 For Complete Listing of Field Attachable Connectors



Top Mount, Connector With Integral Home Run Connector

Simplifies wiring installation – integral home run connector
 Allows for top or side entry of threaded 3P male cordsets connecting to ports
 For use with 3-wire PNP sensors or 24V DC actuators

	4 Port SCHEMATIC, FIG 1	6 Port SCHEMATIC, FIG 2	8 Port SCHEMATIC, FIG 3	10 Port SCHEMATIC, FIG 4
FUNCTIONAL WIRING DIAGRAM				
M16 HOME RUN CONNECTOR PINOUTS	a- V- c- port #2 load l- V+ m- V- n- port #3 load o- port #4 load r- port #1 load u- V+	a- V- c- port #2 load e- port #5 load l- V+ m- V- n- port #3 load o- port #4 load p- port #6 load r- port #1 load u- V+	a- V- c- port #2 load e- port #5 load g- port #7 load l- V+ m- V- n- port #3 load o- port #4 load p- port #6 load r- port #1 load s- port #8 load u- V+	a- V- c- port #2 load e- port #5 load g- port #7 load j- port #9 load l- V+ m- V- n- port #3 load o- port #4 load p- port #6 load r- port #1 load s- port #8 load t- port #10 load u- V+
HOME RUN CONNECTOR MALE FACE VIEW				

MPIS 1 SIGNAL/PORT WITH M16 X 0.75 MALE HOME RUN CONNECTOR, TOP ENTRY							
FIG		FIG		FIG		FIG	
5	BNY401P-FBC	6	BNY601P-FBC	7	BNY801P-FBC	8	BNYA01P-FBC
MATING FEMALE 5 METER HOME RUN CABLES, STRAIGHT CONNECTIONS PUR CABLE JACKET							
9	L04300M78M050	10	L04200M78M050	11	L04100M78M050	12	L04A00M78M050

* Use 3P male M8 cordset or female-male extensions with threaded coupling pages 170-175 to connect to these MPIS ports

CATALOG OPTIONS

Use the following chart to modify the female home run cable's specifications

L04300M78M050

NO. OF PORTS

4 PORTS	3
6 PORTS	2
8 PORTS	1
10 PORTS	A

CONNECTOR TYPE

STRAIGHT-IN	0
RIGHT ANGLE	1

CABLE LENGTH

5 METERS	050
10 METERS	100

Specifications



MECHANICAL
 INSERT: THERMOPLASTIC POLYESTER
 HOUSING: PBT
 RECEPTACLE HOUSING: NICKEL-PLATED BRASS
 ID LABEL: ABS
 O-RING: VITON

HOME RUN CONNECTOR CABLING

M16 14 POLE CONNECTOR, METAL SHELL

CABLE JACKET: BLACK PUR/PVC COMPOSITE, BLACK PUR

4 PORT	6 PORT	8 PORT	10 PORT
V(+) AND V(-): 4 X 0.34 mm ²	2 x 0.75 mm ² 6 x 0.34 mm ²	2 x 0.75 mm ² 8 x 0.34 mm ²	2 x 0.75 mm ² 8 x 0.34 mm ² OUTER

STRANDING

V(+) AND V(-): 42 X 0.1 mm	85 x 0.1 mm	95 x 0.1 mm	95 x 0.1 mm
CONTROL: DIAMETER: PUR: 0.28"(7mm)	42 x 0.1 mm	42 x 0.1 mm	42 x 0.1 mm

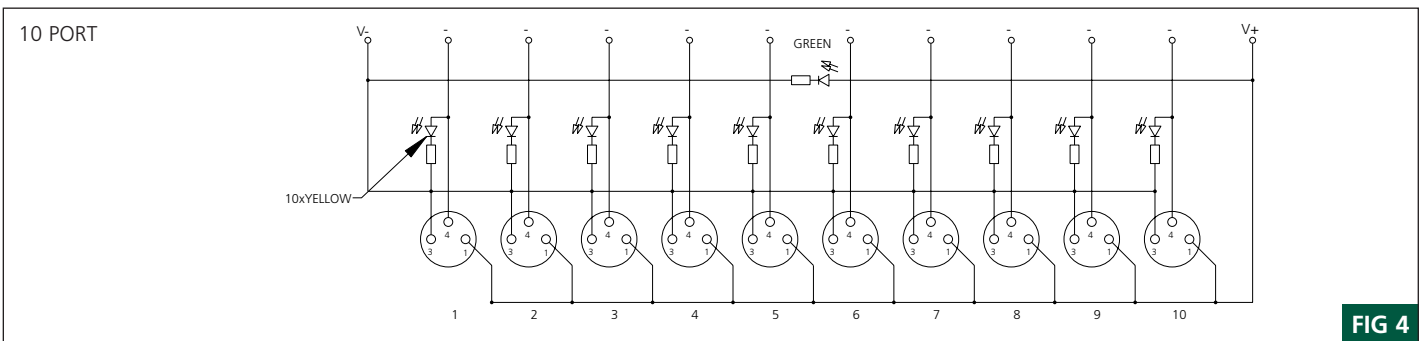
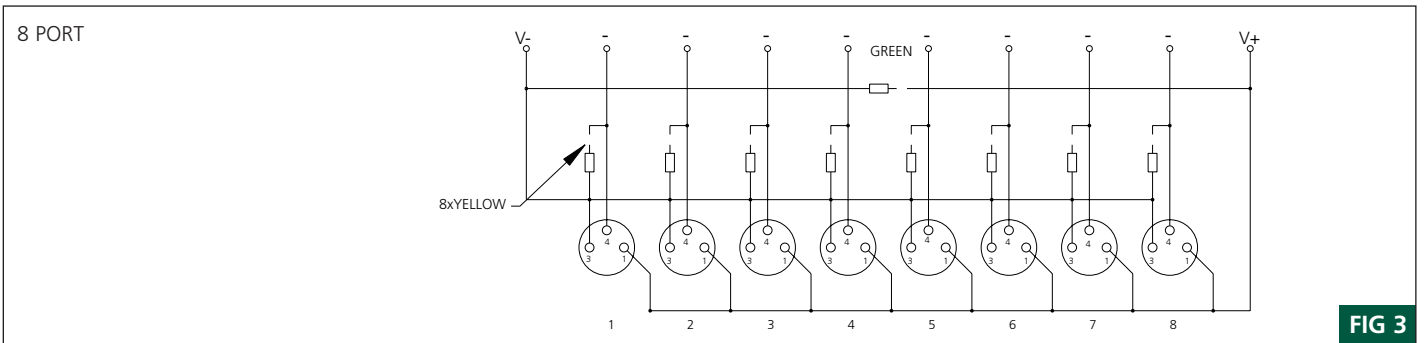
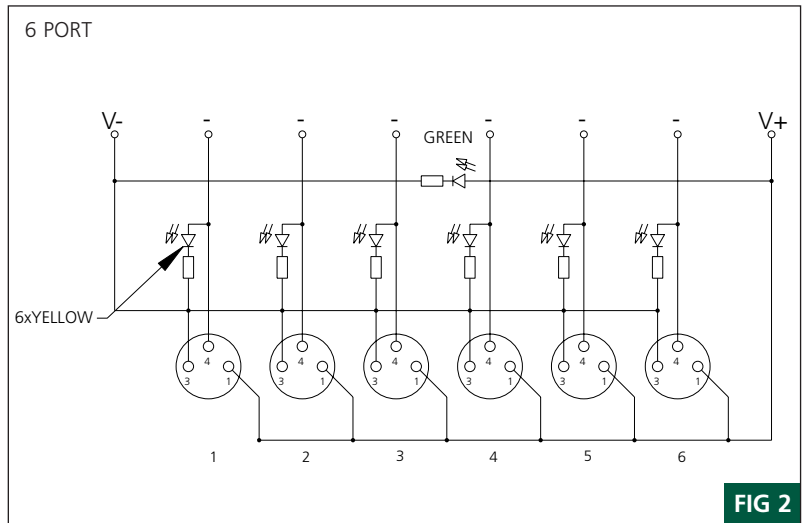
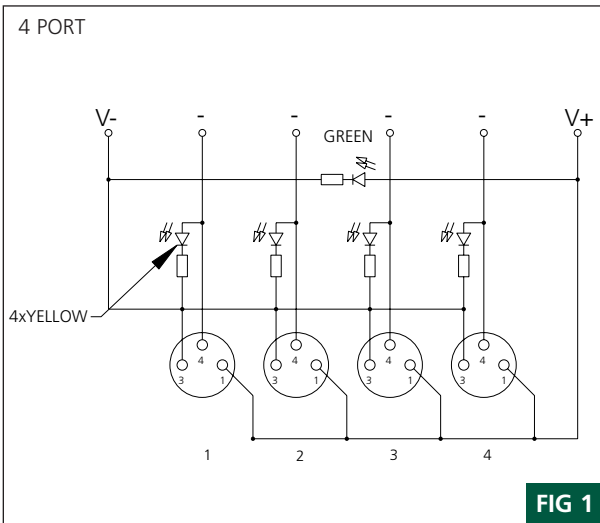
ELECTRICAL

VOLTAGE RATING: 10-30VDC
 AMPERAGE: 2A MAX/PORT; 6A TOTAL PER MPIS UNIT
 INDICATING LIGHTS: GREEN LED-POWER; YELLOW LED-FUNCTION
 AVERAGE LED LIFE: 100,000 HOURS

ENVIRONMENTAL

PROTECTION: IP68
 AMBIENT OPERATING TEMPERATURE: -13° TO 194° F (-25° TO 90° C)

SCHEMATICS



Top Mount, Connector With Integral Home Run Connector

MPIS MECHANICALS

4 PORT

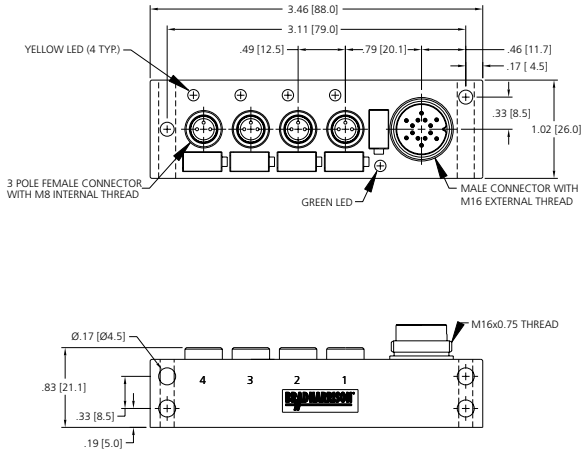


FIG 5

6 PORT

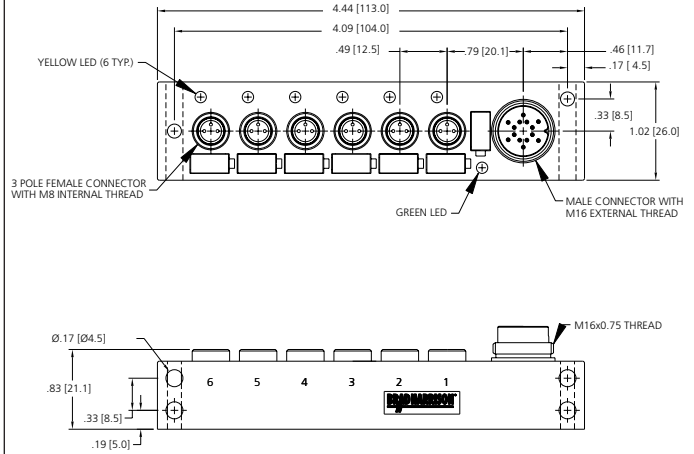


FIG 6

8 PORT

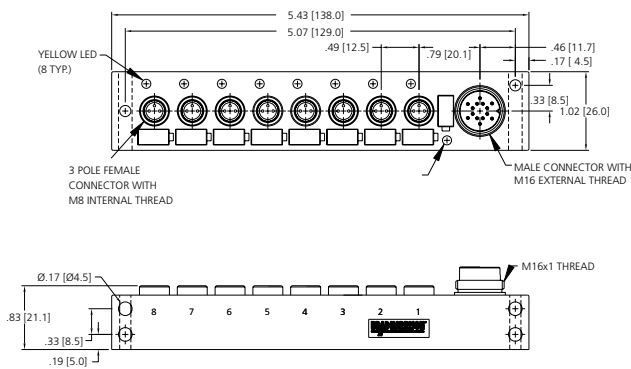


FIG 7

10 PORT

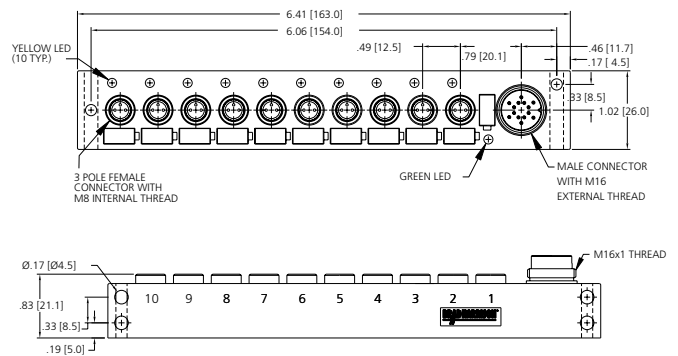


FIG 8

* Housing height 0.71" (18.0mm), 1.07" (27.2mm) from bottom of Multi-port to top of home run connector

Top Mount, Connector With Integral Home Run Connector

CONTROL CABLE MECHANICALS

4 PORT

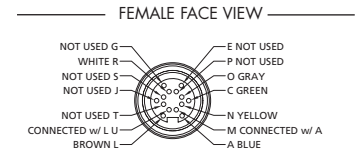
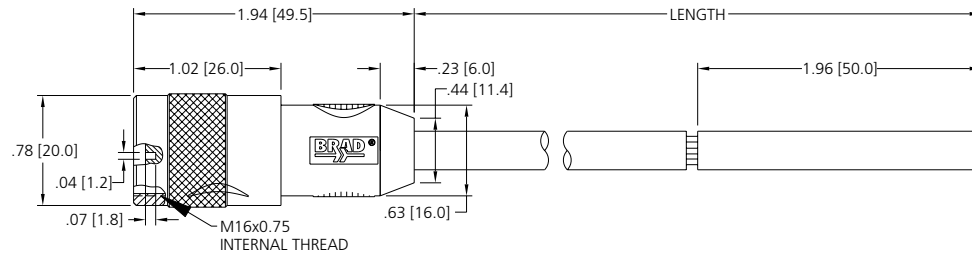


FIG 9

6 PORT

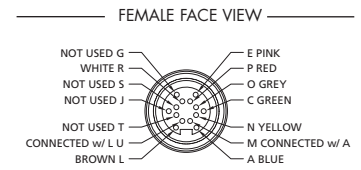
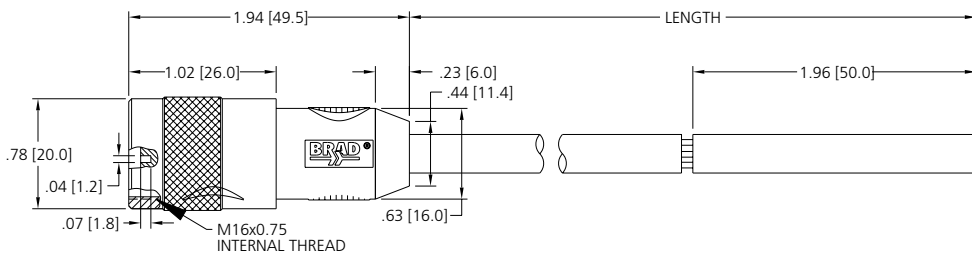


FIG 10

8 PORT

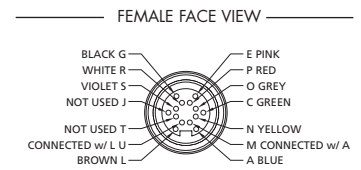
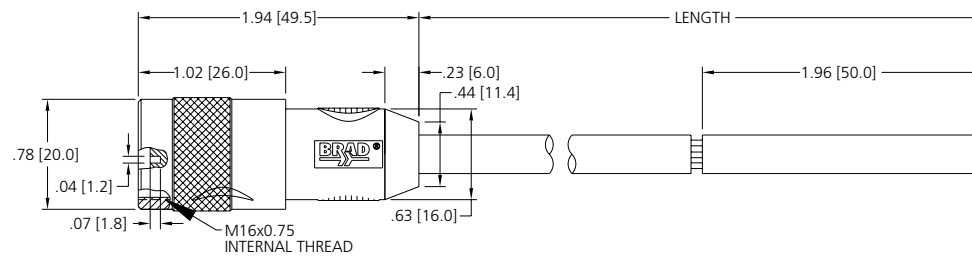


FIG 11

10 PORT

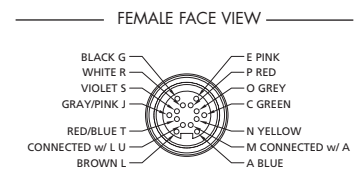
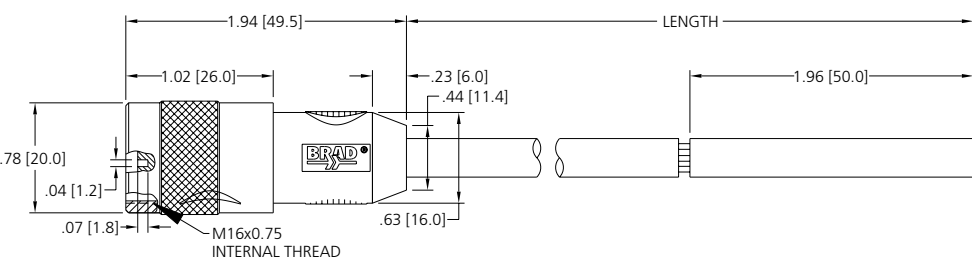


FIG 12

Accessories - Labels and (2) closure caps provided with each Multi-port
* Other Accessories - see page 298



Top Mount with Top Cable Entry Molded Home Run Cable

Simplifies wiring installation – integrated PUR/PVC or PUR home run cable
Allows for top or side entry of threaded 3P male cordsets connecting to ports
For use with 3-wire PNP sensors or 24V DC actuators

	4 Port SCHEMATIC, FIG 1	6 Port SCHEMATIC, FIG 2	8 Port SCHEMATIC, FIG 3	10 Port SCHEMATIC, FIG 4
FUNCTIONAL WIRING DIAGRAM				
HOME RUN CABLE COLOR CODE	blue- V- brown- V+ white- port #1 load green- port #2 load yellow- port #3 load gray- port #4 load	blue- V- brown- V+ white- port #1 load green- port #2 load yellow- port #3 load gray- port #4 load pink- port #5 load red- port #6 load	blue- V- brown- V+ white- port #1 load green- port #2 load yellow- port #3 load gray- port #4 load pink- port #5 load red- port #6 load black- port #7 load violet- port #8 load	blue- V- brown- V+ white- port #1 load green- port #2 load yellow- port #3 load gray- port #4 load pink- port #5 load red- port #6 load black- port #7 load violet- port #8 load gray/pink- port #9 load red/blue- port #10 load

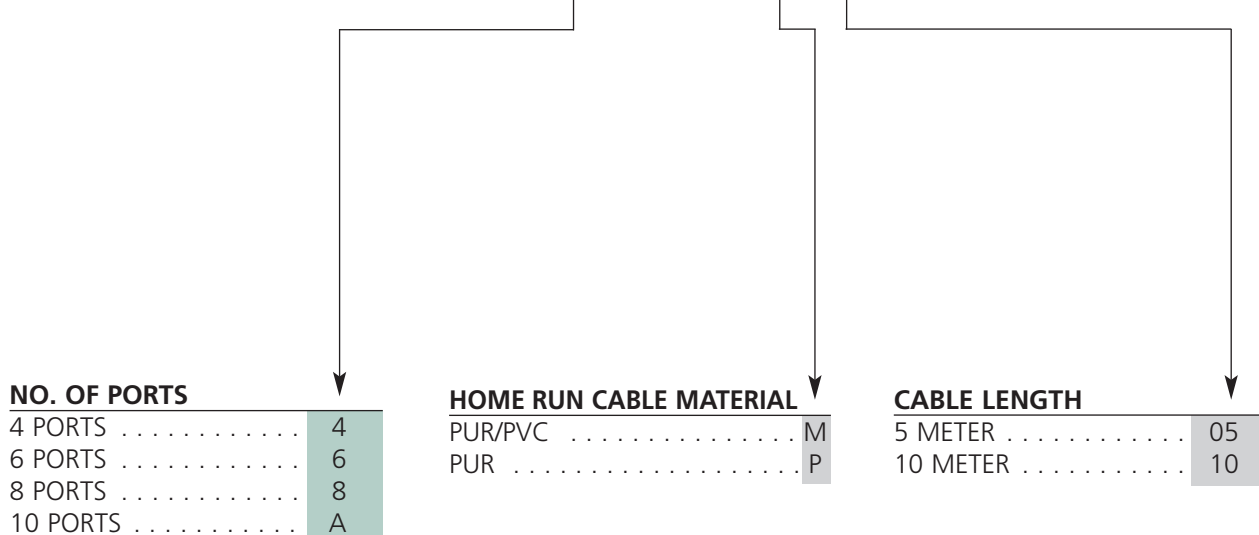
MPIS, 1 SIGNAL PORT WITH MOLDED HOME RUN CABLE, TOP ENTRY								
	FIG		FIG		FIG		FIG	
PUR/PVC HOME RUN CABLE, 5M	5	BNY401P-FBM-05	6	BNY601P-FBM-05	7	BNY801P-FBM-05	8	BNYA01P-FBM-05
PUR/PVC HOME RUN CABLE, 10M	5	BNY401P-FBM-10	6	BNY601P-FBM-10	7	BNY801P-FBM-10	8	BNYA01P-FBM-10
PUR HOME RUN CABLE, 5M	5	BNY401P-FBP-05	6	BNY601P-FBP-05	7	BNY801P-FBP-05	8	BNYA01P-FBP-05

* For end entry home run cable see page 288
* Use 3P male M8 cordsets or female/male extensions pages 170-175 to connect to these MPIS ports

