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ABOUT US



Switchcraft, Inc. was established in 1946 to manufacture jacks, plugs and switches, mainly for the communications industry. The original plant was located on West Diversey Street in Chicago. The company moved to a larger facility at 1328 North Halsted Street in 1948 and in 1958, the operation moved to a 185,000 square foot facility located at 5555 North Elston Avenue, which is still the headquarters and the largest of three manufacturing locations for the corporation today.

In 1977, Switchcraft was bought by the Raytheon Corporation and it operated as an independent subsidiary in its Commercial division for twenty years. During this time, Switchcraft expanded its production capability to include vertical integration, for cost effective manufacturing in the United States. They also expanded into harsh environment connector products, which expanded the market growth of the company.

In 1997 Raytheon made a strategic decision to focus solely on the defense industry. As a result, they divested their interests in all of their commercial holdings. At that time Switchcraft was sold to company management and a private equity firm.

In 1999, Switchcraft acquired Conxall, a manufacturer of circular connectors and cable assemblies, in order to expand their offering of harsh environment connectivity products. They are located in a 32,000 square foot facility in Villa Park, IL. This strategic acquisition helped to position Switchcraft for expanded growth in the Industrial Marketplace.

In 2011, Switchcraft was acquired by HEICO Corporation and became part of their Electronic Technologies Group.

Switchcraft is a major supplier of harsh environment connectivity products to the Industrial market and the premier connectivity provider to the Pro-Audio & Broadcast Industries.

CUSTOM PRODUCTS

Can't find exactly what you are looking for in our standard product offering? Contact us to start creating your custom solution! A strong group of engineers and a vertically integrated manufacturing facility make Switchcraft and Conxall your logical choice for custom products. We can transform your product ideas into reality.

ENGINEERING CAPABILITIES

- Full staff of design engineers in Chicago and Villa Park, IL locations
- Full use of modeling and simulation software, for electronic and mechanical design
- Ability to provide rapid prototypes quickly after initial design concepts are completed
- Test lab and model shop on site for product development

ENGINEERING TEST CAPABILITIES

Testing Capabilities for Electrical Properties

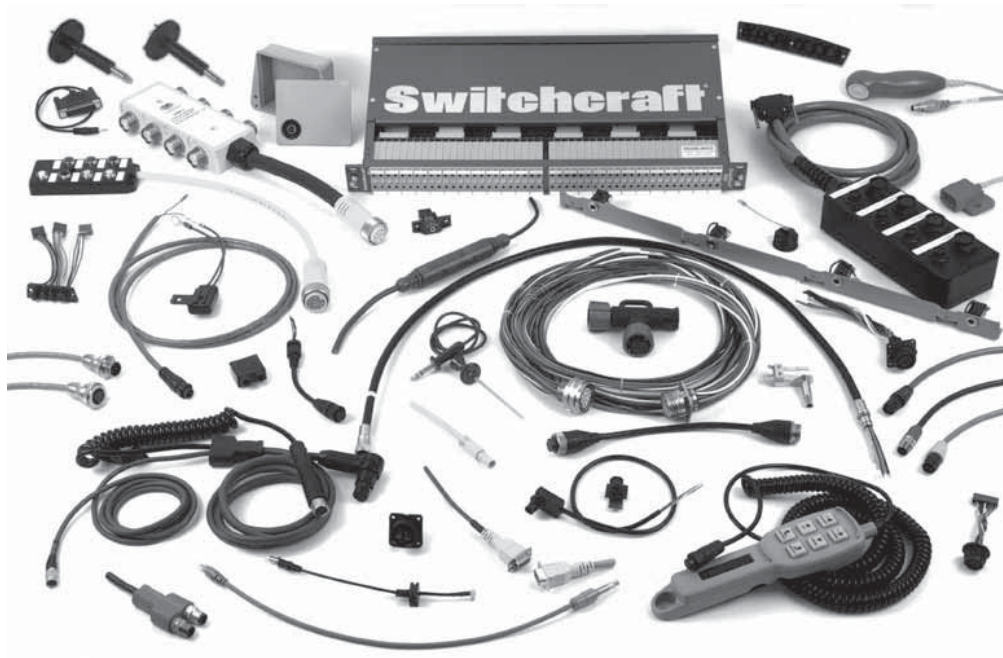
- Insulation resistance
- Breakdown voltage
- Contact resistance
- Return losses
- Frequency response measurement

Mechanical Properties

- Force testing
- Life cycle testing
- Low level vibration

Environmental Testing

- Thermal cycling
- Salt spray
- Humidity vs. temperature testing
- NEMA 250 (6P) - IP 66/ 67/ 68



We manufacture many customized products. Some examples are:

- Panel connectors with flex circuits
- Wave soldering to panel mount connectors
- Custom assembly and wiring
- Custom mounted and wired product assemblies
- Wide selection of mold compounds for molded color products
- Assembled ends for non-Switchcraft and Conxall products
- Fully molded units with connectors encapsulated into the assembly

HARSH ENVIRONMENT

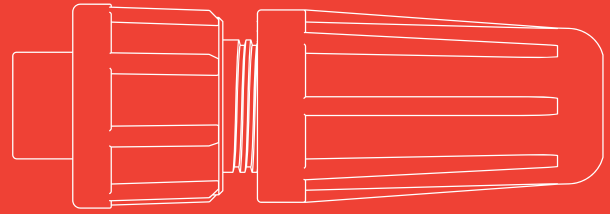
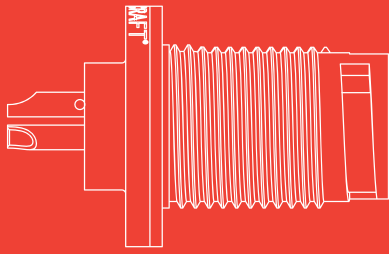


EN2™ | MICRO-CON-X® | EN3® | MINI-CON-X® | SHIELDED MINI-CON-X® | MULTI-CON-X®

CONNECTIVITY SOLUTIONS



SHIELDED MULTI-CON-X® | MAXI-CON-X® | MEGA-CON-X® | MIL-E-QUAL®



EN2™

0.53" [13MM] OD 2-7 CONTACTS



WINGED CABLE END - PIN
MATES WITH PANEL MOUNT



RIBBED CABLE END - PIN
MATES WITH PANEL MOUNT



WINGED CABLE END - SOCKET
MATES WITH PANEL MOUNT



RIBBED CABLE END - SOCKET
MATES WITH PANEL MOUNT



PANEL MOUNT - PIN
MATES WITH CABLE END



PANEL MOUNT - SOCKET
MATES WITH CABLE END

SPECIFICATIONS

Mechanical Specifications

| | |
|-------------------|--|
| Life: | 600 insertion/withdrawal cycles minimum |
| Vibration: | Mil-Std 202G Method 201A |
| Hex Nut Torque: | 5-6 in/lb |
| Operating Forces: | 8 lb maximum insertion 0.25 lb minimum withdrawal |
| Back Shell Type: | Threaded Handle |
| Conductor Sizes: | #20 contacts accepts 20 through 26 AWG #22 contacts accepts 20 through 26 AWG #26 contacts accepts 26 through 30 AWG |

Electrical Specifications

| | |
|------------------------|---|
| Voltage Rating: | 250 V AC/DC for 2 contact arrangement 125 V AC/DC for 3-7 contact arrangements |
| Current Rating: | See current rating table on page 109 |
| Insulation Resistance: | 1000 MΩ minimum |
| Contact Resistance: | 10 mΩ maximum |

Environmental Specifications

| | |
|-------------------------------|--|
| Operating Temperature Limits: | -40°C to +85°C (-40°F to +185°F) |
| Moisture Resistance: | Mil-Std 202G Method 106G |
| Insulation Resistance: | Mil-Std 202G Method 302 Condition B |
| Thermal Shock: | Mil-Std 202G Method 107G |
| Salt Atmosphere (Corrosion): | Mil-Std 202G Method 101E Condition B |
| Weather-tight Ratings: | IP16, IP18, IP66, IP67, IP68 per IEC60529 NEMA 250 (6P), CFR 46 Part 110.20 |

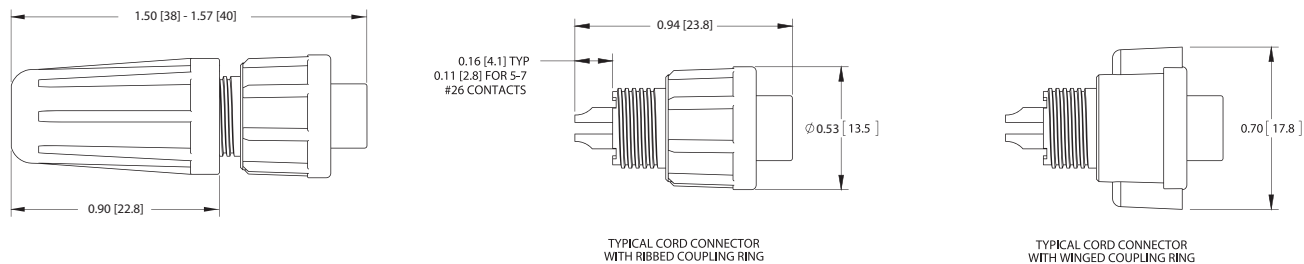
Material Specifications

| | |
|---------------------|----------------------|
| Connector Housing: | Thermoplastic, Black |
| Hex Nut: | Thermoplastic, Black |
| Coupling Ring: | Thermoplastic, Black |
| Cable Clamp: | Thermoplastic, Black |
| Handle (Back-Shell) | Thermoplastic, Black |
| Insulator: | Elastomer, Black |
| Seal Grommet: | Elastomer, Black |
| Contacts: | Copper Alloy, Plated |

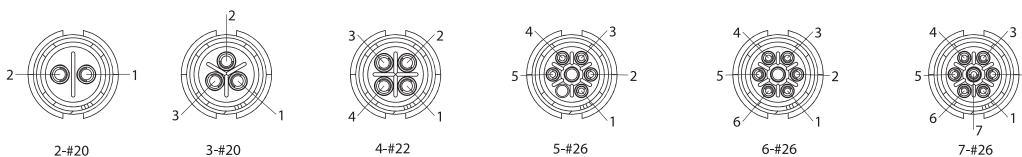
Consult factory for optional colors and materials

NOTE: Seal grommet provides an integrated O-ring seal for the connector assembly instead of a separate O-ring.

CORD

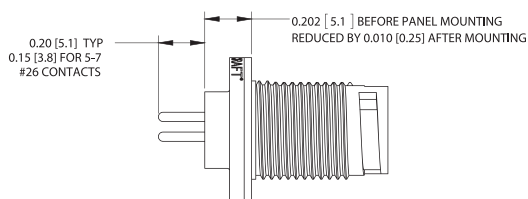
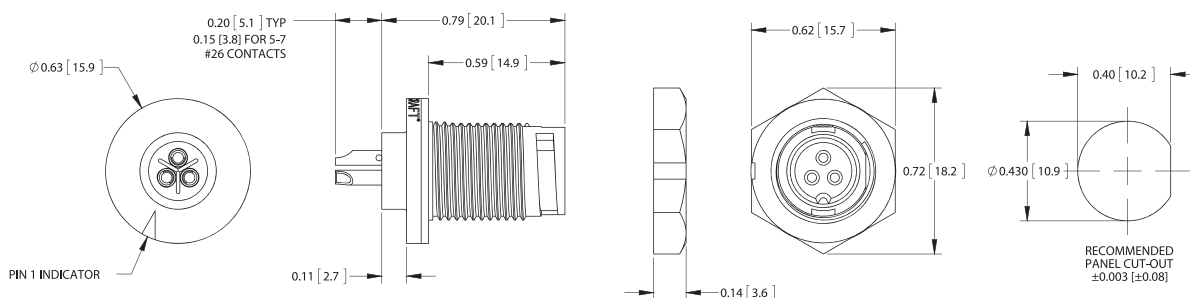


ALL DIMENSIONS FOR REFERENCE ONLY



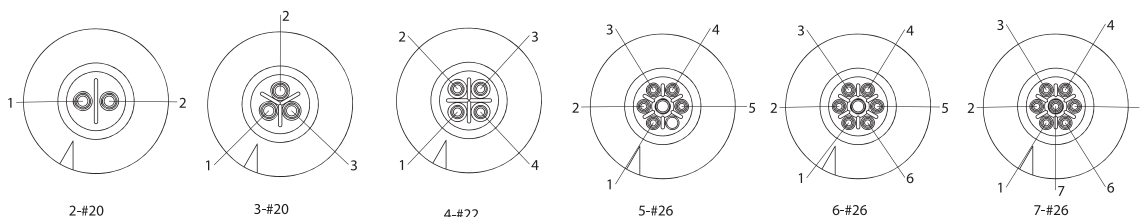
CONTACT ARRANGEMENTS
CORD CONNECTOR REAR (WIRING SIDE) VIEW

PANEL MOUNT



PC TAIL TYPE CONTACTS

ALL DIMENSIONS FOR REFERENCE ONLY



CONTACT ARRANGEMENTS
PANEL CONNECTOR REAR (WIRING SIDE) VIEW

All dimensions are for reference only. Units shown: in[mm].

