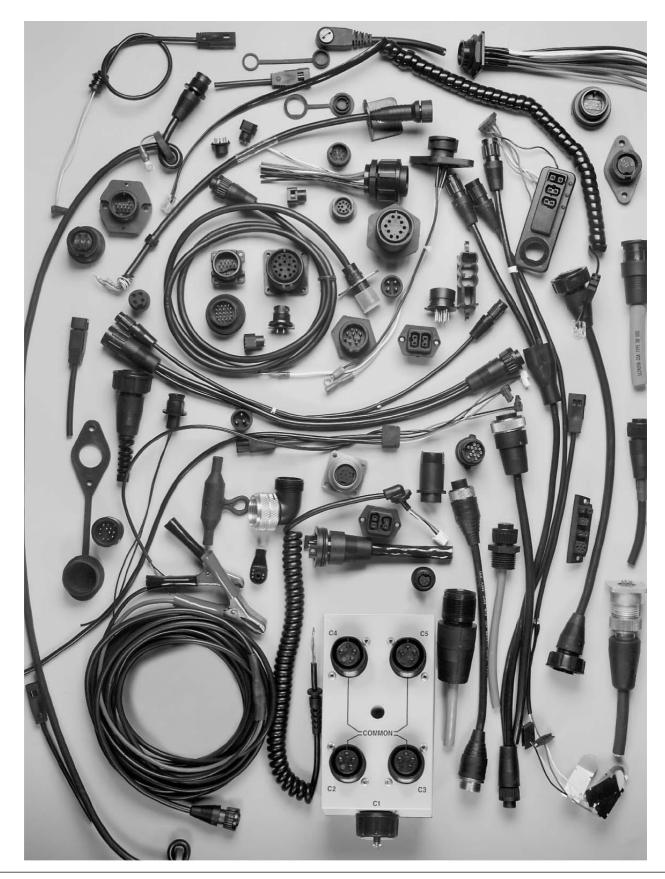
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CUSTOM MOLDED CABLE ASSEMBLIES AND CONNECTORS



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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.

Micro-Con-X® Field Installable Connectors



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



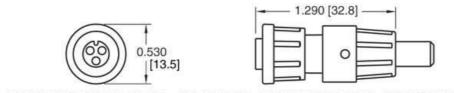
Dust Cap 16295

Molded Cable Assemblies (See pages 3 & 26)

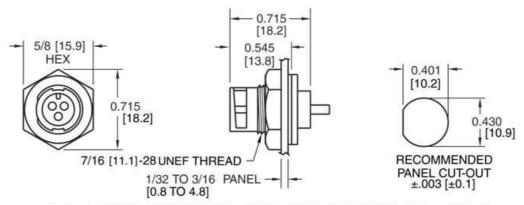


MICRO-CON-X® FIELD INSTALLABLE CONNECTORS

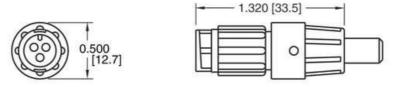
Dimensions (Dimensions in brackets are in millimeters)