CATALOG OPTIONS

Use the following chart to modify your MPIS unit's specifications

BNY401P-FBP-05

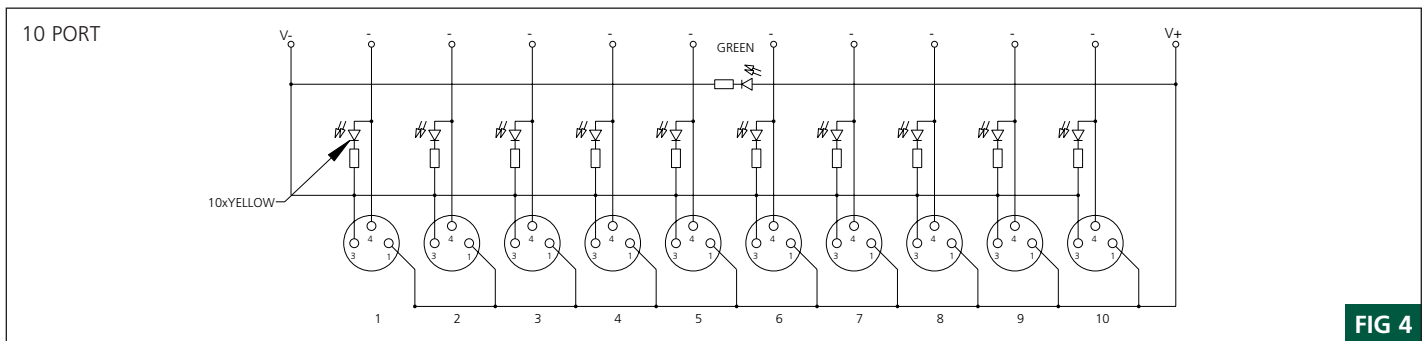
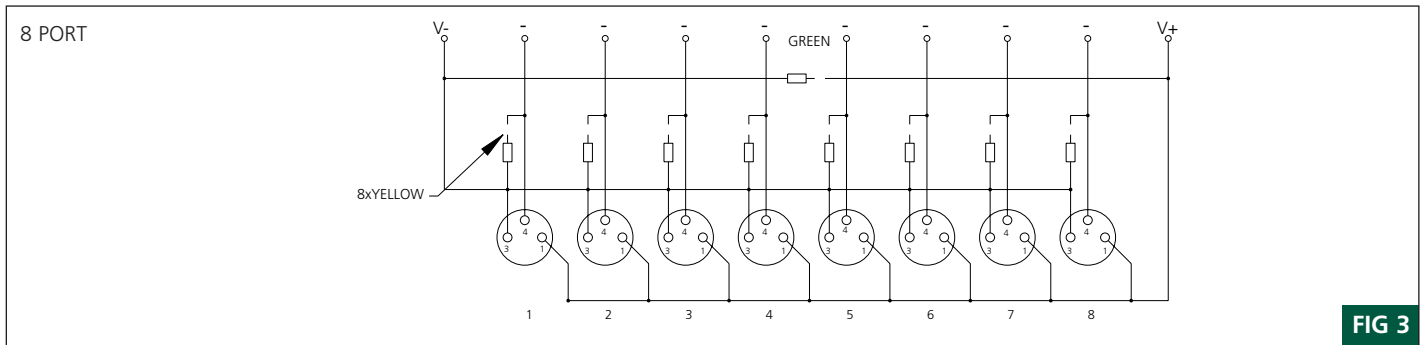
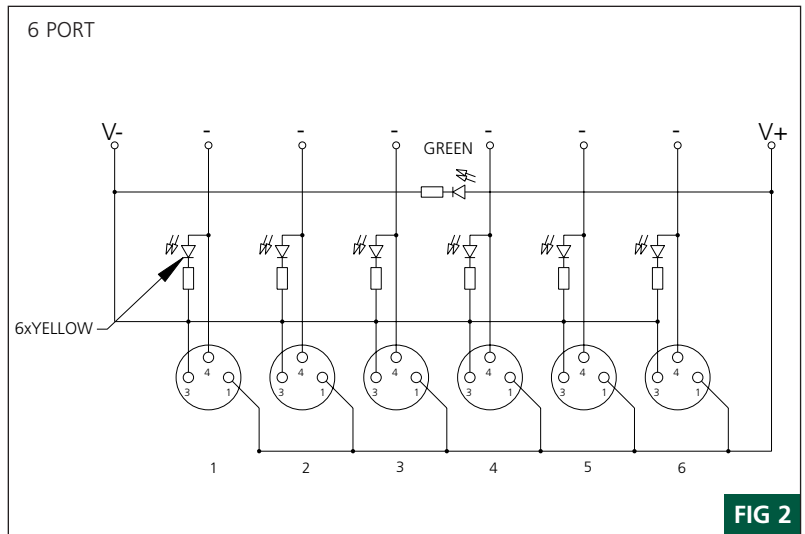
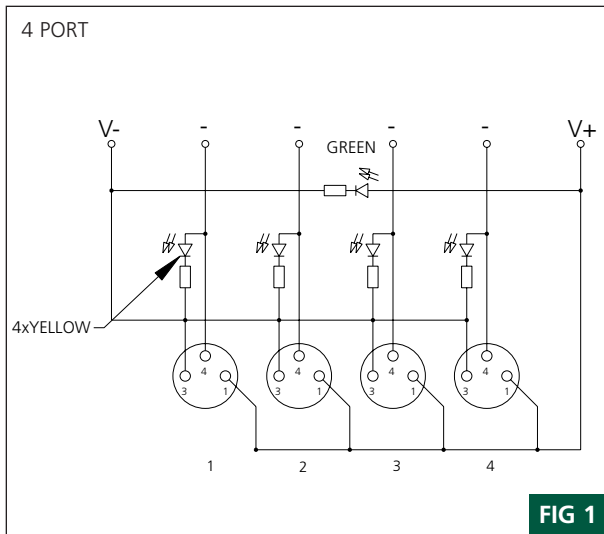


Specifications



MECHANICAL	THERMOPLASTIC POLYESTER			
INSERT:	PBT			
RECEPTACLE HOUSING:	NICKEL-PLATED BRASS			
ID LABEL:	ABS			
O-RING:	VITON			
HOME RUN CABLING	BLACK PUR/PVC COMPOSITE, BLACK PUR			
CABLE JACKET:	4 PORT	6 PORT	8 PORT	10 PORT
V(+) AND V(-):	2 X 0.75 mm ²	2 x 0.75 mm ²	2 x 0.75 mm ²	2 x 0.75 mm ²
CONTROL:	4 X 0.34 mm ²	6 x 0.34 mm ²	8 x 0.34 mm ²	10 X 0.34 mm ²
STRANDING				
V(+) AND V(-):	95 X 0.1 mm	85 x 0.1 mm	95 x 0.1 mm	95 x 0.1 mm
CONTROL:	42 X 0.1 mm	42 x 0.1 mm	42 x 0.1 mm	42 x 0.1 mm
DIAMETER:	PUR: 0.28"(7mm)			
ELECTRICAL				
VOLTAGE RATING:	10-30V DC			
AMPERAGE:	2A MAX/PORT; 6A TOTAL PER MPIS UNIT			
INDICATING LIGHTS:	GREEN LED-POWER; YELLOW LED-FUNCTION			
AVERAGE LED LIFE:	100,000 HOURS			
ENVIRONMENTAL				
PROTECTION:	IP68			
AMBIENT OPERATING TEMPERATURE:	-13° TO 194° F (-25° TO 90° C)			

SCHEMATICS



Top Mount with Top Cable Entry Molded Home Run Cable

MECHANICALS

4 PORT

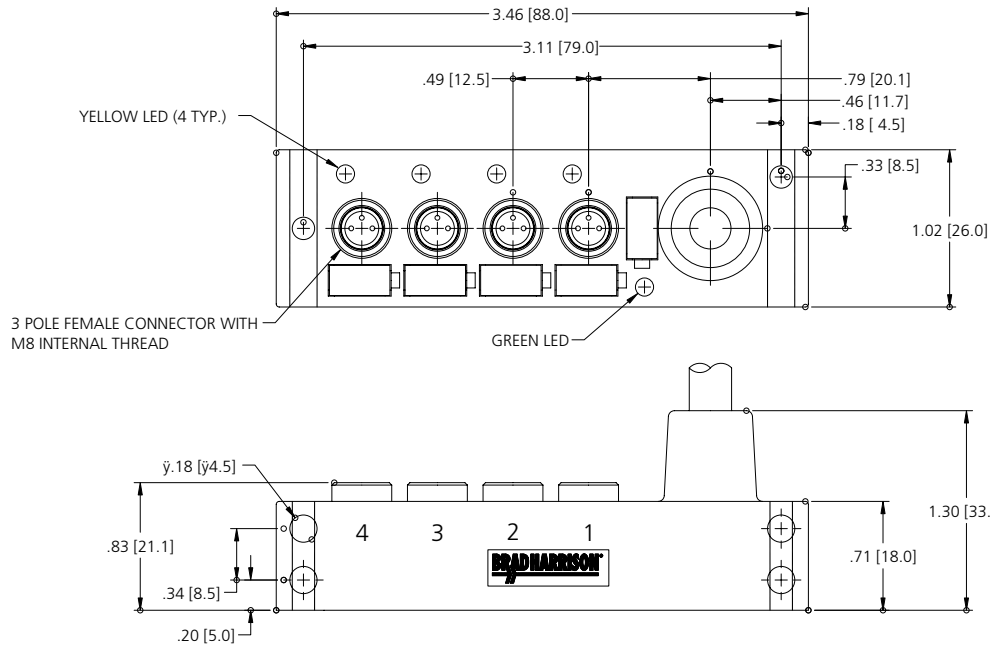


FIG 5

6 PORT

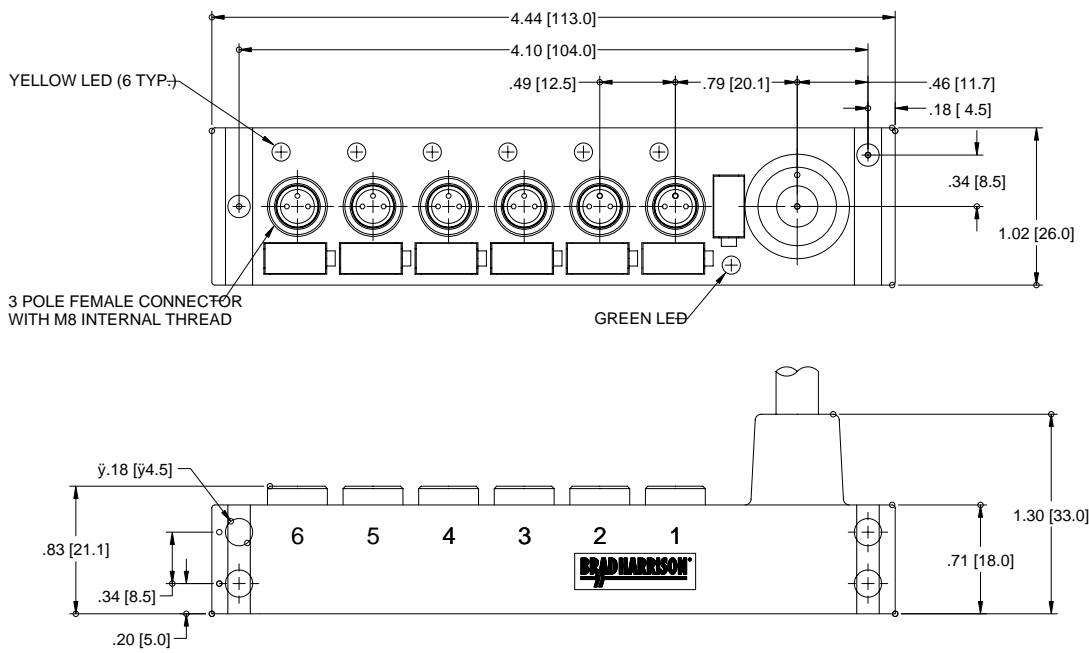
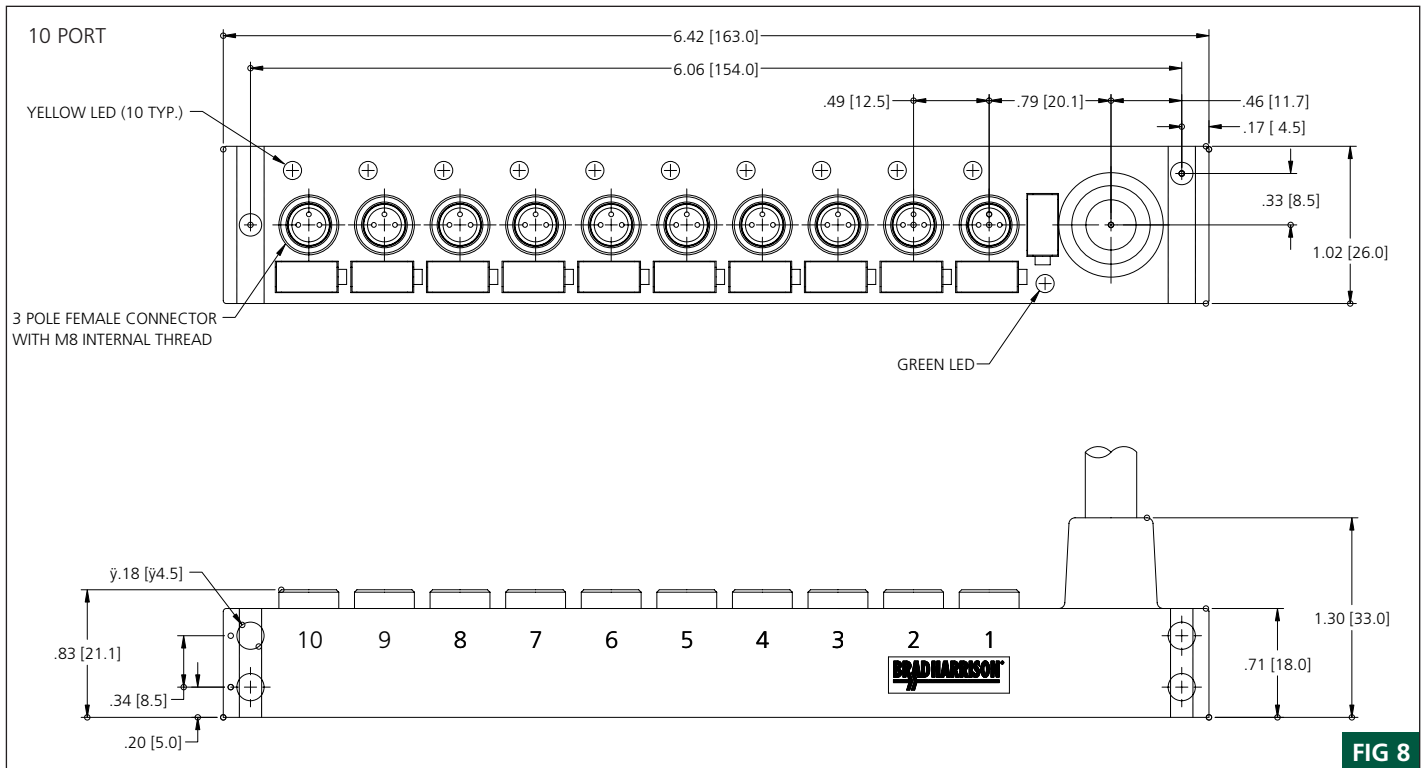
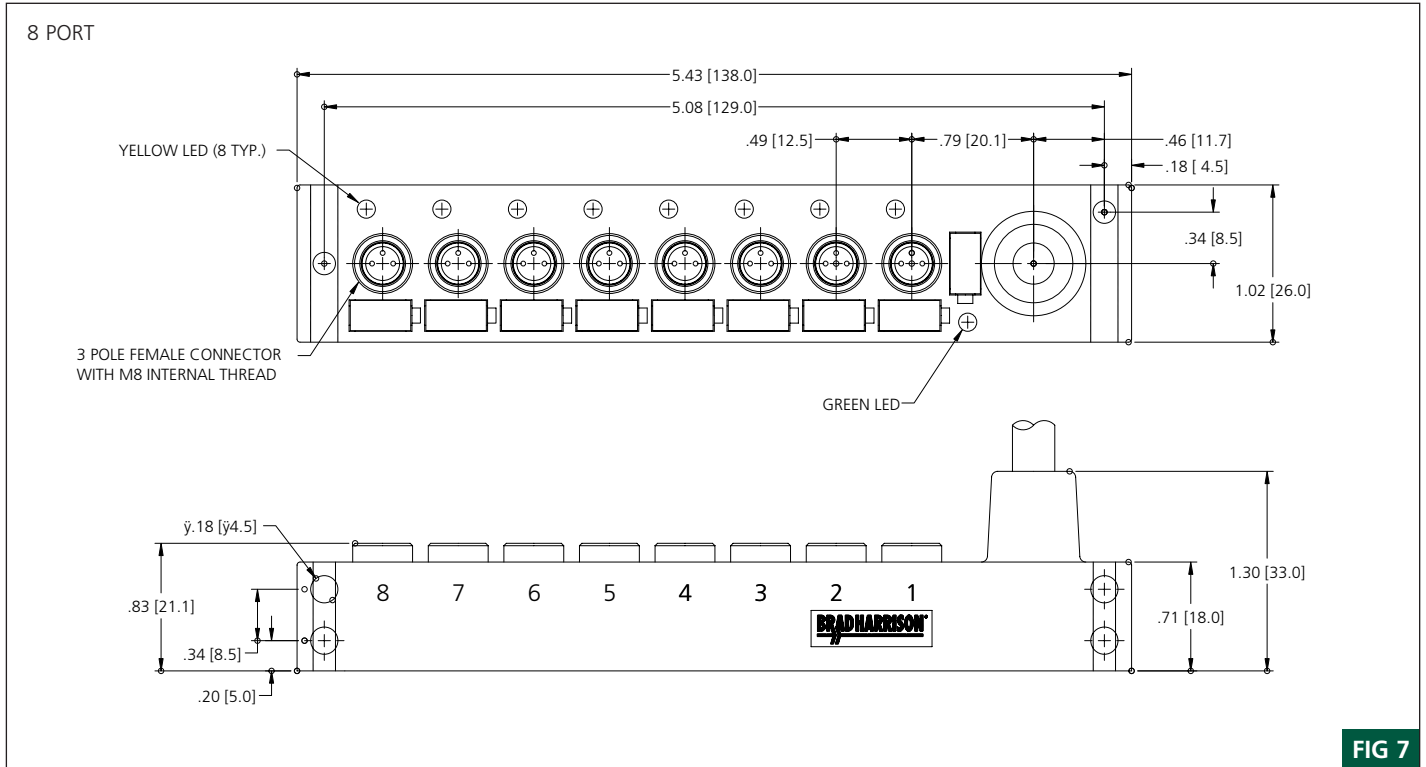


FIG 6

Top Mount with Top Cable Entry

Molded Home Run Cable

MECHANICALS



Accessories - Labels and (2) closure caps provided with each Multi-port
 * Other Accessories - see page 298



Top Mount with End Cable Entry Molded Home Run Cable

Simplifies wiring installation – integrated molded PVC or PUR home run cable
Allows for top or side entry of threaded 3P male cordsets connecting to ports
For use with 3-wire PNP sensors or 24V DC actuators

	4 Port SCHEMATIC, FIG 1	6 Port SCHEMATIC, FIG 2	8 Port SCHEMATIC, FIG 3	10 Port SCHEMATIC, FIG 4
FUNCTIONAL WIRING DIAGRAM				
HOME RUN CABLE COLOR CODE	blue- V- brown- V+ white- port #1 load green- port #2 load yellow- port #3 load gray- port #4 load	blue- V- brown- V+ white- port #1 load green- port #2 load yellow- port #3 load gray- port #4 load pink- port #5 load red- port #6 load	blue-V- brown- V+ white- port #1 load green- port #2 load yellow- port #3 load gray- port #4 load pink- port #5 load red- port #6 load black- port #7 load violet- port #8 load	blue- V- brown- V+ white- port #1 load green- port #2 load yellow- port #3 load gray- port #4 load pink- port #5 load red- port #6 load black- port #7 load violet- port #8 load gray/pink- port #9 load red/blue- port #10 load

MPIS, 1 SIGNAL PORT WITH MOLDED HOME RUN CABLE, TOP ENTRY								
	FIG		FIG		FIG		FIG	
PUR/PVC HOME RUN CABLE, 5M	5	BEY401P-FBM-05	6	BEY601P-FBM-05	7	BEY801P-FBM-05	8	BEYA01P-FBM-05
PUR/PVC HOME RUN CABLE, 10M	5	BEY401P-FBM-10	6	BEY601P-FBM-10	7	BEY801P-FBM-10	8	BEYA01P-FBM-10
PUR HOME RUN CABLE, 5M	5	BEY401P-FBP-05	6	BEY601P-FBP-05	7	BEY801P-FBP-05	8	BEYA01P-FBP-05

* For top entry home run cable, see page 306

* Use 3P male M8 cordsets or female/male extensions pages 170-175 to connect to these MPIS

CATALOG OPTIONS

Use the following chart to modify your MPIS unit's specifications

BEY401P-FBM-05

NO. OF PORTS

4 PORTS	4
6 PORTS	6
8 PORTS	8
10 PORTS	A

HOME RUN CABLE MATERIAL

PUR/PVC	M
PUR	P

CABLE LENGTH

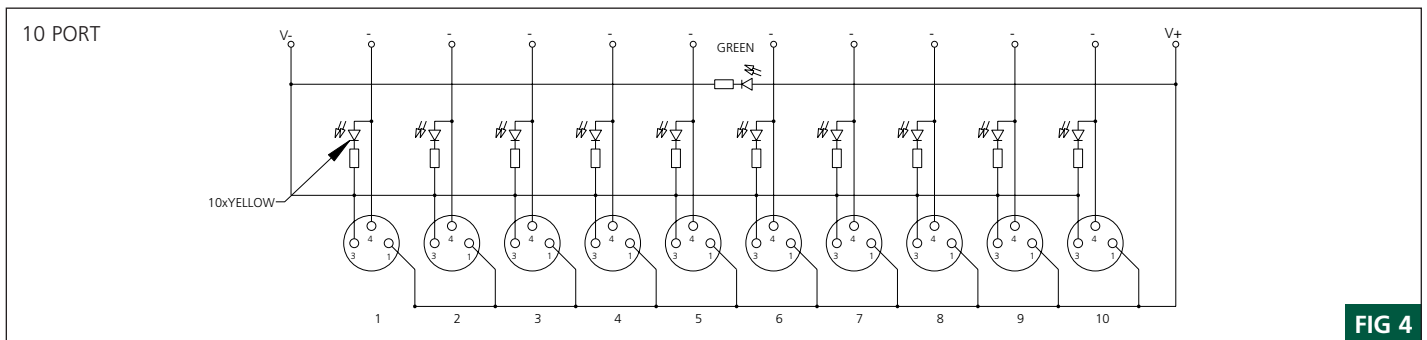
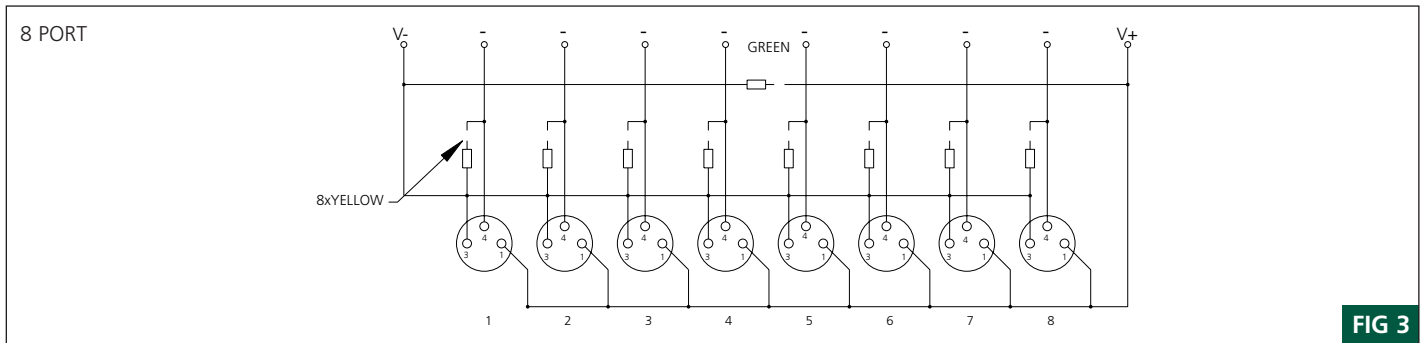
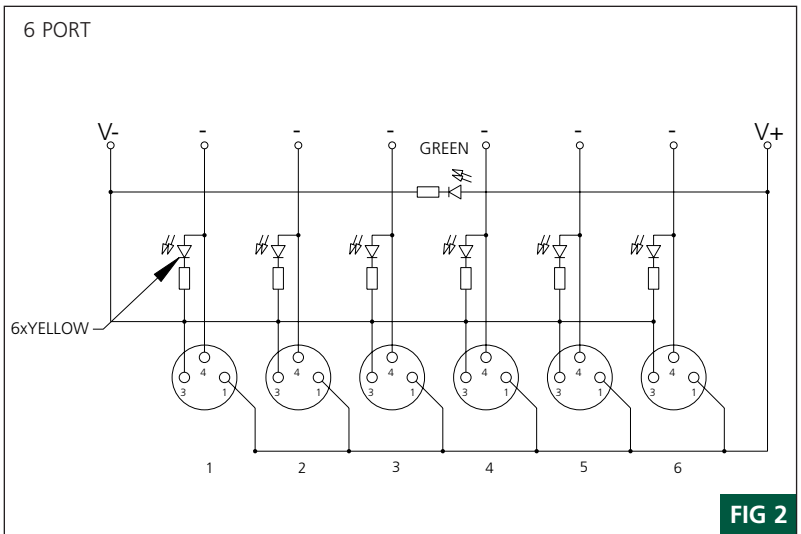
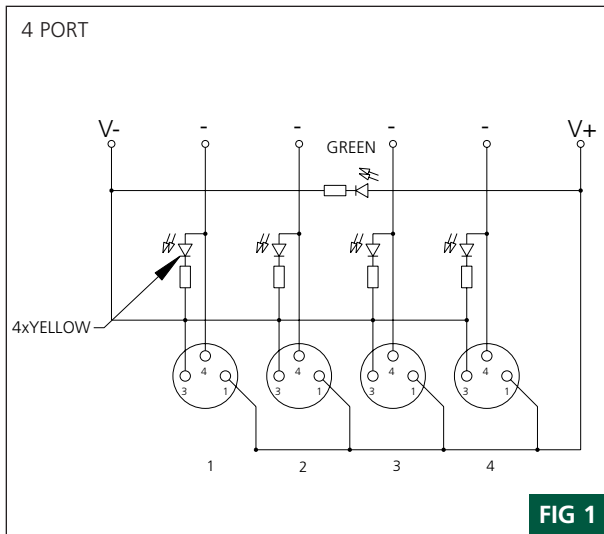
5 METER	05
10 METER	10