PART NUMBER TO ORDER

| | | | | | | | | |
|-----|--|--|--|--|--|--|--|--|
| EN2 | | | | | | | | |
|-----|--|--|--|--|--|--|--|--|

Connector Type: _____
C - Cord
P - Panel

of Contacts: _____
2-3 for #20
4 for #22
5-7 for #26

Gender: _____
M - Male
F - Female

Contact Size: _____
20 - #20
22 - #22
26 - #26

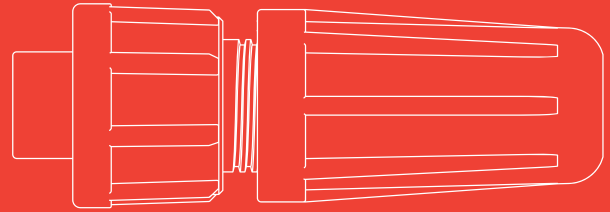
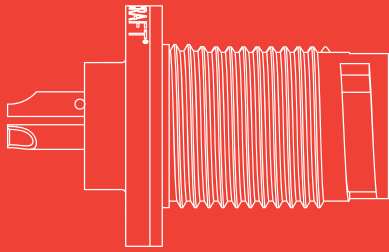
Packaging Options:
Leave blank for Bulk
K - Kit (one unit/bag)

Coupling Ring Options (Cord Only):
Leave blank for Ribbed
W - Winged

Grommet Code - Cable O.D. Range: (Cord Only)
DC - Daisy Chain (all 3 sizes)
G1 - 0.100-0.140 (2.5-3.6)
G2 - 0.140-0.180 (3.6-4.6)
G3 - 0.180-0.220 (4.6-5.6)

Contact Style:
Leave blank for Solder or Crimp
P - PC tail (Panel connectors only)

Consult factory for Cable to Cable (Inline) type connectors.



MICRO-CON-X®

0.53" [13MM] OD 2-7 CONTACTS



CABLE END - SOCKET
MATES WITH PANEL MOUNT AND
CABLE TO CABLE



CABLE END - PIN
MATES WITH PANEL MOUNT AND
CABLE TO CABLE



CABLE TO CABLE / INLINE - SOCKET
MATES WITH CABLE END



PANEL MOUNT - PIN
MATES WITH CABLE END



PANEL MOUNT - SOCKET
MATES WITH CABLE END



DUST CAP
P/N - 16295



IP RATED LOCKING CAP
P/N-16295P (2-3 Contacts)



MOLDED CABLE END ASSEMBLY



MOLDED CABLE TO CABLE ASSEMBLY



MOLDED RIGHT ANGLE CABLE ASSEMBLY

SPECIFICATIONS

Mechanical Specifications

| | |
|-------------------------|---|
| Life: | 300 insertion / withdrawal cycles minimum |
| Vibration: | Coupling rings have overriding locking feature to prevent loosening or separation of connector |
| Hex Nut Torque: | 9 in-lb max tightening torque. |
| Coupling Locking Style: | Bayonet with ribbed coupling nut (winged coupling nut available) P/N 16482 |
| Backshell Style: | Non-removable snap lock |
| Conductor Sizes: | #20 accepts 20 through 24 AWG #22 contacts accepts 22 through 24 AWG #26 contacts accepts 24 through 26 AWG |

Electrical Specifications

| | |
|-----------------|--|
| Voltage Rating: | 600V AC/DC |
| Current Rating: | 7.5 A – max (See page 107 for Electrical Current Rating Chart) |

Environmental Specifications

| | |
|-------------------------------|----------------------------------|
| Operating Temperature Rating: | -40°C to +85°C (-40°F to +185°F) |
| Salt Atmosphere (Corrosion): | 300 Hr salt spray when mated |
| Weathertight: | IP67 at the face, when mated |

Material Specifications

| | |
|--------------------------|--------------------------------------|
| Backshell: | Thermoplastic, UL 94HB, Black |
| Contacts: | Copper Alloy, Gold over Nickel Plate |
| Coupling Ring: | Thermoplastic, UL 94HB, Black |
| Gasket: | Elastomer, Black |
| Grommet / Strain Relief: | Elastomer, Black |
| Hex Nut: | Thermoplastic, UL 94HB, Black |
| O-Ring: | Elastomer, Black |
| Shell: | Thermoplastic, UL 94HB, Black |
| Optional Dust Cap: | Elastomer, Black |

Molded Cable Assemblies

| | |
|---------------|-----------------------|
| Weathertight: | NEMA 6P, 13: IEC IP67 |
|---------------|-----------------------|

Certifications

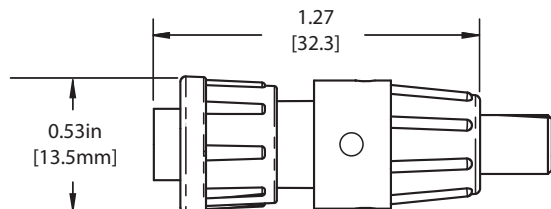
UL File E150822
CSA File 181200
Not for current interruption
RoHS compliant
REACH compliant

Options

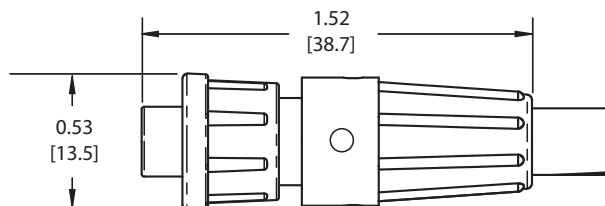
| | |
|---------------|------------------------------|
| UV Rating: | F1 available |
| Flame Rating: | UL 94-HB; UL 94V-0 available |

Consult factory for optional colors and materials

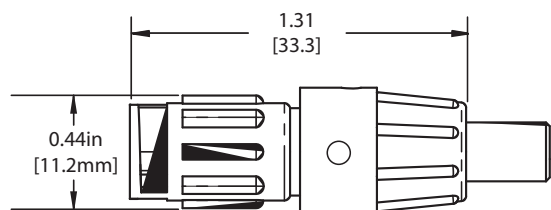
FIELD INSTALLABLE KITS



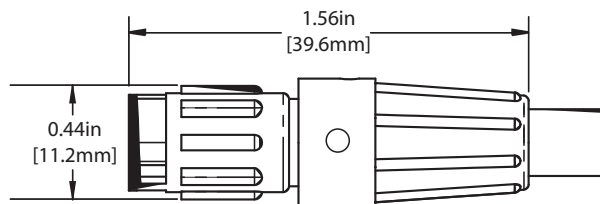
16XXX-XXG-3XX
FIELD INSTALLABLE
CABLE CONNECTOR
BACKSHELL TYPE 3-SHORT
2 & 3 POSITION ONLY



16XXX-XXG-5XX
FIELD INSTALLABLE
CABLE CONNECTOR
BACKSHELL TYPE 5-LONG

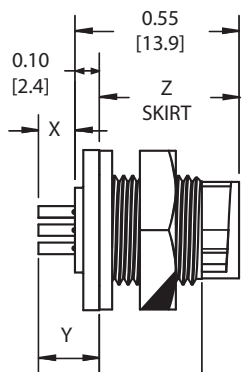


18XXX-XXG-3XX
FIELD INSTALLABLE
CABLE TO CABLE CONNECTOR
BACKSHELL TYPE 3-SHORT
2 & 3 POSITION ONLY

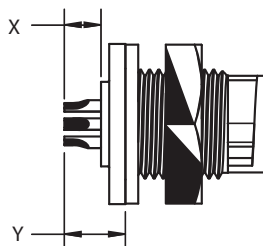


18XXX-XXG-5XX
FIELD INSTALLABLE
CABLE TO CABLE CONNECTOR
BACKSHELL TYPE 5-LONG

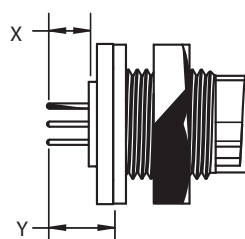
PANEL MOUNT ASSEMBLY KITS



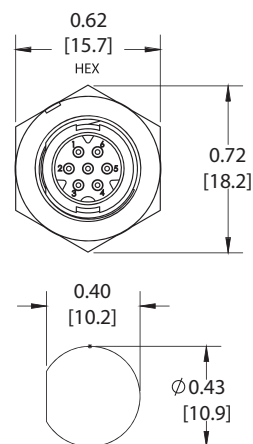
17X80-XXG-3XX
PANEL MOUNT CONNECTOR
CRIMP



17X82-XXG-3XX
PANEL MOUNT CONNECTOR
SOLDER CUP



17X8X-XXG-3XX
PANEL MOUNT CONNECTOR
PC TAIL

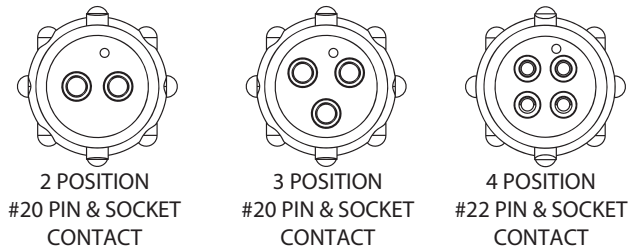
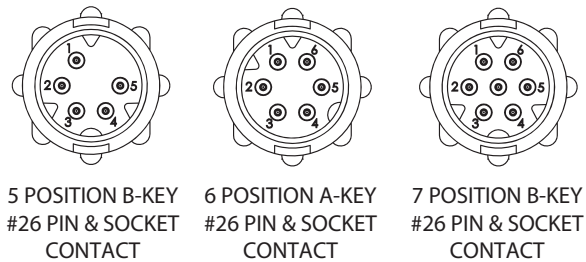
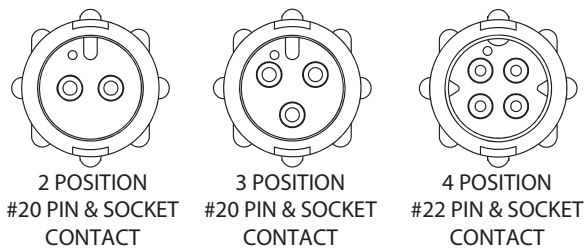


**RECOMMENDED
PANEL CUT-OUT**
TOLERANCE: ±.003

*X, Y, Z - Consult Factory. All dimensions are for reference only. Units shown: in[mm].

