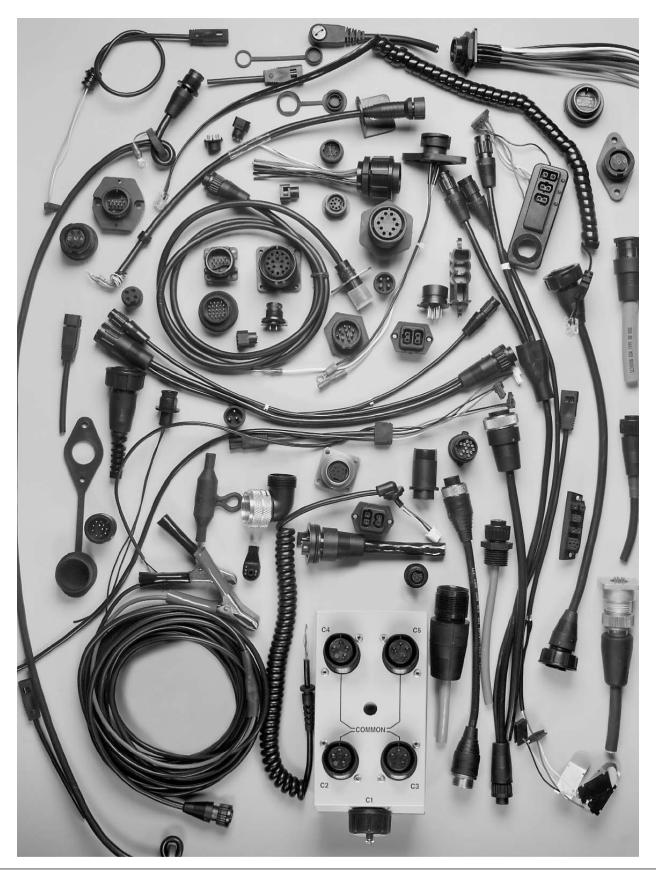
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CUSTOM MOLDED CABLE ASSEMBLIES AND CONNECTORS



EO⊓ ■ G1 East Wildwood, Villa Park, Illinois 60181 • Telephone (630) 834-7504 • Fax (630) 834-8540 • www.conxall.com

CUSTOM MOLDED CABLE ASSEMBLIES AND CONNECTORS

Conxall History

Conxall was founded in 1971 as a manufacturer of custom designed connectors and cable assemblies for the Marine and Industrial Markets. Since that time our custom designed products have become the standard for many other industries and Conxall's family of products has grown to include waterproof, watertight and submersible connectors and assemblies. In recent years, Conxall has expanded its all plastic product lines to include metal shell, shielded connectors and cable assemblies designed to meet or exceed U.S., Canadian, and European shielding standards.

Connectors

Conxall was an innovator in the design of all plastic cylindrical connectors. The all plastic connector provides for substantial savings in cost without sacrificing performance and quality. The all plastic connector is corrosion resistant, non-conductive and withstands substantial abuse, hostile environments, and heavy impacts that would otherwise cause metal connectors to corrode, deform or become electrically conductive and thus become unusable or unsafe. Our standard lines of all plastic connectors covers a wide range of shell styles and insert configurations including the all plastic Mil-C-5015 Connector series which is intermateable with, and provides a high quality replacement for, expensive, all metal, military standard connectors.

Assembly Capabilities

Conxall has specialized in custom molded cable assemblies and connectors for a wide variety of applications including: Industrial, Automotive, Marine, Transportation, Medical, Communication, Sensor and Factory Automation. The Conxall exclusive molded cable assembly process affords the additional advantages of reduced cost and weather tight reliability plus the added benefits of permanent and service free termination without the risk of cable pull out. Our SENSOR-LINK, Mini, Micro, and Nano style connectors and cable assemblies are NEMA rated, available in shielded and standard styles and are UL and CSA certified for many applications. For additional information on SENSOR-LINK products please contact your Conxall Representative.

Custom Designs

Conxall remains dedicated to providing High Quality, Low Cost solutions to your interconnect problems. Our Service Teams will work with you from the initial design to the finished product to insure your complete satisfaction. We offer a full line of standard and weather tight connectors. But perhaps your needs are unique. If so, Conxall has the capability to create original designs to meet your needs. Our team of engineers and research and development personnel will work side by side with your staff to custom design a solution for your needs.

Contact Conxall for your Interconnection Solutions. Our quick response and personalized service set Conxall apart from any other company in the industry.

STANDARD CONNECTOR PRODUCTS

Low-cost Standard and Weathertight Connectors for Industrial and Marine Applications.

A completely indoor/outdoor connector system that offers performance and reliability features of MIL-Spec connectors at the cost of a commercial type product.

Economical...The all molded nylon construction provides for substantial savings in cost that helps hold the line on cost objectives without sacrificing performance.

Standard Assemblies

Ideally satisfies power connections for test instruments, calibration or measuring equipment, communications systems, data processing, entertainment devices and a wide range of non-environmental applications where economy and maintenance-free reliability are essential. Especially suited to laboratory instruments, medical analysis devices, automotive test equipment, computer peripherals, recording instruments, etc....

Style...Designed for demanding service although attractive and modern in appearance to complement the most sophisticated equipment.

Lightweight/Strong...50% weight savings over similar metal construction yet has tough, high-impact strength to withstand hard abuse both indoors and outdoors

Weathertight Assemblies

Optional panel connector gaskets and interfacial "O" ring seals maintain a weathertight connection for outdoor use. The non-corrosive, high impact, all molded construction is perfect for recreational, agricultural or on/off the road vehicle connections. Hazards of electrical shock are minimized in addition to resistance to hostile outdoor environment. Frequently specified for depth sounders, metal detectors, marine/aircraft electronics, boat trailers, electronic farm implements, food processing equipment, etc.

Molded Cable Assemblies (See pages 3 & 26)

Complete Facilities to Assemble and/or Mold All Connector Styles to Many Cable Constructions

Permanently Molded...Cable and connectors are molded together in a choice of attractive boot shapes to add functional improvements to your product.

Accident Proof...Molded encapsulation between cable and connector prevents pull-out or breakage of internal wires for maintenance free operation.

Weathertight...This construction prevents ingress of moisture into contact areas.

Saves Time and Money...Avoids setting up new production line and training personnel plus cost of maintaining inventories.

STANDARD CONNECTOR FEATURES

Panel Connector mounts from behind in round or "D" shaped hole and are securely fastened with hex nut on the front of the panel. Standard assembly include weathertight gasket.

Premium Quality The standard screwmachine socket contact has premium design features at low cost. The closed entry prevents probe damage or accidental loss of spring retention due to misaligned or bent pins.

Reverse Contact Options are available providing pin or socket contacts in all styles.

Locking Type coupling ring prevents accidental disconnect. Quick 90 degree connect/disconnect rotation or threaded.

Cable Splices and/or extension cables can be easily made using the cable to cable connectors.

Unassembled Cable Connectors without mold-on cables are available. This option provides for field installation or replacement service on existing cable assemblies.

Dimensions and Specifications are for reference only and may change without notice where it does not affect form, fit or function.

Electrical Rating Tables are for reference only and are based on continuous current carrying capacity of the connector with all contacts carrying current.

Packaging and Warranty

Packaging

Connectors: Standard Con-X series components are packaged unassembled and individually

bulk packed. Kitted packaging, one complete connector per bag, available upon request for an additional cost. Mil-E-Qual components are assembled and indi-

vidually kitted in plastic bags.

Cable Assemblies: Assemblies less than 3 ft., including connector head, are bundled and boxed.

Assemblies over 3 ft., including connector head, are coiled, secured with cable tie

and boxed.

Warranty

CONXALL Corp. manufactures the finest quality product available to the marketplace. However, these products are intended to be used in accordance with the specifications described in this catalog. Any use or application that deviates from the stated operating specifications is not recommended and **may be unsafe**. A limited warranty applies to all CONXALL Corp. products. Except for obligations specifically assumed by CONXALL Corp. under warranty, CONXALL Corp. will not be liable for any loss, damage, cost of repairs, incidental or consequential damages of any kind whether or not based upon expressed or implied warranty, contract, negligence, or strict liability arising in connection with the design, manufacture, sale, use or repair of the products.