Specifications



MECHANICAL	THERMOPLASTIC POLYESTER			
INSERT:	PBT			
RECEPTACLE HOUSING:	NICKEL-PLATED BRASS			
ID LABEL:	ABS			
O-RING:	VITON			
HOME RUN CABLING	BLACK PUR/PVC COMPOSITE, BLACK PUR			
CABLE JACKET:	4 PORT	6 PORT	8 PORT	10 PORT
V(+) AND V(-):	2 X 0.75 mm ²	2 x 0.75 mm ²	2 x 0.75 mm ²	2 x 0.75 mm ²
CONTROL:	4 X 0.34 mm ²	6 x 0.34 mm ²	8 x 0.34 mm ²	10 X 0.34 mm ²
STRANDING	95 X 0.1 mm 85 x 0.1 mm 95 x 0.1 mm 95 x 0.1 mm			
V(+) AND V(-):	42 X 0.1 mm	42 x 0.1 mm	42 x 0.1 mm	42 x 0.1 mm
CONTROL:	PUR: 0.28" (7mm)			
DIAMETER:				
ELECTRICAL	10-30V DC			
VOLTAGE RATING:	2A MAX/PORT; 6A TOTAL PER MPIS UNIT			
AMPERAGE:	GREEN LED-POWER; YELLOW LED-FUNCTION			
INDICATING LIGHTS:	100,000 HOURS			
AVERAGE LED LIFE:				
ENVIRONMENTAL	IP68			
PROTECTION:				
AMBIENT OPERATING TEMPERATURE:	-13° TO 194° F (-25° TO 90° C)			

SCHEMATICS



Top Mount with End Cable Entry Molded Home Run Cable

MECHANICALS

4 PORT

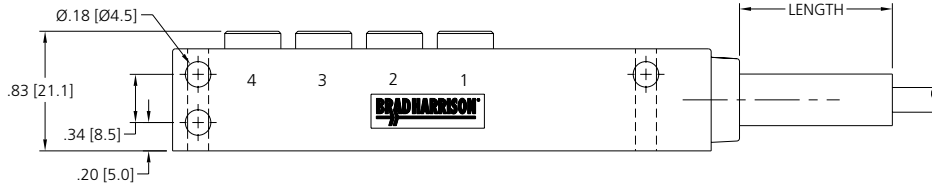
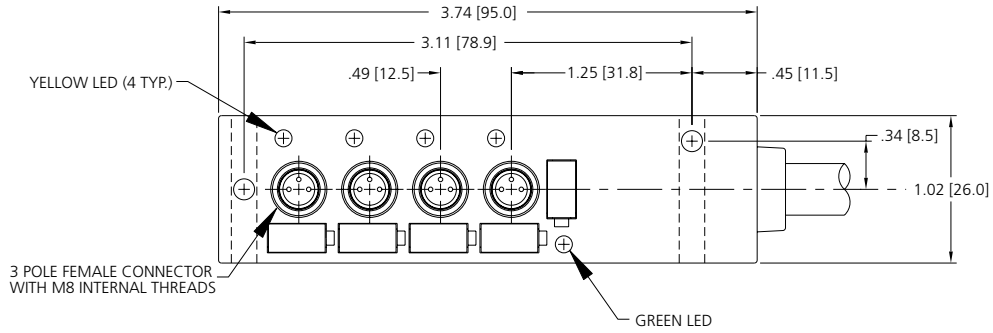


FIG 5

6 PORT

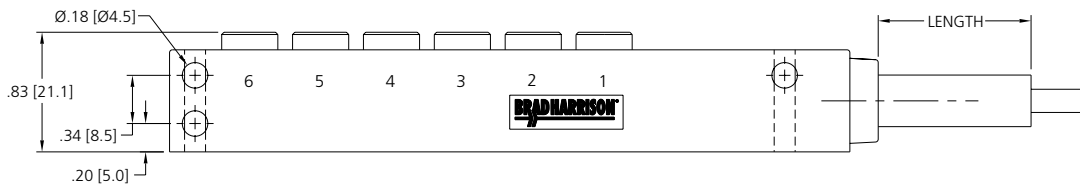
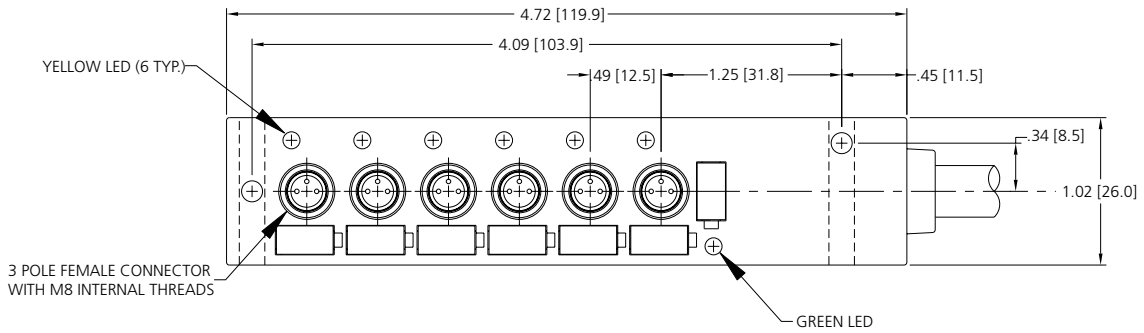
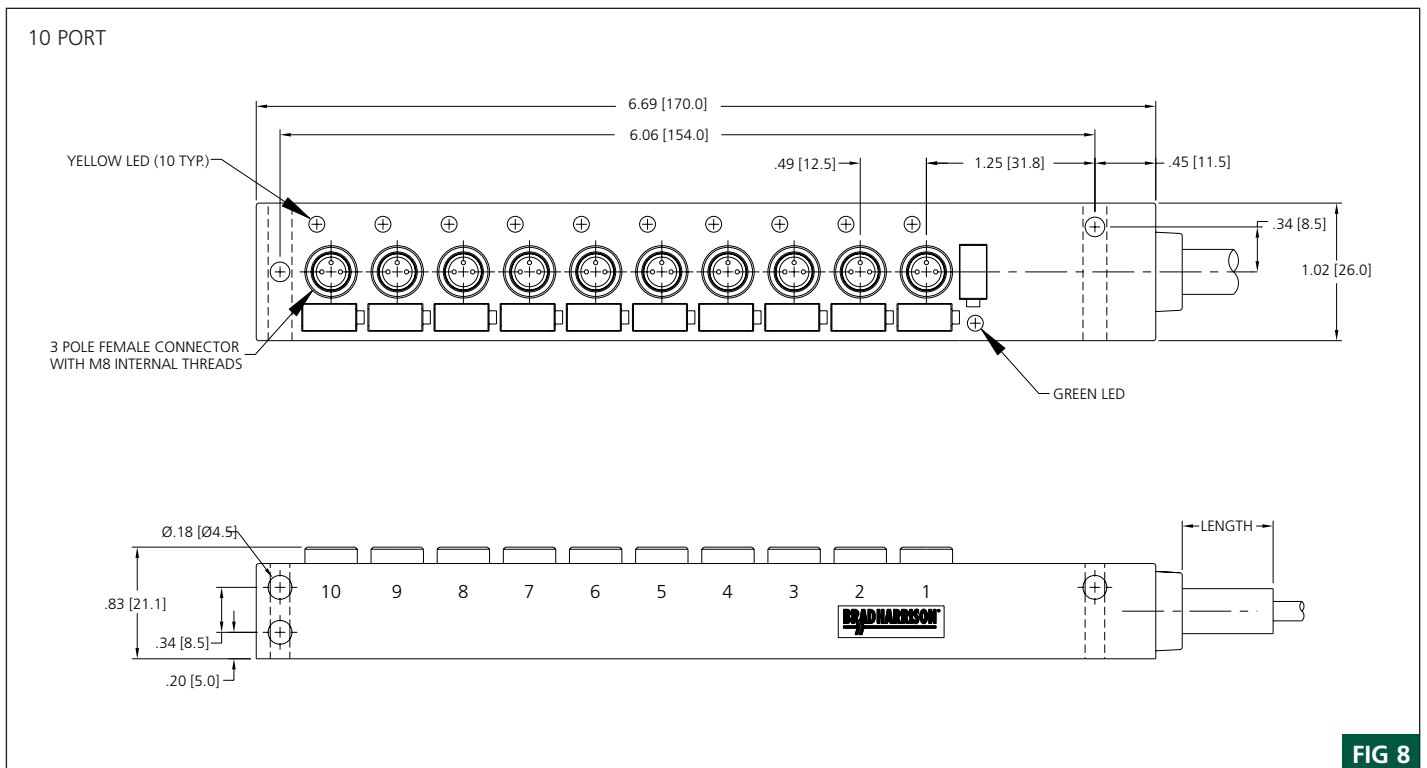
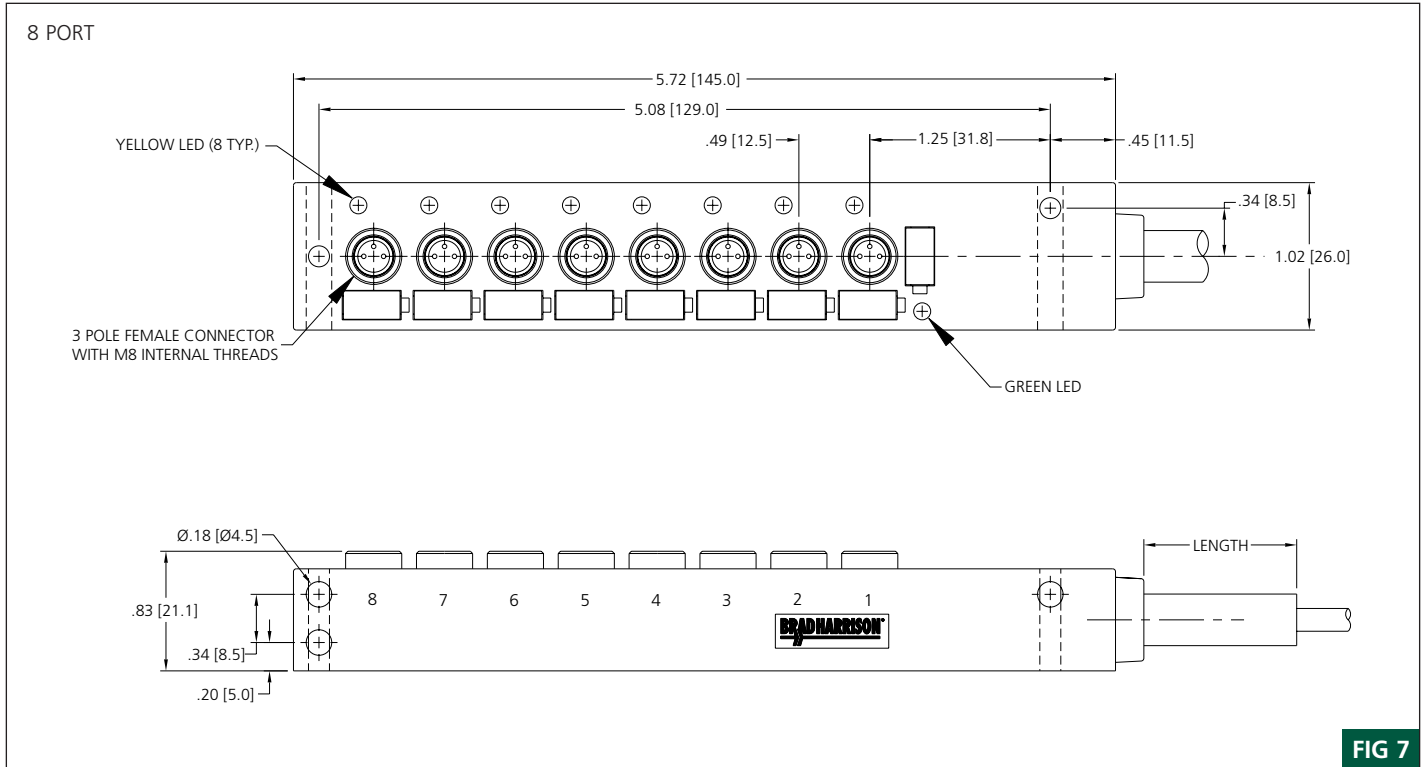


FIG 6

Top Mount with End Cable Entry

Molded Home Run Cable

MECHANICALS



Accessories - Labels and (2) closure caps provided with each Multi-port
 * Other Accessories - see page 298
 * Housing height 0.71" (18.0mm)



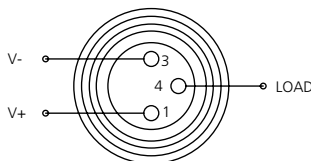
16 Port High-Density DIN Rail Mountable

Maximum I/O density of 3P m8 cordsets – 16 inputs
 Snap fittings featured for quick assembly
 (4) Independent V+ & V- connections for power isolation

Home Run Cable

SCHEMATIC, FIG 1

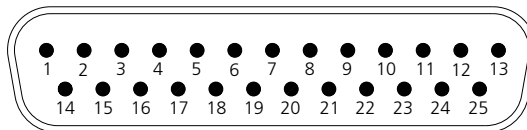
FUNCTIONAL
WIRING
DIAGRAM



HOME RUN
CONNECTOR
PINOUTS/
COLOR CODES

- | | | | | |
|------------------------|---------------------------|----------------------------------|---------------------------------------|---|
| 1- load #1-black | 8- load #8-red/black | 15- load #15blue/white | 20- V-(ports 9-12)-
red/green | 23- V+(ports 5-8)-
white/black/red |
| 2- load #2-white | 9- load #9-green/black | 16- load #16-black/red | 21- V-(ports 13-16)-
orange/green | 24- V+(ports 9-12)-
red/black/white |
| 3- load #3-red | 10- load #10-orange/black | 17- n/c-white/red | 22- V+(ports 1-4)-
black/white/red | 25- V+(ports 13-16)-
green/black/white |
| 4- load #4-green | 11- load #11-blue/black | 18- V-(ports 1-4)-
orange/red | | |
| 5- load #5-orange | 12- load #12-black/white | 19- V-(ports 5-8)-blue/red | | |
| 6- load #6-blue | 13- load #13-red/white | | | |
| 7- load #7-white/black | 14- load #14-green/white | | | |

HOME RUN
CONNECTOR
MALE
FACE VIEW



MPIS, 16 INPUTS, 1 SIGNAL/PORT WITH 25 PIN DSUB MALE HOME RUN CONNECTOR

MPIS	FIG 2	BNBD110-SXD
------	-------	-------------

MATING FEMALE HOME RUN CABLE

	FIG 3	
1M LENGTH	3	45406-M010
2M LENGTH	3	45406-M020
5M LENGTH	3	45406-M050

MATING FEMALE/MALE HOME RUN CABLE

	FIG 4	
1M LENGTH	4	45407-M010
2M LENGTH	4	45407-M020
5M LENGTH	4	45407-M050

* Std home run cable is yellow, for black add "B" after the base number. Example 45406B-M010 is black mating home run cable 7M in length.
 * Use 3P male M8 snap cordsets or female/male extensions page 168 to connect to these MPIS ports

Specifications



MECHANICAL

INSERT: THERMOPLASTIC POLYESTER
 HOUSING: BLACK ABS
 RECEPTACLE HOUSING: NICKEL-PLATED BRASS
 ID LABEL: ABS
 MOUNTING: 35mm DIN RAIL OR (4) #8 SELF-TAPPING SCREWS

HOME RUN CONNECTOR CABLING

YELLOW, PVC JACKET, #26 AWG AND PVC CONDUCTOR INSULATION OVER COPPER STRANDING

ELECTRICAL

VOLTAGE RATING: 50V DC
 AMPERAGE: 1.2A MAX/PORT; 1.2A MAX PER PIN ON 25PIN D-SUB

ENVIRONMENTAL

PROTECTION: IP65
 AMBIENT OPERATING TEMPERATURE: 32° TO 140° F (0° TO 60° C)

SCHEMATICS

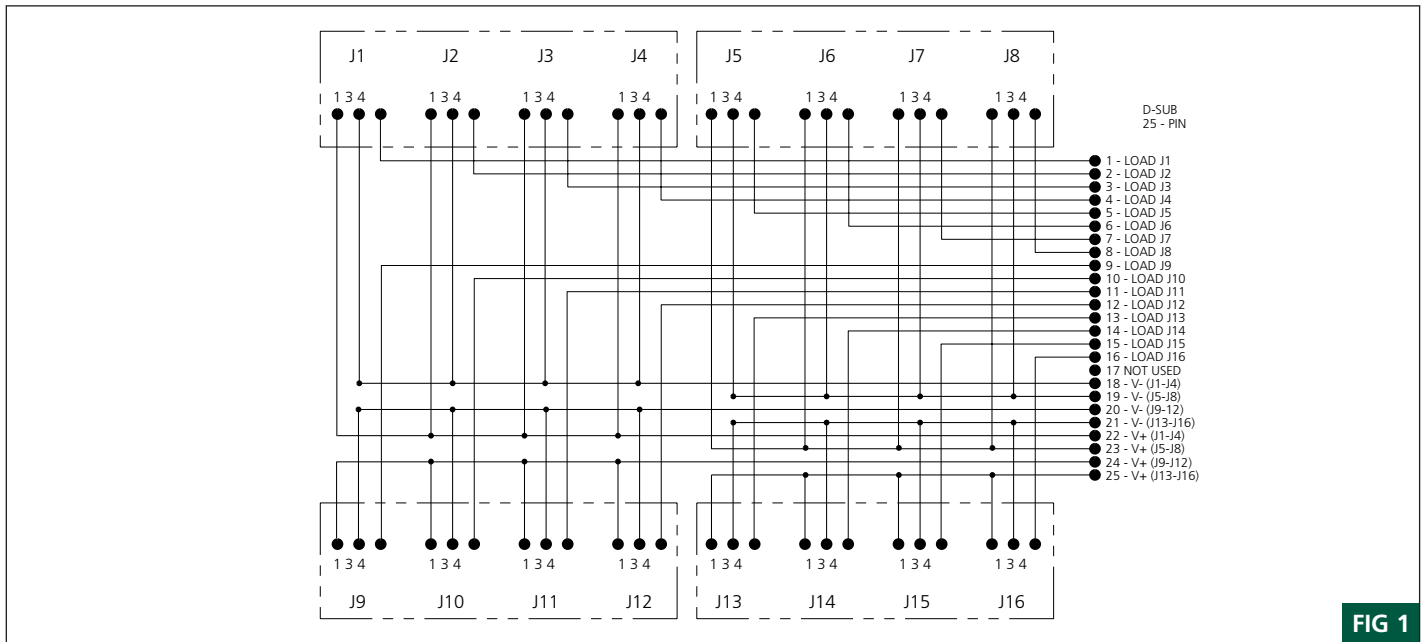


FIG 1

MECHANICALS

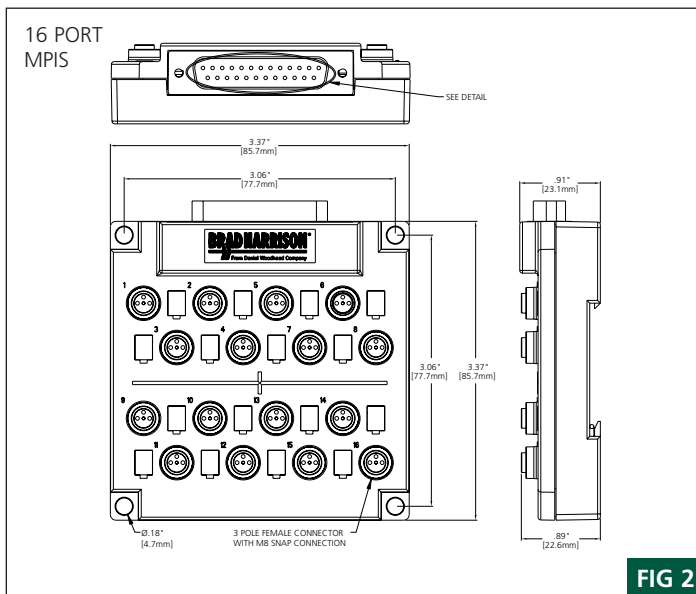


FIG 2

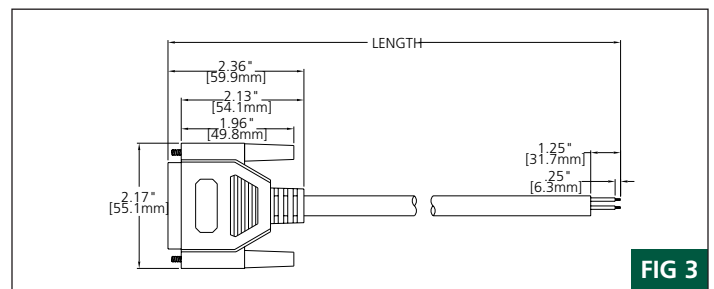


FIG 3

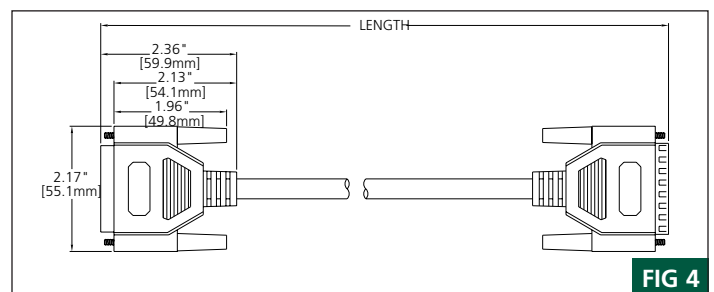


FIG 4

Accessories - Labels and (2) closure caps provided with each Multi-port
 * Other Accessories - see page 298