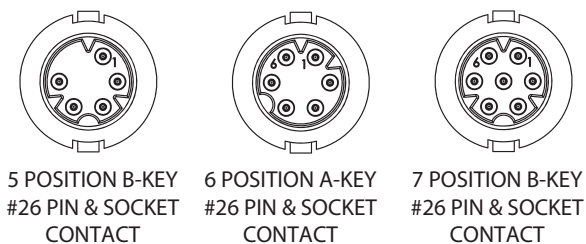
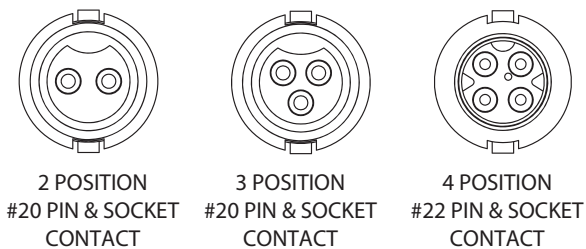
PANEL MOUNT / CABLE TO CABLE CONNECTORS

Front View | Wire View



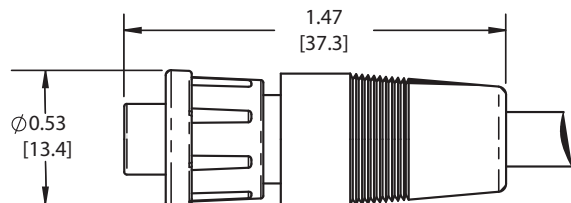
CABLE CONNECTORS

Front View | Wire View

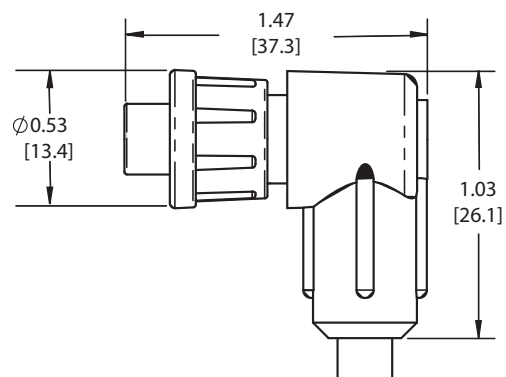


All dimensions are for reference only. Units shown: in[mm].

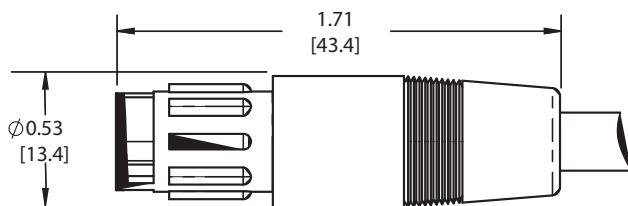
CUSTOM MOLDED CABLE ASSEMBLIES



16XXX-XXG
CABLE CONNECTOR
STRAIGHT OVERMOLDED



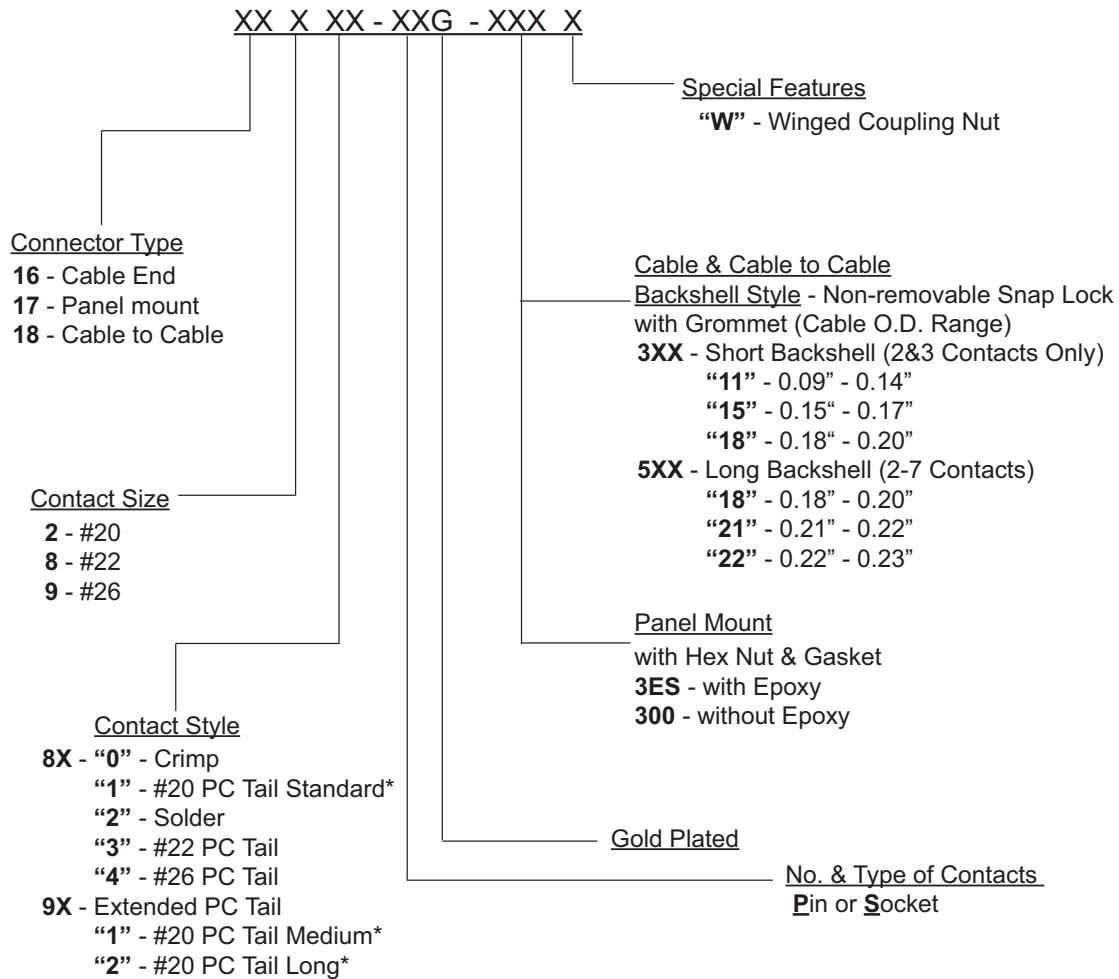
16XXX-XXG
CABLE CONNECTOR
RIGHT ANGLE OVERMOLDED



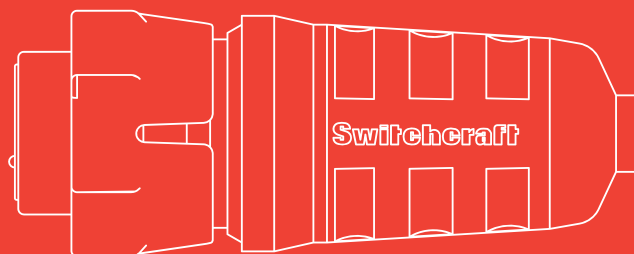
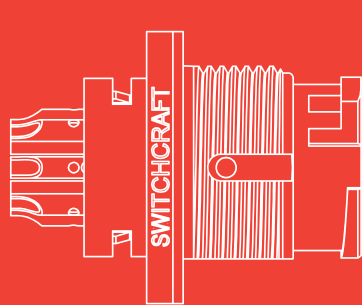
18XXX-XXG
CABLE TO CABLE CONNECTOR
STRAIGHT OVERMOLDED

All dimensions are for reference only. Units shown: in[mm].

PART NUMBER TO ORDER



*Consult factory for length and diameter of PC Tail. Additionally, alternative colors and materials are available.



EN3®

0.71" [18MM] OD 2-18 CONTACTS



CABLE END - SOCKET
MATES WITH PANEL MOUNT AND
CABLE TO CABLE



CABLE END - PIN
MATES WITH PANEL MOUNT AND
CABLE TO CABLE



CABLE TO CABLE / INLINE - PIN
MATES WITH
CABLE END



PANEL MOUNT - PIN
MATES WITH
CABLE END



**PANEL MOUNT-
SOCKET RIGHT ANGLE**
MATES WITH CABLE END



**PANEL MOUNT-
RIGHT ANGLE PCB**
MATES WITH CABLE END



**QUICK DISCONNECT
CABLE END**



**MOLDED
CABLE END ASSEMBLY**



**MOLDED
RIGHT ANGLE ASSEMBLY**



DUST CAP FOR CABLE END
P/N - EN3CAPC



EN3 CAP
P/N - EN3CAP



IP RATED LOCKING CAP
P/N - EN3IPCAPX

SPECIFICATIONS

Mechanical Specifications

| | |
|------------------------|--|
| Life: | 600 insertion / withdrawal cycles minimum |
| Vibration: | Mil-Std 202 Method 201 |
| Shock: | Mil-Std 202 Method 213B, condition K |
| Hex Nut Torque: | All series hex nut to withstand 8-10 in-lb tightening torque. |
| Coupling Locking Style | Bayonet with ribbed coupling nut (winged coupling nut available) |
| Back Shell Style: | Boot |
| Conductor Sizes: | #16 contacts accepts 16 through 18 AWG #20 contacts accepts 20 through 22 AWG #26 contacts accepts 26 through 28 AWG |

Electrical Specifications

| | |
|------------------------|--------------------------------------|
| Voltage Rating: | 250 V AC/DC |
| Current Rating: | See current rating table on page 109 |
| Insulation Resistance: | 100 MΩ min |
| Contact Resistance: | 20 mΩ max |

Environmental Specifications

| | |
|-------------------------------|---|
| Operating Temperature Rating: | -40°C to +65°C (-40°F to +149°F) |
| Moisture Resistance: | Mil-Std 202 Method 106F |
| Insulation Resistance: | Mil-Std 202 Method 302 condition B |
| Thermal Shock: | Mil-Std 202 Method 107G |
| Salt Atmosphere (Corrosion): | Mil-Std 202 Method 101D condition B |
| Weatherproof: | IEC 60529 IP16/IP18 IEC 60529 IP66/IP68 IEC 60529 IP68 NEMA 250 (6P) CFR 46 Part 110.20 |

Material Specifications

| | |
|--|--------------------------------------|
| Panel connector shells & locking disk: | Thermoplastic UL94V-0 |
| Connector shell interior: | Elastomeric, Black UL 94HB |
| Contacts: | Copper Alloy, Gold over Nickel Plate |

Molded Cable Assemblies

| | |
|---------------|--|
| Weatherproof: | IEC 60529 IP66/IP68 IEC 60529 IP68 NEMA 250 (6P) CFR 46 Part 110.20 |
|---------------|--|