Cable Pin 1628X-XPG-XXX Matching Mates:

- Cable-Cable 1828X-XSG-XXX
- Panel 172XX-XSG-XXX



Panel Mount 1728X-XXG-XXX Matching Mates:

- Cable Pin 1628X-XPG-XXX
- Cable Socket 1628X-XSG-XXX



P/C Tail Panel Mount 172XX-XXG-XXX Matching Mates:

- Cable Pin 1628X-XPG-XXX
- Cable Socket 1628X-XSG-XXX



Cable Socket 1628X-XSG-XXX Matching Mates:

- Cable-Cable 1828X-XPG-XXX
- Panel 172XX-XPG-XXX



Cable to Cable 1828X-XXG-XXX Matching Mates:

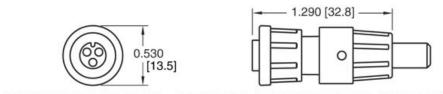
- Cable Pin 1628X-XPG-XXX
- Cable Socket 1628X-XSG-XXX



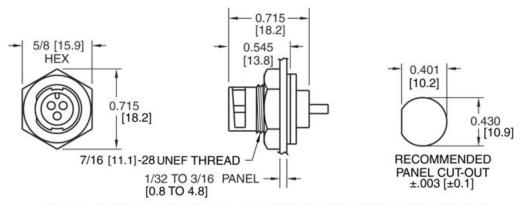
Dust Cap 16295



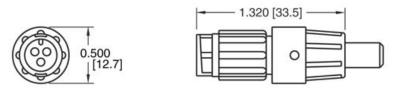
Dimensions (Dimensions in brackets are in millimeters)



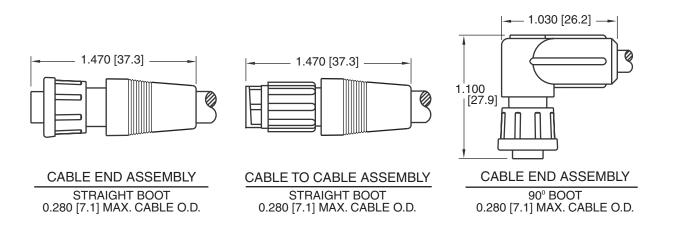
CABLE END CONNECTOR - WITH SNAP LOCK BACKSHELL (NON-REMOVABLE)



PANEL MOUNT CONNECTOR - SHOWN WITH HEX NUT AND GASKET

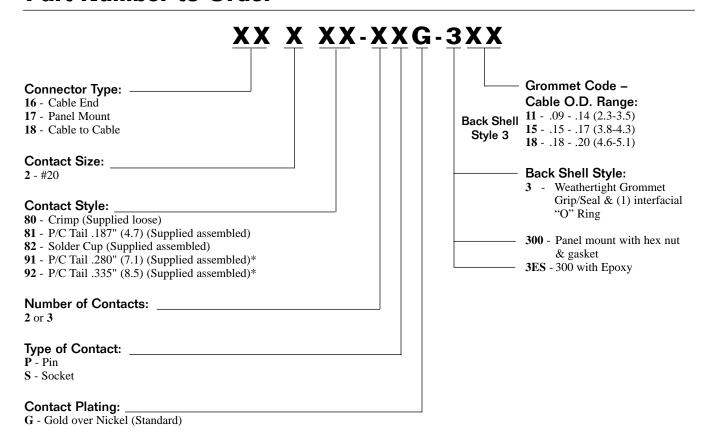


CABLE TO CABLE CONNECTOR - WITH SNAP LOCK BACKSHELL (NON-REMOVEABLE)



MICRO-CON-X® FIELD INSTALLABLE CONNECTORS

Part Number to Order



^{*}Available in #20 size contact only.

Consult factory for optional threaded coupling.

Consult factory for your custom design cable assemblies and connectors. (See pages 3 & 26)

Contact Arrangements



2-#20 3-#20
CABLE PIN, PANEL SOCKET
AND CABLE TO CABLE SOCKET ONLY



2-#20 3-#20 CABLE SOCKET, PANEL PIN AND CABLE TO CABLE PIN ONLY

Contact arrangements shown are wiring view of cable end pins/sockets. Key/keyway shown for orientation only.

For higher density patterns, consult factory.

Micro-Con-X®

MICRO-CON-X® FIELD INSTALLABLE CONNECTORS

Specifications

Typical Specifications

Manufacturers Identifications

Description Field Installable Connector & Custom Cable Assemblies

Rating 3.0 thru 7.5A, 600V Conductor Size 20 thru 24 AWG Configuration 2 & 3 #20 Contacts

Certification UL Recognized File #E150822 - 250V CSA Certified File #181200 - 600V

Material Specifications

Cable Pin/Socket

Backshell (Non-Removable Snap Lock)

Grommet

Nylon, UL Recognized, Black
Santoprene Rubber, Black

Grommet Santoprene Rubber, Black
Coupling Ring Nylon, UL Recognized, Black
Contacts Brass, Gold over Nickel
Connector Body Nylon, UL Recognized, Black

O-Ring Neoprene Rubber, Black

Cable to Cable

Backshell (Non-Removable Snap Lock)

Nylon, UL Recognized, Black
Grommet

Santoprene Rubber, Black

Contacts Santoprene Rubber, Black
Brass, Gold over Nickel
Nylon, UL Recognized, Black

Panel Mount

Contacts Brass, Gold over Nickel
Panel Body Nylon, UL Recognized, Black
Gasket Neoprene Rubber, Black
Hex Nut Nylon, UL Recognized, Black

<u>Optional</u>

Dust Cap Santoprene Rubber, Black (Part No. 16295)

Gasket, O-Ring, & Grommet materials are suitable for -40°C to +90°C (-40°F to +194°F). Consult factory for higher temperature requirements.

Mechanical Specifications

Durability Minimum 300 mate/unmate cycles without mechanical or electrical

failure

Vibration Coupling rings have overriding locking feature to prevent

loosening or separation of connector

Hex Nut Torque All series hex nut to withstand 10-12 inch/lb tightening torque.

Electrical Specifications

Voltage 600 V Current See Electrical Current Rating Chart (Page 27)

Environmental SpecificationsTemperature Rating
-40°C to +115°C (-40°F to +239°F)