Quick-Change® Connectors

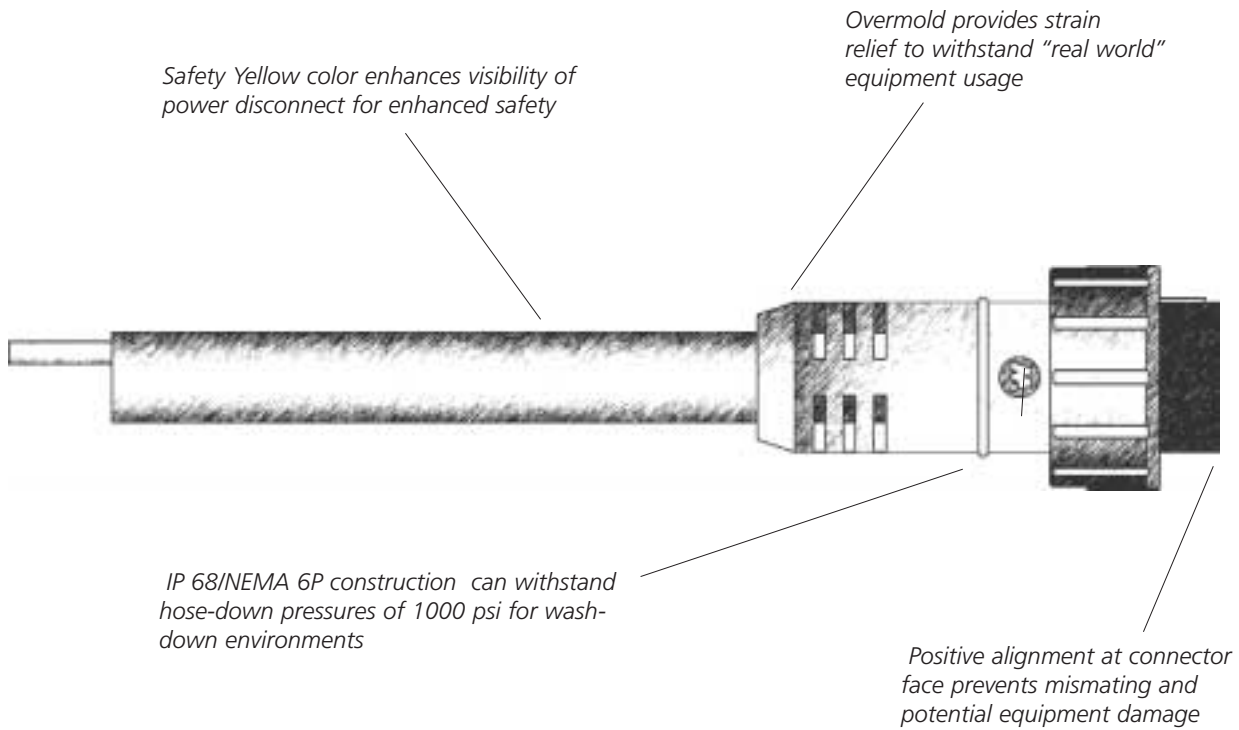
Rugged Performance For the Most Demanding Applications.

From the harsh chemical washdown of food processing to the high temperature of steel production or caustic humidity of pulp/paper production, heavy duty power requirements demand rugged connector products. Brad Harrison® Quick-Change 2® through 4 pole, and up to 30A continuous-duty rating, are constructed to deliver years of uninterrupted performance in power circuit quick disconnect applications. Even in the most demanding environments, the heavy-duty construction and Safety Yellow® color of Quick-Change connectors enhance their visibility helping to insure a safe connection or disconnection. Positive key alignment greatly reduces the possibility of mismating, thereby ensuring reverse phase protection of critical motors. Quick-Change connectors are equipped to withstand hose-down pressures up to 1,000 psi, especially key in food processing environments. In addition, these connectors are designed to withstand up to 105°C operating temperatures while being installed in either high humidity or washdown areas.

Applications

The Quick-Change connector family has served a variety of industries for more than 20 years. Use Quick-Change molded connectors to quickly and safely replace motors (from fractional to 5 HP) on pumps, conveyors, cooling fans, grinders, saws, and other equipment while protecting electrical connections from water, dust, oil and other contaminants.





Design and Quality

With proper mating, Brad Harrison Quick-Change Connectors meet the requirements of NEMA 6P and IP-68 fully submersible test requirements. The high integrity contacts hold up to daily mating and unmating when equipment needs to be moved or cleaned. An SOW cable jacket insures the cordset holds up even in outdoor environments where water and intense UV radiation are present.



Quick-Change® Cordsets

Quick-disconnect and positive alignment of power conductors in harsh environments
 #10, #12 and #14 AWG yellow Type SOW cable
 Single- and double-ended cordsets and mating receptacles

	2P			3P			4P		
MALE FACE VIEW									
COLOR CODE	1- black 2- white			1- black 2- white 3- green-gnd			1- black 3- red 2- green-gnd 4- white		
VOLTAGE	600V AC/DC			600V AC/DC			600V AC/DC		
CURRENT	18A	25A	30A	18A	25A	30A	15A	20A	25A
CONDUCTOR	#14	#12	#10	#14	#12	#10	#14	#12	#10

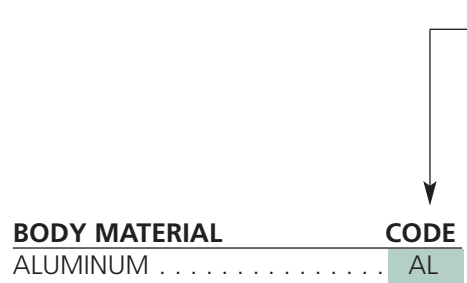
MALE	FIG	SINGLE-ENDED CORDSETS WITH 600V TYPE SOW CABLE								
3'	1	32019	32026	32050	32319	32353	32404	32634	32650	32754
6'	1	32020	32027	32051	32320	32354	32405	32635	32676	32755
12'	1	32021	32028	32052	32321	32355	32406	32636	32677	32756
MATING RECEPTACLE	FIG	RECEPTACLES WITH 12" LONG PVC-INSULATED WIRES								
THREAD 1/2"	2	32015	32034	32067	32315	32359	32421	32630	32682	32769
THREAD 3/4"	2	32016	32035	32068	32316	32360	32422	32631	32683	32770
FEMALE/MALE EXTENSION	FIG	DOUBLE-ENDED CORDSETS WITH 600V TYPE SOW CABLE								
6'	3	662020C05F060	662020C06F060	662020C07F060	663020C05F060	663020C06F060	663020C07F060	664020C05F060	664020C06F060	664020C07F060

CATALOG OPTIONS

P/N 55-0172 closure cap assembly for receptacles
 P/N 55-0170 threaded adapter plus closure cap assembly for cordsets

Use the following chart to modify your part's specifications

32015AL



Specifications



MECHANICAL (CORDSET)

PLUG FACE: NITRILE/SBR
 MOLDED BODY: NITRILE/SBR
 COUPLING NUT: THERMOPLASTIC WITH OPTIONAL ALUMINUM

CABLE: YELLOW NEOPRENE CABLE JACKET TYPE SOW, 105° C UL LISTED, 90° C CSA CERTIFIED

OUTSIDE DIAMETER:	#14 AWG	#12 AWG	#10 AWG
2/C	.55" (13.9mm)	.63" (15.9mm)	.69" (17.4mm)
3/C	.58" (14.6mm)	.66" (16.6mm)	.72" (18.3mm)
4/C	.62" (15.8mm)	.71" (18.0mm)	.74" (18.8mm)
STRANDING	41 X #30	65 X #30	105 X #30

MECHANICAL (RECEPTACLE)

INSERT MATERIAL: NITRILE/SBR
 SHELL MATERIAL: THERMOPLASTIC WITH OPTIONAL ALUMINUM

CABLE: 10/12/14 AWG, 1 CONDUCTOR PVC JACKETED, 105° C

STRANDING:	#14 AWG	#12 AWG	#10 AWG
TINNED COPPER	41 X #30	65 X #30	105 X #30

ELECTRICAL

VOLTAGE RATING:	600V AC/DC		
AMPERAGE	#14 AWG	#12 AWG	#10 AWG
2/C	18A	25A	30A
3/C	18A	25A	30A
4/C	15A	20A	25A

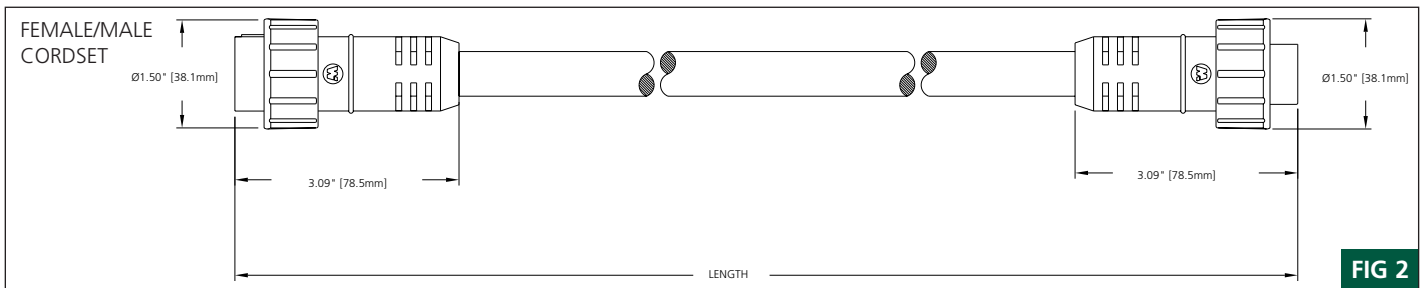
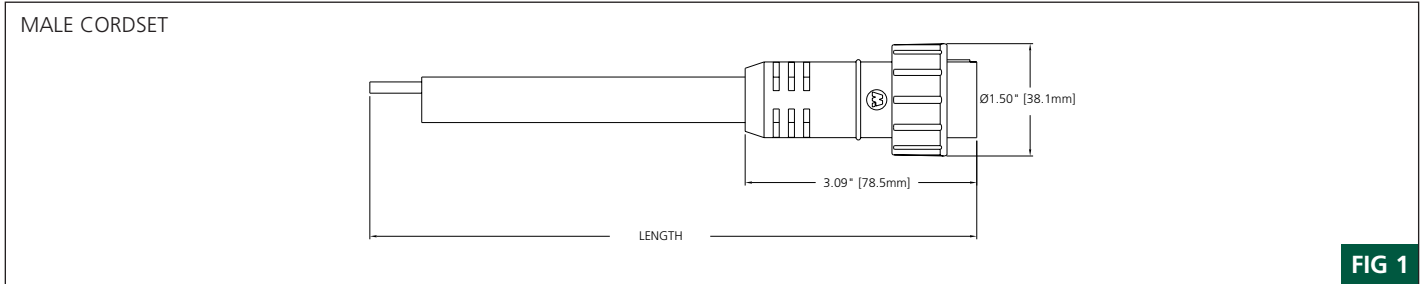
ENVIRONMENTAL

PROTECTION: IP 68, NEMA 6P
 AMBIENT OPERATING TEMP: -4° TO 221° F (-20° TO 105° C)

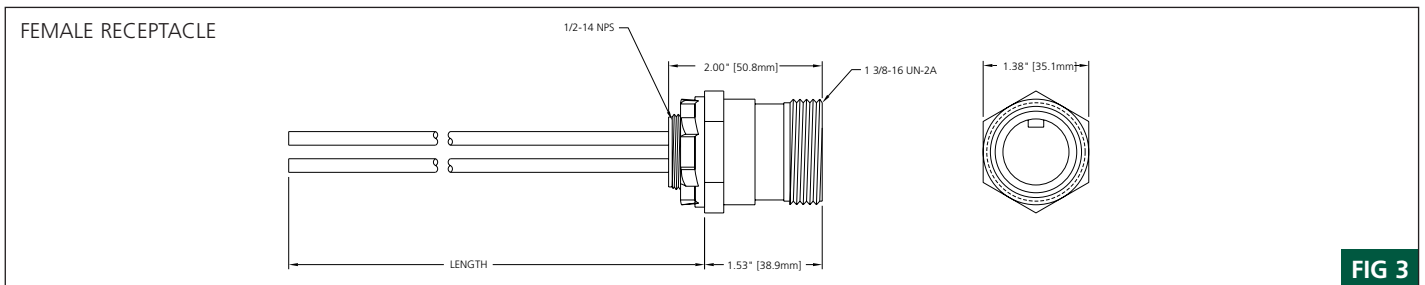
CERTIFICATIONS

UL: UL RECOGNIZED, FILE NO E46237
 CSA: CSA CERTIFIED, FILE NO LR6837

CONNECTOR DIMENSIONS



RECEPTACLE DIMENSIONS





Quick-Change® Cordsets

Quick disconnect and positive alignment of power conductors in harsh environments
 #10, #12 and #14 AWG yellow Type SOW cable
 Single-ended cordsets and mating receptacles

	2P			3P			4P		
FEMALE FACE VIEW									
COLOR CODE	1- black 2- white			1- black 2- white 3- green-gnd			1- black 3- red 2- green-gnd 4- white		
VOLTAGE	600V AC/DC			600V AC/DC			600V AC/DC		
CURRENT	18A	25A	30A	18A	25A	30A	15A	20A	25A
CONDUCTOR	#14	#12	#10	#14	#12	#10	#14	#12	#10

FEMALE	FIG	SINGLE-ENDED CORDSETS WITH 600V TYPE SOW CABLE								
3'	1	32022	32029	32053	32322	32342	32407	32637	32669	32757
6'	1	32023	32030	32054	32323	32350	32408	32638	32678	32758
12'	1	32024	32031	32055	32324	32356	32409	32639	32679	32759
MATING RECEPTACLE	FIG	RECEPTACLES WITH 12" LONG PVC-INSULATED WIRE								
THREAD 1/2"	2	32017	32032	32065	32317	32357	32419	32632	32680	32767
THREAD 3/4"	2	32018	32033	32066	32318	32358	32420	32633	32681	32768

CATALOG OPTIONS

P/N 55-0172 closure cap assembly for receptacles
 P/N 55-0170 threaded adapter plus closure cap assembly for cordsets

Use the following chart to modify your part's specifications

32017AL

BODY MATERIAL **CODE**
 ALUMINUM AL

Specifications



MECHANICAL (CORDSET)

PLUG FACE: NITRILE/SBR
 MOLDED BODY: NITRILE/SBR
 COUPLING NUT: THERMOPLASTIC WITH OPTIONAL ALUMINUM
 CABLE: YELLOW NEOPRENE CABLE JACKET TYPE SOW, 105° C UL LISTED, 90° C CSA CERTIFIED

OUTSIDE DIAMETER:	#14 AWG	#12 AWG	#10 AWG
2/C	.55" (13.9mm)	.63" (15.9mm)	.69" (17.4mm)
3/C	.58" (14.6mm)	.66" (16.6mm)	.72" (18.3mm)
4/C	.62" (15.8mm)	.71" (18.0mm)	.74" (18.8mm)
STRANDING	41 X #30	65 X #30	105 X #30

MECHANICAL (RECEPTACLE)

INSERT MATERIAL: NITRILE/SBR
 SHELL MATERIAL: THERMOPLASTIC WITH OPTIONAL ALUMINUM
 CABLE: 10/12/14 AWG, 1 CONDUCTOR PVC JACKETED, 105° C
 STRANDING: TINNED COPPER

	#14 AWG	#12 AWG	#10 AWG
	41 X #30	65 X #30	105 X #30

ELECTRICAL

VOLTAGE RATING: 600V AC/DC

AMPERAGE	#14 AWG	#12 AWG	#10 AWG
2/C	18A	25A	30A
3/C	18A	25A	30A
4/C	15A	20A	25A

ENVIRONMENTAL

PROTECTION: IP 68, NEMA 6P
 AMBIENT OPERATING TEMP: -4° TO 221° F (-20° TO 105° C)

CERTIFICATIONS

UL: UL RECOGNIZED, FILE NO E46237
 CSA: CSA CERTIFIED, FILE NO LR6837

CONNECTOR DIMENSIONS

FEMALE CORDSET

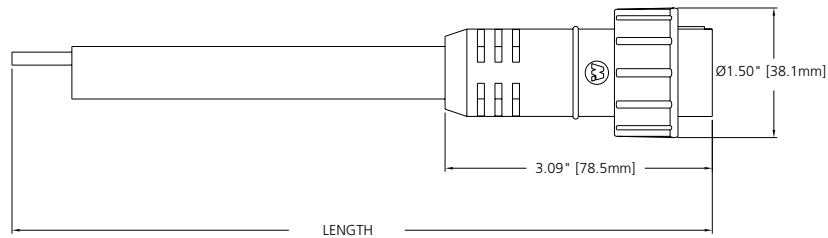


FIG 1

RECEPTACLE DIMENSIONS

MALE RECEPTACLE

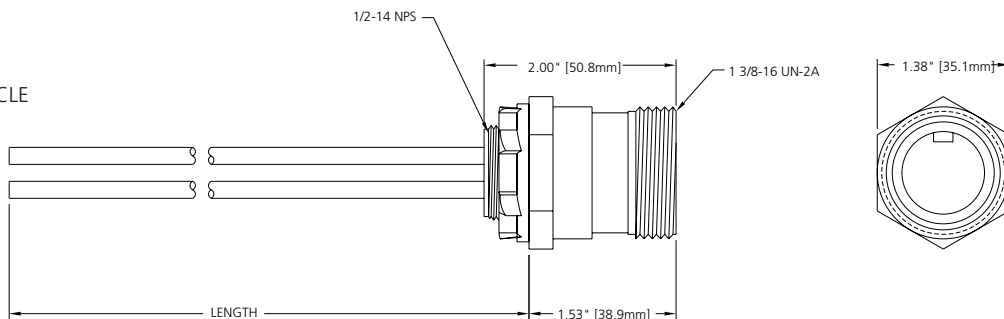


FIG 2

Other Molded Connectors

Control Connectors/Safety Plugs/Dual Round Connectors

For nearly 30 years the Brad Harrison Control Connector, Safety Plug, and Dual Round Connector product lines have reliably served industry, providing secure electrical connections or ensuring safe lockout conditions on heavy-duty machines.

Control Connectors

Year after year, Brad Harrison Control Connectors remain the industry standard for such heavy duty industrial applications as: stamping presses, control circuit instrument panels, automated/robotic production lines, conveyor controls, and power sources.

Available in 3 to 12-pole configurations and 14 AWG cables, Control Connectors feature plugs and receptacles insulated with durable Neoprene™ rubber. Plug pins are fully shrouded for effective impact resistance, and the receptacles feature spring-loaded flip-lid covers that:

- Protect the contacts when the plug is disengaged;
- Lock to the plug during use to prevent accidental disengagement caused by vibration.

The low-profile receptacles also can be mounted directly to equipment, or to FS or FD boxes.



Safety Plugs

To ensure safe and proper maintenance on press die blocks, safety gates, and other heavy duty industrial equipment, depend on Brad Harrison Safety Plugs.

These are specially designed to provide electrical lock-outs during maintenance. Safety Plugs are available in three different non-interchangeable configurations, one of which (with a 4-pole configuration) interlocks with two separate circuits simultaneously.

Available configurations are color-coded in red, yellow or orange, with matching receptacles available in two styles, both angle-mounted to fit standard FS or FD boxes in a low profile.

Dual Round Connectors

Brad Harrison Dual Round Connectors are a continuous source of reliable power in many of the same tough industrial environments where our Control Connectors are found. The primary difference is this: the unique plug and receptacle design of the Dual Round Connector prevents mismatching with more conventionally shaped power/control connectors. And that helps to prevent costly equipment damage and downtime.

Dual Round Connectors are available in 9 to 17-pole configurations, with 12 to 24-pole configurations available upon request.