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

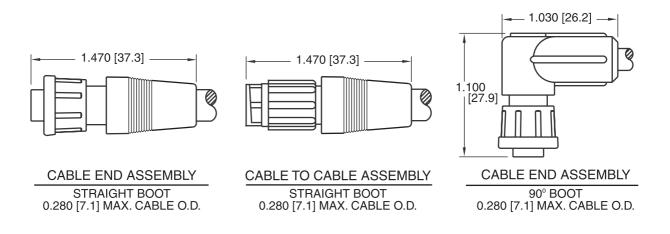


PANEL MOUNT CONNECTOR - SHOWN WITH HEX NUT AND GASKET



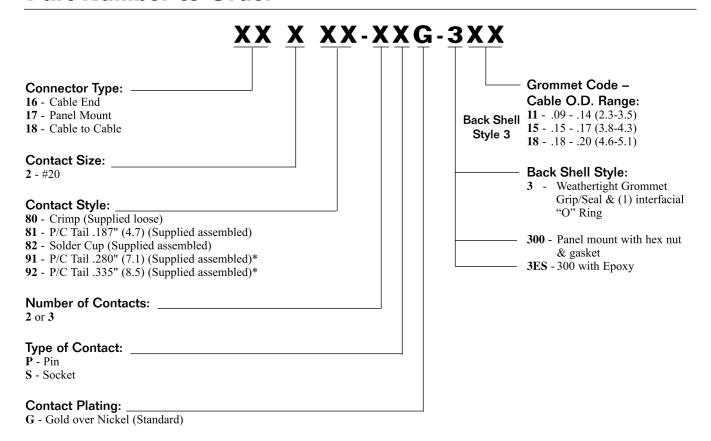
CABLE TO CABLE CONNECTOR - WITH SNAP LOCK BACKSHELL (NON-REMOVEABLE)

Molded Cable Assemblies (See pages 3 & 26)



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



CABLE PIN. PANEL SOCKET AND CABLE TO CABLE SOCKET ONLY



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® FIELD INSTALLABLE CONNECTORS

Specifications

Typical Specifications

Manufacturers Identifications

Description Rating

Conductor Size Configuration

Certification

Micro-Con-X®

Field Installable Connector & Custom Cable Assemblies

3.0 thru 7.5A, 600V 20 thru 24 AWG 2 & 3 #20 Contacts

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

Nylon, UL Recognized, Black Santoprene Rubber, Black

Nylon, UL Recognized, Black

Nylon, UL Recognized, Black

Nylon, UL Recognized, Black Santoprene Rubber, Black

Nylon, UL Recognized, Black

Nylon, UL Recognized, Black

Nylon, UL Recognized, Black

Brass, Gold over Nickel

Neoprene Rubber, Black

Brass, Gold over Nickel

Brass, Gold over Nickel

Neoprene Rubber, Black

Material Specifications

Cable Pin/Socket

Backshell (Non-Removable Snap Lock)

Grommet
Coupling Ring
Contacts
Connector Body

O-Ring

Cable to Cable

Backshell (Non-Removable Snap Lock)

Grommet Contacts Connector Body

Panel Mount
Contacts
Panel Body
Gasket

Optional Property of the Control of

Dust Cap

Hex Nut

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

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)

Watertight NEMA 6P, 13: IEC IP67

Mini-Con-X® Field Installable Connectors



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



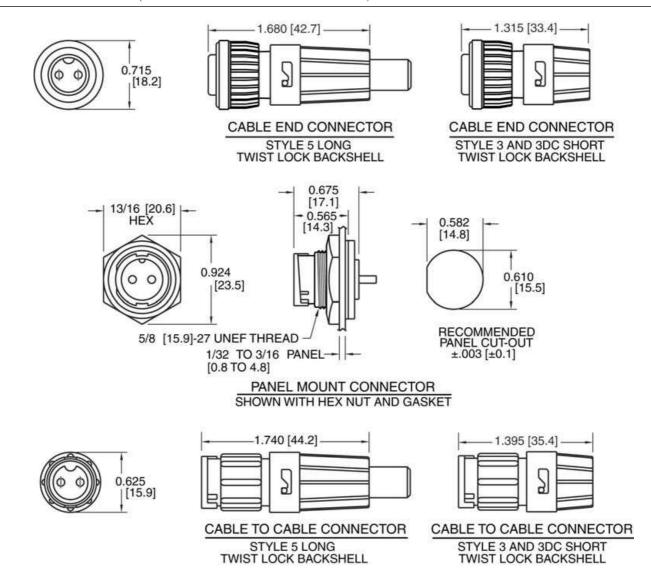
Winged Coupling Ring W/6482

Molded Cable Assemblies (See pages 3 & 26)

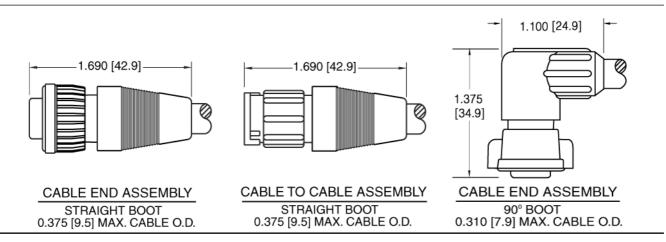


MINI-CON-X® FIELD INSTALLABLE CONNECTORS

Dimensions (Dimensions in brackets are in millimeters)