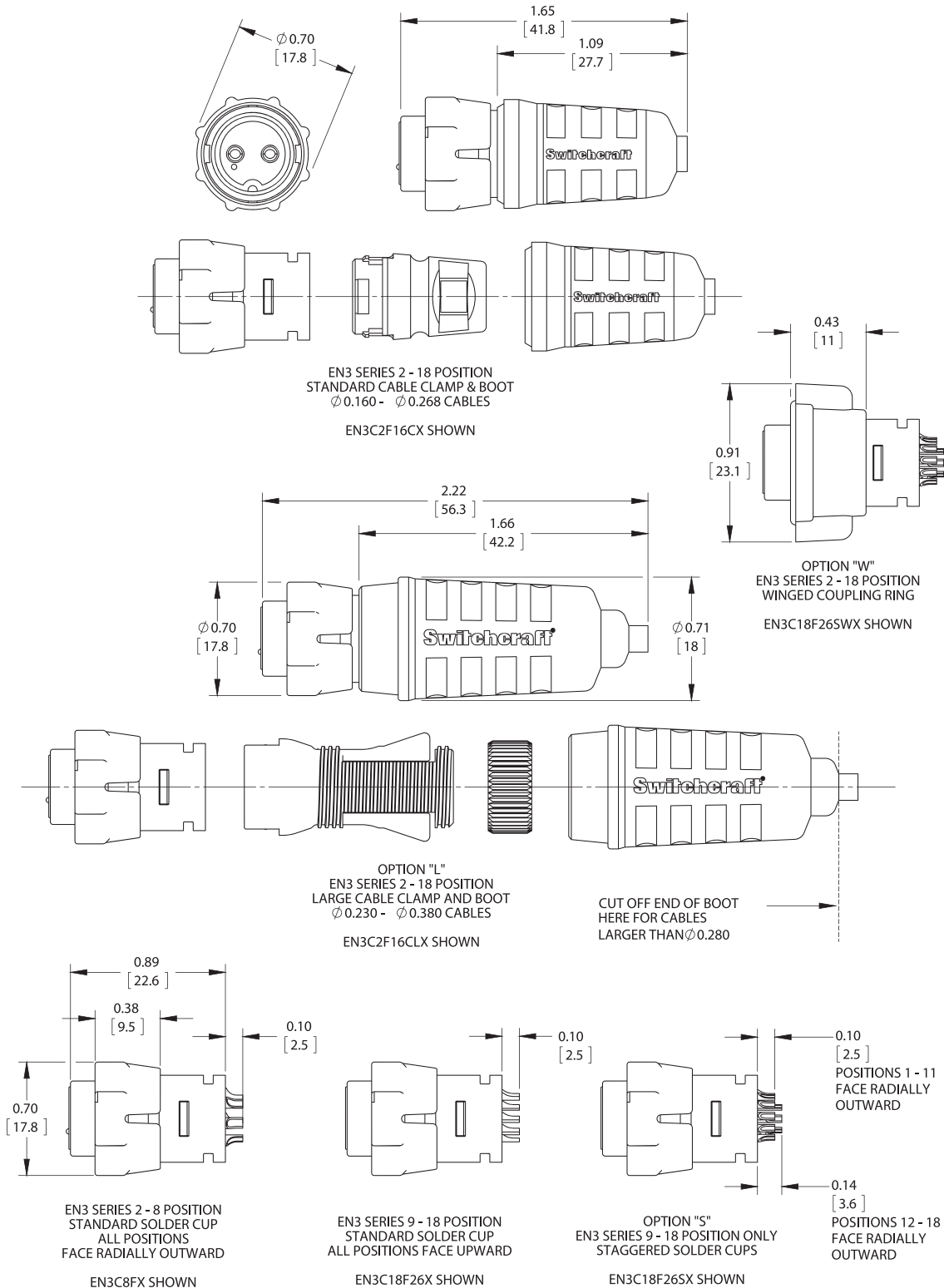
Certifications:

UL File E319753 ; 2-8 pin cord, in-line and panel only

Consult factory for optional colors and materials

NOTE: Seal grommet provides an integrated O-ring seal for the connector assembly instead of a separate O-ring.

CORD CONNECTORS

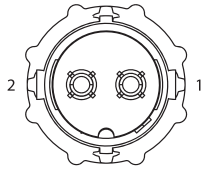


All dimensions are for reference only. Units shown: in[mm].

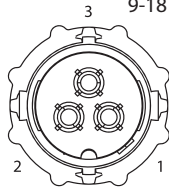
2-18 POSITION CORD CONNECTORS

Rear View (Wiring Side)

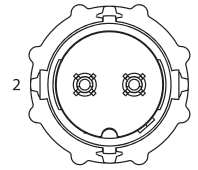
9-18 Position identification numbers denote position used in 18 position layout



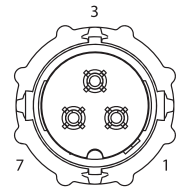
2 POSITION
#16 PIN & SOCKET
CONTACT



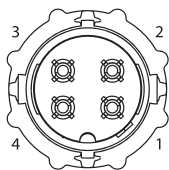
3 POSITION
#16 PIN & SOCKET
CONTACT



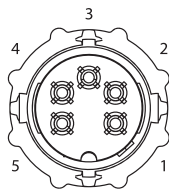
2 POSITION
#20 PIN & SOCKET
CONTACT



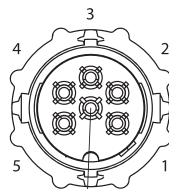
3 POSITION
#20 PIN & SOCKET
CONTACT



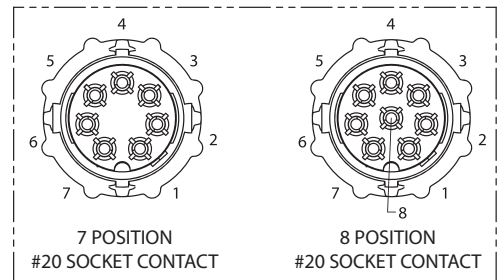
4 POSITION
#20 PIN & SOCKET
CONTACT



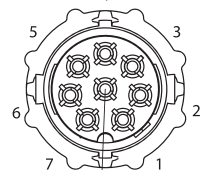
5 POSITION
#20 PIN & SOCKET
CONTACT



6 POSITION
#20 PIN & SOCKET
CONTACT

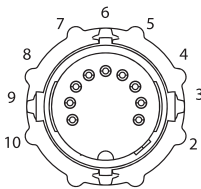


7 POSITION
#20 SOCKET CONTACT

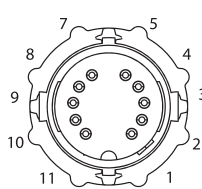


8 POSITION
#20 SOCKET CONTACT

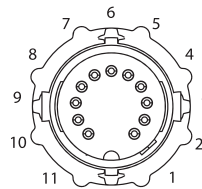
7 & 8 POSITION NOT AVAILABLE IN
MALE CORD CONNECTORS



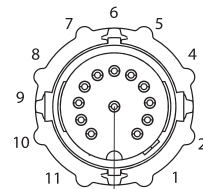
9 POSITION
#26 PIN & SOCKET
CONTACT



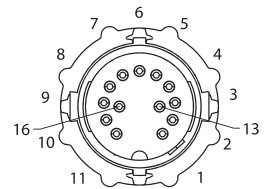
10 POSITION
#26 PIN & SOCKET
CONTACT



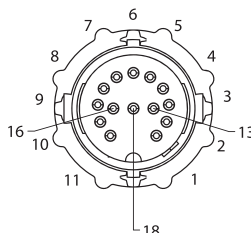
11 POSITION
#26 PIN & SOCKET
CONTACT



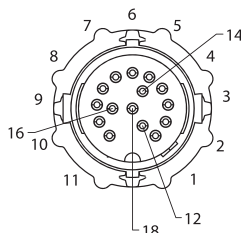
12 POSITION
#26 PIN & SOCKET
CONTACT



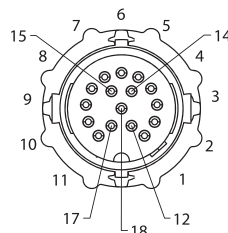
13 POSITION
#26 PIN & SOCKET
CONTACT



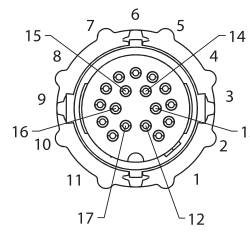
14 POSITION
#26 PIN & SOCKET
CONTACT



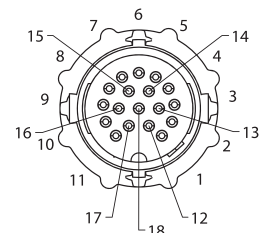
15 POSITION
#26 PIN & SOCKET
CONTACT



16 POSITION
#26 PIN & SOCKET
CONTACT



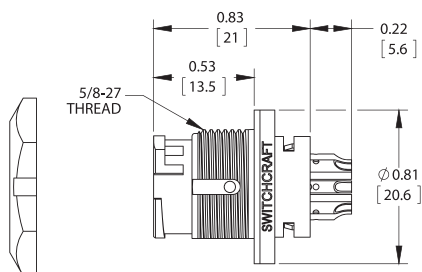
17 POSITION
#26 PIN & SOCKET
CONTACT



18 POSITION
#26 PIN & SOCKET
CONTACT

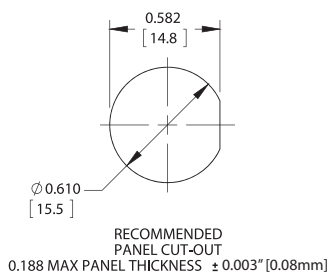
All dimensions are for reference only. Units shown: in[mm].

EN3® PANEL CONNECTORS



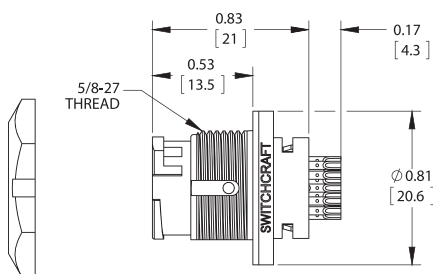
EN3 SERIES 2 - 8 POSITION
STANDARD SOLDER CUP
ALL POSITIONS FACE RADIALLY OUTWARD

EN3P8MX SHOWN



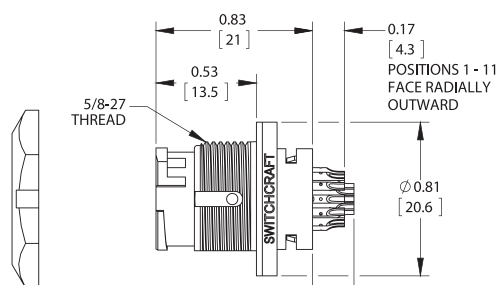
RECOMMENDED
PANEL CUT-OUT
0.188 MAX PANEL THICKNESS ± 0.003 " [0.08mm]

MOUNTING NUT
8 - 10 INCH-LBS MAX TORQUE



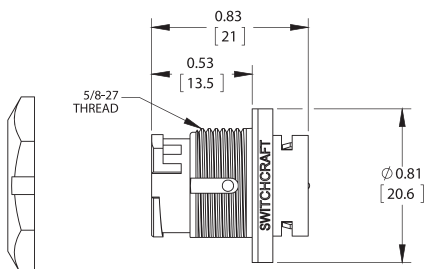
EN3 SERIES 9 - 18 POSITION
STANDARD SOLDER CUP
ALL POSITIONS FACE UPWARD

EN3P18M26X SHOWN



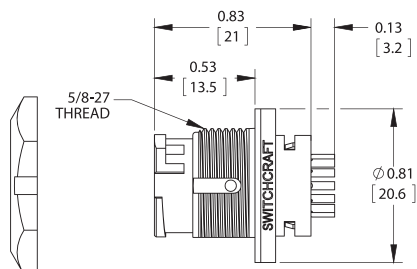
OPTIONS "S"
EN3 SERIES 9 - 18 POSITION ONLY
STAGGERED SOLDER CUP
POSITIONS 12 - 18
FACE RADIALLY
OUTWARD

EN3P18M26SX SHOWN



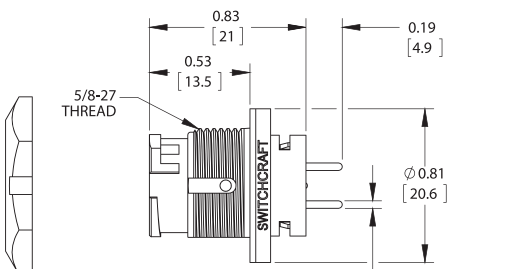
OPTION "C"
EN3 SERIES 2 - 8 POSITION
CRIMP TERMINALS