PRODUCT	USED IN CONJUNCTION WITH	TYPICAL APPLICATIONS
Control Connectors	<ul style="list-style-type: none"> • Press Controls/Run Button Bars • Process Controls 	<ul style="list-style-type: none"> • Forging and Welding Presses • Automated Assembly Lines
Safety Plugs	<ul style="list-style-type: none"> • Die Blocks • Safety Fences/Gates 	<ul style="list-style-type: none"> • Forging and Welding Presses • Barricades to work Areas
Dual Round Connectors	<ul style="list-style-type: none"> • Press Control • Process Controls 	<ul style="list-style-type: none"> • Forging and Welding Presses • Automated Assembly Lines



Safety Plugs

Provide electrical lock-outs during machine maintenance
 Color-coded configurations to assist in safety lock out
 Fit standard FS or FD boxes

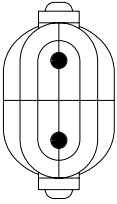
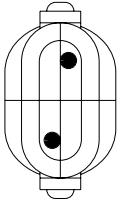
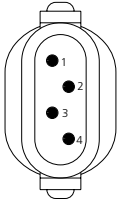
	2P	2P	4P
MALE FACE VIEW			
COLOR	yellow	red	orange*
VOLTAGE	600V AC/DC	600V AC/DC	600V AC/DC
CURRENT	25A	25A	25A

	FIG	MALE SHORTING PLUGS		FIG	
SHORTING PLUGS W/ 1' CHAIN	1	22803	22904	2	43302
SHORTING PLUGS W/ 2' CHAIN	1	22804	22905	2	43303
SHORTING PLUGS W/ 3' CHAIN	1	22805	22906	2	43304
	FIG	FEMALE RECEPTACLES		FIG	
ANGLE RECEPTACLES	5	22801	22903	6	43301
CAST RECEPTACLE ASSEMBLY**	3	22806	22902	4	43305

SUB-ASSEMBLIES AND MISCELLANEOUS COMPONENTS					
INSERT FOR CAST ASSEMBLY		22802	22901		—
INSERT WITH MOUNTING SHELL		22807	22907		—

*Available in red as option

** Includes insert, mounting shell and wiring box

Specifications

MECHANICAL (SHORTING PLUG)

BODY: NITRILE/PVC COMPOUND
 CONTACT: BRASS, SOLID
 CHAIN YOKE: ZINC-PLATED STEEL

MECHANICAL (ANGLE RECEPTACLE)

HOUSING & BODY: NITRILE/PVC COMPOUND
 CONTACT: BRASS

MECHANICAL (CAST RECEPTACLE)

HOUSING: ALUMINUM
 CONTACT: BRASS
 INSERT: NITRILE/PVC
 GASKET: NEOPRENE

ELECTRICAL

VOLTAGE RATING: 600V AC/DC
 AMPERAGE: 25A

ENVIRONMENTAL

AMBIENT OPERATING TEMP: -4° TO 194° F (-20° TO 90° C)

CERTIFICATIONS

UL: UL RECOGNIZED, FILE NO E46237
 CSA: CSA CERTIFIED, FILE NO LR6837

RECEPTACLES

SHORTING PLUG - 2 POLE

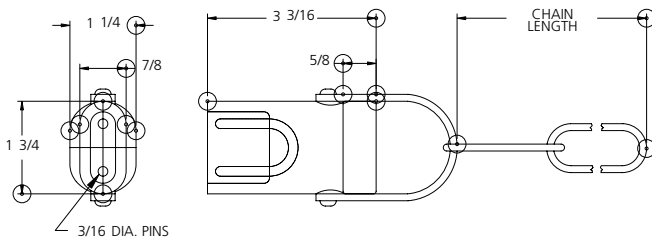


FIG 1

SHORTING PLUG - 4 POLE

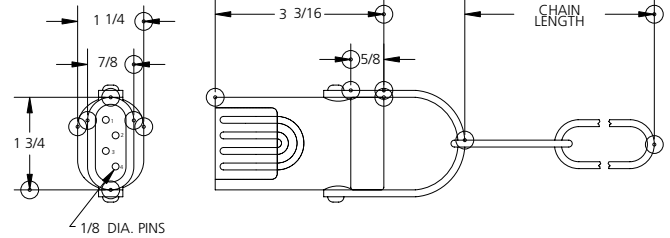


FIG 2

CAST RECEPTACLE ASSEMBLY - 2 POLE

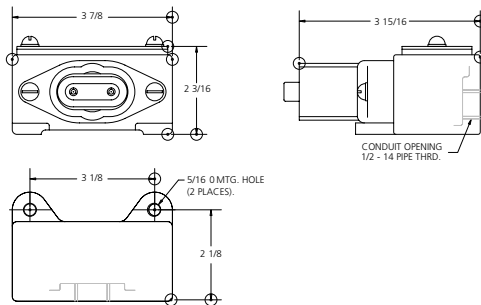


FIG 3

CAST RECEPTACLE ASSEMBLY - 4 POLE

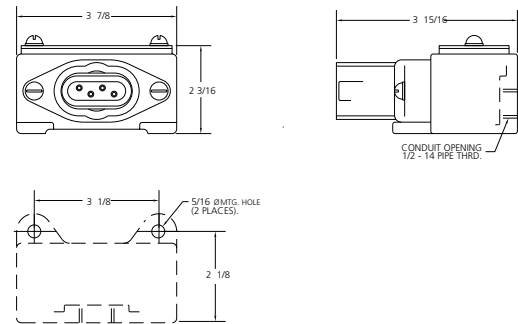


FIG 4

ANGLE RECEPTACLE ASSEMBLY - 2 POLE

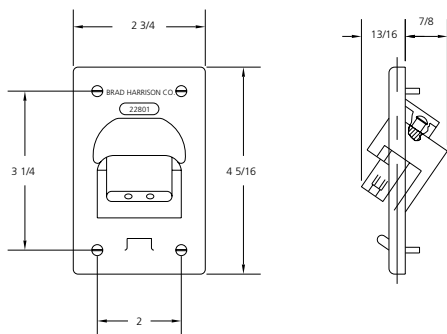


FIG 5

ANGLE RECEPTACLE ASSEMBLY - 4 POLE

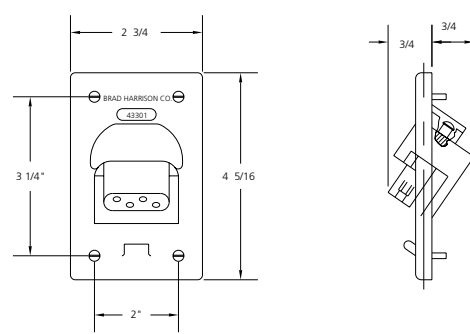


FIG 6



Control Connectors 8P - 12P

Heavy-duty control connectors 8P-12P, with black Type SO cord
 Fully shrouded for impact resistance to insure reliability
 Flip covers on receptacles protect and lock plug to prevent disengagement

	8P	9P	10P	11P	12P
FEMALE FACE VIEW					
COLOR CODE**	1- green 2- orange 3- blue 4- white/black trace 5- red/black trace 6- black 7- white 8- red	1- green 2- orange 3- blue 4- white/black trace 5- red/black trace 6- green/black trace 7- black 8- white 9- red	1- green 2- orange 3- blue 4- white/black trace 5- red/black trace 6- green/black trace 7- orange/black trace 8- black 9- white 10- red	1- green 2- orange 3- blue 4- white/black trace 5- red/black trace 6- green/black trace 7- orange/black trace 8- blue/black trace 9- white 10- black 11- red	1- green 2- orange 3- blue 4- white/black trace 5- red/black trace 6- green/black trace 7- orange/black trace 8- blue/black trace 9- white 10- black 11- red 12- black/white trace
VOLTAGE	600V AC	600V AC	600V AC	600V AC	600V AC
CURRENT/ CONDUCTOR	#12/14.0A #14/10.5A	#12/14.0A #14/10.5A	#12/14.0A #14/10.5A	#12/10.0A #14/7.0A	#12/10.0A #14/7.0A

FEMALE	FIG	FEMALE PLUGS WITH 600V AC NEOPRENE JACKETED SO CABLE AND MATING RECEPTACLES				
#12 6' CABLE	1	34415	34725	65015	—	35629
#12 12' CABLE	1	34416	34726	65017	—	35630
#14 6' CABLE	1	34418	34728	65018	—	35632
#14 12' CABLE	1	34419	34729	65019	—	35633
MATING RECEPTACLE	3	34421	34716	65014	—	35620

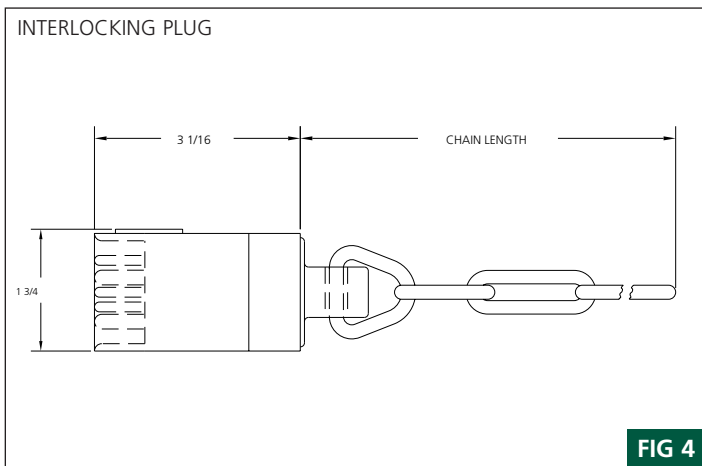
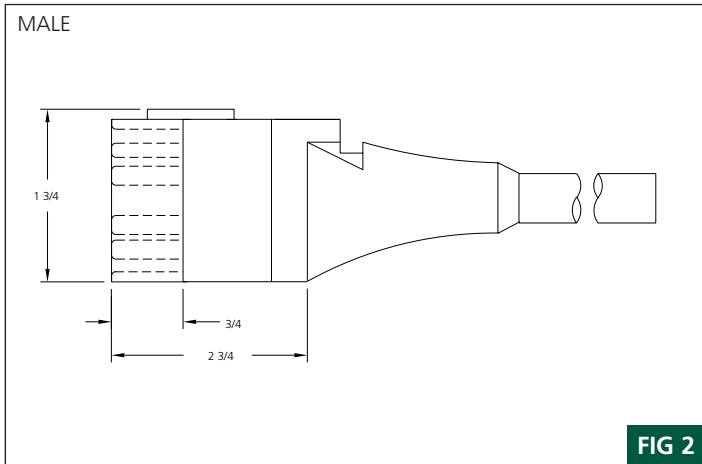
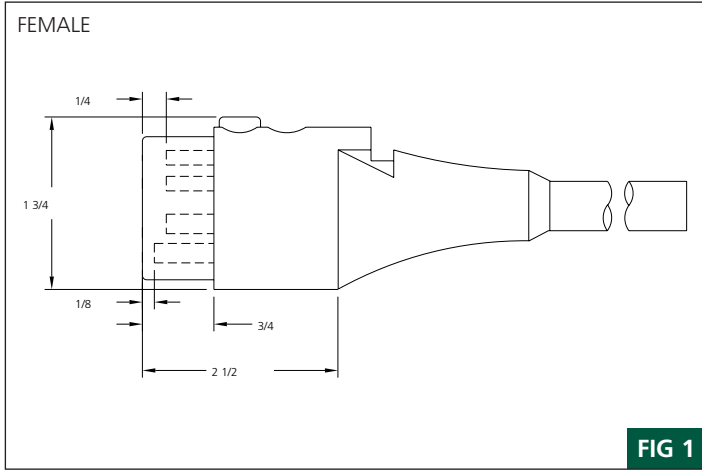
MALE	FIG	MALE PLUGS WITH 600V AC NEOPRENE JACKETED SO CABLE AND MATING RECEPTACLES				
#12 6' CABLE	2	34404	—	65005	65303	35622
#12 12' CABLE	2	34405	—	65003	65302	35610
#14 6' CABLE	2	34406	34717	65006	65305	35653
#14 12' CABLE	2	34407	34718	65004	65306	35654
MATING RECEPTACLE	3	34401	34701	65001	65301	35601

INTERLOCK PLUGS	FIG	INTERLOCK PLUGS PINS 2-8, 3-9, 4-6 AND 5-7 SHORTED, 2' CHAIN				
PLUG WITH #1/0 CHAIN	4	—	34740	—	—	—
INTERLOCK PLUGS	FIG	INTERLOCK PLUGS PINS 2-4, 3-9, 5-10, 6-8, 7-11 SHORTED, 3' CHAIN				
PLUG WITH #1/0 CHAIN	4	—	—	—	—	35664
INTERLOCK PLUGS	FIG	INTERLOCK PLUGS PINS 1-12, 2-4, 5-10, 6-8, SHORTED, 3' CHAIN				
PLUG WITH #4 CHAIN	4	—	—	—	—	35706

**Use 12 conductor cable, black with white trace N/C

Specifications

PLUG DIMENSIONS



MECHANICAL (CORDSET)

PLUG FACE: BLACK NEOPRENE
 SHROUD (MALE ONLY): POLYCARBONATE
 CONTACT: BRASS
 CABLE: BLACK NEOPRENE JACKET, TYPE 50
 UL LISTED, CSA 90° C CERTIFIED

OUTSIDE DIAMETER:

	#14 AWG	#12 AWG
8/C	.765" (19.4mm)	.830" (21.1mm)
9/C	.870" (22.1mm)	1.015" (25.8mm)
10/C	.870" (22.1mm)	.980" (25.0mm)
11/C	.903" (22.9mm)	.903" (22.9mm)
12/C	.903" (22.9mm)	.903" (22.9mm)
STRANDING	41 X #30	65 X #30

MECHANICAL (RECEPTACLE)

HOUSING: NEOPRENE
 CONTACT: BRASS
 FLIP LID: NEOPRENE
 TERMINATION: SCREW TYPE
 TERMINAL WIRE SIZES: #16 TO #12 AWG

ELECTRICAL

VOLTAGE RATING: 600V AC
 AMPERAGE: 7 TO 14A

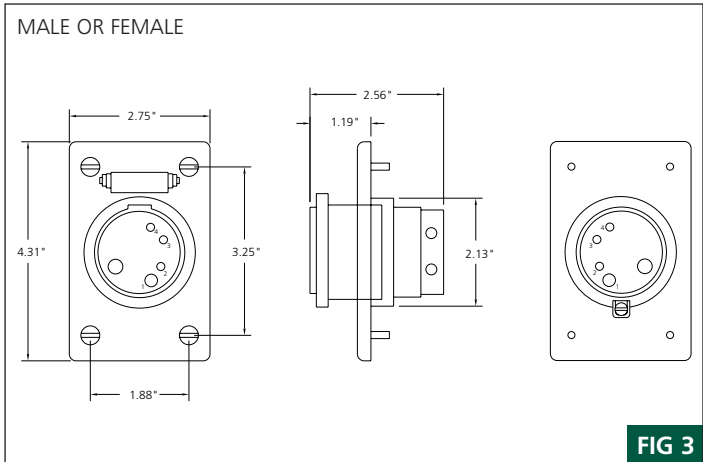
ENVIRONMENTAL

AMBIENT OPERATING TEMP: -4° TO 194° F (-20° TO 60° C)

CERTIFICATIONS

UL: UL RECOGNIZED, FILE NO E4623

RECEPTACLE DIMENSIONS





Control Connectors 3P - 7P

Heavy-duty control connectors, 3P-7P cordsets with black Type SO cord
 Fully shrouded for impact resistance to insure reliability
 Flip covers on receptacles protect contacts and lock plug to prevent disengagement

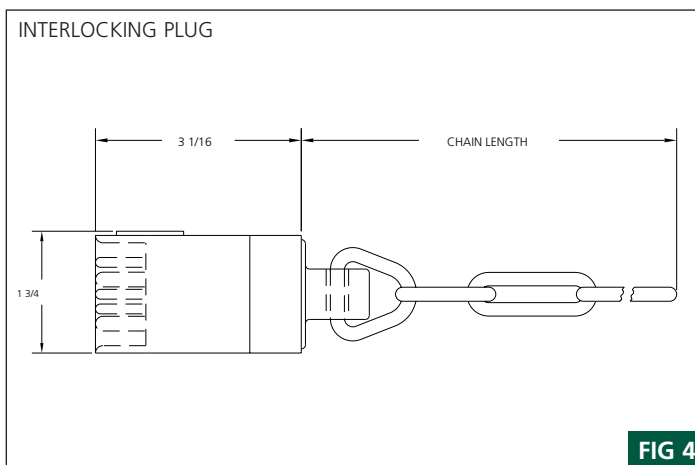
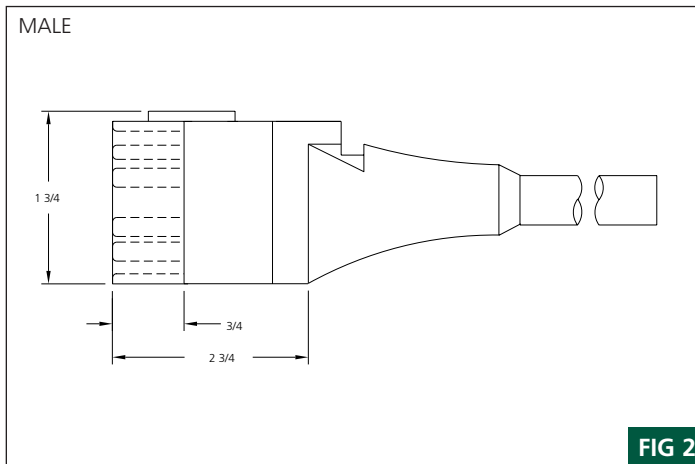
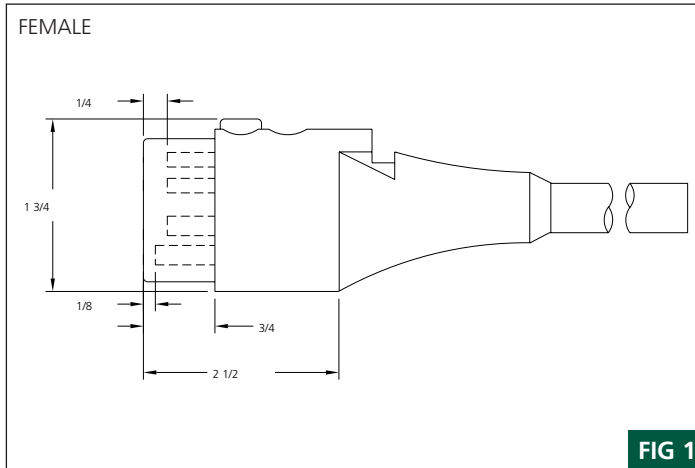
	3P	4P	5P	6P	7P
FEMALE FACE VIEW					
COLOR CODE	1- green 2- black 3- white	1- green 2- black 3- white 4- red X- no connection	1- green 2- orange 3- black 4- white 5- red	1- green 2- orange 3- blue 4- black 5- white 6- red	1- green 2- orange 3- blue 4- white/ black trace 5- black 6- white 7- red
VOLTAGE	600V AC	600V AC	600V AC	600V AC	600V AC
CURRENT/ CONDUCTOR	#12/25A —	#12/20A —	#12/16A —	#12/16A #14/12A	#12/16A #14/12A

FEMALE	FIG	FEMALE PLUGS WITH 600V AC NEOPRENE JACKETED SO CABLE AND MATING RECEPTACLES				
#12 6' CABLE	1	—	—	—	33809	—
#12 12' CABLE	1	—	—	—	33810	34120
#14 6' CABLE	1	—	—	—	33812	34122
#14 12' CABLE	1	—	—	—	—	34123
MATING RECEPTACLE	3	—	—	—	33806	34110

MALE	FIG	MALE PLUGS WITH 600V AC NEOPRENE JACKETED SO CABLE AND MATING RECEPTACLES				
#12 6' CABLE	2	—	33204	—	33804	34109
#12 12' CABLE	2	32903	33203	33502	33802	34106
#14 6' CABLE	2	—	—	—	33807	34111
#14 12' CABLE	2	—	—	—	33805	34132
MATING RECEPTACLE	3	32901	33201	33501	33801	34101

Specifications

PLUG DIMENSIONS



MECHANICAL (PLUG)

PLUG FACE: BLACK NEOPRENE
 SHROUD (MALE ONLY): POLYCARBONATE
 CONTACT: BRASS
 CABLE: BLACK NEOPRENE JACKET, TYPE S0
 UL LISTED, CSA 90° C CERTIFIED

OUTSIDE DIAMETER:

	#14 AWG	#12 AWG
3/C	—	.620" (15.8mm)
4/C	—	.675" (17.2mm)
5/C	—	.740" (18.8mm)
6/C	.730" (18.5mm)	.765" (19.4mm)
7/C	.720" (18.3mm)	.780" (19.8mm)
STRANDING	41 X #30	65 X #30

MECHANICAL (RECEPTACLE)

HOUSING: NEOPRENE
 CONTACT: BRASS
 FLIP LID: NEOPRENE
 TERMINATION: SCREW TYPE
 TERMINAL WIRE SIZES: #16 TO #12 AWG

ELECTRICAL

VOLTAGE RATING: 600V AC
 AMPERAGE: 12A TO 20A

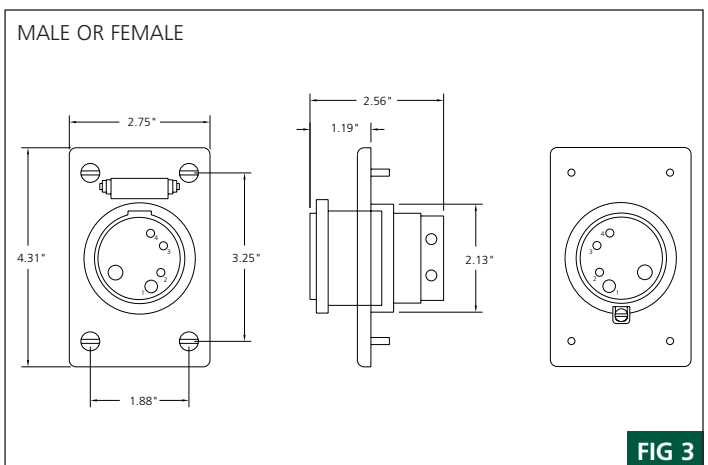
ENVIRONMENTAL

AMBIENT OPERATING TEMP: -4° TO 140° F (-20° TO 60° C)

CERTIFICATIONS

UL: UL RECOGNIZED, FILE NO E46237

RECEPTACLE DIMENSIONS





Dual Round Connectors

Heavy-duty, rugged delivery of power in tough environments
 Unique design prevents mismatching to insure safety
 Insulated and locking flip lids on receptacles for safe lock-outs

	9P	11P**	11P
MALE FACE VIEW			
COLOR CODE	1A- green/black trace 1B- orange 2A- red 2B- red/black trace 3A- white 3B- white/black trace 4A- black 4B- blue Socket- green-gnd	1A- green/black trace 1B- orange 2A- red 2B- red/black trace 3A- white 3B- white/black trace 4A- black 4B- blue 5A- jumpered to 5B 5B- jumpered to 5A Socket- green-gnd	1A- red/black trace 1B- orange/black trace 2A- green/black trace 2B- black 3A- red 3B- blue 4A- white 4B- blue/black trace 5A- white/black trace 5B- orange Socket- green-gnd
VOLTAGE	600V AC/DC	600V AC/DC	600V AC/DC
CURRENT	7A	7A	7A

	FIG	STRAIGHT MALE PLUGS WITH 600V AC NEOPRENE JACKETED SO CABLE		
12' CABLE	1	23002	23318	23312
18' CABLE	1	23003	—	—
24' CABLE	1	23010	—	—
MATING RECEPTACLE	2	23001	23301	23301

** Uses 9 conductor cable

Specifications

MECHANICAL (PLUG)

PLUG FACE: NEOPRENE
 BODY: NEOPRENE
 CONTACT: BRASS
 CABLE: BLACK NEOPRENE JACKET, TYPE SO,
 OVER 26 X #30 COPPER STRANDING,
 UL LISTED, CSA 90° C CERTIFIED
 9/C 0.72" (18.3mm)
 11/C 0.67" (17.0mm)

MECHANICAL (RECEPTACLE)

HOUSING: ALUMINUM
 INSERT: NEOPRENE
 FLIP LID: SPRING-LOADED
 CONTACT: BRASS
 TERMINATION: SCREW TYPE
 MAXIMUM WIRE TERMINATION: #16 AWG

ELECTRICAL

VOLTAGE RATING: 600V AC/DC
 AMPERAGE: 7A

ENVIRONMENTAL

AMBIENT OPERATING TEMP: -4° TO 194° F (-20° TO 90° C)

CERTIFICATIONS

UL: UL RECOGNIZED, FILE NO E46237

DIMENSIONS

STRAIGHT MALE PLUG

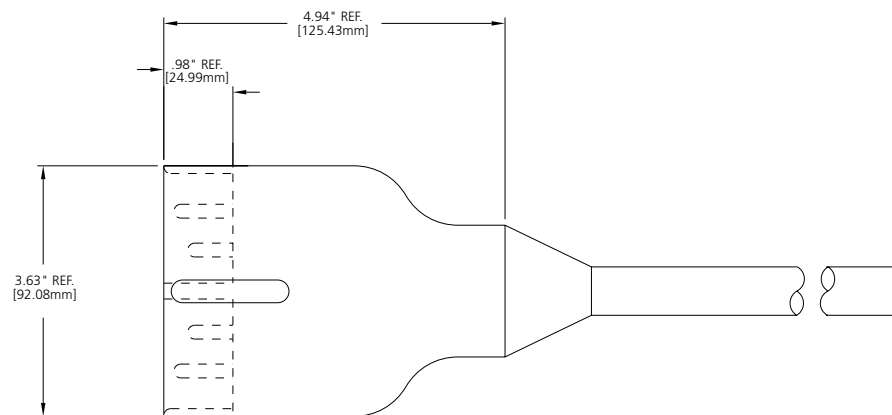


FIG 1

RECEPTACLE-FEMALE

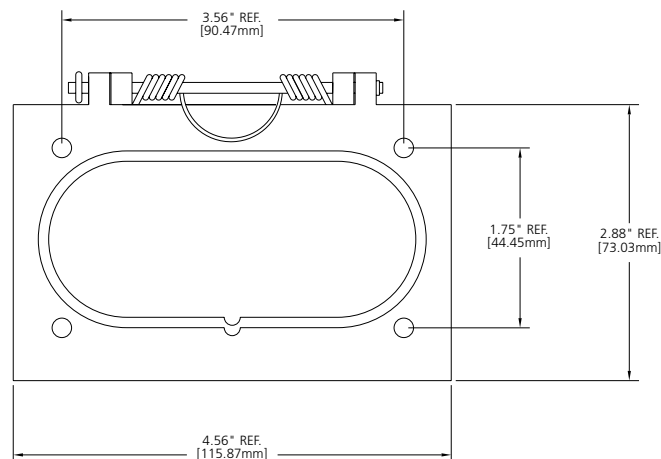


FIG 2



Dual Round Connectors

Heavy-duty, rugged delivery of power in tough environments
 Unique design prevents mismatching to insure safety
 Insulated and locking flip lids on receptacles for safe lock-outs