200 Ha salt sames and st

Corrosion 300 Hr salt spray contacts

Weathertight Consult factory with specific application

Molded Cable Assemblies(See Pages 3 & 26)WatertightNEMA 6P, 13: IEC IP67



Cable Pin 6X8X-XPG-XXX **Matching Mates:**

- Cable-Cable 8X8X-XSG-XXX
- Panel 7XXX-XSG-XXX



Panel Mount 7X8X-XXG-XXX **Matching Mates:**

- Cable Pin 6X8X-XPG-XXX
- Cable Socket 6X8X-XSG-XXX



P/C Tail Panel Mount 7XXX-XXG-XXX **Matching Mates:**

- Cable Pin 6X8X-XPG-XXX
- Cable Socket 6X8X-XSG-XXX



Cable Socket 6X8X-XSG-XXX **Matching Mates:**

- Cable-Cable 8X8X-XPG-XXX
- Panel 7XXX-XPG-XXX



Cable to Cable 8X8X-XXG-XXX **Matching Mates:**

- Cable Pin 6X8X-XPG-XXX
- Cable Socket 6X8X-XSG-XXX



Dust Cap 6295



Winged Coupling Ring W/6482





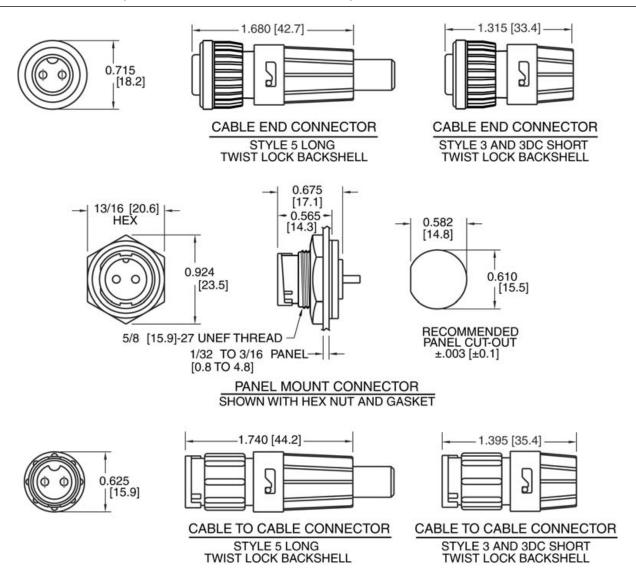


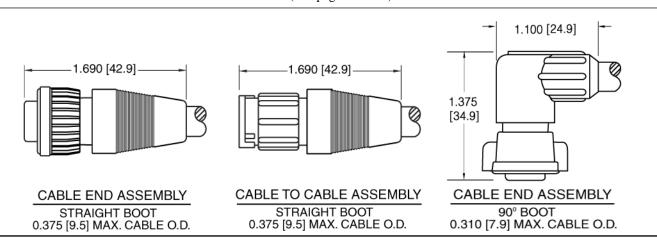
Cable to Cable

Right Angle

MINI-CON-X® FIELD INSTALLABLE CONNECTORS

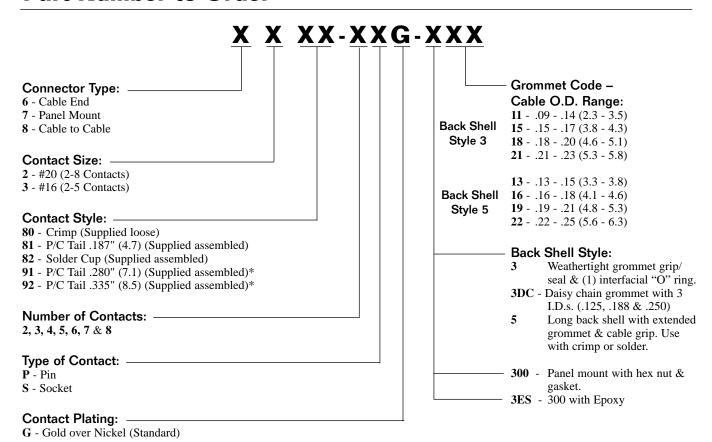
Dimensions (Dimensions in brackets are in millimeters)





MINI-CON-X® FIELD INSTALLABLE CONNECTORS

Part Number to Order

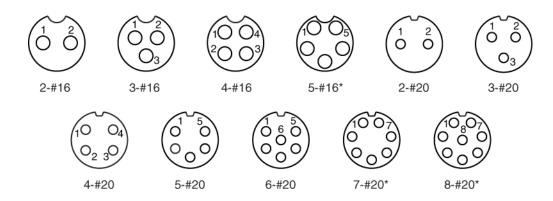


^{*}Available in #20 size contact only.

Consult factory for optional threaded coupling.

Consult factory for your custom design cable assemblies and connectors. (See pages 3 & 26)

Contact Arrangements



Contact arrangements shown are wiring view of cable end pins/sockets.

Key/keyway shown for orientation only.

^{*}Available in connector types: cable end socket, panel mount pin, and cable to cable pin styles only.

Mini-Con-X®

MINI-CON-X® FIELD INSTALLABLE CONNECTORS

Specifications

Typical Specifications

Manufacturers Identifications

Description Field Installable Connector & Custom Cable Assemblies

Rating 4.8 thru 13.0A, 600V

Conductor Size #16 contacts, 16 thru 18 AWG #20 contacts, 20 thru 24 AWG

Configuration 2 thru 5 #16 Contacts or 2 thru 8 #20 Contacts

Certification UL Recognized File #E150822 - 250V CSA Certified File #181200 - 600V

Material Specifications

Cable Pin/Socket

Backshell (Removable Twist Lock)

Nylon, UL Recognized, Black
Grommet

Santoprene Rubber, Black

Coupling Ring

Contacts

Santopiene Rubber, Black
Nylon, UL Recognized, Black
Brass, Gold over Nickel

Connector Body Nylon, UL Recognized, Black O-Ring Neoprene Rubber, Black

Optional

Long Backshell (Removable Twist Lock)

Nylon, UL Recognized, Black (Style #5)

Winged Coupling Ring

Nylon, UL Recognized, Black (W/6482)

Cable to Cable

Backshell (Removable Twist Lock)

Nylon, UL Recognized, Black

Grommet Santoprene Rubber, Black
Contacts Brass, Gold over Nickel
Connector Body Nylon, UL Recognized, Black

Panel Mount

Contacts Brass, Gold over Nickel
Panel Body Nylon, UL Recognized, Black
Gasket Neoprene Rubber, Black
Hex Nut Nylon, UL Recognized, Black

Hex Nut **Optional**

Dust Cap Santoprene Rubber, Black (Part No. 6295)

Gasket, O-Ring, & Grommet materials are suitable for -40°C to +90°C (-40°F to +194°F). Consult factory for higher temperature requirements.

Mechanical Specifications

Durability Minimum 300 mate/unmate cycles without mechanical or electrical

failure

Vibration Coupling rings have overriding locking feature to prevent

loosening or separation of connector

Hex Nut Torque All series hex nut to withstand 10-12 inch/lb tightening torque.

Electrical Specifications

Voltage 600 V

Current See Electrical Current Rating Chart (Page 27)

Environmental Specifications

Temperature Rating -40°C to +115°C (-40°F to +239°F)

Corrosion 300 Hr salt spray contacts

Weathertight Consult factory with specific application

Molded Cable Assemblies(See Pages 3 & 26)WatertightNEMA 6P, 13: IEC IP67



Cable Pin 3X8X-XPG-XXX **Matching Mates:**

- Cable-Cable 5X8X-XSG-XXX
- Panel 4XXX-XSG-XXX



Panel Mount 4X8X-XXG-XXX **Matching Mates:**

- Cable Pin 3X8X-XPG-XXX
- Cable Socket 3X8X-XSG-XXX



P/C Tail Panel Mount 4XXX-XXG-XXX

- **Matching Mates:**
- Cable Pin 3X8X-XPG-XXX
- Cable Socket 3X8X-XSG-XXX



3X8X-XSG-XXX **Matching Mates:**

- Cable-Cable 5X8X-XPG-XXX
- Panel 4XXX-XPG-XXX



Cable to Cable 5X8X-XXG-XXX **Matching Mates:**

- Cable Pin 3X8X-XPG-XXX
- Cable Socket



Mechanical Back Shell (Style #5)



Square Flange Adapter 4296



Square Flange Gasket 4297



Dust Cap 4295



Winged Coupling Ring W/4482



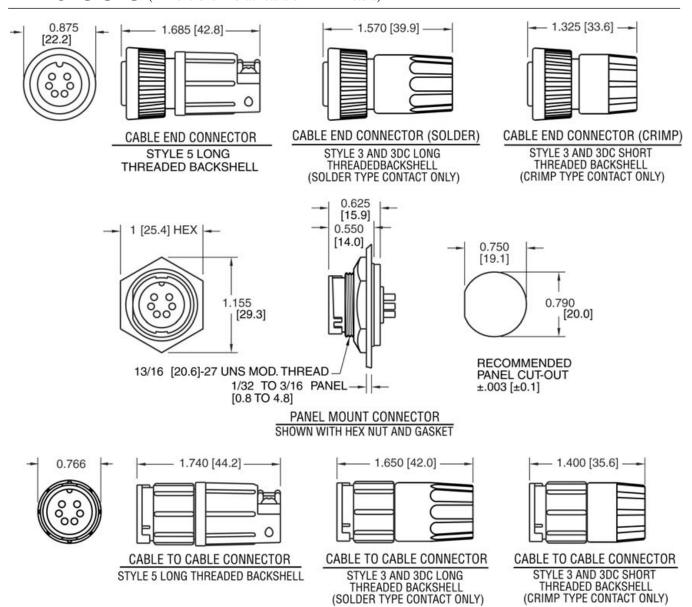


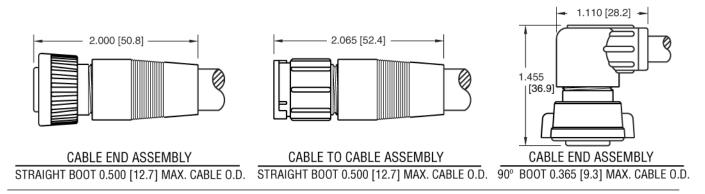


Cable to Cable

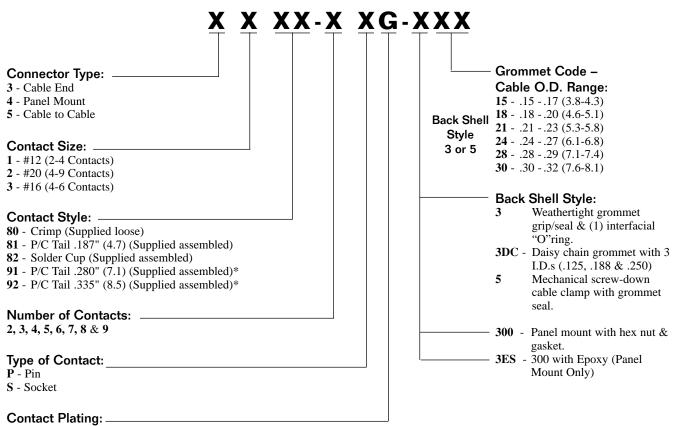


Dimensions (Dimensions in brackets are in millimeters)