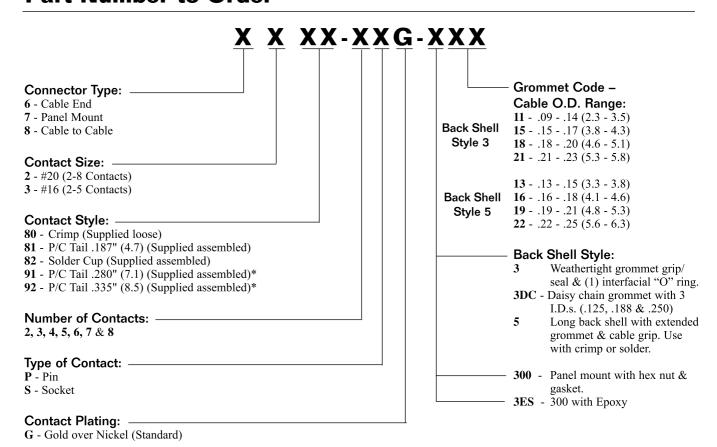
Molded Cable Assemblies (See pages 3 & 26)



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MINI-CON-X® FIELD INSTALLABLE CONNECTORS

Part Number to Order

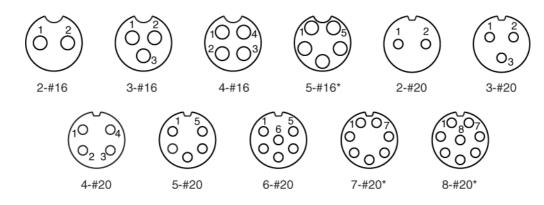


^{*}Available in #20 size contact only.

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® FIELD INSTALLABLE CONNECTORS

Specifications

Typical Specifications

Manufacturers Identifications

Description Rating

Conductor Size

Configuration

Certification

Mini-Con-X®

Field Installable Connector & Custom Cable Assemblies

4.8 thru 13.0A, 600V

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

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

UL Recognized File #E150822 - 250V

Material Specifications

Cable Pin/Socket

Backshell (Removable Twist Lock)

Grommet Coupling Ring

Contacts

Connector Body

O-Ring

Optional

Long Backshell (Removable Twist Lock)

Winged Coupling Ring

Cable to Cable

Backshell (Removable Twist Lock)

Grommet Contacts

Connector Body

Panel Mount

Contacts

Panel Body

Gasket Hex Nut

Optional

Dust Cap

Nylon, UL Recognized, Black

Nylon, UL Recognized, Black

Nylon, UL Recognized, Black

Santoprene Rubber, Black

Brass, Gold over Nickel

Neoprene Rubber, Black

CSA Certified File #181200 - 600V

Nylon, UL Recognized, Black (Style #5) Nylon, UL Recognized, Black (W/6482)

Nylon, UL Recognized, Black Santoprene Rubber, Black 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. 6295)

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 **Durability**

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

600 V Voltage

See Electrical Current Rating Chart (Page 27) Current

Environmental Specifications

 -40° C to $+115^{\circ}$ C (-40° F to $+239^{\circ}$ F) Temperature Rating

300 Hr salt spray contacts Corrosion

Consult factory with specific application Weathertight

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

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NSTALLABLE



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

Molded Cable Assemblies (See pages 3 & 26)