	16P	17P
MALE FACE VIEW		
COLOR CODE	1A- blue/black trace 2A- black/white trace 3A- red/white trace 4A- green/white trace 5A- blue/white trace 6A- black/red trace 7A- orange/black trace 8A- green/black trace 1B- red/black trace 2B- white/black trace 3B- blue 4B- green 5B- red 6B- white 7B- black 8B- orange	1A- red/white trace 2A- green/white trace 3A- white 4A- red 5A- orange 6A- blue 7A- black 8A- white/red trace Socket green-gnd 1B- blue/white trace 2B- black/red trace 3B- white/black trace 4B- red/black trace 5B- orange/black trace 6B- blue/black trace 7B- black/white trace 8B- green/black trace
VOLTAGE	600V AC/DC	600V AC/DC
CURRENT	7A	7A

	FIG	STRAIGHT MALE PLUGS WITH 600V AC NEOPRENE JACKETED SO CABLE	
12' CABLE	1	25216	25420
MATING RECEPTACLE	3	25204	25401
	FIG	HAMMERHEAD MALE PLUGS WITH 600V AC NEOPRENE JACKETED SO CABLE	
12' CABLE	2	25219	25423
MATING RECEPTACLE	3	25204	25401
FEMALE INSERTS	FIG	INSERTS - 2 REQUIRED PER RECEPTACLE	
INSERT		—	25404

Specifications

MECHANICAL (PLUG)

PLUG FACE: NEOPRENE
 BODY: NEOPRENE
 CONTACT: BRASS
 CABLE: BLACK NEOPRENE JACKET,
 OVER 26 X #30 COPPER STRANDING,
 UL LISTED, CSA 90° C CERTIFIED
 16/C 0.72" (18.3mm)
 17/C 0.84" (21.4mm)

MECHANICAL (RECEPTACLE)

HOUSING: ALUMINUM
 INSERT: NEOPRENE
 FLIP LID: SPRING-LOADED
 CONTACT: BRASS
 TERMINATION: SCREW TYPE
 MAXIMUM WIRE TERMINATION: #16 AWG

ELECTRICAL

VOLTAGE RATING: 600V AC/DC
 AMPERAGE: 7A

ENVIRONMENTAL

AMBIENT OPERATING TEMP: -4° TO 194° F (-20° TO 90° C)

CERTIFICATIONS

UL: UL RECOGNIZED, FILE NO E46237

DIMENSIONS

STRAIGHT CORDSET-MALE

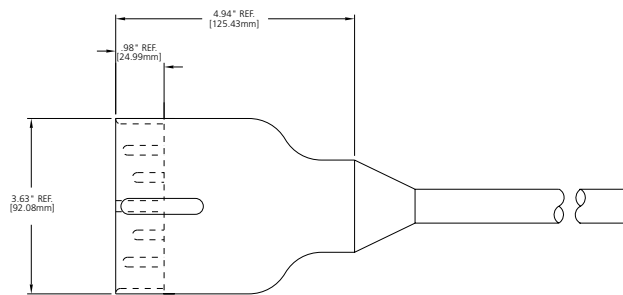


FIG 1

HAMMERHEAD CORDSET-MALE

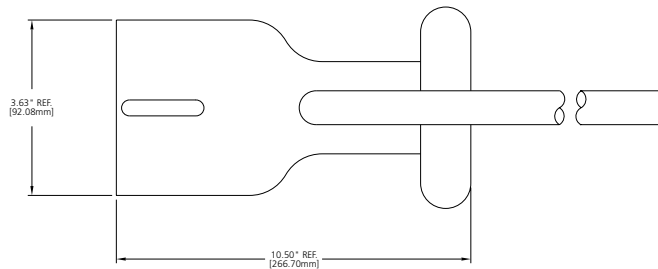


FIG 2

RECEPTACLE-FEMALE

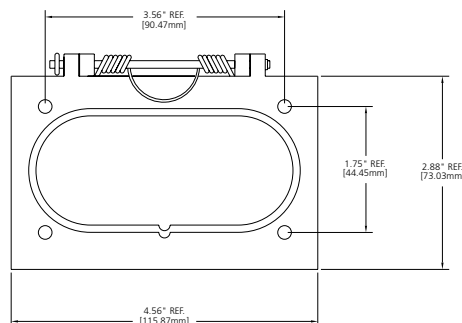


FIG 3

Braiding and Shielding

Braiding and Shielding — What is the Difference?

Wire **braids** are a fibrous or metallic group of filaments interwoven in a cylindrical pattern to lay a mechanical covering over one or more wires.

Shielding is defined as a metallic layer placed around a conductor or group of conductors to prevent electrostatic or electromagnetic interference between the enclosed wires and external fields. Conversely, the shield of wires and cables serve an electrical function.

Cable shielding has been proven to be an effective strategy for dealing with problems related to signal ingress and egress caused by electromagnetic interference (EMI). Emitter receptors and frequency bands are part of the EMI definition. Diverse problems from interference from ground loops, common impedance paths, direct magnetic/electric coupling (AC hum), electrostatic discharge, power line conductor emissions or radiated emissions from all sources fall underneath the umbrella category of EMI. Shielding of cabling, like other electronic components, is particularly useful where small signal levels are transmitted through “noisy” electrical environments. Plant items such as handheld radios, variable frequencies drives, and power supplies can generate electrical “noise”, to interrupt and corrupt control signal messaging. These problems are common where signals are transmitted via wire and cable.

Brad Harrison® Connectors — Complete and Total Shielding Effectiveness

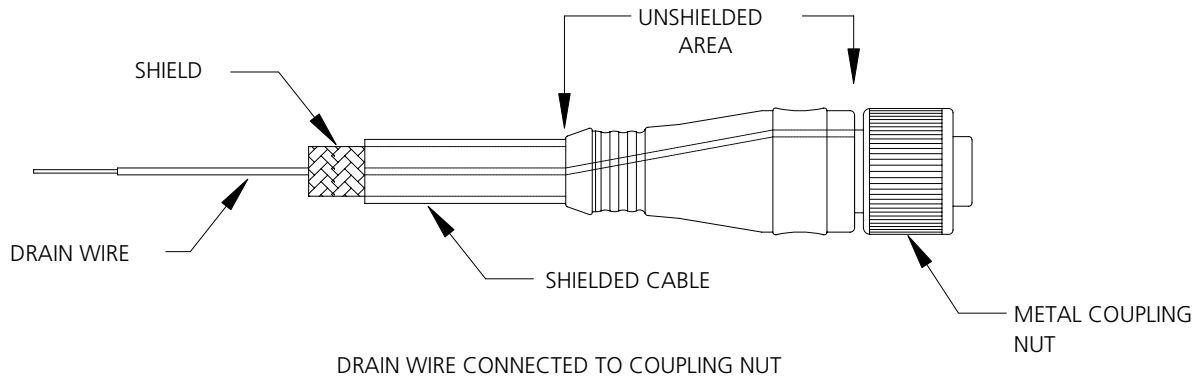
Brad Harrison shielded cordsets are shielded 360° from the cable all the way out through the connector body. This point is key to insuring complete shielding effectiveness. In a recent installation the Brad Harrison cordsets were measured to be more effective than competitive cables by an average of 4.3dB. In order to have the maximum effectiveness, the shielded product must go from the cable all the way out to the 360° shielded connector head.

Please see graph showing effectiveness on page 337.

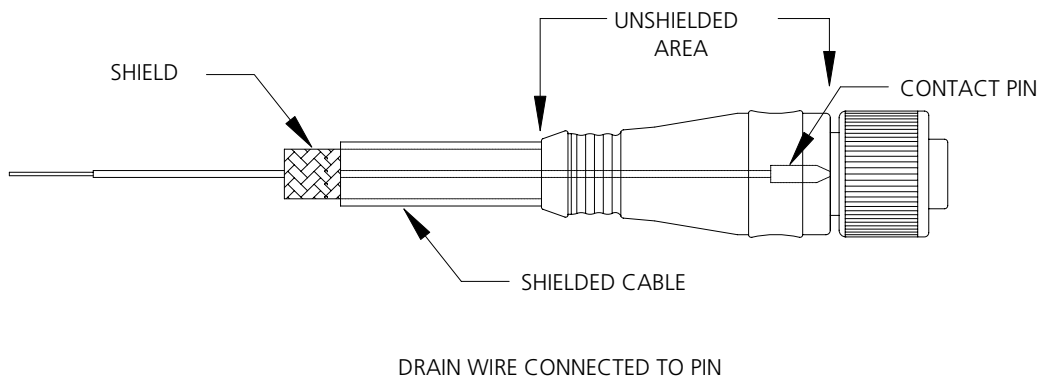
Braiding and Shielding

The Brad Harrison shielded cable design, unlike other designs, assures complete 360° cable/connector shielding.

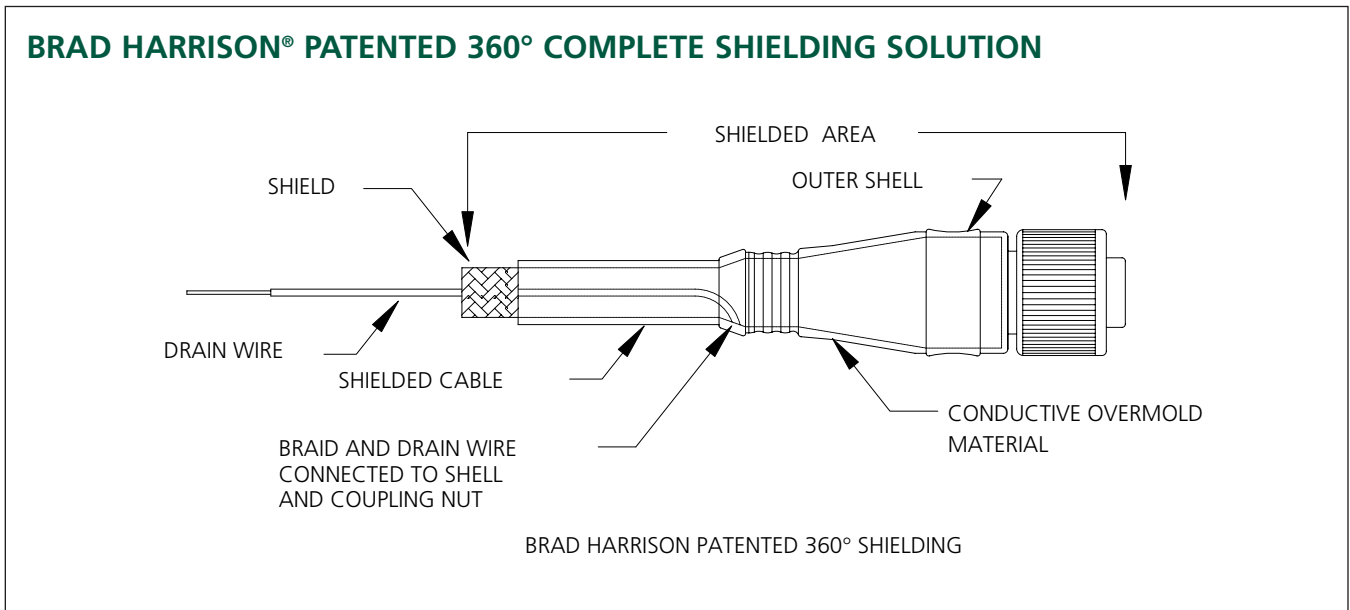
DRAIN WIRE CONNECTED TO COUPLING NUT – COMPETITIVE PRODUCT OFFERING



DRAIN WIRE CONNECTED TO PIN – COMPETITIVE PRODUCT OFFERING



Braiding and Shielding

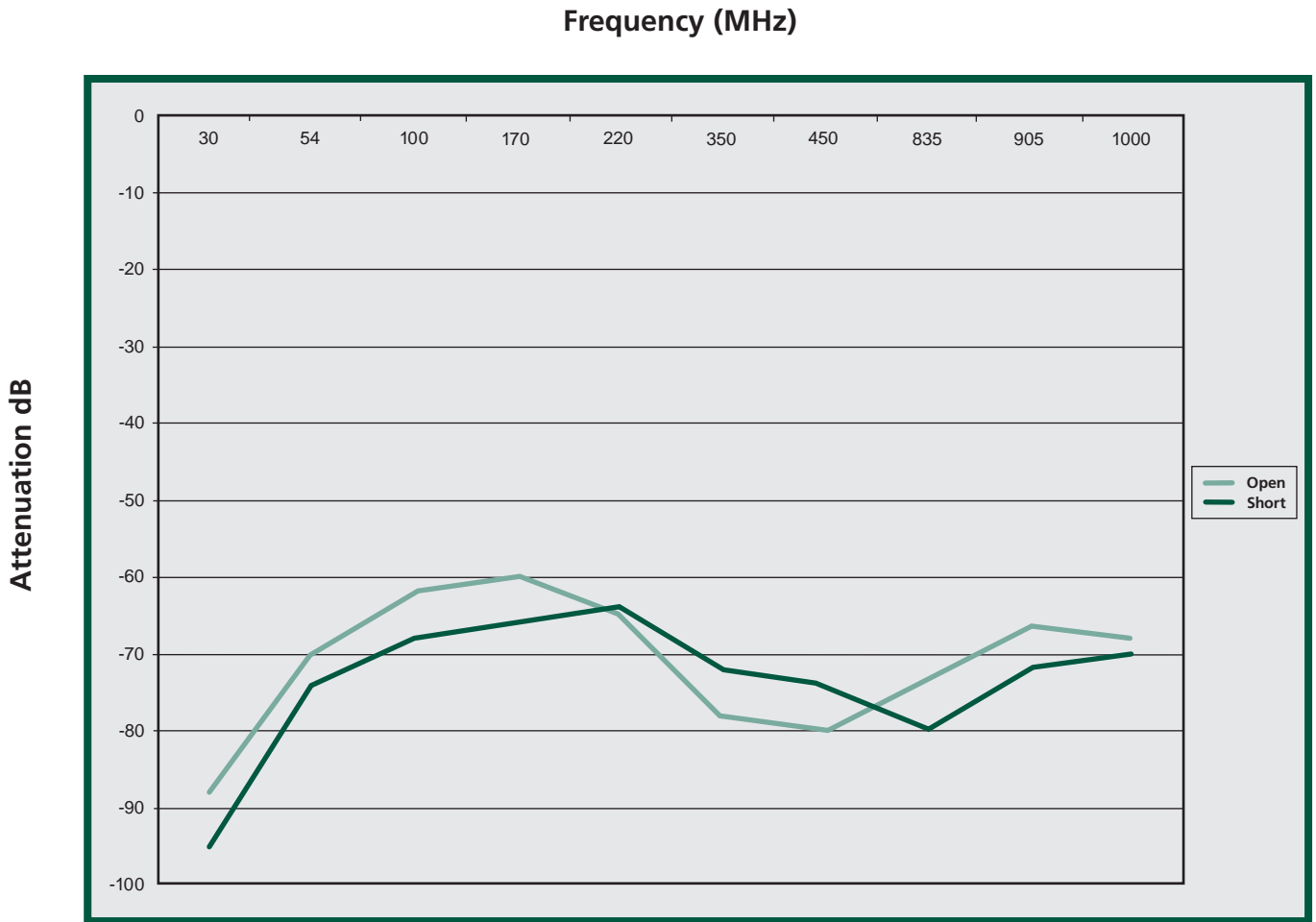


CE and Shielding

Please note that shielded connectors and cordsets **cannot carry the CE mark**. It is not appropriate to CE mark these products, rather the machinery as a whole needs to be tested per the CE regulations. Therefore, shielding effectiveness of molded connectors and cordsets can only be determined by testing the product in its intended installation. However, with the Brad Harrison 360° shielded cordsets, connector and interconnection systems the likelihood of passing the CE directives on EMI are greatly enhanced versus other shielded options.

Braiding and Shielding

Shielded Cable Attenuation — 360° Shielded Version



Pick The Right Material For Your Application

CABLE JACKET MATERIAL	RELATIVE COST	SUGGESTED APPLICATION
<p>PVC (polyvinylchloride) is among the most common thermoplastic jacketing materials in use today. It is easy to extrude and exhibits many excellent mechanical and electrical properties. PVC-jacketed cable can be either rigid or elastometric, depending on the formulation. PVC also offers good performance in a broad range of temperature conditions with excellent flame, heat, oxidation, moisture and abrasion resistance. PVC also offers excellent resistance to alkali, alcohol and some acids. Its dielectric constant range is from 3.5 to 6.5.</p>	LOW	The most common applications include control: instrumentation, data transmission, sound and general industrial machinery. In addition, it is the most cost-effective solution for a variety of applications!
<p>PUR (polyurethane) has good low temperature flexibility, high tensile strength and long flex life. PUR cables also offer excellent abrasion and cut resistance. PUR offers superior resistance to ozone, soluble oil, and synthetic coolants. It is resistant to ATF, gasoline and cutting oils. Plasticizers are generally NOT found in PUR formulations so migration of additives to the surface is NOT the case.</p>	MODERATE	Common applications include control, instrumentation, outdoor and higher flex applications. It is resistant to cutting oils, making it well suited for metal-cutting environments.
<p>Rubber – Type SJ00/S00</p> <p>Type SJ00 and S00 are thermoset rubber insulated cables. They perform extremely well in low temperature environments with excellent cut and abrasion resistance.</p>	MODERATE-HIGH	Their oil-resistance insulation and outer jacket are for applications where they are subjected to a wide range of oils and coolants. SJ00 and S00 also offer excellent weld slag and spark resistance.
<p>TPE (thermoplastic elastomer) - “Universal cable”</p> <p>TPE cable combines many of the best properties of PVC and rubber insulation. It offers excellent resistance to a broad range of oils, chemicals, acids and solvents while allowing a smaller, easier to run cable profile compared to rubber cables. Combined with a true, flex-rated construction it can serve as an excellent “universal” cable that will meet many demanding applications.</p>	MODERATE	It provides excellent resistance to flame and weld slag. It is particularly well-suited for flex applications on end of arm tooling, grippers and other automation lines. It is also resistant to the most caustic cutting fluids.

COUPLING NUT MATERIAL	BRAD HARRISON STANDARD	SUGGESTED APPLICATION
<p>Zinc Diecast, E-Coated coupling nuts are the standard for the majority of Brad Harrison products. This material offers superb corrosion resistance, up to 500 hours of continuous duty in a salt spray environment. Also, the E-coat prevents weld slag build up that can affect coupling/decoupling the connector.</p>	STANDARD	Common applications include automotive welding machinery and environments subjected to salt spray, such as food processing, pulp and paper, and marine applications.
<p>Stainless Steel coupling nuts are designed for food processing, outdoors, and other corrosive environments. These coupling nuts provide the longest protection against freezing and rusting. Stainless steel is a hard material, which helps prevent breakage or shattering in extreme environments and is easily cleaned.</p>	OPTIONAL	Common applications include both the food processing and pharmaceutical industries where stainless steel presents a surface on which bacteria and molds have a hard time growing.
<p>Nylon/Delrin coupling nuts are used in areas where stainless steel is not accepted.</p>	OPTIONAL	

Cable Code Chart

Catalog-Listed Cables

	COLOR ROTATION	WIRE GAUGE	#OF CONDUCTOR	VOLTAGE RATING	OUTER JACKET MATERIAL	CONDUCTOR INSULATION	STRANDING	TEMP RATING °C	UL TYPE	BRAD CABLE CODE
MINI-CHANGE	STANDARD COLOR CODE	16	2,3,4,5,6,7,8,9,10,12	600V	PVC	PVC	65 X #34	105	STOOW	A01
	AUTO COLOR CODE	16	3,5	600V	PVC	PVC	65 X #34	105	STOOW	A02
	AUTO COLOR CODE	18	2,3,4,5	300V	PVC	PVC	41 X #34	105	2661	A03
	DC COLOR CODE	18/22	6,8,10,11	300V	PVC	PVC	26 X #36 41 X #34	105	2661	A04
	DC COLOR CODE	18	3,4,5	600V	PVC	PVC	41 X #34	105	2661	A05
	INT'L /AC COLOR CODE	18	3	300V	PVC	PVC	41 X #34	105	2661	A06
	INT'L /AC COLOR CODE	20	5	300V	PVC	PVC	28 X 0.15mm	80	NO	A07 B13
	AUTO COLOR CODE	16	2,3,4,5	600V	NBR/PVC	HYPALON	65 X #34	90	S00	C01
STD COLOR CODE	16	2,3,4,5	600V	CPE	EPR	65 X #34	—	SOW	C10	
MICRO-CHANGE	AUTO COLOR CODE	18	2,3,4,5	300V	PVC	PVC	41 X #34	105	2661	A03
	DC COLOR CODE	18	3,4,5	600V	PVC	PVC	41 X #34	105	2661	A05
	DC COLOR CODE	22	3,4,5	300V	PVC	PVC	26 X #36	90	2661	A09
	INT'L /AC COLOR CODE	22	3,4	300V	PVC	PVC	26 X #36	80	NO	A11
	AUTO COLOR CODE	18	2,3,4,5	300V	PUR	PVC	26 X #36	80	20233	B01
	DC COLOR CODE	18	3,4	300V	PUR	PVC	26 X #36	80	20233	B02
	DC COLOR CODE	22	3	300V	PUR	PVC	26 X #36	80	20233	B10
	DC COLOR CODE	22	4	300V	PUR	Polyprop	26 x #36	80	20197	B11
	DC COLOR CODE	18	4	300V	PUR	Polyprop	168 X #40	80	20197	B12
	AUTO COLOR CODE	18	3,5	300V	PUR	Polyprop	168 X #40	80	20197	B13
	DC COLOR CODE	18	3,4	300V	CPE	EPDM	41 X #34	105	SJOOW	C02
	DC COLOR CODE	22	3,4,5	300V	PVC	PVC	26 X #36	105	2661	D01
	AUTO COLOR CODE	22	2,3,4,5,6	300V	PVC	PVC	16 X #36	105	2661	D02
	DC COLOR CODE	22	3,4,5	300V	PVC	PVC	26 X #36	80	2661	D04
	AUTO COLOR CODE	22	2,3,4,5,6	300V	PVC	PVC	26 X #36	105	2661	D05
	AUTO COLOR CODE	18	—	300V	TPE	PVC	41 X #34	80	20626	K02
DC COLOR CODE	18	—	300V	TPE	PVC	41 X #34	80	20626	K03	
NANO-CHANGE	DC COLOR CODE	24	3,4,5	300V	PVC	PVC	19 X #38	105	2661	A10
	DC COLOR CODE	24	3,4,5	300V	PUR	PVC	128 X #44	80	20233	B09
QUICK-CHANGE	STD COLOR CODE	14	2,3,4	600V	CPE	EPR	41 X #30	105	SOW	C05
	STD COLOR CODE	12	2,3,4	600V	CPE	EPR	65 X #30	105	SOW	C06
	STD COLOR CODE	10	2,3,4	600V	CPE	EPR	105 X #30	105	SOW	C07
DIN	INT'L /AC COLOR CODE	18	—	300V	PVC	PVC	21 X #32	80	—	A23
	INT'L /AC COLOR CODE	20	—	300V	PVC	PVC	15 X #32	80	—	E12
	INT'L /AC COLOR CODE	20	—	300V	PUR	PVC	15 X #32	80	—	P12
	INT'L /AC COLOR CODE	18	18, 11,10mm	300V	PVC	PVC	21 X #32	80	—	N
	INT'L /AC COLOR CODE	20	9.4 AND 8mm	300V	PVC	PVC	15 X #32	80	—	N
	INT'L /AC COLOR CODE	20	—	300V	PUR	PVC	15 X #32	80	—	T

Cable Chemical Resistance Chart

RESISTANCE TO:	CABLE JACKET MATERIAL			
	PVC	PUR	TPE	RUBBER SJ- AND SO
Oxidation	E	E	O	F
Heat	G-E	E	O	F
Oil	F	O	O	P
Low Temperature Flexibility	P-G	E	O	G
Weather, Sun	G-E	E	O	F
Ozone	E	E	E	P
Abrasion	F-G	E	E	E
Electrical Properties	F-G	E	E	G
Flame	E	E	O	P
Nuclear Radiation	F	E	P	F
Water	G-E	G-E	E	G
Acid	G-E	E	E	F-G
Alkali	G-E	E	E	F-G
Gasoline	P	E	E	P
Benzol, Tolulol (Aliphatic Hydrocarbons)	P-F	E	E	P
Degreaser Solvents (Haslogenated Hydrocarbons)	P-F	E	E	P
Alcohol (Halogenated Hydrocarbons)	G-E	E	E	G
Weld Slag	F	E	E	O

P=Poor, F=Fair, G=Good, E=Excellent, O=Outstanding

NOTE: These relative ratings are based on average performance. Special selective compounding of the jacket can improve the performance.