Part Number to Order



G - Gold over Nickel (Standard)

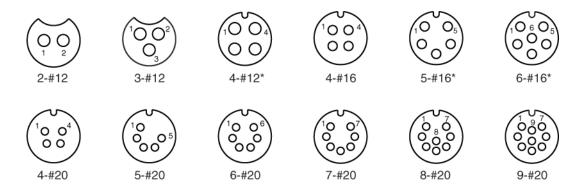
EMI/RFI shielded assemblies available - consult factory.

*Available in #20 size contact only.

Consult factory for optional threaded coupling.

Consult factory for your custom design cable assemblies and connectors. (See pages 3 & 26)

Contact Arrangements



Contact arrangements shown are wiring view of cable end pins/sockets. Key/keyway shown for orientation only.

*Available in connector types: cable end socket, panel mount pin, and cable to cable pin styles only.

Specifications

Typical Specifications

Manufacturers Identifications

Description Rating

Conductor Size

Configuration

Certification

Material Specifications

Cable Pin/Socket

Backshell (Threaded)

Grommet Coupling Ring

Contacts

Connector Body

O-Ring

Sleeve

Cable to Cable

Backshell (Threaded)

Grommet

Contacts Connector Body

Optional

Long Backshell (Threaded)

Winged Coupling Ring

Mechanical Backshell (Threaded)

- Strap

- Screws

Panel Mount

Contacts

Panel Body

Gasket

Hex Nut

Optional

Dust Cap

Square Flange Adapter

Square Flange Adapter Gasket

Multi-Con-X®

Field Installable Connector & Custom Cable Assemblies

1.95 thru 23.0A, 600V

#12 Contacts, 12 thru 14 AWG

#16 Contacts, 16 thru 18 AWG

#20 Contacts, 20 thru 24 AWG

2 thru 4 #12 Contacts

4 thru 6 #16 Contacts

4 thru 9 #20 Contacts

UL Recognized File #E150822 - 250V

CSA Certified File #181200 - 600V

Nylon, UL Recognized, Black (Style #3)

Santoprene Rubber, Black

Nylon, UL Recognized, Black

Brass, Gold over Nickel

Nylon, UL Recognized, Black

Neoprene Rubber, Black

Nylon, UL Recognized, Black

Nylon, UL Recognized, Black (Style #3)

Santoprene, Rubber, Black

Brass, Gold over Nickel

Nylon, UL Recognized, Black

Nylon, UL Recognized, Black (Style #3 with solder contacts)

Nylon, UL Recognized, Black (W/4482)

Nylon, UL Recognized, Black (Style #5) Nylon, UL Recognized, Black

Stainless Steel

Brass, Gold over Nickel

Nylon, UL Recognized, Black

Neoprene Rubber, Black

Nylon, UL Recognized, Black

Santoprene Rubber, Black (Part No. 4295)

Nylon, UL Recognized, Black (Part No. 4296)

Neoprene Rubber, Black (Part No. 4297)

Gasket, O-Ring, & Grommet materials are suitable for -40° C to $+90^{\circ}$ C (-40° F to $+194^{\circ}$ F).

Consult factory for higher temperature requirements.

Mechanical Specifications

Minimum 300 mate/unmate cycles without mechanical or electrical failure

Coupling rings have overriding locking feature to prevent loosening or

separation of connector

All series hex nut to withstand 10-12 inch/lb tightening torque.

See Electrical Current Rating Chart (Page 27)

-40°C to +115°C (-40°F to +239°F)

300 Hr salt spray contacts

Consult factory with specific application

(See Pages 3 & 26)

NEMA 6P, 13: IEC IP67

Durability

Vibration

Hex Nut Torque **Electrical Specifications**

Voltage

Current

Environmental Specifications

Temperature Rating

Corrosion Weathertight

Molded Cable Assemblies

Watertight



Cable Pin

13X8X-XXPG-XXX

Matching Mates:

- Cable-Cable 15X8X-XXSG-XXX
- Panel 14XXX-XXSG-XXX



Panel Mount

14X8X-XXXG-XXX

Matching Mates:

- Cable Pin 13X8X-XXPG-XXX
- Cable Socket 13X8X-XXSG-XXX



P/C Tail Panel Mount 14XXX-XXXG-XXX

Matching Mates:

- Cable Pin 13X8X-XXPG-XXX
- Cable Socket 13X8X-XXSG-XXX



13X8X-XXSG-XXX

Matching Mates:

- Cable-Cable 15X8X-XXPG-XXX
- Panel 14XXX-XXPG-XXX



Cable to Cable

15X8X-XXXG-XXX

Matching Mates:

- Cable Pin 13X8X-XXPG-XXX
- Cable Socket 13X8X-XXSG-XXX



Winged Coupling Ring W/14482



Dust Cap 14295



Cable End

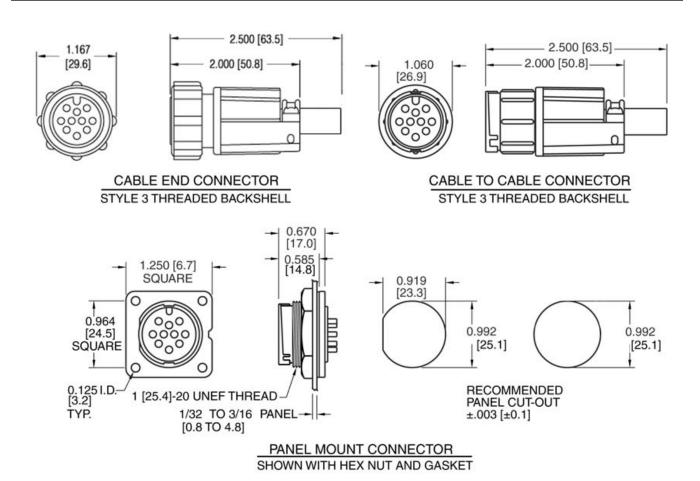


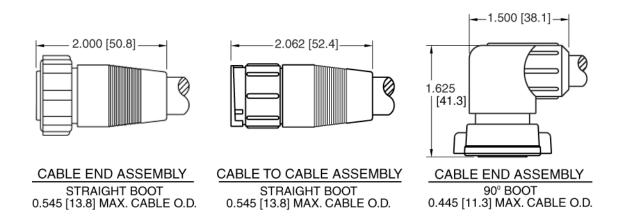
Cable to Cable



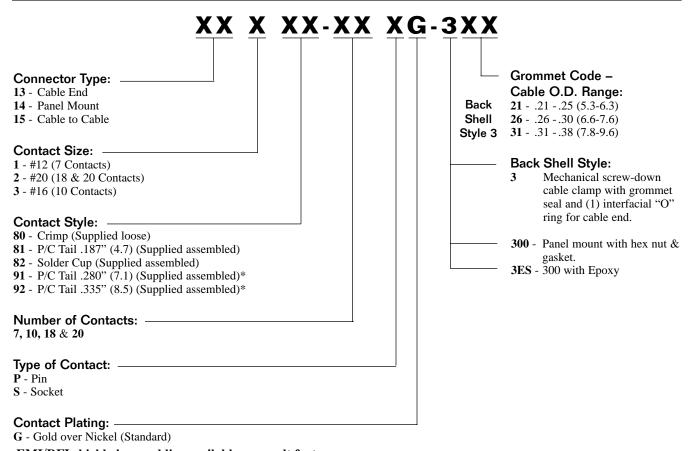
Right Angle

Dimensions (Dimensions in brackets are in millimeters)





Part Number to Order



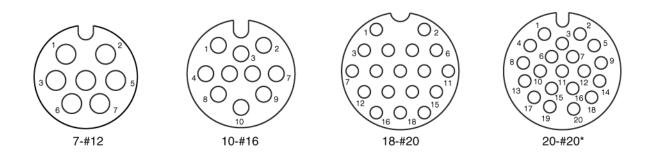
EMI/RFI shielded assemblies available - consult factory.