Cable End



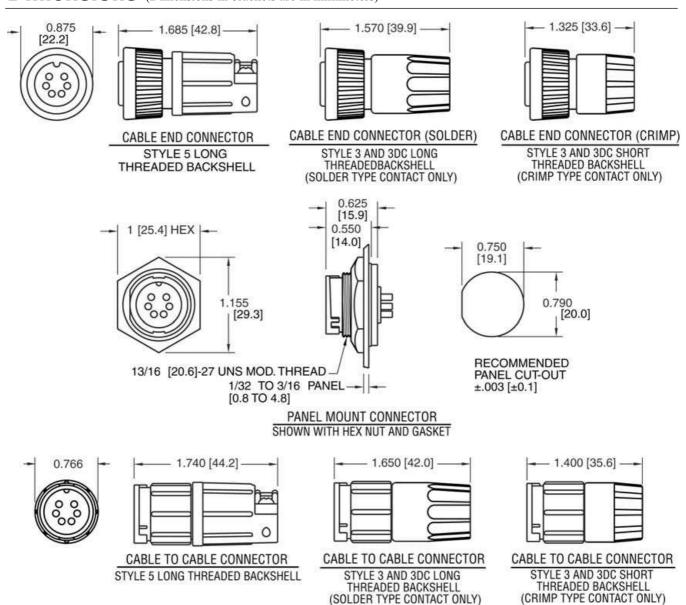
Cable to Cable



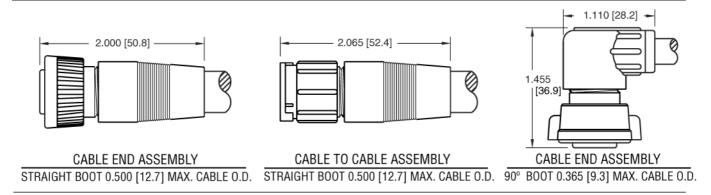
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Multi-Con-X® Field Installable Connectors

Dimensions (Dimensions in brackets are in millimeters)



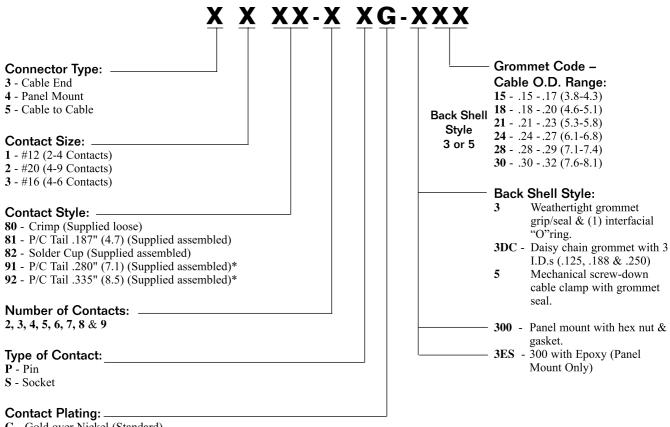
Molded Cable Assemblies (See pages 3 & 26)



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Multi-Con-X® Field Installable Connectors

Part Number to Order



G - Gold over Nickel (Standard)

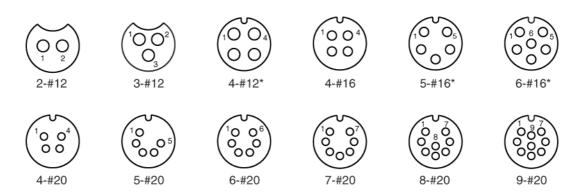
EMI/RFI shielded assemblies available - consult factory.

*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.

Multi-Con-X® Field Installable Connectors

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 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°C (-40°F to +194°F). Consult factory for higher temperature requirements.

Mechanical Specifications Durability

Vibration

Hex Nut Torque

Electrical Specifications

Voltage Current

Environmental Specifications

Temperature Rating Corrosion Weathertight

Molded Cable Assemblies

Watertight

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.

600 V

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

NSTALLABLE



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



Cable Socket 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



Molded Cable Assemblies (See pages 3 & 26)