Specifications and Wire Diameters

American Wire Gauge (AWG)

AWG	STRANDS	NOMINAL OD OF STRAND (mm)	APPROXIMATE OD (mm)	CIRCULAR MIL AREA	WEIGHT LBS. PER 1000 FT	MAXIMUM RESISTANCE OHMS PER 1000 FT
10	105/30	.0100	.120	10552	32.5	1.15
10	49/27	.0142	.116	10445	32.6	1.21
10	37/26	.0159	.107	9402	29	1.26
12	165/34	.0063	.095	6549	19.8	1.58
12	65/30	.0100	.095	6533	20.8	1.85
12	19/25	.0179	.089	6088	18.8	1.92
12	7/20	.0320	.096	7168	21.6	1.45
14	105/34	.0063	.086	4173	13	2.49
14	41/30	.0100	.074	4121	12.7	2.94
14	19/27	.0142	.069	3829	11.9	3.05
16	105/36	.0050	.065	2625	8.1	3.99
16	65/34	.0063	.063	2584	8	4.02
16	26/30	.0100	.059	2613	8	4.59
16	19/29	.0113	.054	2426	7.5	4.82
16	7/24	.0201	.060	2628	8.6	3.7
18	65/36	.0050	.051	1625	5	6.4
18	41/34	.0063	.052	1629	5	6.37
18	19/30	.0100	.048	1608	4.9	6.22
18	16/30	.0100	.049	1608	4.9	6.60
18	7/26	.0159	.048	1770	5.5	6.54
20	41/36	.0050	.038	1025	3.2	10.02
20	26/34	.0063	.040	1033	3.2	10.05
20	19/32	.0080	.038	1201	3.7	9.76
20	10/30	.0100	.038	1005	3.1	11.8
20	7/28	.0126	.038	1119	3.5	10.4
22	26/36	.0050	.033	650	2	15.94
22	19/34	.0063	.033	754	2.3	15.9
22	7/30	.0100	.030	704	2.2	16.7
24	41/40	.0031	.0245	394	1.2	25.59
24	19/36	.0050	.024	475	1.5	25.4
24	10/34	.0063	.024	398	1.2	26.09
24	7/32	.0080	.024	448	1.4	23.3
26	19/38	.0040	.019	304	.92	40.1
26	10/36	.0050	.021	250	.77	41.48
26	7/34	.0063	.019	276	.85	42.6
28	19/40	.0031	.016	182	.563	67.7
28	7/36	.0050	.015	175	.539	68.2
30	19/42	.0025	.012	118	.359	87.3
30	7/38	.0040	.012	110	.34	108.00

Stranded Wire Cross-Reference, - mm² to strand count Standard Cable Length Tolerances - mm² to AWG

European Standards New guidelines have been established for measuring conductor sizes. In the past, conductors were normally measured by either their cross-sectional area, number and diameter or individual strands or both. The system for flexible conductors (columns 3 and 4 below) centers around the maximum strand diameter and the conductor resistance. In view of this, some cables may have fewer strands and smaller diameter than listed below but still conform to BS 6360: 1981, VDE 0295 and IEC 228 by having the correct conductor resistance.

CROSS SECTION (mm ²)	STRAND S BS 6360 CLASS 2 (mm ²)	MULTI-WIRE STRAND (mm ²)	FINE WIRE STRANDS BS 6360 CLASS 5 VDE 0295 (mm ²)	EXTRA-FINE WIRE STRANDS BS 6360 CLASS 6 VDE 0295 (mm ²)
	Column 1	Column 2	Column 3	Column 4
0.05				
0.08				
0.14				18 x 0.10
0.25			14 x 0.16	32 x 0.10
0.34		7 x 0.25	19 x 0.16	42 x 0.10
0.38		7 x 0.27	12 x 0.21	21 x 0.16
0.5	7 x 0.30	7 x 0.30	16 x 0.21	28 0.16
0.75	7 x 0.37	7 x .037	24 x 0.21	42 x 0.16
1.0	7 x 0.43	7 x 0.43	32 x 0.21	56 x 0.16
1.5	7 x 0.52	7 x 0.52	30 x 0.26	84 x 0.16
2.5	7 x 0.67	19 x 0.41	50 x 0.26	140 x 0.16
4	7 x 1.05	19 x 0.52	56 x 0.31	224 x 0.16
6	7 x 1.05	19 x 0.64	84 x 0.31	192 x 0.21
10	7 x 1.35	49 x 0.51	80 x 0.31	321 x 0.21

CABLE CROSS REFERENCE - AWG TO MM²

AWG	mm ²	AWG	mm ²	AWG	mm ²
30	0.05	21	0.38	16	1.5
28	0.08	20	0.50	14	2.5
26	0.14	18	0.75	12	4
24	0.25	17	1.0	10	6
22	0.34	—	—	8	10

BRAD HARRISON® STANDARD CABLE LENGTH TOLERANCES

LENGTH OF ASSEMBLIES (FEET)	TOLERANCE (INCHES)	LENGTH OF CABLE ASSEMBLIES (METERS)	TOLERANCE (CM)
> 1'	.75"	>.3m	1.91cm
1' - 3'	1.75"	.3m - .9m	4.45cm
3' - 6'	2.19"	.9m - 1.8m	5.56cm
6' - 12'	3.50"	1.8m - 3.7m	8.89cm
12' - 24'	6.50"	3.7m - 7.3m	16.51cm
24' - 48'	12.50"	7.3m - 14.6m	31.75cm
48' - 100'	24.50"	14.6m - 30.5m	62.23cm
over 100'	+2% of finished length	Over 30m	+2% of finished length

Note: Higher tolerance cable assemblies can be specified at additional cost.

Approval Codes and Applicable Protection Standards

Standards as defined in the following section may apply to products or components found within this catalog. The user should always use the original standards and documents for interpretation. It is the responsibility of the user to determine the suitability of use for the products represented in this catalog.

ANSI/B93.55M-1981 - American National Standards Institute generally defines the geometry and connection scheme of the “mini” type connectors used in fluid power (valve) applications. Automotive standard conductor colors, which are widely used on sensors, is the basis for this specification. The Mini-Change® type of connectors have their pins and conductor sizes defined for them for the 3 and 5 pin versions.

ASTM - American Society of Testing and Materials, a standards organization which suggests test methods, definitions and practices.

AWM - AWM cable is intended for the internal wiring factory-assembled, listed appliances such as computers, business machines, ranges, washers, dryers, radios, etc... In the past AWM cable was incorrectly used to wire buildings; this was never its intended use. In some cases AWM cable may be used for external connection. In these situations, the user should be aware that the AWM cable temperatures and voltage ratings may differ from the NEC ratings.

CENELEC EN 50 044

Section 1. Scope

This specification identifies connections for inductive proximity switches. It defines the conductor colors used on 2, 3 and 4 wire proximity switches. It also defines the numerical marking of the terminals, whether quick disconnect, or not.

Section 2. Execution of Proximity Switches

The proximity switches are distinguished by their execution:

Proximity switches with integral connecting leads: the connection is identified by the color of the conductor.

Proximity switches with connecting terminals for connection: the terminals are identified by numerical marking.

Section 3. Identification by color of the conductors

A protective conductor, if it exists, shall be identified according to IEC publication 446, i.e. green/yellow.

3.1 Unpolarized proximity switches for direct current or alternating current

The proximity switch is connected in series with the load:

Unpolarized proximity switches, with two conductors, for direct current or alternating current, may have conductors of any color except green/yellow.

3.2 Polarized proximity switches for direct current supply

3.2.1. Proximity switches with two conductors

Approval Codes and Applicable Protection Standards

The proximity switch is connected in series with the load:

The conductor for the plus (+) pole shall be BROWN,

The conductor for the minus (-) pole shall be BLUE.

3.2.2. Proximity switches with three or four conductors

The conductors shall be identified as follows:

Conductors for the supply voltage:

BROWN for plus (+) pole,

BLUE for the minus (-) pole

Conductors for the load output:

The output conductor for three conductor devices shall be BLACK, whatever the function.

The output conductor for four conductor devices shall be: BLACK for make operation, WHITE for break operation.

Section 4. Identification by numerical marking of the terminals

The terminal for a protective conductor, if it exists, shall be marked according to IEC publication 445.

4.1. Unpolarized proximity switches for direct current or alternating current

The proximity switch is connected in series with the load. For unpolarized proximity switches with two terminals, for direct current or alternating current, the terminals shall be marked as follows:

3 and 4 for make operation,

1 and 2 for break operation

4.2 Polarized proximity switches for direct current supply

4.2.1. Proximity switches with two terminals

The proximity switch is connected in series with the load. The terminal for the plus (+) pole shall be marked 1, the terminal for the minus(-) pole shall be marked:

4 for make operation

2 for break operation

4.2.2. Proximity switch with three or four terminals

The terminals shall be marked as follows:

Terminals for supply voltage:

1 for the plus (+) pole,

3 for the minus (-) pole

Terminals for the load output

4 for make operation

2 for break operation

CE - The CE mark cannot and must not be applied to electronic components of which cables, cordsets and connec-

tors are a part. The latest rules for CE marking in accordance with the low-voltage Directive (73/23/EEC-July 1997) state that electronic components are exempted from the scope of application of the Low-voltage directive. Instead manufacturers of equipment must comply with the appropriate EC directives applicable to the machine and electrical sub-systems as a whole for CE compliance.

CSA - Government run laboratory that tests products to ensure conformity to a set of standard tests as defined by this body. Similar to UL standards in the US.

DIN 43560 - Defines the mechanical geometry and other characteristics of the rectangular style of connectors most frequently found on hydraulic and pneumatic valves in the fluid power industry.

FT 1 Vertical Flame Test per CSA C22.2

No 0.3-92 Para 4.11.1

A finished cable shall not propagate a flame or continue to burn for more than (1) minute after five (5) fifteen (1) second applications of the flame. There is an interval of fifteen (15) seconds between the flame applications. The flame test shall be performed in accordance with Para 4.11.1 of the CSA Standard C22.2 No 0.3. in addition, if more than 25% of the indicator flag is burned, the test cable fails.

FT 4 Vertical Flame Test - Cables in Cable Trays per C.S.A. C22.2

No 0.3-92 Para 4.11.1

Similar to the UL 1581 Vertical Flame Test, but is more severe. The FT 4 Test has its burner mounted at 20 degrees from the horizontal with the burner post facing up. The UL-1581 Vertical Tray has its burner at 0 degrees from the horizontal. The FT 4 samples must be larger than the 13mm (0.512") in diameter. If not, then the cable samples are grouped in units of at least (3) to obtain a grouped overall diameter of 13mm. The UL-1581 Vertical Tray does not distinguish on cable size. The FT 4 has a maximum char height of 1.5m (59") measure from the lower edge of the burner face. The UL-1581 has a flame height allowable up to approximately 78" measured from the burner.

FT 6 Horizontal Flame and Smoke Test per C.S.A. C22.2

No 0.3-92 Appendix B

Cables passing the FT 6 Horizontal Flame and Smoke Test are designated FT 6 in the column where the trade number appears. This test is in accordance with ANSI/NFPA Standard 262-1985 (UL-910). The maximum flame spread shall be 1.50 meters (4.92 feet). The smoke density shall be 0.5 at peak optical density and 0.15 at maximum average optical density.

Approval Codes and Applicable Protection Standard

IEC Protection Classes (See chart on page 313)

IP 40- Protection against solid bodies larger than 1mm. No liquid protection defined.

IP 65- Dust tight. Protection against water spray from all directions at 43 PSI through a 12mm nozzle.

IP 67- Dust tight. Protection against the effects of immersion in water for 30 minutes at a depth of 1 meter.

IP 68- Dust tight. Protection against the effects of indefinite immersion in water at a pressure specified by the manufacturer. The manufacturer's specifications must be known if a valid comparison is to be made.

National Electrical Code - Although the NEC covers wire and cable installed in factories, office buildings, etc as well all cable which pass through any floor, wall ceiling or which travel in ducts, plenums and other air handling spaces, each individual municipality, city, county or state can decide whether or not they wish to adopt the NEC as governing law.

NFPA (National Fire Protection Association)

NEMA (National Electrical Manufacturers Association)- Defines the degree of protection in the actual test specifications.

NEMA 1- Enclosures are intended for use primarily to provide a degree of protection against limited amounts of falling dirt.

NEMA 3- Enclosures are intended for outdoor use primarily to provide a degree of protection against windblown dust, rain, sleet and external ice formation.

NEMA 4- Enclosures are intended for indoor or outdoor use primarily to provide a degree of protection against windblown dust, rain, sleet, splashing water, hosedown and external ice formation.

NEMA 6- Enclosures are intended for indoor or outdoor use primarily to provide a degree of protection against the entry of water during occasional temporary submersion at a limited depth.

NEMA 6P - Enclosures are intended for indoor or outdoor use primarily to provide a degree of protection against the entry of water during prolonged submersion at a limited depth.

Approval Codes and Applicable Protection Standards

UL and UR

Designated Underwriters Laboratories “UL Listed” and “UL Recognized”, respectively. UL is a nationally recognized laboratory that tests many products to meet safety standards that are defined in their own and other industry specifications.

VDE 0100

Defines the minimum creepage distances of the equipment to prevent hazardous electrical current and voltage for persons and objects. Isolation Class C includes the equipment mainly designed for industrial and agricultural applications in warehouses without heating, in workshops or machine tools.

VW-1

A flammability rating established by Underwriters Laboratories for wires and cables that pass a specially designed vertical flame test.

Approval Codes and Applicable Protection Standards

IP Ratings Table – Definition

CODE LETTER
(INTERNATIONAL PROTECTION)












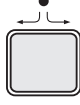

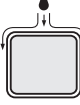


IP

FIRST INDEX FIGURE
(FOREIGN BODIES PROTECTION)

6

SECOND INDEX FIGURE
(WATER PROTECTION)

5

INDEX FIGURE	DEGREE OF PROTECTION			INDEX FIGURE	DEGREE OF PROTECTION		
0	No protection		No Protection against accidental contact, no protection against foreign bodies	0	No protection		No Protection against water
1	Protection against large foreign bodies		Protection against contact with any large area by hand and against large solid bodies with $\varnothing > 50\text{mm}$	1	Drip-Proof		Protection against vertical water drips
2	Protection against medium sized foreign bodies		Protection against contact with the fingers, protection against small foreign solid bodies with $\varnothing > 12\text{mm}$	2	Drip-Proof		Protection against water drips (up to a 15° angle)
3	Protection against small solid foreign bodies		Protection against tools wires, or similar objects with $\varnothing > 2.5\text{mm}$ protection against small foreign solid bodies with $\varnothing > 2.5\text{mm}$	3	Spray-proof		Protection against water drips (up to a 60° angle)
4	Protection against grain-shaped foreign bodies		As 3 however $\varnothing > 1\text{mm}$	4	Spray-proof		Protection against splashed water from all directions
5	Protection against deposits of dust		Full protection against contact. Protection against interior equipment damage due to dust deposits	5	Hose-proof		Protection against splashed water (out of a nozzle) from all directions
6	Protection against ingress of dust		Total protection against contact. Protection against penetration of dust	6	Protected against flooding		Protection against temporary flooding
\varnothing = diameter of foreign body				7	Protected against immersion		Protected against temporary immersion
				8	Water-tight		Protected against water pressure

A

ABRASION RESISTANCE

Ability of wire, cable or material to resist surface wear.

AC (ALTERNATING CURRENT)

Current in which the charge-flow periodically reverses and is represented by: $I = I_0 \cos(2f + \emptyset)$ Where, I is the current, I_0 is the amplitude, f the frequency, \emptyset the phase angle.

AMBIENT TEMPERATURE

The temperature of a medium (gas or liquid) surrounding an object.

AMERICAN WIRE GAUGE (AWG)

The standard system used for designating wire diameter. The lower the AWG number, the larger the diameter. Also called the Brown and Sharpe (B&S) wire gauge.

AMPERE (A)

The unit of current. One ampere is the current flowing through one ohm of resistance at one volt potential.

ANALOG

Representation of data by continuously variable quantities.

ANNEAL

To soften and relieve strains in any solid material, such as metal or glass, by heating to just below its melting point and then slowly cooling it. Annealing generally lowers the tensile strength of the material, while improving its flex life and flexibility.

ANSI

Abbreviation for American National Standard's Institute.

AWM – APPLIANCE WIRING MATERIAL

A UL designation covering insulated wire and cable for internal wiring of appliances and equipment.

ARMORED CABLE

A cable provided with a wrapping of metal for mechanical protection.

ASTM

Abbreviation for the American Society for Testing and Materials, a non-profit industry-wide organization which publishes standards, methods of tests, recommended practices, definitions and other related material.

AWG

See American Wire Gauge.

AWM APPLIANCE WIRING

See appliance wiring material.

B

BINDER

A spirally served tape or thread used for holding assembled cable components in place awaiting subsequent manufacturing operations.

BRAID

A fibrous or metallic group of filaments interwoven in cylindrical form to form a covering over one or more wires.

BREAKDOWN (PUNCTURE)

A disruptive discharge through insulation.

BREAKDOWN VOLTAGE

The voltage at which the insulation between two conductors breaks down.

C

CABLE

A stranded conductor with or without insulation and other coverings (single-conductor cable), or a combination of conductors (multiple-conductor cable).

CABLE FILLER

The material used in multiple-conductor cables to occupy the interstices formed by the assembly of the insulated conductors, thus forming a cable core.

CABLE SHEATH

The protective covering applied to cables.

CABLING

Twisting together two or more insulated conductors by machine to form a cable. In fiber optics, a method by which a group or bundle of fibers is mechanically assembled.

CAPACITANCE (C)

The ability of dielectric material between conductors to store electricity when a difference of potential exists between the conductors. The unit of measure is the farad, which is the capacitance value that will store a charge of one coulomb when a one-volt potential difference exists between the conductors. In ac, one farad is the capacitance value which will permit one ampere of current when the voltage across the capacitor charges at a rate of one volt per second.

CENELEC

European standards agency; European committee for Electrotechnical Norms.

CSPE-DIELECTRIC

CSPE-CHLOROSULFONATED POLYETHYLENE

A rubbery polymer used for insulations and jackets. Manufactured by E.I. DuPont under the trade name of Hypalon.

COAXIAL CABLE

A cylindrical transmission line comprised of a conductor centered inside a metallic tube or shield, separated by a dielectric material, and usually covered by an insulating jacket.

COLOR CODE

A color system for wire or circuit identification by use of solid colors, tracers, braids, surface printing etc.

COMPLEMENTARY OUTPUT

A solid state sensor with one N.O. and N.C. output similar to a mechanical SPDT or DPST contact.

COMPOUND

An insulating or jacketing material made by mixing two or more ingredients.

CONDUCTIVITY

The ability of a material to allow electrons to flow, measured by the current per unit voltage applied. It is the reciprocal of resistivity.

CONDUCTOR

A wire (or combination of wires not insulated from one another) suitable for carrying electric current.

CONDUIT

A tube or trough in which insulated wires and cables are run.

CONNECTOR

A device used to provide rapid connect/disconnect service for electrical cable and wire terminations.

CONTACT

The part of a connector which actually carries the electrical current, and are touched together or separated to control the flow.

CONTROL CABLE

A multiconductor cable made for operation in control of signal circuits.

COPOLYMER

A compound resulting from the polymerization of two different monomers.

CORDSET

Portable cord fitted with a wiring device at one or both ends.

CORD

A small, flexible insulated cable.

CREEPAGE SURFACE

An insulating surface which provides physical separation as a form of insulation between two electrical conductors of different potential.

CREEPAGE

The conduction of electricity across the surface of a dielectric.

CRIMP TERMINATION

Connection in which a metal sleeve is secured to conductor by mechanically crimping the sleeve with pliers, presses, or automated crimping machines.

CROSS-LINKED

Inter-molecular bonds between long chain thermoplastic polymers created by means of chemical or electron bombardment. The properties of the resulting thermo-setting materials are usually improved.

CSA

Abbreviation for Canadian Standards Association, a non-profit independent organization which operates a listing service for electrical and electronic materials and equipment. The Canadian counterpart of the Underwriters Laboratories.

CURRENT (I)

The rate of transfer of electricity. Practical unit is the ampere which represents the transfer of one coulomb per second. In a simple circuit, current (I) produced by a cell or electromotive force (E) when there is an external resistance (R) and internal resistance (r) is $I = E / (R + r)$.

CURRENT CARRYING CAPACITY

The maximum current an insulated conductor can safely carry without exceeding its insulation and jacket temperature limitations.

CUT-THROUGH RESISTANCE

The ability of material to withstand mechanical pressure, usually a sharp edge or small radius, without separation.

D

DIELECTRIC

An insulating medium which intervenes between two conductors and permits electrostatic attraction and repulsion to take place across it.

DIELECTRIC-HYGROSCOPIC

DIELECTRIC STRENGTH

The voltage which an insulation can withstand before break-down occurs. Usually expressed as a voltage gradient (such as volts per mil).

DC-DIRECT CURRENT

An electric current which flows in only one direction.

DRAIN WIRE

In a cable, the uninsulated wire laid over the component or components and used as a ground connection.

E

E

Symbol for voltage. Usually used to represent direct voltage or the effective (Root-mean-square) value of an alternating voltage.

EARTH

British terminology for zero-reference ground.