*Available in #20 size contact only.

Consult factory for optional threaded coupling.

Consult factory for your custom design cable assemblies and connectors. (See pages 3 & 26)

Contact Arrangements



Contact arrangements shown are wiring view of cable end pins/sockets.

Key/keyway shown for orientation only.

*Available in connector types: cable end socket, panel mount pin styles only.

Specifications

Typical Specifications

Manufacturers Identifications

Description Rating

Conductor Size

Configuration

Certification

Maxi-Con-X®

Field Installable Connector & Custom Cable Assemblies

1.35 thru 23.0A, 600V

#12 Contacts, 12 thru 14 AWG

#16 Contacts, 16 thru 18 AWG #20 Contacts, 20 thru 24 AWG

7 - #12 Contacts

10 - #16 Contacts 18 - #20 Contacts 20 - #20 Contacts

UL Recognized File #E150822 - 250V CSA Certified File #181200 - 600V

Material Specifications

Cable Pin/Socket

Mechanical Backshell (Threaded)

Strap Screws Grommet Coupling Ring Contacts

Connector Body O-Ring

Optional

Winged Coupling Ring

Cable to Cable

Mechanical Backshell (Threaded)

Grommet Strap Screws Contacts

Connector Body

Panel Mount

Contacts Panel Body

Gasket Hex Nut

Optional

Dust Cap

Nylon, UL Recognized, Black Nylon, UL Recognized, Black

Stainless Steel

Santoprene Rubber, Black Nylon, UL Recognized, Black Brass, Gold over Nickel Nylon, UL Recognized, Black Neoprene Rubber, Black

Nylon, UL Recognized, Black (W/14482)

Nylon, UL Recognized, Black Santoprene Rubber, Black Nylon, UL Recognized, Black

Stainless Steel

Brass, Gold over Nickel Nylon, UL Recognized, Black

Brass, Gold over Nickel Nylon, UL Recognized, Black Neoprene Rubber, Black Nylon, UL Recognized, Black

Santoprene Rubber, Black (Part No. 14295)

Gasket, O-Ring, & Grommet materials are suitable for -40°C to +90°C (-40°F to +194°F).

Consult factory for higher temperature requirements.

Mechanical Specifications

Durability Minimum 300 mate/unmate cycles without mechanical or electrical

failure

Vibration Coupling rings have overriding locking feature to prevent loosening or

separation of connector

Hex Nut Torque All series hex nut to withstand 10-12 inch/lb tightening torque

Electrical Specifications

Voltage 600 V

Current See Electrical Current Rating Chart (Page 27)

Environmental Specifications

Temperature Rating $-40^{\circ}\text{C to } +115^{\circ}\text{C } (-40^{\circ}\text{F to } +239^{\circ}\text{F})$ Corrosion 300 Hr salt spray contacts

Weathertight Consult factory with specific application

Molded Cable Assemblies (See Pages 3 & 26)
Watertight NEMA 6P, 13: IEC IP67



Cable Pin 23X8X-XXPG-XXX Matching Mate:

• Panel 24XXX-XXSG-XXX



Panel Mount 24XXX-XXXG-XXX Matching Mates:

- Cable Pin 23X8X-XXPG-XXX
- Cable Socket 23X8X-XXSG-XXX



Cable Socket 23X8X-XXSG-XXX Matching Mate:

• Panel 24XXX-XXPG-XXX



P/C Tail Panel Mount 24XXX-XXXG-XXX Matching Mates:

- Cable Pin 23X8X-XXPG-XXX
- Cable Socket 23X8X-XXSG-XXX



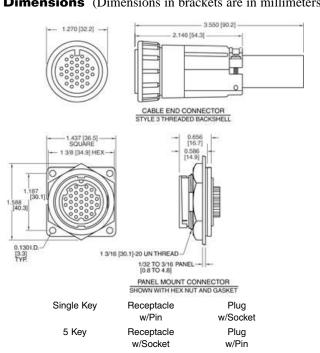


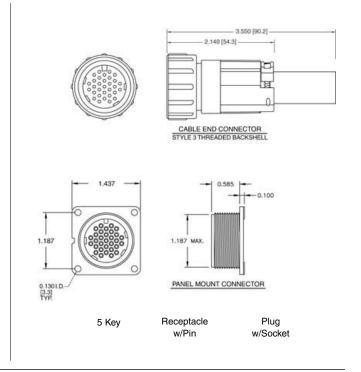
Right Angle

Quick Connect Type

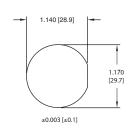
Threaded Type

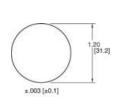
Dimensions (Dimensions in brackets are in millimeters)

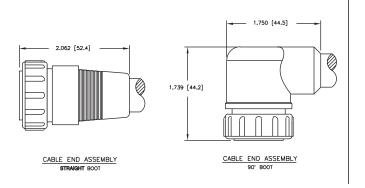


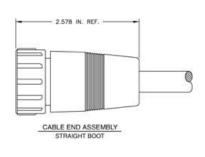


Panel Cutout

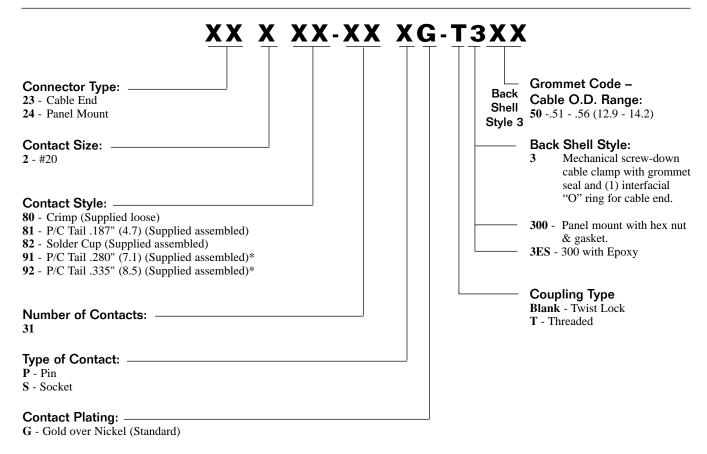








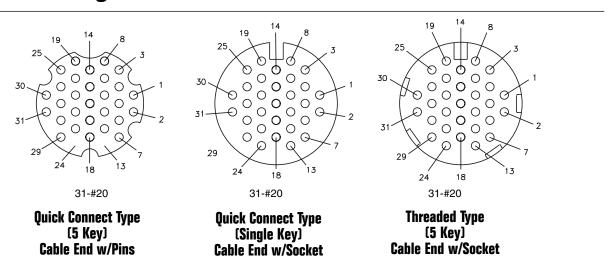
Part Number to Order



^{*}Available in #20 size contact only.

Consult factory for your custom design cable assemblies and connectors. (See pages 3 & 26)

Contact Arrangements



Contact arrangements shown are wiring view of cable end pins/sockets. Key/keyway shown for orientation only.

Specifications

Typical Specifications

Manufacturers Identifications Mega-Con-X®

Description Field Installable Connector & Custom Cable Assemblies

Rating 0.9 thru 2.3A, 600V Conductor Size 20 thru 24 AWG Configuration 31 - #20 Contacts

Certification UL Recognized File #E150822 - 250V

CSA Certified File #181200 - 600V

Material Specifications

Cable Pin/Socket

Mechanical Backshell (Threaded)

Nylon, UL Recognized, Black
Strap

Nylon, UL Recognized, Black
Nylon, UL Recognized, Black

Screws Stainless Steel

Grommet Santoprene Rubber, Black
Coupling Ring Nylon, UL Recognized, Black
Contacts Brass, Gold over Nickel
Connector Body Nylon, UL Recognized, Black

O-Ring Neoprene Rubber, Black

Panel Mount

Contacts Brass, Gold over Nickel
Panel Body Nylon, UL Recognized, Black
Gasket Neoprene Rubber, Black
Hex Nut Nylon, UL Recognized, Black

Gasket, O-Ring, & Grommet materials are suitable for -40°C to +90°C (-40°F to +194°F). Consult factory for higher temperature requirements.