EN3P2MCX SHOWN



OPTION "C"
EN3 SERIES 9 - 18 POSITION
CRIMP TERMINALS

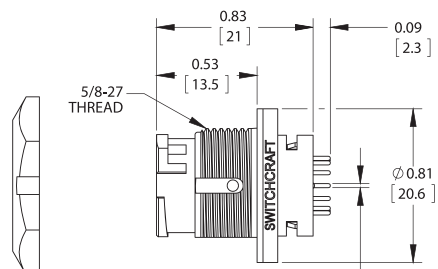
EN3P9M26CX SHOWN



OPTION "P"
EN3 SERIES 2 - 8 POSITION
PC TERMINALS

EN3P2MPX SHOWN

$\phi 0.039$ [1.0]
FOR #20 CONTACT
 $\phi 0.047$ [1.2]
FOR #16 CONTACT



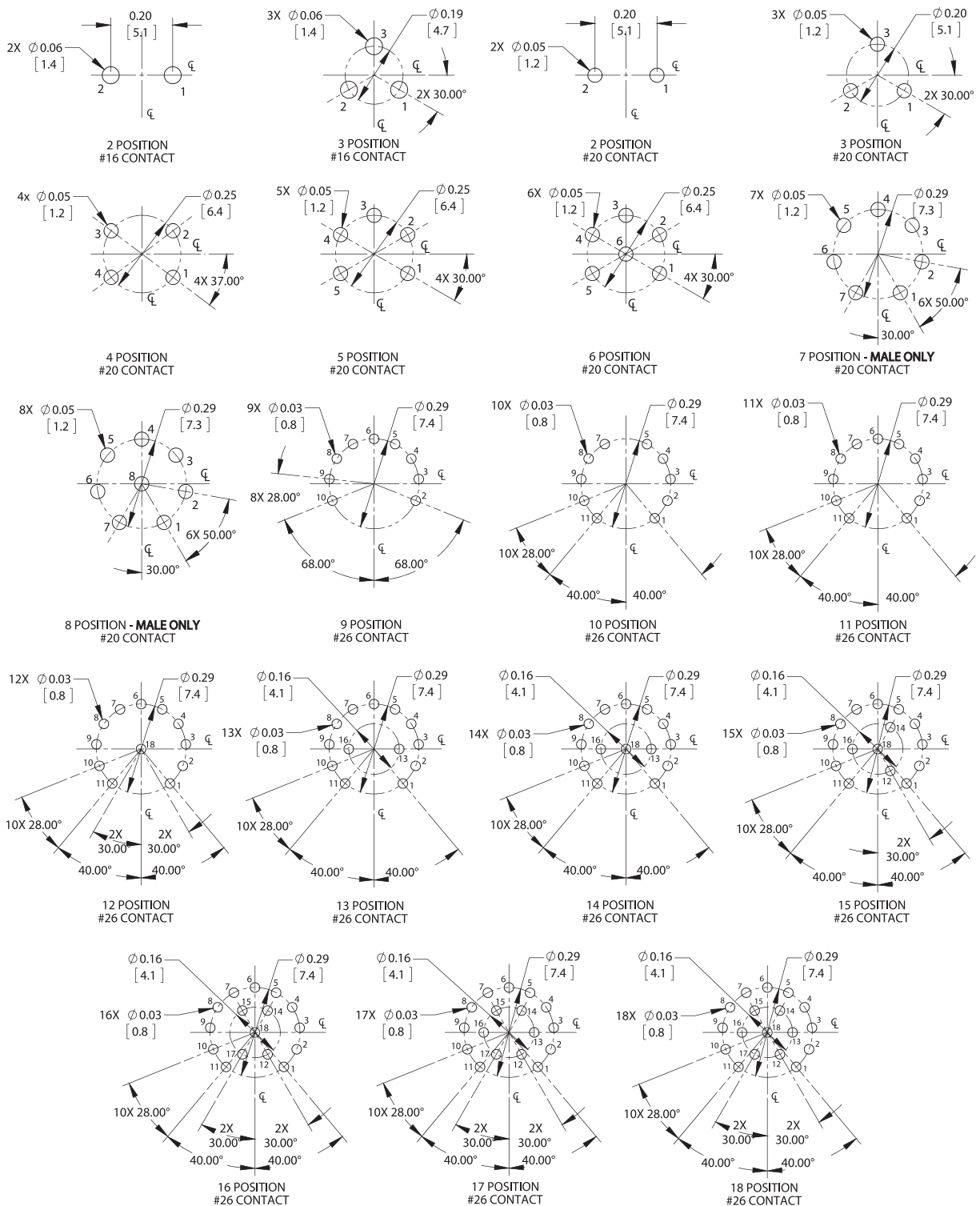
OPTION "P"
EN3 SERIES 9 - 18 POSITION
PC TERMINALS

EN3P9M26PX SHOWN

$\phi 0.022$
[0.6]

All dimensions are for reference only. Units shown: in[mm].

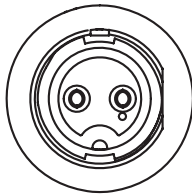
EN3® PANEL CONNECTORS PCB LAYOUT COMPONENT SIDE



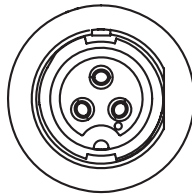
All dimensions are for reference only. Units shown: in[mm].

2-18 PIN PANEL CONNECTORS

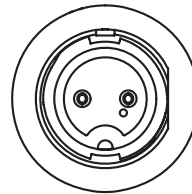
Front View (Mating End)



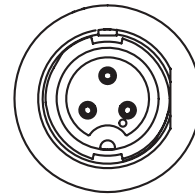
2 POSITION
#16 PIN & SOCKET
CONTACT



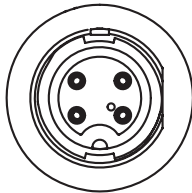
3 POSITION
#16 PIN & SOCKET
CONTACT



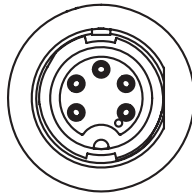
2 POSITION
#16 PIN & SOCKET
CONTACT



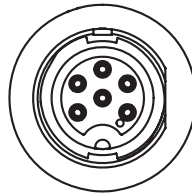
3 POSITION
#20 PIN & SOCKET
CONTACT



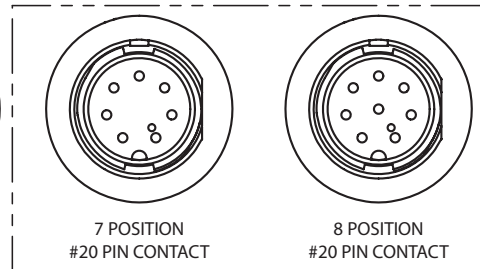
4 POSITION
#20 PIN & SOCKET
CONTACT



5 POSITION
#20 PIN & SOCKET
CONTACT



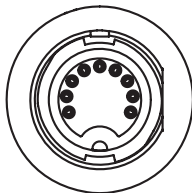
6 POSITION
#20 PIN & SOCKET
CONTACT



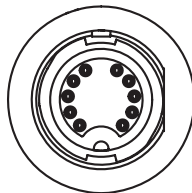
7 POSITION
#20 PIN CONTACT

8 POSITION
#20 PIN CONTACT

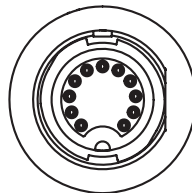
7 & 8 PIN ONLY CONNECTORS



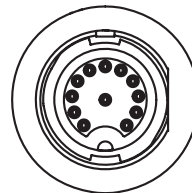
9 POSITION
#26 PIN & SOCKET
CONTACT



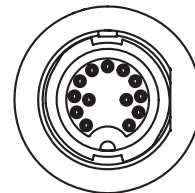
10 POSITION
#26 PIN & SOCKET
CONTACT



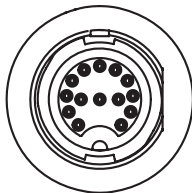
11 POSITION
#26 PIN & SOCKET
CONTACT



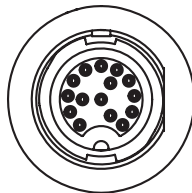
12 POSITION
#26 PIN & SOCKET
CONTACT



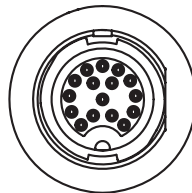
13 POSITION
#26 PIN & SOCKET
CONTACT



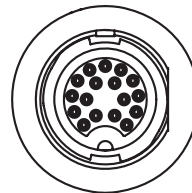
14 POSITION
#26 PIN & SOCKET
CONTACT



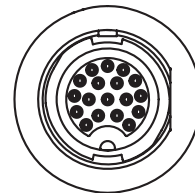
15 POSITION
#26 PIN & SOCKET
CONTACT



16 POSITION
#26 PIN & SOCKET
CONTACT



17 POSITION
#26 PIN & SOCKET
CONTACT



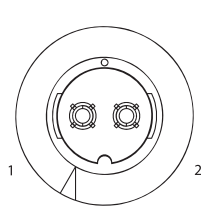
18 POSITION
#26 PIN & SOCKET
CONTACT

All dimensions are for reference only. Units shown: in[mm].

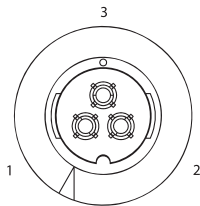
2-18 PANEL CONNECTORS

Rear View (Wiring Side)

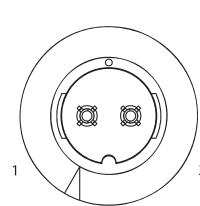
9-18 position identification numbers
denote position used in 18 position layout



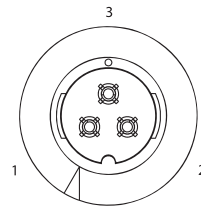
2 POSITION
#16 PIN & SOCKET
CONTACT



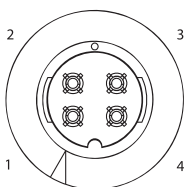
3 POSITION
#16 PIN & SOCKET
CONTACT



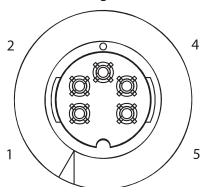
2 POSITION
#16 PIN & SOCKET
CONTACT



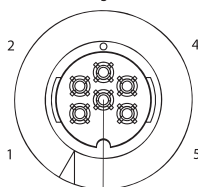
3 POSITION
#20 PIN & SOCKET
CONTACT



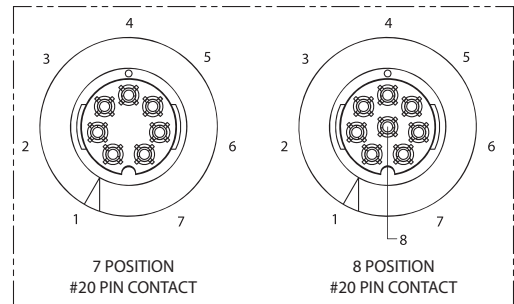
4 POSITION
#20 PIN & SOCKET
CONTACT



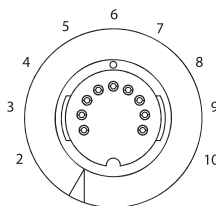
5 POSITION
#20 PIN & SOCKET
CONTACT



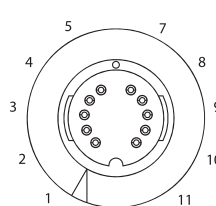
6 POSITION
#20 PIN & SOCKET
CONTACT



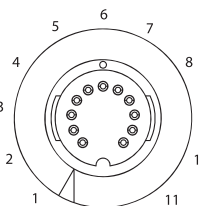
7 & 8 POSITION NOT AVAILABLE IN
FEMALE PANEL CONNECTORS