Cable End



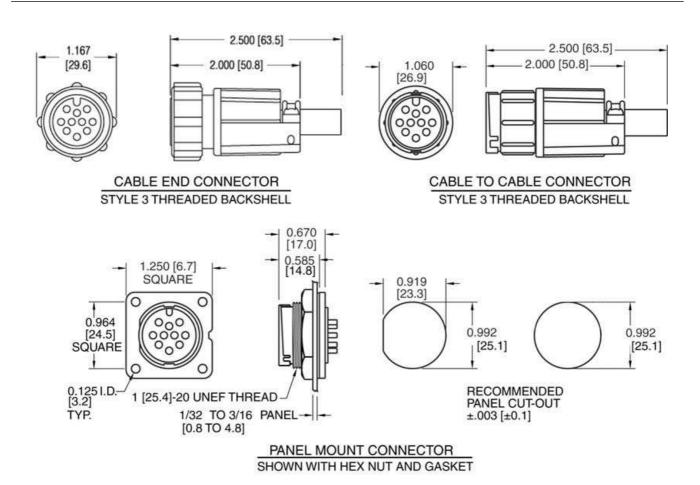
Cable to Cable



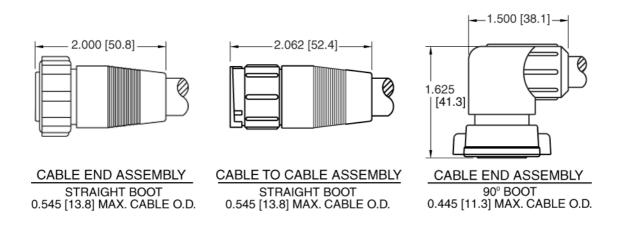
Right Angle

Maxi-Con-X® Field Installable Connectors

Dimensions (Dimensions in brackets are in millimeters)

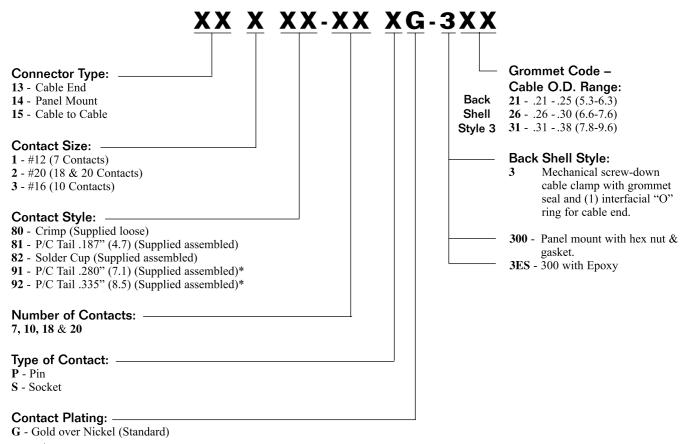


Molded Cable Assemblies (See pages 3 & 26)



Maxi-Con-X® Field Installable Connectors

Part Number to Order



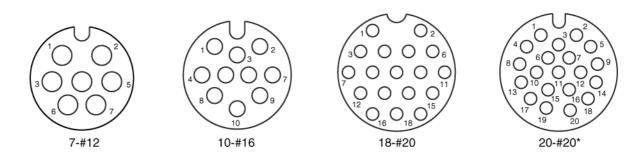
EMI/RFI shielded assemblies available - consult factory.

*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.

Maxi-Con-X® Field Installable Connectors

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 $+90^{\circ}$ C (-40° F to $+194^{\circ}$ 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

See Electrical Current Rating Chart (Page 27) Current

Environmental Specifications

 -40° C to $+115^{\circ}$ C (-40° F to $+239^{\circ}$ F) Temperature Rating

300 Hr salt spray contacts Corrosion

Weathertight Consult factory with specific application

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

CONDECTION 601 East Wildwood, Villa Park, Illinois 60181 • Telephone (630) 834-7504 • Fax (630) 834-8540 • www.conxall.com

Mega-Con-X® Field Installable Connectors



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



Molded Cable Assemblies (See pages 3 & 26)



Cable End



Right Angle

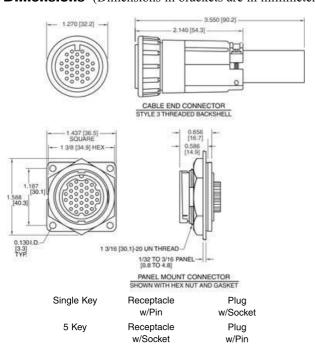
601 East Wildwood, Villa Park, Illinois 60181 • Telephone (630) 834-7504 • Fax (630) 834-8540 • www.conxall.com

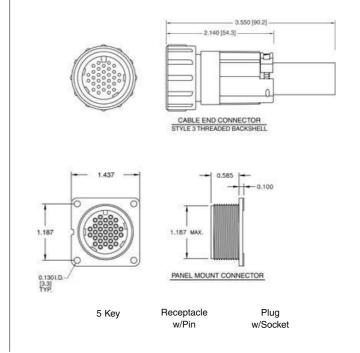
Mega-Con-X® Field Installable Connectors

Quick Connect Type

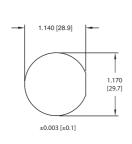
Threaded Type

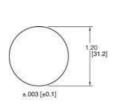
Dimensions (Dimensions in brackets are in millimeters)