Mechanical Specifications

Durability Minimum 300 mate/unmate cycles without mechanical or electrical

failure

Vibration Coupling rings have overriding locking feature to prevent loosening

or separation of connector

Hex Nut Torque All series hex nut to withstand 10-12 inch/lb tightening torque

Electrical Specifications

Voltage 600V Current See Electrical Current Rating Chart (Page 27)

Environmental Specifications

Temperature Rating -40°C to +115°C (-40°F to +239°F)

Corrosion 300 Hr salt spray contacts

Weathertight Consult factory with specific application

Molded Cable Assemblies(See Pages 3 & 26)WatertightNEMA 6P, 13: IEC IP67

CON-X MOLDED CABLE ASSEMBLY CHECK LIST

| Company Name: | Customer Name: | |
|----------------------------------------------------------|--------------------------|------------|
| Address: | | |
| City | State: | Zip: |
| Phone: | Fax: | |
| Website: | E-mail: | |
| Annual Usage Quantity: | Monthly Usage Quantity: | |
| Does the assembly need to be RoHS compliant? | Yes: | No: |
| Cable Vendor and Part Number (if available): | | |
| Cable Outer Jacket - Color: Materi | al: | OD: |
| Number of Conductors: Conductor AW | /G: | Stranding: |
| Conductor Colors: | | |
| Is there a drain wire? Is the c | drain wire terminated? | |
| *If the drain wire is terminated, be sure to indicate wh | nere on pin-out diagram. | |
| Is the cable shielded? How? Foil | Braid | % |
| *If the shield is braided, be sure to indicate where on | the pin-out diagram. | |
| Will the Customer supply the cable for production? _ | | |
| Cable Cut Length: | Overall Assembly Length: | |
| Does the Cable Assembly have Environmental Require | rements? | |
| If yes, please list them: | | |
| Must overmold have a moisture bond to the cable's ou | ıter jacket? | |
| Is the Cable Assembly: Single ended: | Double Ended | : |
| Do the connectors need to be shielded? | | |
| If yes, do they need to be: 180° shield: | | |
| End "A" Connector Part Number: | Right Angle? | |
| End "B", will that end need processing? | If yes, indicate below: | |
| Outer jacket strip length: Inner Conduct | or strip length: | Tinned? |
| Does end "B" have any special inclusions? If yes, ple | ase list them: | |
| | | |

Note: Please submit a diagram of the color code pin-out, showing which conductors are wired to which pin position. Be sure to show drain and shield terminations, if needed. Indicate empty pins or spaces to be molded closed where required. If a drawing assembly is available, please send it also.

CON-X ELECTRICAL CURRENT RATING CHART FOR CONNECTORS & CABLE ASSEMBLIES

| CONTACT SIZE | CONDUCTOR SIZE - AWG | NUMBER of CONDUCTORS | CURRENT RATING |
|-----------------|-------------------------|----------------------|----------------|
| | | | |
| | #12 | 1 through 7 | 23.0A |
| | | 1 through 3 | 17.0A |
| #12 | #14 | 4 through 6 | 12.75A |
| | | 7 through 9 | 11.0A |
| | 114.6 | 1 through 3 | 13.0A |
| | #16 | 4 through 6 | 9.75A |
| | | 7 | 8.45A |
| | | | |
| | #16 | 1 through 10 | 13.0A |
| | | 11 and 12 | 7.5A |
| #16 | #18 | | |
| | ,,,,,, | 1 through 3 | 10.0A |
| | | | 7.5A |
| | | | |
| | | 1 through 3 | 7.5A |
| | #18 | 4 through 20 | 5.6A |
| | | 21 through 31 | 2.3A |
| #20 | #20 | 1 through 3 | 7.5A |
| | #20 | 4 through 20 | 5.6A |
| | | 21 through 31 | 2.3A |

Max. Number and Size of Contacts per Series:

4 - #12 Multi-Con-X

7 - #12 Maxi-Con-X

5 - #16 Mini-Con-X

6 - #16 Multi-Con-X

12 - #16 Maxi-Con-X

3 - #20 Micro-Con-X

8 - #20 Mini-Con-X

9 - #20 Multi-Con-X

20 - #20 Maxi-Con-X

31 - #20 Mega-Con-X

$f MIL-E-QUAL^{f @}$ Equivalent to f MIL-C-5015



CXX 3106A XXXX XX S XXX



Box Receptacle PinCXX 3102A XXXX XX P XXX



Cable Pin CXX 3106A XXXX XX P XXX



Box Receptacle Socket CXX 3102A XXXX XX S XXX



Cable Cap 4XX96



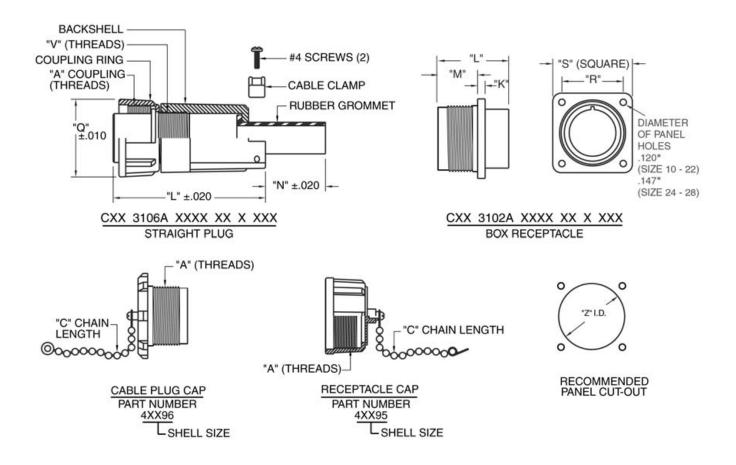
Receptacle Cap 4XX95



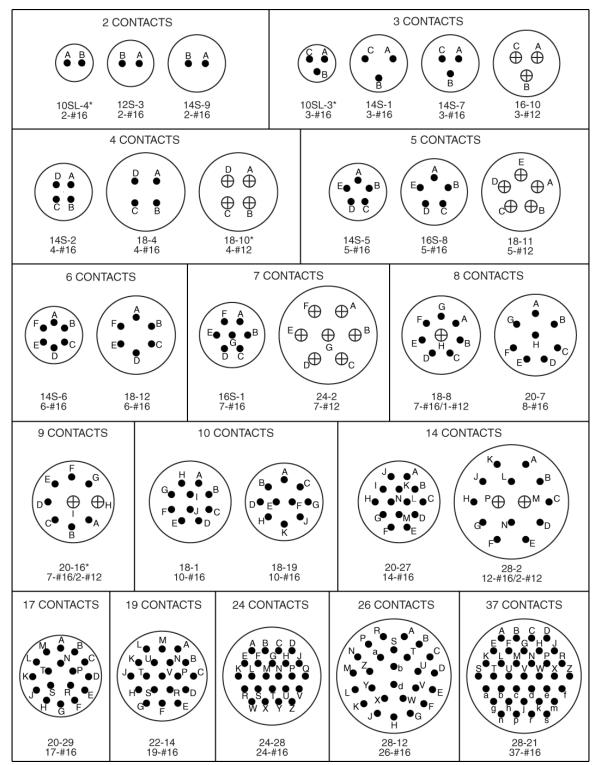
Cable Pin

| Connector | L | N | Q | V |
|-----------|---------------|---------------|---------------|--------------------|
| Size | INCH MM | INCH MM | INCH MM | Fitting Threads |
| 10SL | 1.800 45.7 | 1.200 30.5 | .900 22.9 | 1/2-20 |
| 128 | 1.900 48.3 | 1.200 30.5 | 1.000 25.4 | 5/8-24 |
| 14S | 1.900 48.3 | 1.300 33 | 1.200 30.5 | 3/4-20 |
| 16S | 2.200 56. | 1.425 36.2 | 1.250 31.8 | 7/8-20 |
| 16 | 2.400 61. | 1.425 36.2 | 1.250 31.8 | 7/8-20 |
| 18 | 2.570 65.3 | 1.425 36.2 | 1.420 36.1 | 1-20 |
| 20 | 2.450 62.2 | 1.425 36.2 | 1.450 36.8 | 1-1/8-18 |
| 22 | 2.450 62.2 | 1.425 36.2 | 1.600 40.6 | 1-1/4-18 |
| 24 | 2.570 65.3 | 1.425 36.2 | 1.725 43.8 | 1-3/8-18 |
| 28 | 2.570 65.3 | 1.425 36.2 | 1.975 50.2 | 1-5/8-18 |