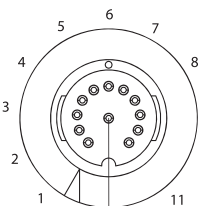
9 POSITION
#26 PIN & SOCKET
CONTACT



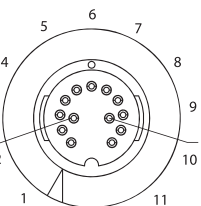
10 POSITION
#26 PIN & SOCKET
CONTACT



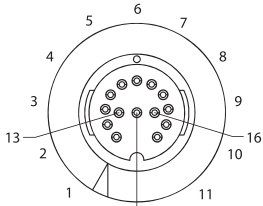
11 POSITION
#26 PIN & SOCKET
CONTACT



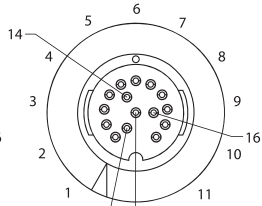
12 POSITION
#26 PIN & SOCKET
CONTACT



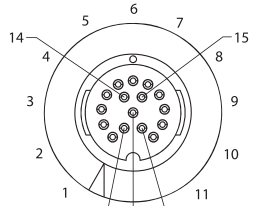
13 POSITION
#26 PIN & SOCKET
CONTACT



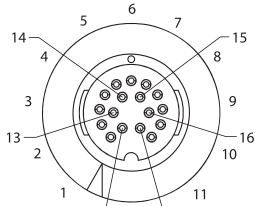
14 POSITION
#26 PIN & SOCKET
CONTACT



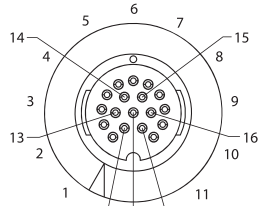
15 POSITION
#26 PIN & SOCKET
CONTACT



16 POSITION
#26 PIN & SOCKET
CONTACT



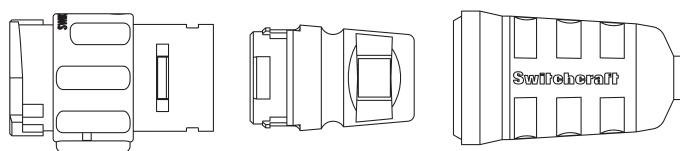
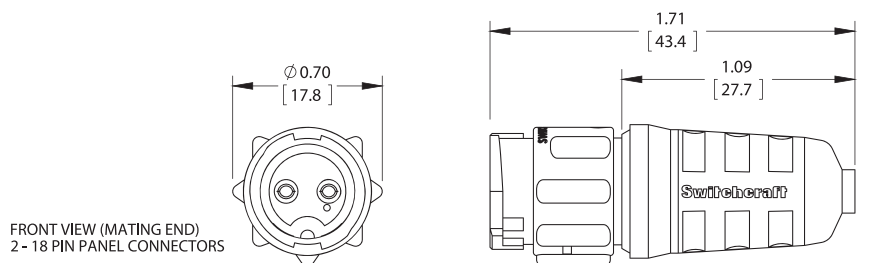
17 POSITION
#26 PIN & SOCKET
CONTACT



18 POSITION
#26 PIN & SOCKET
CONTACT

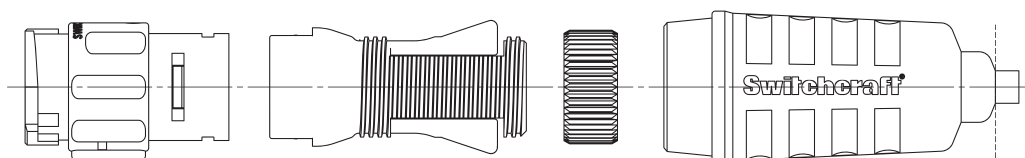
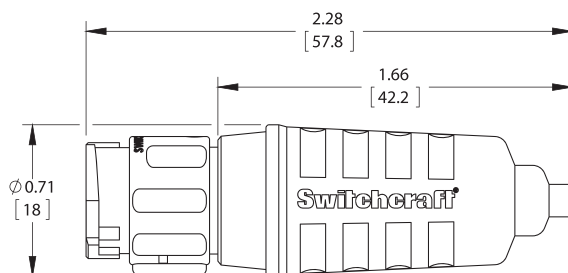
All dimensions are for reference only. Units shown: in[mm].

INLINE CONNECTORS



EN3 SERIES 2 - 18 POSITION
STANDARD CABLE CLAMP & BOOT
Ø 0.160 - Ø 0.268 CABLES

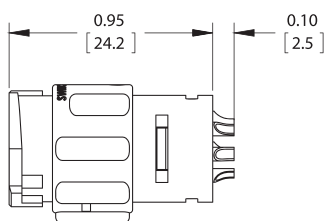
EN3L2F16CX SHOWN



OPTION "L"
EN3 SERIES 2 - 18 POSITION
LARGE CABLE CLAMP & BOOT
Ø 0.230 - Ø 0.380 CABLES

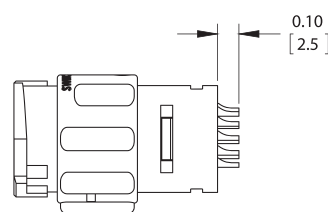
EN3L2F16CLX SHOWN

CUT OFF END OF BOOT
HERE FOR CABLES
LARGER THAN Ø 0.280



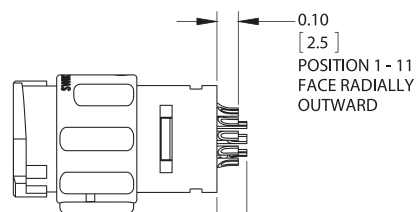
EN3 SERIES 2 - 8 POSITION
STANDARD SOLDER CUP
ALL POSITIONS
FACE RADIALLY OUTWARD

EN3L8MX SHOWN



EN3 SERIES 9 - 18 POSITION
STANDARD SOLDER CUP
ALL POSITIONS FACE UPWARD

EN3L18F26X SHOWN



OPTION "S"
EN3 SERIES 9 - 18 POSITION ONLY
STAGGERED SOLDER CUPS

EN3L18F26SX SHOWN

POSITION 1 - 11
FACE RADIALLY
OUTWARD

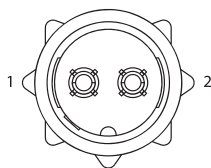
POSITION 12 - 18
FACE RADIALLY
OUTWARD

All dimensions are for reference only. Units shown: in[mm].

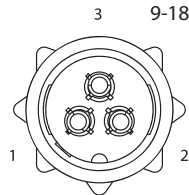
2-18 POSITION INLINE CONNECTORS

Rear View (Wiring Side)

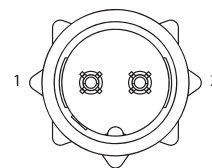
9-18 Position indentation numbers denote position used in 18 position layout



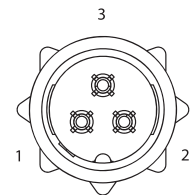
2 POSITION
#16 PIN & SOCKET
CONTACT



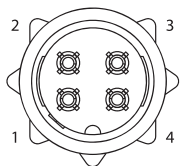
3 POSITION
#16 PIN & SOCKET
CONTACT



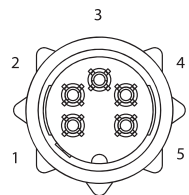
2 POSITION
#20 PIN & SOCKET
CONTACT



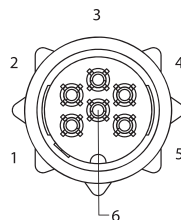
3 POSITION
#20 PIN & SOCKET
CONTACT



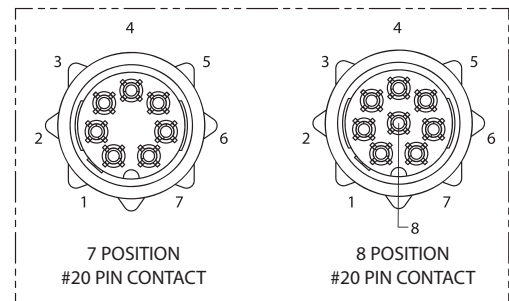
4 POSITION
#20 PIN & SOCKET
CONTACT



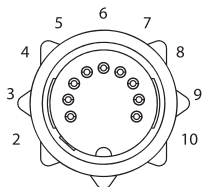
5 POSITION
#20 PIN & SOCKET
CONTACT



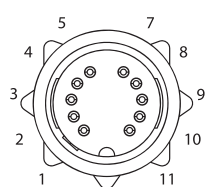
6 POSITION
#20 PIN & SOCKET
CONTACT



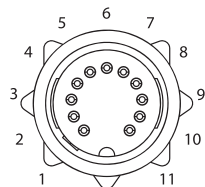
7 & 8 POSITION NOT AVAILABLE IN
FEMALE INLINE CONNECTORS



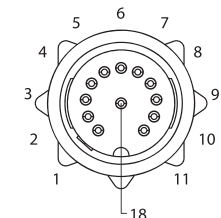
9 POSITION
#26 PIN & SOCKET
CONTACT



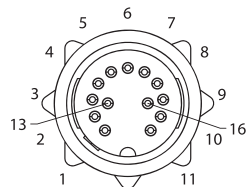
10 POSITION
#26 PIN & SOCKET
CONTACT



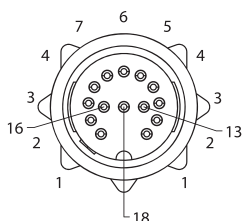
11 POSITION
#26 PIN & SOCKET
CONTACT



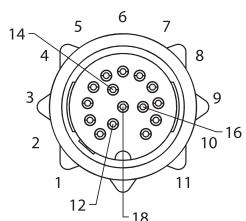
12 POSITION
#26 PIN & SOCKET
CONTACT



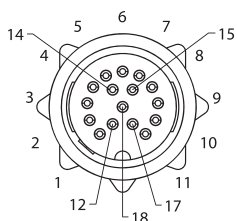
13 POSITION
#26 PIN & SOCKET
CONTACT



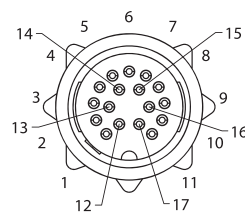
14 POSITION
#26 PIN & SOCKET
CONTACT



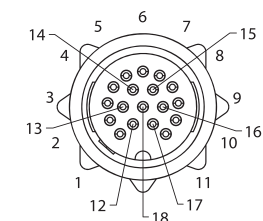
15 POSITION
#26 PIN & SOCKET
CONTACT



16 POSITION
#26 PIN & SOCKET
CONTACT



17 POSITION
#26 PIN & SOCKET
CONTACT



18 POSITION
#26 PIN & SOCKET
CONTACT

All dimensions are for reference only. Units shown: in[mm].

PART NUMBER TO ORDER - EN3®

| | | | | | | | | | |
|-----|--|--|--|--|--|--|--|--|---|
| EN3 | | | | | | | | | X |
|-----|--|--|--|--|--|--|--|--|---|

CONNECTOR TYPE:
C - Cord
P - Panel
L - In-Line

OF CONTACTS:
2-3 for #16
2-8 for #20
9-18 for #26

GENDER:
M - Male
F - Female

CONTACT SIZE:
16 - 16 AWG
Leave blank for 20 AWG
26 - 26 AWG

CONTACT STYLE:
C - Crimp
P - PC tail (Panel connectors only)
S - Staggered Solder Cup*
Leave blank for Straight Solder Cup

PACKAGING OPTIONS:
K - Kit (one unit per bag)
Leave blank for Bulk

CABLE CLAMP OPTION:
L - for 0.230" to 0.380"
cable nom. O.D. and
0.750" long stripping.
Leave blank for 0.160" to 0.265"
cable nom. O.D. and
0.380" long stripping.