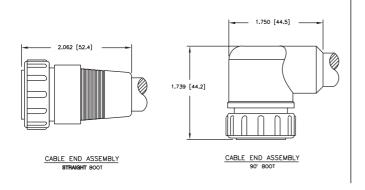


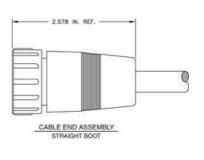
Panel Cutout





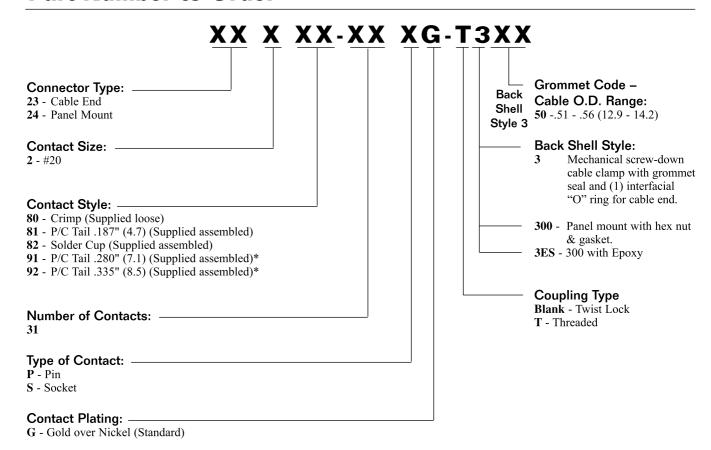
Molded Cable Assemblies (See pages 3 & 26)





Mega-Con-X® Field Installable Connectors

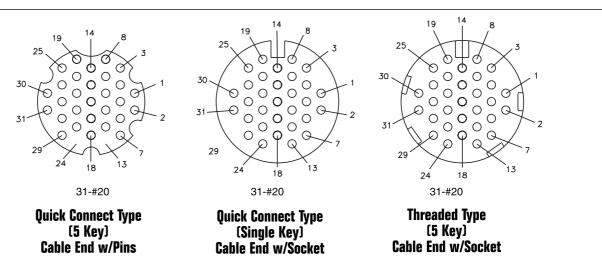
Part Number to Order



^{*}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.

Mega-Con-X®

0.9 thru 2.3A, 600V

Mega-Con-X® Field Installable Connectors

Specifications

Typical Specifications

Manufacturers Identifications

Description Rating

Conductor Size Configuration

Certification

20 thru 24 AWG 31 - #20 Contacts

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

Field Installable Connector & Custom Cable Assemblies

Material Specifications

Cable Pin/Socket

Mechanical Backshell (Threaded)

Strap Screws Grommet Coupling Ring

Contacts Connector Body

O-Ring

Panel Mount

Contacts Panel Body Gasket Hex Nut

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

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

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

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

Current See Electrical Current Rating Chart (Page 27)

Environmental Specifications

Temperature Rating Corrosion

Weathertight

300 Hr salt spray contacts

Consult factory with specific application

Molded Cable Assemblies (See Pages 3 & 26) Watertight

NEMA 6P, 13: IEC IP67

 -40° C to $+115^{\circ}$ C (-40° F to $+239^{\circ}$ F)

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: Mate	erial:	OD:
Number of Conductors: Conductor A	WG:	Stranding:
Conductor Colors:		
Is there a drain wire? Is the	e drain wire terminated?	
*If the drain wire is terminated, be sure to indicate v	where on pin-out diagram.	
Is the cable shielded? How? Foil.	Braid	
*If the shield is braided, be sure to indicate where o	n the pin-out diagram.	
Will the Customer supply the cable for production?		
Cable Cut Length:	_ Overall Assembly Length: _	
Does the Cable Assembly have Environmental Requ	uirements?	
If yes, please list them:		
Must overmold have a moisture bond to the cable's	outer jacket?	
Is the Cable Assembly: Single ended:	Double Ended	d:
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 Condu	ctor strip length:	Tinned?
outer facket strip rengtin miles condu	1 &	

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
	111.6	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		
	77.10	1 through 3	10.0A
		4 through 12	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