| Connector | A | K | L | M | R | S | C | Z |
|-----------|---------------------|------------|------------|------------|------------|------------|------------|------------|
| Size | Coupling Threads | Inch MM |
| 10SL | 5/8-24 | .080 | .940 | 9/16 | 23/32 | 1 | 3.5 | .635 |
| 1002 | 5/0 Z-1 | 2 | 23.9 | 14.3 | 18.3 | 25.4 | 88.9 | 16.1 |
| 12S | 3/4-20 | .080 | 1.030 | 9/16 | 13/16 | 1-3/32 | 3.5 | .760 |
| 123 | 3/4-20 | 2 | 26.2 | 14.3 | 20.6 | 27.8 | 88.9 | 19.3 |
| 14S | 7/8-20 | .080 | 1.143 | 9/16 | 29/32 | 1-3/16 | 3.5 | .885 |
| 143 | 1/0-20 | 2 | 29 | 14.3 | 23 | 30.2 | 88.9 | 22.5 |
| 16S | 1-20 | .142 | 1.180 | 9/16 | 31/32 | 1-9/32 | 3.5 | 1.010 |
| 103 | 1-20 | 3.6 | 30 | 14.3 | 24.6 | 32.5 | 88.9 | 25.7 |
| 16 | 1-20 | .142 | 1.350 | 3/4 | 31/32 | 1-9/32 | 3.5 | 1.010 |
| 10 | 1-20 | 3.6 | 34.3 | 19 | 24.6 | 32.5 | 88.9 | 25.7 |
| 18 | 1-1/8-18 | .142 | 1.330 | 3/4 | 1-1/16 | 1-3/8 | 5.0 | 1.135 |
| 10 | 1-1/0-10 | 3.6 | 33.8 | 19 | 27 | 34.9 | 127.0 | 28.8 |
| 20 | 1-1/4-18 | .142 | 1.330 | 3/4 | 1-5/32 | 1-1/2 | 5.0 | 1.260 |
| 20 | 1-1/4-10 | 3.6 | 33.8 | 19 | 29.4 | 38.1 | 127.0 | 32.0 |
| 00 | 1-3/8-18 | .142 | 1.220 | 3/4 | 1-1/4 | 1-5/8 | 5.0 | 1.385 |
| 22 | 1-3/0-10 | 3.6 | 31.0 | 19 | 31.8 | 41.3 | 127.0 | 35.2 |
| 24 | 1 1/0 10 | .142 | 1.220 | 13/16 | 1-3/8 | 1-3/4 | 6.0 | 1.510 |
| 24 | 1-1/2-18 | 3.6 | 31.0 | 20.6 | 34.9 | 44.5 | 152.4 | 38.4 |
| 20 | 1 2/4 10 | .142 | 1.220 | 13/16 | 1-9/16 | 2 | 6.0 | 1.760 |
| 28 | 1-3/4-18 | 3.6 | 31.0 | 20.6 | 39.7 | 50.8 | 152.4 | 44.7 |



Contact Arrangements

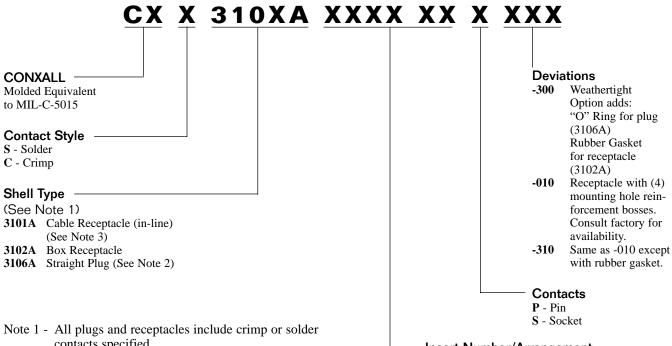


Contact Arrangements shown are mating view of pin insert (socket opposite).

Unless otherwise specified, arrangements are per MIL-STD-1651A. for alternate key positions, consult factory.

*Available in connector types: cable end socket, panel mount pin styles only.

Part Number to Order



contacts specified.

- Note 2 Straight Plugs include back shell assembly with cable clamp and bushing.
- Note 3 For overmolded cable construction only. Consult factory for availability.

Bushing Sizes Provided

| Plug Shell Size | Max. Cable Dia. |
|-----------------|-----------------|
| 10SL, 12S | 1/4" |
| 14S | 5/16" |
| 16S, 16 | 7/16" |
| 18 | 9/16" |
| 20, 22 | 5/8" |
| 24, 28 | 3/4" |

Insert Number/Arrangement

All inserts are integrally molded with connector shells for one piece construction. Contact factory for alternative W, X, Y or Z insert positions.

| | Shell/Insert Size | S |
|---------|-------------------|---------|
| 10SL-4 | 16S-1 | 18-19 |
| 10SL-3 | 16S-8 | 20-7 |
| 12S - 3 | 16 - 10 | 20-16 |
| 14S - 1 | 18 - 1 | 20 - 27 |
| 14S - 2 | 18 - 4 | 20-29 |
| 14S - 5 | 18 - 8 | 22-14 |
| 14S - 6 | 18 - 10 | 24 -2 |
| 14S - 7 | 18 - 11 | 24 - 28 |
| 14S - 9 | 18 - 12 | 28 -2 |
| | | 28-12 |
| | | 28-21 |

Consult factory for your custom design assemblies and connectors. (See pages 3 & 33)

Specifications

Typical Specifications

Manufacturers Identifications

Description

Rating

Conductor Size Configuration

Certification

Material Specifications

Cable Pin/Socket

Mechanical Backshell (Threaded)

Strap Screws

Grommet

Coupling Ring

Contacts

Connector Body

Optional

Connector Cap

O-Ring

Different Keyways Available

Gold Contacts

Box Receptacle

Contacts

Receptacle Body

Optional

Receptacle Cap

Gasket Gold Contacts

Colu Colliacis

Extended Bosses

Different Keyways Available

MIL-E-QUAL®

Field Installable Connector & Custom Cable Assemblies

3.4 thru 23.0A, 600V

12 thru 20 AWG

2 thru 37 Contacts per Mil - C-5015

UL Recognized File #E150822 - 250V

CSA Certified File #181200-500V

Nylon, UL Recognized, Black with UV Inhibitor Nylon, UL Recognized, Black with UV Inhibitor

Zinc Plated

Santoprene Rubber, Black

Nylon, UL Recognized, Black with UV Inhibitor Brass, Standard Silver Plated, Gold Plated Optional Nylon, UL Recognized, Black with UV Inhibitor

Nylon, UL Recognized, Black with UV Inhibitor (4XX96)

Neoprene Rubber, Black

Brass, Gold over Nickel

Brass, Standard Silver Plated, Gold Plated Optional

Nylon, UL Recognized, Black with UV Inhibitor

Nylon, UL Recognized, Black with UV Inhibitor (4XX95)

Neoprene Rubber, Black

Brass, Gold over Nickel

Gasket, O-Ring, & Grommet materials are suitable for -40°C to +90°C (-40°F to +194°F). Consult factory for higher temperature requirements.