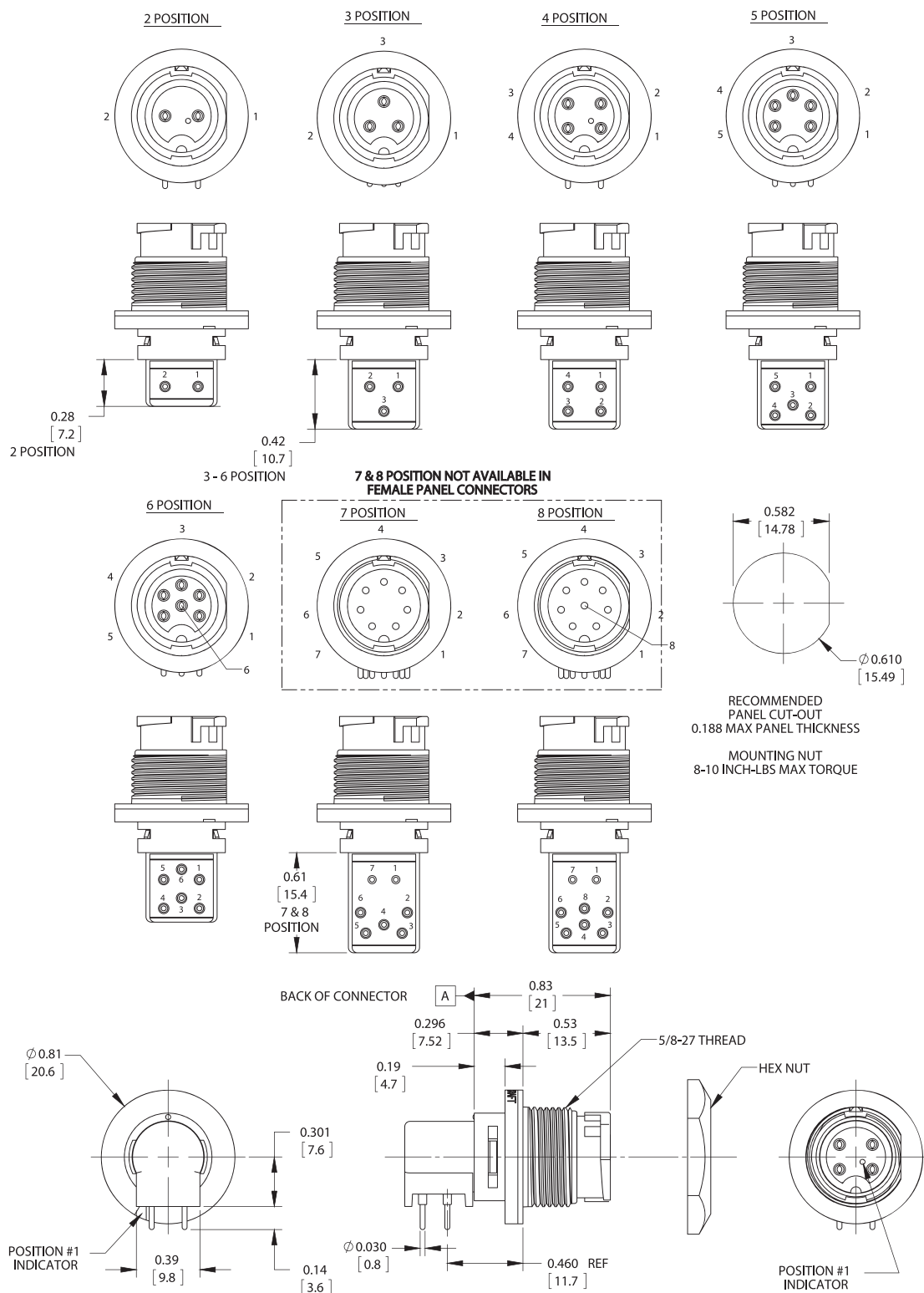
COUPLING NUT OPTION:
W - Winged Coupling Nut
Cord Connector Only
Leave blank for standard nut

X - RoHS Compliant

Notes:
7 and 8 pin not available in male Cord connector
7 and 8 pin not available in female Panel or In-Line connector

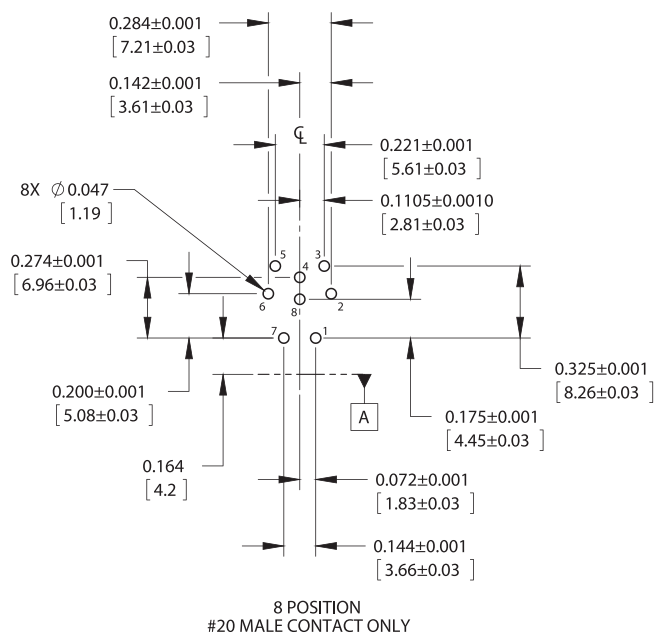
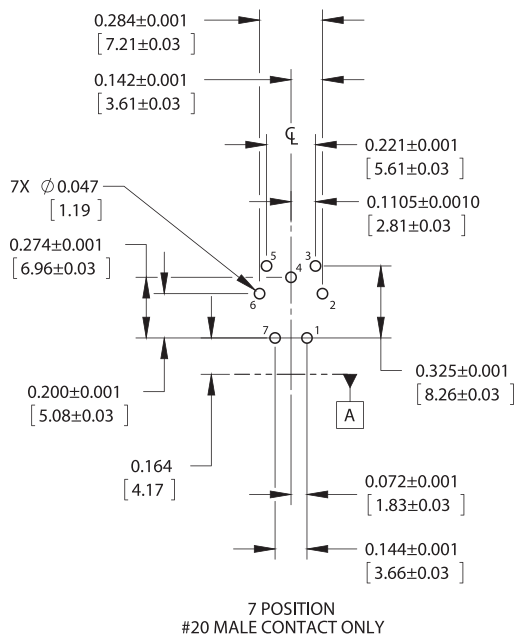
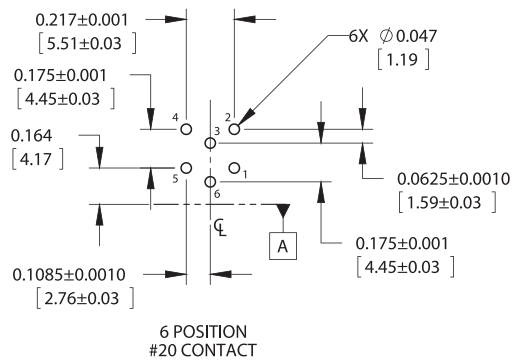
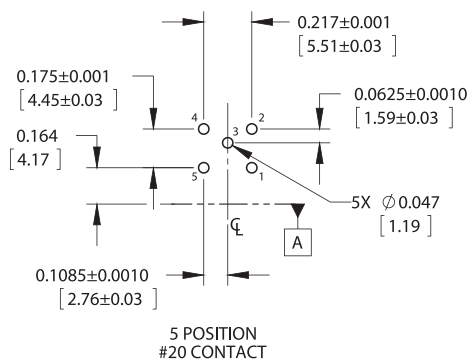
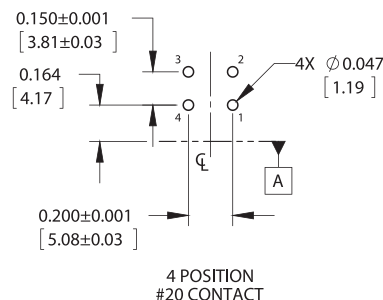
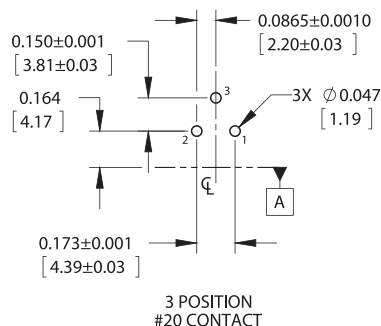
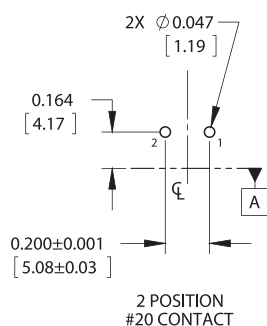
*Available only for products with 9-18 contacts

EN3® RIGHT ANGLE 2-8 POSITION MOLDED CONNECTORS



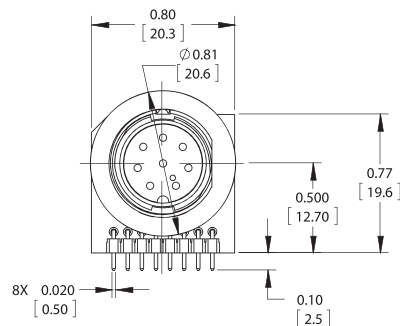
All dimensions are for reference only. Units shown: in[mm].

EN3® RIGHT ANGLE 2-8 POSITION CONNECTORS

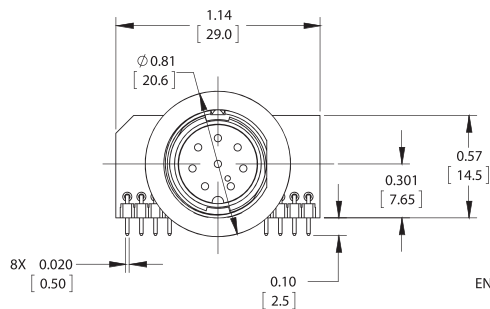
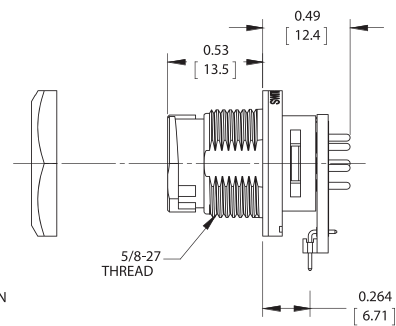


All dimensions are for reference only. Units shown: in[mm].