EIA

Electronic Industries Association (formerly RMA or RETMA).

ELASTOMER

A rubber or rubber-like material which will stretch repeatedly to 200 percent or more and return rapidly and with force to its approximate original shape.

EPDM

Ethylene-propylene-diene monomer rubber. A material with good electrical insulating properties.

EPR

Ethylene-propylene copolymer rubber. A material with good electrical insulating properties.

EXTRUDED CABLE

Cable with conductors which are uniformly insulated and formed by applying a homogeneous insulation material in a continuous extrusion process.

F

FEP

Fluorinated ethylene-propylene. A thermo-plastic material with good electrical insulating properties and chemical and heat resistance.

FILLERS

Non-conducting components cabled with the insulated conductors or optical fibers to impart roundness, flexibility, tensile strength, or a combination of all three, to the cable.

FINE STRANDED WIRE

Stranded wire with component strands of 36 AWG or smaller.

FLEXIBLE

That quality of cable or cable component which allows for bending under the influence of outside force, as opposed to limpness which is bending due to the cable's own weight.

FR-1

A flammability rating established by Underwriter's Laboratories for wires and cables that pass a specially designed vertical flame test. This designation has been replaced by VW-1.

G

GAUGE

A term used to denote the physical size of a wire.

GROUND

An electrical connection to the earth, generally through a ground rod. Also a common return to a point of zero potential, such as the metal chassis in radio equipment.

GROUND LOOP

A completed circuit between shielded pairs of a multiple pair created by random contact between shields. An undesirable circuit condition in which interference is created by ground currents when grounds are connected at more than one point.

GROUND POTENTIAL

The potential of the earth. A circuit, terminal, or chassis is said to be a ground potential when it is used as a reference point for other potentials in the system.

H

HERTZ (HZ)

The unit of frequency, one cycle per second.

HI-POT

A test designed to determine the highest voltage that can be applied to a conductor without breaking through the insulation.

HYGROSCOPIC

Capable of absorbing moisture from the air.

HYPALON-MOISTURE

HYPALON

A DuPont trade name for synthetic rubber (chlorosulfonated Polyethylene) used as insulating and jacketing material for wire and cable.

I

IEC

European Standardization agency; International Electrotechnical Commission.

IEEE

Abbreviation for Institute of Electrical and Electronics Engineers.

IMPEDANCE (Z)

The total opposition that a circuit offers to the flow of alternating current of any other varying current at a particular frequency. It is a combination of resistance R and reactance X, measured in ohms.

INDUCTANCE (L)

A property of a conductor or circuit which resists a change in current. It causes current changes to lag voltage changes and is measured in henrys.

INDUCTIVE PROXIMITY SENSOR

A sensing device that is actuated by a metal object.

INPUT

A signal (or power) which is applied to a piece of electrical apparatus or the terminals on the apparatus to which a signal or power is applied.

INSULATION

A material having good dielectric properties which is used to separate close electrical components, such as cable conductors and circuit components.

IR DROP

The designation of a voltage drop in terms of current and resistance.

IRRADIATION

In insulation, the exposure of the material to high energy emissions for the purpose of favorably altering the molecular structure.

J

JACKET

Pertaining to wire and cable, the outer protective covering, may also provide additional insulation.

L

LEAD DRESS

The placement or routing of wiring and component leads in an electrical circuit.

LEAKAGE

The undesirable passage of current over the surface of or through an insulator.

LED

Light emitting diode used to indicate device status.

LIMPNESS

The ability of a cable to lay flat or conform to a surface as with microphone cables (also see flexibility).

LINE VOLTAGE

The value of the potential existing on a supply or power line.

LITZ WIRE

Fine stranded cable or wire.

LOAD

A device that consumes power from a source and uses that power to perform a function.

LONGITUDINAL WRAP

Tape applied longitudinally with the axis of the core being covered.

M

MCM

One thousand circular mils.

MHZ

Megahertz.

MICROFARAD

One-millionths of a farad (μf or mfd are common abbreviations).

MICRON

millionth of a meter = 10^{-6} meters.

MIL

A unit used in measuring diameter of a wire or thickness of insulation over a conductor. One-one thousandth of an inch (.001").

MOISTURE RESISTANCE

The ability of a material to resist absorbing moisture from the air or when immersed in water.

MOLDED-POLYBUTADIENE

MOLDED PLUG

A connector molded on either end of a cord or cable.

MTW

Thermoplastic insulated machine tool wire. 600V rating.

MULTIPLEX

A technique for putting two or more signals into a single channel.

MUTUAL CAPACITANCE

Capacitance between two conductors when all other conductors are connected together.

MYLAR

DuPont trademark for polyester film.

N

NAMUR SENSOR

A 2-wire, analog DC sensor which requires a remote amplifier for operation (Normenausschuss Arbeitskreis Mess und Regeltechnik).

NEC (NATIONAL ELECTRIC CODE)

A set of regulations governing construction and installation of electrical wiring and apparatus in the United States, established by the American National Board of Fire Underwriters.

NEMA

National Electrical Manufacturers Association.

NEOPRENE

A synthetic rubber with good resistance to oil, chemical, and flame. Also called polychloroprene.

NFPA

Abbreviation for National Fire Protection Association. Administrative Sponsor for the National Electrical Code (ANSI Standards Committee (CI).

NOISE

In a cable or circuit, any extraneous signal which tends to interfere with the signal normally present in or passing through the system.

NPN OUTPUT

Transistor output that switches the common or negative voltage to the load (current sinking). Load connected between output and positive supply.

NYLON

An abrasion-resistant thermoplastic with good chemical resistance, also known as PA.

O

OHM

The electrical unit of resistance. The value of resistance through which a potential difference of one volt will maintain a current of one ampere.

OHMS LAW

$E = U \times R$. Voltage (E) is directly proportional to the product of current (I) and resistance (R) of circuit.

OUTPUT

The useful power or signal delivered by a circuit or device.

OZONE

Extremely reactive form of oxygen, normally occurring around electrical discharges and present in the atmosphere in small but active quantities. In sufficient concentrations it can break down certain rubber insulations under tension (such as a bent cable).

P

PBT

Polybutylene terephthalate. A long fiber-reinforced thermoplastic with outstanding chemical resistance and dimensional stability properties.

PICOFARAD

One-millionth of one-millionth of a farad. A micro-microfarad or picofarad (abbreviation pf).

PLASTIC

High polymeric substances, including both natural and synthetic products, but excluding the rubbers, that are capable of flowing under heat and pressure.

PLASTICIZER

A chemical agent added to plastics to make them softer and more pliable.

PLUG

The part of the two mating halves of a connector which is movable when not fastened to the other mating half.

PNP OUTPUT

Transistor output that switches the positive voltage to the load (current sourcing). Load connected between output and common.

POLYESTER-SHIELD

POLYBUTADIENE

A type of synthetic rubber often blended with other synthetic rubbers to improve their properties.

POLYESTER

Polyethylene terephthalate, used extensively as a moisture resistant cable core wrap.

POLYETHYLENE(PE)

A thermoplastic material having excellent electrical properties.

POLYMER

A material of high molecular weight formed by the chemical union of monomers.

POLYOLEFIN

Any of the polymers and copolymers of the ethylene family of hydrocarbons.

POLYPROPYLENE

A thermoplastic similar to polyethylene but stiffer and having higher softening point (temperature); excellent electrical properties.

POLYURETHANE (PUR)

Broad class of polymers noted for good abrasion and solvent resistance. Can be in solid or cellular form.

POLYVINYL CHLORIDE (PVC)

A general purpose thermoplastic widely used for wire and cable insulations and jackets.

POTTING

The sealing of a cable termination or other component with a liquid which thermosets into an elastomer.

POWER

The amount of work per unit of time. Usually expressed in watts and equal to I^2R .

PROXIMITY SWITCH

A sensing device that detects the presence of an object without physical contact.

R

REACTANCE (X)

A measure of the combined effects of capacitance and inductance on an alternating current. The amount of such opposition varies with the frequency of the current. The reactance of a capacitor decreases with an increase in frequency; the opposite occurs with an inductor.

RESISTANCE (R)

A measure of the difficulty in moving electrical current through a medium when voltage is applied. It is measured in ohms.

RETRACTILE CHORD

A cord having specially treated insulation or jacket so that it will retract like a spring. Retractability may be added to all or part of a cord's length.

ROPE LAY CONDUCTOR

A conductor composed of a central core surrounded by one or more layers of helically laid groups of wires.

RUBBER (WIRE INSULATION)

A general term used to describe wire insulations made of thermosetting elastomers, such as natural or synthetic rubbers, neoprene, hypalon, buty rubber, and others.

S

S

Heavy duty, rubber-insulated portable cord. Stranded copper conductors with separator and individual rubber insulation. Two or more color coded conductors cabled with filler, wrapped with separator and rubber jacketed overall. 600V.

SAE

Society of Automotive Engineers.

SBR

A copolymer of styrene and butadiene. Also GR-S or Buna-S. Most commonly used type of synthetic rubber.

SELF EXTINGUISHING

The characteristic of a material whose flame is extinguished after the igniting flame is removed.

SEMI-RIGID

A cable containing a flexible inner core and a relatively inflexible sheathing.

SEPARATOR

A layer of insulating material which is placed between a conductor and its dielectric, between a cable jacket and the components it covers, or between various components of a multiple-conductor cable.

SERVE

A filament or group of filaments such as fibers or wires, wound around a central core.

SHEATH

The outer covering or jacket of a multiconductor cable.

SHIELD-THERMOPLASTIC

SHIELD

In cables, a metallic layer placed around a conductor or group of conductors to prevent electrostatic or electromagnetic interference between the enclosed wires and external fields.

SHIELD PERCENTAGE

The physical area of a circuit or cable actually covered by shielding material expressed as a percentage.

SIGNAL

Any visible or audible indication which can convey information. Also, the information conveyed through a communication system.

SILICONE

General Electric trademark for a material made from silicone and oxygen. Can be in thermosetting elastomer or liquid form. The thermosetting elastomer form is noted for high heat resistance.

SJ

Junior hard service, rubber insulated pendant or portable cord. Same construction as type S, but 300V. Jacket thickness differs.

SJO

Same as SJ, but Neoprene, oil-resistant compound outer jacket. Can also be made "water-resistant". 300V, 60°C.

SJT

Junior hard service thermoplastic or rubber insulate conductors with overall plastic jacket. 300V, 60°C.

SJTO

Same as SJT but oil-resistant plastic outer jacket. 60°C.

SO

Hard service cord, same construction as type S except oil resistant rubber jacket. 600V, 60 to 90°C.

SOLID CONDUCTOR

A conductor consisting of a single wire.

SOLID STATE

Pertains to circuits and components using semiconductors without moving parts. Example: transistors, diodes, SCR, etc.

SOOW

Same as SOW but with oil-resistant rubber conductor insulation and suitable for outdoor use.

SOW

Rubber-jacketed portable cord with oil and water-resistant outer jacket.

ST

Hard service cord, jacketed, same as Type S except all plastic construction 600V, 60 to 105°C.

STOW

Same as STO but with oil and water resistant plastic outer jacket. 600V, 105°C.

STRANDED CONDUCTOR

A conductor composed of groups of wires twisted together.

SV

Vacuum cleaner cord, two or three conductor, rubber insulated. Overall rubber jacket. For light duty in damp locations. 300V, 60°C.

SVO

Same as SV except Neoprene jacket 300V, 60°C.

SVT

Same as SV except all plastic construction. With or without third conductor for grounding purposes only. 300V, 60 to 90°C.

SVTO

Same as SVT except with oil-resistant jacket. 60°C.

T

TEFLON

DuPont Company trade name for fluorocarbon resins. FEB, PFA and TFE are typical materials.

TEFZEL

DuPont trade name for a fluorocarbon material typically used as a wire wrap insulation.

TEMPERATURE RATING

The maximum temperature at which an insulating material may be used in continuous operation without loss of its basic properties.

TEW

Canadian Standard Association type appliance wires. Solid or stranded single conductor, plastic-insulated. 600V 105°C TFE: Teflon® (tetrafluoroethylene).

THERMAL RATING

The temperature range in which a material will perform its function without undue degradation.

THERMOPLASTIC

A material which will soften, flow, or distort appreciably when subjected to heat and pressure.

THERMOSET-XLPE

THERMOSET

A material which hardens or sets when heat is applied, and which, once set, cannot be resoftened by heating. The application of heat is called "curing".

THHN

90°C 600V nylon jacketed building wire.

THW

Thermoplastic vinyl insulated building wire. Flame retardant, moisture and heat resistant. 75°C. Dry and wet locations.

THWN

Same as THW but with nylon jacket over. 75°C.

TINSEL

A type of electrical conductor comprised of a number of tiny threads, each thread having a fine, flat ribbon of copper or other metal closely spiraled about it. Used for small size cables requiring limpness and extra-long flex life.

TPE

Thermoplastic elastomer. A thermoplastic compound with exceptional chemical, oil, and weld slag resistance used as a jacket material in multiconductor cables.

TW

Thermoplastic vinyl-jacketed building wire, moisture-resistant. 60°C.

TWISTED PAIRS

A cable composed of two small insulated conductors twisted together without a common covering.

U

UL

Underwriter's Laboratories, Inc.

V

VA

Volt-Ampere. A designation of power in terms of voltage and current.

VDR

Voltage Dependent Resistor. A surge suppression circuit type where the resistance varies inversely with the applied voltage.

VDE

German approval agency.

VOLT (V)

A unit of electrical pressure. One volt is the electrical pressure that will cause one ampere of current to flow through one ohm of resistance.

VOLTAGE

The term most often used in place of electromotive force, potential difference, or voltage drop to designate the electric pressure that exists between two points and is capable of producing a current when a closed circuit is connected between two points.

VOLTAGE DROP

The voltage developed across a component or conductor by the current flow through the resistance or impedance of the component or conductor.

VOLTAGE RATING

The highest voltage that may be continuously applied to a wire in conformance with standards or specifications.

VW-1

A flammability rating established by Underwriter's Laboratories for wires and cables that pass a specially designed vertical flame test, formerly designated FR-1.

W

WATT (W)

A unit of electrical power. One watt is equivalent to the power represented by one ampere of current with a pressure of one volt in a DC circuit.

WELD FIELD IMMUNE

Devices carrying this designation will not false trigger in the presence of extreme electromagnetic fields produced by resistance welders.

WICKING

The longitudinal flow of a liquid in a wire or cable due to capillary action.

X

XLPE

Crosslinked polyethylene.

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A01C4H222	BNY601P-FBM-10306	BTY801P-FBP-05270	D130B4A23M0x0204
A01C4L222	BNY601P-FBP-05306	BTY801P-FBP-10270	D130B4P12M0x0204
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A07C4L222	BTY401N-FBP-05270	C05207N62220	D850D1A23M0x0206
A07C4M222	BTY401N-FBP-10270	C05307G62220	D850D1P12M0x0206
A08C4H222	BTY401P-FBB262	C05307N62220	D85000A23M0x0206
A08C4L222	BTY401P-FBC266	C12FA01022266	D85000P12M0x0206
A08C4M222	BTY401P-FBE-05270	C12FA01023266	D85001A23M0x0206
A09C4H222	BTY401P-FBE-10270	C12FA01024266	D85001P12M0x0206
A09C4L222	BTY401P-FBP-05270	C12FA01122266	E130B4A23M0x0198
A09C4M222	BTY401P-FBP-10270	C12FA01123266	E130B4P12M0x0198
A10C4H222	BTY4030-FBP-05276	C12FA01124266	E130D4A23M0x0198
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A11C4H222	BTY403N-FBP-10276	C12209G21214	E13004P12M0x0198
A11C4L222	BTY403P-FBA272	C12209N21214	E13004P12M0x0198
A11C4M222	BTY403P-FBA272	C12213N21214	E332Nx0012000194
BEYA01P-FBM-05310	BTY403P-FBA272	C12313G21214	E332Px0012000194
BEYA01P-FBM-10310	BTY403P-FBP-05276	C18209G21212	E392Nx0012C4H194
BEYA01P-FBP-05310	BTY403P-FBP-10276	C18209N21212	E392Nx0012C4L194
BEY401P-FBM-05310	BTY4120-FBP-05274	C18211G21212	E392Px0012C4H194
BEY401P-FBM-10310	BTY4120-FBP-10274	C18211N21212	E392Px0012C4L194
BEY401P-FBP-05310	BTY412N-FBP-05274	C18213G21212	E432Nx0012000196
BEY401P-FBM-05310	BTY412N-FBP-10274	C18213N21212	E432Px0012000196
BEY601P-FBM-10310	BTY412P-FBP-05274	C18309G21212	E452Nx0012C4H186
BEY601P-FBP-05310	BTY412P-FBP-10274	C18309N21212	E452Nx0012C4L186
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BEY801P-FBM-10310	BTY801N-FBC266	C18311N21212	E452Tx0012000186
BEY801P-FBP-05310	BTY801N-FBE-05270	C18313G21212	E452Tx0012C4H186
BNBD110-SXD314	BTY801N-FBE-10270	C18313N21212	E452Tx0012C4L186
BNY401P-FBC302	BTY801N-FBP-05270	C19207G62218	E453Nx0022000188
BNY401P-FBM-05306	BTY801N-FBP-10270	C19207N62218	E453Nx0062000188
BNY401P-FBM-10306	BTY801P-FBB262	C19307G62218	E453Tx0022000188
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BNY601P-FBC302	BTY801P-FBE-05270	C62209G21216	E462Nx0022C4H190
BNY601P-FBM-05306	BTY801P-FBE-10270	C62209N21216	E462Nx0022C4L190

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E462Nx0022000	190	F850D0A23M0x0	202	S05207TC442	220	1R3004A24A120	60
E462Nx0062C4H	190	F850D0P12M0x0	202	S05207TC452	220	1R3004A2A120	286
E462Nx0062C4L	190	F850D1A23M0x0	202	S18209TC421	212	1R3005A20A120	46
E462Nx0062000	190	F850D1P12M0x0	202	S18209TC441	212	1R3006A17A120	52
E462Tx0022C4H	190	F85000A23M0x0	202	S18209TC451	212	1R3006A17A120	56
E462Tx0022C4L	190	F85000P12M0x0	202	S18211TC421	212	1R3006A17A120	58
E462Tx0022000	190	F85001A23M0x0	202	S18211TC441	212	1R3006A20A120	86
E462Tx0062C4H	190	F85001P12M0x0	202	S18211TC451	212	1R3006A20A120	86
E462Tx0062C4L	190	G130B4E12M0x0	208	S18213TC421	212	1R3006A20A120	42
E462Tx0062000	190	G130B4P12M0x0	208	S18213TC441	212	1R3006A20A120	46
E472Nx0022C4H	192	G130D4E12M0x0	208	S19207TC422	218	1R3006A24A120	62
E472Nx0022C4L	192	G130D4P12M0x0	208	S19207TC442	218	1R3006A24A120	70
E472Nx0022000	192	G13004E12M0x0	208	S62207TC421	216	1R3006A24A120	48
E472Nx0062C4H	192	G13004P12M0x0	208	S62207TC441	216	1R3006A24A120	60
E472Nx0062C4L	192	G850B0E12M0x0	208	S62207TC451	216	1R3007A20A120	46
E472Nx0062000	192	G850B0P12M0x0	208	S62209TC421	216	1R3007A24A120	62
E472Tx0022C4H	192	G850D0E12M0x0	208	S62209TC441	216	1R3D04A16A120	64
E472Tx0022C4L	192	G850D0P12M0x0	208	S62209TC451	216	1R3D04A16A120	66
E472Tx0022000	192	G85000E12M0x0	208	080804EMF00000	180	1R3D04A25A120	64
E472Tx0062C4H	192	G85000P12M0x0	208	080804LMF00000	180	1R3D04A25A120	66
E472Tx0062C4L	192	H130B4E12M0x0	210	1A3000-34	298	1R3D06A16A120	64
E472Tx0062000	192	H130B4P12M0x0	210	1A3000-34	86	1R3D06A16A120	66
E492Nx0012C4H	196	H130D4E12M0x0	210	1A3002-34	298	1R3D06A25A120	64
E492Nx0012C4L	196	H130D4P12M0x0	210	1A3002-34	86	1R3D06A25A120	66
E492Px0012C4H	196	H13004E12M0x0	210	1A3006-34	86	1R3G04A20A120	46
E492Px0012C4L	196	H13004P12M0x0	210	1A5000-34	298	1R3G06A20A120	46
E850B0A23M0x0	198	H850B0E12M0x0	210	1A5000-34	86	1R4004A17A120	52
E850B0P12M0x0	198	H850B0P12M0x0	210	1A5002-34	298	1R4004A17A120	58
E850D0A23M0x0	198	H850D0E12M0x0	210	1A5002-34	86	1R4004A20A120	42
E850D0P12M0x0	198	H850D0P12M0x0	210	1A5006-34	86	1R4004A20A120	46
E85000A23M0x0	198	H85000E12M0x0	210	1R2004A20A120	42	1R4004A20A120	48
F04A29	114	H85000P12M0x0	210	1R2004A20A120	46	1R4005A20A120	46
F04MA03123	114	L04A00M78M050	302	1R2005A20A120	46	1R4006A17A120	52
F04MA03124	114	L04100M78M050	302	1R2006A20A120	42	1R4006A17A120	58
F04MA03126	114	L04200M78M050	302	1R2006A20A120	46	1R4006A20A120	42
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F130B4P12M0x0	200	N03FA03124	178	1R2G04A20A120	46	1R4006A20A120	48
F130B5A23M0x0	200	N03FA04124	178	1R2G06A20A120	46	1R4007A20A120	46
F130B5P12M0x0	200	N03MA03124	178	1R3000A20A120	86	1R4D04A16A120	64
F130D4A23M0x0	200	N03MA04124	178	1R3004A17A120	52	1R4D04A16A120	66
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F130D5P12M0x0	200	N04MA03124	178	1R3004A20A120	250	1R4G04A20A120	46
F13004A23M0x0	200	N04MA04124	178	1R3004A20A120	250	1R4G06A20A120	46
F13004P12M0x0	200	S02207TC421	214	1R3004A20A120	250	1R5000A20A120	86
F13005A23M0x0	200	S02207TC441	214	1R3004A20A120	86	1R5002A02F030	60
F13005P12M0x0	200	S02207TC451	214	1R3004A20A120	42	1R5003A02F030	60
F850B0A23M0x0	202	S02209TC421	214	1R3004A20A120	46	1R5004A17A120	52
F850B0P12M0x0	202	S02209TC441	214	1R3004A20A120	46	1R5004A17A120	58
F850B1A23M0x0	202	S02209TC451	214	1R3004A24A120	62	1R5004A20A120	86
F850B1P12M0x0	202	S05207TC422	220	1R3004A24A120	70	1R5004A20A120	86
				1R3004A24A120	48	1R5004A20A120	42

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1R5004A20A120.....46	103000A01F200286	104003A01F0x042	113020A01F060286
1R5004A24A120.....62	103000A01F200250	104003A03F0x052	113020A01F060250
1R5004A24A120.....70	103000A01F200250	104003A05M0x064	113020A01F060250
1R5004A24A120.....48	103000A01F200250	104003C01F0x048	113020A01F060250
1R5004A24A120.....60	103000A02F0x060	105000A01F0x042	113020A01F120286
1R5005A20A120.....46	103000A03F0x052	105000A02F0x060	113020A01F120286
1R5006A17A120.....52	103000A05M0x064	105000A03F0x052	113020A01F120250
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