Electrical Specifications

Voltage 500

Current See Electrical Current Rating Chart (Page 34)

Environmental Specifications

Temperature Rating $-40^{\circ}\text{C to } +125^{\circ}\text{C } (-40^{\circ}\text{F to } +257^{\circ}\text{F})$

Corrosion 48 Hr salt spray contacts

Durability 300 mate/unmate cycles minimum
Weathertight Consult factory with specific application

Molded Cable Assemblies(See Pages 3 & 33)WatertightNEMA 6P, 13: IEC IP67

CONSTRUCT601 East Wildwood, Villa Park, Illinois 60181 • Telephone (630) 834-7504 • Fax (630) 834-8540 • www.conxall.com

MIL-E-QUAL® MOLDED CABLE ASSEMBLY CHECK LIST EQUIVALENT TO MIL-C-5015

| Company Name: | Customer Name: | |
|-----------------------------------------------------------|----------------------------|--------------|
| Address: | | |
| City | State: | _ Zip: |
| Phone: | Fax: | |
| Website: | E-mail: | |
| Annual Usage Quantity: | Monthly Usage Quantity: | |
| Does the assembly need to be RoHS compliant? | Yes: | No: |
| Cable Vendor and Part Number (if available): | | |
| Cable Outer Jacket - Color: Materi | al: | _ OD: |
| Number of Conductors: Conductor AW | /G: | _ Stranding: |
| Conductor Colors: | | |
| Is there a drain wire? Is the | drain wire terminated? | |
| *If the drain wire is terminated, be sure to indicate wh | here on pin-out diagram. | |
| Is the cable shielded? How? | Foil Braid | |
| *If the braid is terminated, be sure to indicate where of | on the pin-out diagram. | |
| Will the Customer supply the cable for production? _ | | |
| Cable Cut Length: | Overall Assembly Length: _ | |
| Does the Cable Assembly have Environmental Require | rements? | |
| If yes, please list them: | | |
| Must overmold have a moisture bond to the cable's or | uter jacket? | |
| Is the Cable Assembly: Single ended: | Double Ended: | |
| Do the connectors need to be shielded? | | |
| If yes, do they need to be: 180° shield: | OR Shield thru pin: | |
| End "A" Connector Part Number: | Right Angle? | |
| End "B" Connector Part Number: | Right Angle? | |
| If no conductor on end "B", will that need processing | ? If yes, indica | te below: |
| Outer jacket strip length: Inner Conduct | or strip length: | _ Tinned? |
| Does end "B" have any special inclusions? If yes, ple | ase list them: | |

Note: Please submit a diagram of the color code pin-out, showing which conductors are wired to which pin position. Be sure to show drain and shield terminations, if needed. Indicate empty pins or spaces to be molded closed where required. If a drawing assembly is available, please send it also.

MIL-E-QUAL® ELECTRICAL CURRENT RATING CHART FOR CONNECTORS & CABLE ASSEMBLIES

| Contact Size | Conductor Size - AWG | Number of Conductors | Current Rating |
|--------------|----------------------|----------------------|----------------|
| | | 1 through 3 | 23.0A |
| | #12 | 4 through 6 | 17.0A |
| | | 7 through 9 | 13.0A |
| | | 1 through 3 | 17.0A |
| #12 | #14 | 4 through 6 | 12.75A |
| | | 7 through 9 | 11.0A |
| | | 1 through 3 | 13.0A |
| | #16 | 4 through 6 | 9.75A |
| | | 7 through 9 | 8.45A |
| | | 1 through 3 | 13.0A |
| | | 4 through 6 | 9.75A |
| | #16 | 7 through 10 | 8.45A |
| | #16 | 10 through 20 | 5.85A |
| | | 21 through 30 | 4.55A |
| | | 31 and up | 3.9A |
| | | 1 through 3 | 10.0A |
| | | 4 through 6 | 7.5A |
| #16 | #18 | 7 through 9 | 6.5A |
| #10 | #10 | 10 through 20 | 4.5A |
| | | 21 through 30 | 3.5A |
| | | 31 and up | 3.0A |
| | | 1 through 3 | 7.5A |
| | | 4 through 6 | 5.6A |
| | #20 | 7 through 9 | 4.8A |
| | | 10 through 20 | 3.4A |
| | | 21 through 30 | 2.62A |
| | | 31 and up | 2.3A |

Tooling

Contact Insertion & Removal Tools

Locator

Manual Crimp Tool (Multi-contact) Handle Manual Crimp Tool (Single Purpose) Positioner Handle

TOOLING

Contact Insertion/Removal Tools

| Con-X Series | Connector Size | Contact Size | Insertion Bits Pins or Sockets | Handle for Bits |
|--------------|----------------|-----------------|--------------------------------|-----------------|
| | 2-7 contacts | #12 .093" (2.4) | 356-12 | 356-1 |
| | 2-10 contacts | #16 .062" (1.6) | 356-16 | 356-1 |
| | 2-31 contacts | #20 .040" (1) | 356-20 | 356-1 |

 MIL-E-QUAL Series
 Connector Size
 Contact Size
 Insertion Bits Pins or Sockets
 Handle for Bits

 All Mil-E-Qual Connector Sizes
 #12 .093" (2.4)
 356-12
 356-1

 Connector Sizes
 #16 .062" (1.6)
 356-16
 356-1

Product not designed to remove contacts after insertion. Consult factory for removal tools.

Manual Contact Crimping Tools

| Con-X Series | Contact Size | Handle for Tool | Description | Contact Positioners for Tools |
|--------------|-----------------|-----------------|---------------------|----------------------------------|
| | #12, #16, & #20 | 359-24 | Multi Contact Tool | 357-124 |
| | #20 Only | 359-21 | Single Purpose Tool | 357-122 |

| MIL-E-QUAL Series | Contact Size | Handle for Tool | Description | Contact Positioners for Tools |
|-------------------|-----------------|-----------------|-----------------|----------------------------------|
| | #12 .093" (2.4) | 359-24 | Hand Crimp Tool | 358-112 |
| | #16 .062" (1.6) | 359-24 | Hand Crimp Tool | 358-112 |

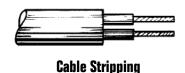
Pneumatic Crimping Tools - Consult Factory

Contact Crimping and Assembly Procedures:

- A. Push cable through connector components, i.e. backshell, grommet, sleeve, and coupling ring.
- B. Wire preparation: Strip cable to dimensions shown. Make all cuts square and sharp being careful not to nick wires when cutting. To prevent stranded wires from fraying it is recommended that ends be tightly twisted and not solder dipped.

Conductor Strip Lengths

| CON-X | MIL-E-QUAL | | |
|-------------------------------------|------------------------|--|--|
| #20 -3/16 #16 -7/32 #12 -7/32 | #16 -9/32 #12 -7/32 | | |



| \sim | ~ | | | . 1 | | | C 11 |
|--------|----------|--------|------|--------|------|----|----------|
| (' | Contact | crimi | ning | toole | 1100 | 26 | tollowe. |
| · | Comaci | CIIIII | UIII | toois. | usc | as | TOHOWS. |

☐ Assemble contact locator to tool.

☐ Check tool setting for wire gage to be crimped.

Drop contacts, mating end first into locator so that it rests fully on bottom. Insert stripped lead into contact barrel until it stops.

☐ Close tool handles completely in one stroke. (The ratchet will not release jaws until tool has completed cycle.)

Inspect crimp to be sure there are no loose strands outside the contact which may short out to an adjacent contact.

D. Contact insertion tools. Place wired contact into proper connectors cavity. Guide tip of the insertion tool so that it starts at the contact and slides down against the stop. Apply a steady force perpendicular to the contact until it snaps into position.

| * Please visit the product pages on our website for the most up-to-date product information |
|---------------------------------------------------------------------------------------------|
| Notes |
| |
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Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Switchcraft:

13182-7SG-321 3282-5SG-3DC 359-21 3282-9SG-321 3282-9SG-324 3282-9SG-328 3282-9SG-330 3282-9SG-515 3282-9SG-518 3282-9SG-521 3282-9SG-524 3282-9SG-528 3380-4PG-315 3380-4PG-318 3380-4PG-321 3380-4PG-321 3380-4PG-321 3380-4PG-321 3380-4PG-321 3380-4PG-321 3380-4PG-524 3380-4PG-528 3380-4PG-530 3380-4SG-315 3380-4SG-311 3380-4SG-321 3380-4SG-321 3380-4SG-321 3380-4SG-321 3380-4SG-321 3380-4SG-321 3380-4SG-528 3380-4SG-321 3380-4SG-528 3380-4SG-528 3380-4SG-528 3380-4SG-528 3380-4SG-528 3380-5SG-315 3380-5SG-315 3380-5SG-321 3380-6SG-321 3380-6SG-3