CXX 3106A XXXX XX S XXX



Box Receptacle PinCXX 3102A XXXX XX P XXX



Cable PinCXX 3106A XXXX XX P XXX



Box Receptacle Socket
CXX 3102A XXXX XX S XXX



Cable Cap 4XX96



Receptacle Cap 4XX95

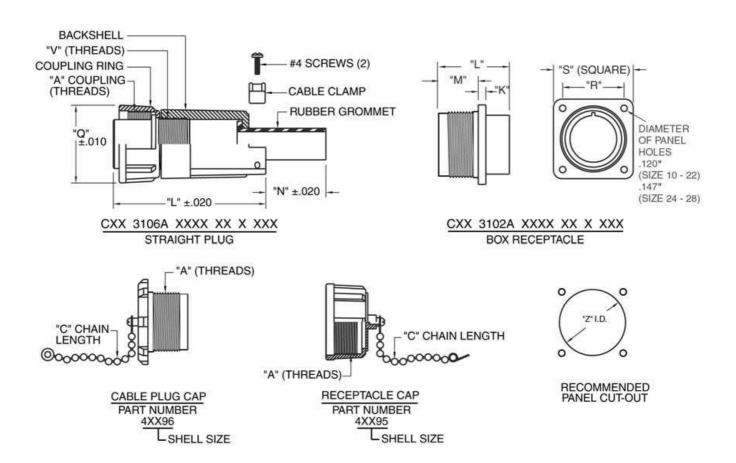
Molded Cable Assemblies (See pages 3 & 33)



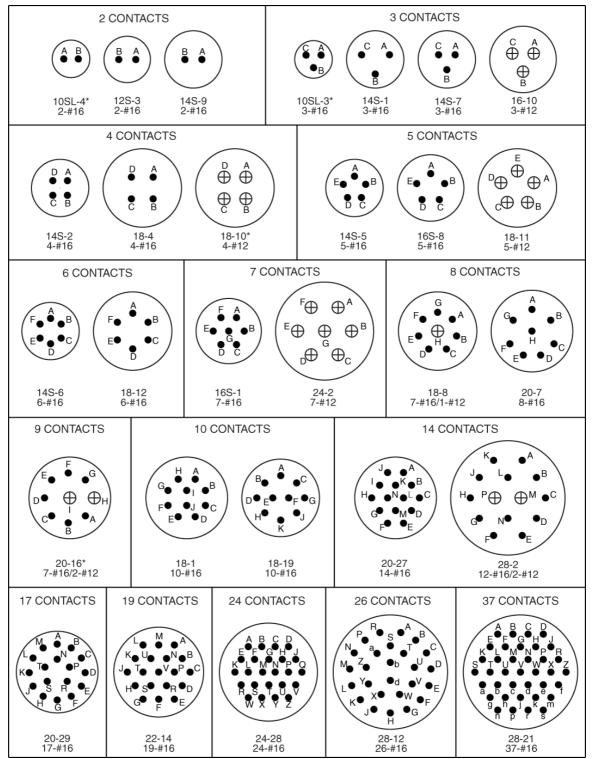
Cable Pin

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
12S	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		K	L	М	R	S	C	Z
Size	Coupling Threads	Inch MM	Inch MM	Inch MM	Inch MM	Inch MM	Inch MM	Inch MM
10SL	5/8-24	.080	.940 23.9	9/16 14.3	23/32 18.3	1 25.4	3.5 88.9	.635 16.1
128	3/4-20	.080	1.030	9/16 14.3	13/16 20.6	1-3/32 27.8	3.5 88.9	.760 19.3
14S	7/8-20	.080	1.143 29	9/16 14.3	29/32 23	1-3/16 30.2	3.5 88.9	.885 22.5
16S	1-20	.142 3.6	1.180 30	9/16 14.3	31/32 24.6	1-9/32 32.5	3.5 88.9	1.010 25.7
16	1-20	.142 3.6	1.350 34.3	3/4 19	31/32 24.6	1-9/32 32.5	3.5 88.9	1.010 25.7
18	1-1/8-18	.142 3.6	1.330 33.8	3/4 19	1-1/16 27	1-3/8 34.9	5.0 127.0	1.135 28.8
20	1-1/4-18	.142 3.6	1.330 33.8	3/4 19	1-5/32 29.4	1-1/2 38.1	5.0 127.0	1.260 32.0
22	1-3/8-18	.142 3.6	1.220 31.0	3/4 19	1-1/4 31.8	1-5/8 41.3	5.0 127.0	1.385 35.2
24	1-1/2-18	.142 3.6	1.220 31.0	13/16 20.6	1-3/8 34.9	1-3/4 44.5	6.0 152.4	1.510 38.4
28	1-3/4-18	.142 3.6	1.220 31.0	13/16 20.6	1-9/16 39.7	2 50.8	6.0 152.4	1.760 44.7



Contact Arrangements

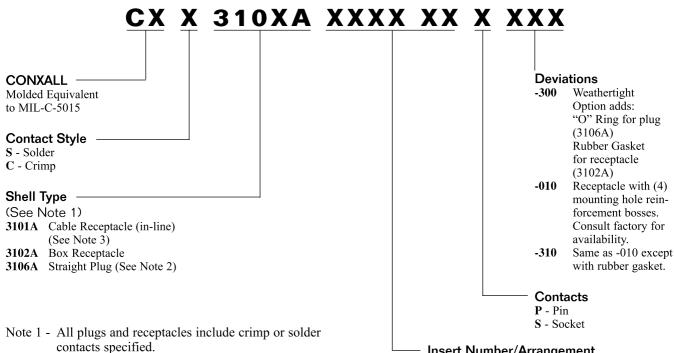


Contact Arrangements shown are mating view of pin insert (socket opposite).

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



Bushing Sizes Provided

Note 2 - Straight Plugs include back shell assembly with

Note 3 - For overmolded cable construction only. Consult

cable clamp and bushing.

factory for availability.

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 Sizes							
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

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

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**

Extended Bosses

Different Keyways Available

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 $+90^{\circ}$ C (-40° F to $+194^{\circ}$ F).

Consult factory for higher temperature requirements.

Electrical Specifications

Voltage

Current See Electrical Current Rating Chart (Page 34)

500 V

Environmental Specifications

Molded Cable Assemblies

Temperature Rating

Corrosion

Watertight

Durability Weathertight -40° C to $+125^{\circ}$ C (-40° F to $+257^{\circ}$ F)

48 Hr salt spray contacts

300 mate/unmate cycles minimum

Consult factory with specific application

(See Pages 3 & 33)

NEMA 6P, 13: IEC IP67

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: Mater	rial:	OD:
Number of Conductors: Conductor A	WG:	Stranding:
Conductor Colors:		
Is there a drain wire? Is the	drain wire terminated?	
*If the drain wire is terminated, be sure to indicate w	where on pin-out diagram.	
Is the cable shielded? How?	? Foil Braid	
*If the braid is terminated, 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 Requ	irements?	
If yes, please list them:		
Must overmold have a moisture bond to the cable's of	outer 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	g? If yes, indicate	e below:
Outer jacket strip length: Inner Conduc	ctor strip length:	Tinned?
Does end "B" have any special inclusions? If yes, pl	ease 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
	#10	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	#10	7 through 9	6.5A
#10	#18	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
	20	10 through 20	3.4A
		21 through 30	2.62A
		31 and up	2.3A

TOOLING

Manual Crimp Tool (Multi-contact) Handle Positioner Contact Insertion & Removal Tools 356-XXX Bits 356-1 Handle Manual Crimp Tool (Single Purpose) Locator Handle

CONX 601 East Wildwood, Villa Park, Illinois 60181 • Telephone (630) 834-7504 • Fax (630) 834-8540 • www.conxall.com

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

Insertion Bits **MIL-E-OUALSeries Connector Size Contact Size Handle for Bits Pins or Sockets** #12 .093" (2.4) All Mil-E-Qual 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
Ī	#16 .062" (1.6)	359-24	Hand Crimp Tool	358-112

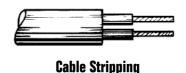
Pneumatic Crimping Tools - Consult Factory

Contact Crimping and Assembly Procedures:

- A. Push cable through connector components, i.e. backshell, grommet, sleeve, and coupling ring.
- 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	~				0.11
\sim	Contact	crimping	toole	1100 00	tollowe.
\ /.	COHIACI	CHIHIDINE	LUULIS.	use as	i iuiiuws.

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