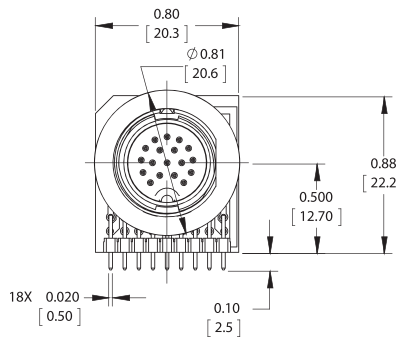
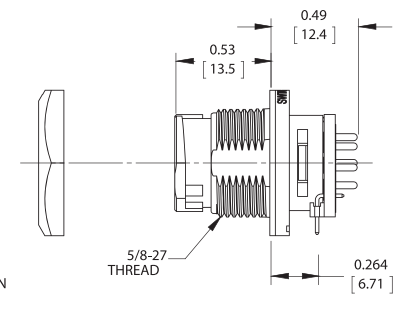
EN3® RIGHT ANGLE PC BOARD CONNECTORS



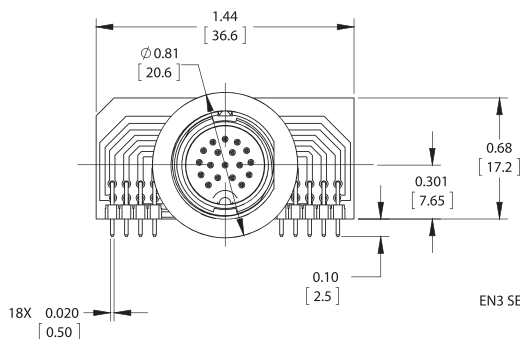
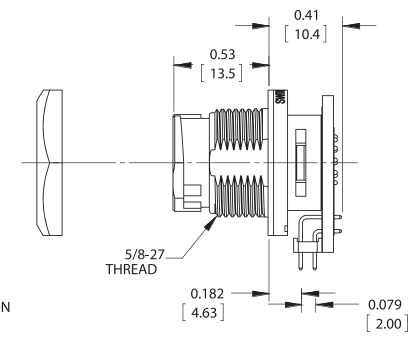
OPTION "N"
EN3 SERIES 2 - 8 POSITION
NARROW PCB
EN3P8MRAPCBN SHOWN
(NOT AVAILABLE IN FEMALE 7 & 8 POSITION)



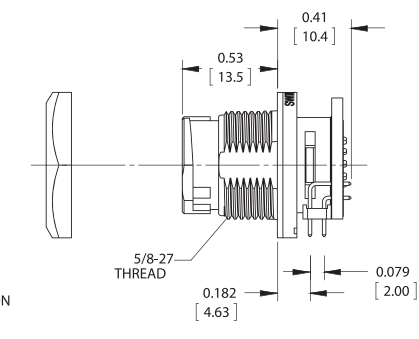
OPTION "W"
EN3 SERIES 2 - 8 POSITION
WIDE PCB
EN3P8MRAPCBW SHOWN
(NOT AVAILABLE IN FEMALE 7 & 8 POSITION)



OPTION "N"
EN3 SERIES 9 - 18 POSITION
NARROW PCB
EN3P18MRAPCBN SHOWN

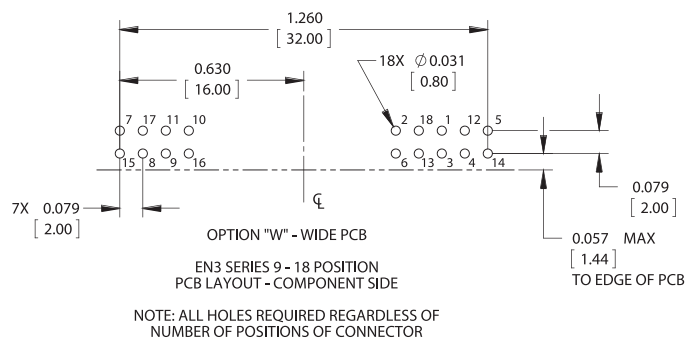
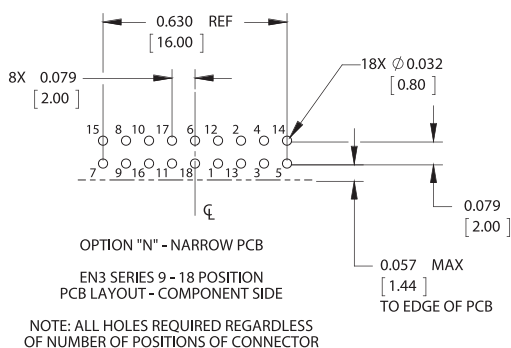
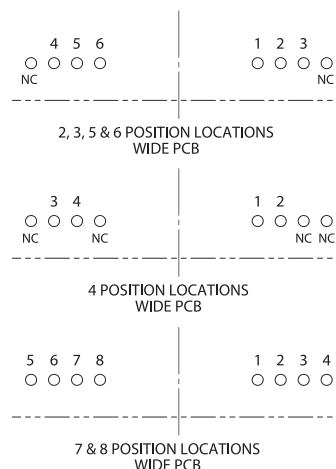
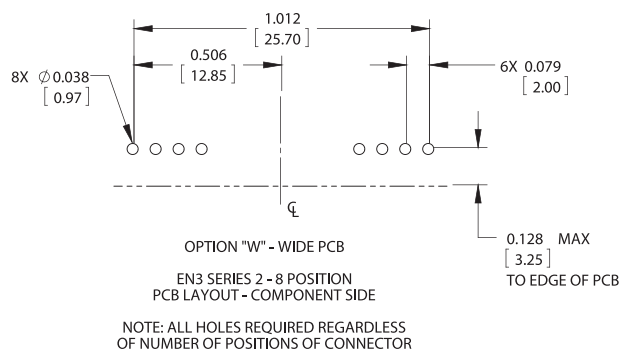
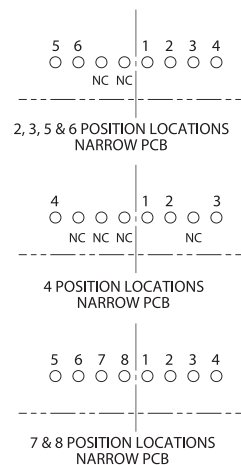
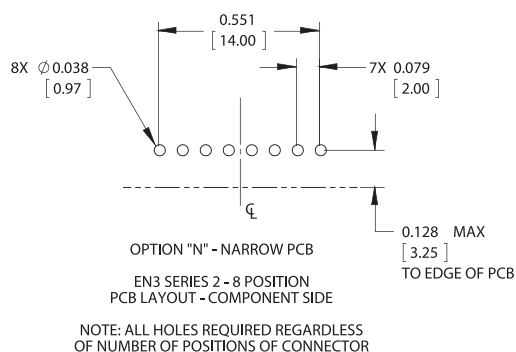


OPTION "W"
EN3 SERIES 9 - 18 POSITION
WIDE PCB
EN3P18MRAPCBW SHOWN



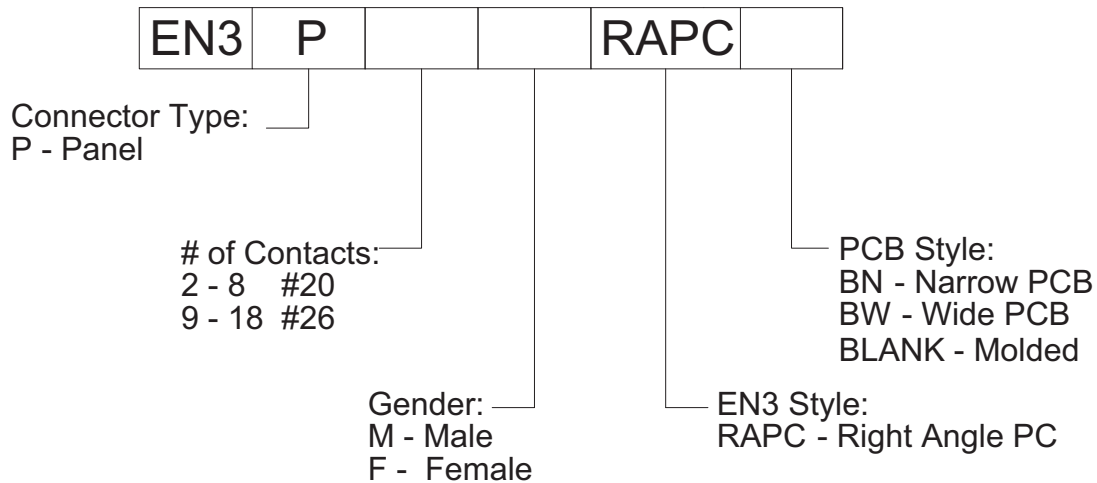
All dimensions are for reference only. Units shown: in[mm].

EN3[®] RIGHT ANGLE PC BOARD CONNECTORS



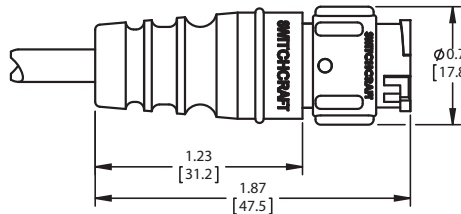
All dimensions are for reference only. Units shown: in[mm].

PART NUMBER TO ORDER - RIGHT ANGLE EN3® PANEL MOUNTS

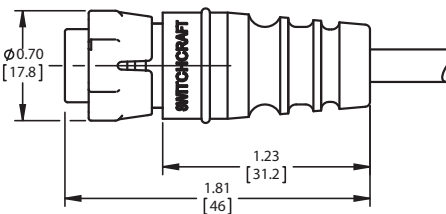


Notes:
7 and 8 pin not available in female Panel connector

CUSTOM MOLDED CABLE ASSEMBLIES

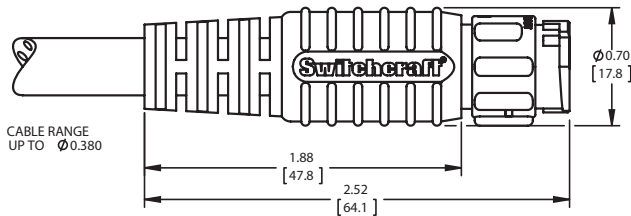


EN3 SERIES COMPACT OVERMOLD
INLINE CONNECTOR

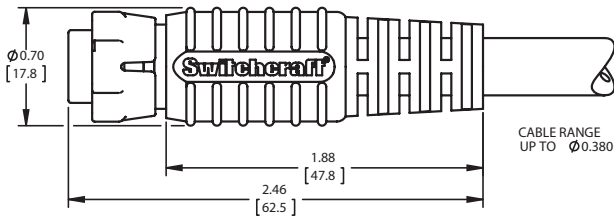


EN3 SERIES COMPACT OVERMOLD
CORD CONNECTOR

CABLE RANGE
Ø0.100 - Ø0.310

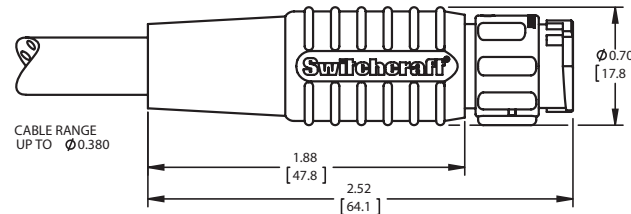


EN3 SERIES STRAIGHT OVERMOLD
INLINE CONNECTOR
WITH FLEX RELIEF

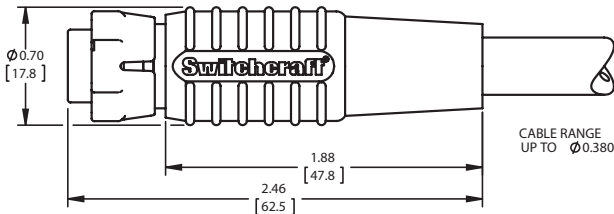


EN3 SERIES STRAIGHT OVERMOLD
CORD CONNECTOR
WITH FLEX RELIEF

CABLE RANGE
UP TO Ø0.380

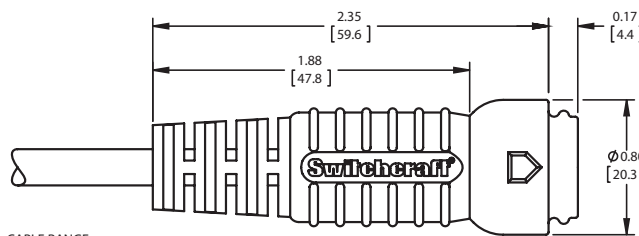


EN3 SERIES STRAIGHT OVERMOLD
INLINE CONNECTOR
WITHOUT FLEX RELIEF

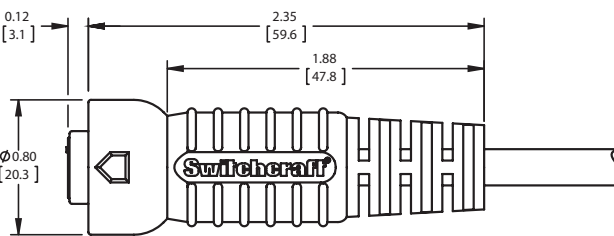


EN3 SERIES STRAIGHT OVERMOLD
CORD CONNECTOR
WITHOUT FLEX RELIEF

CABLE RANGE
UP TO Ø0.380

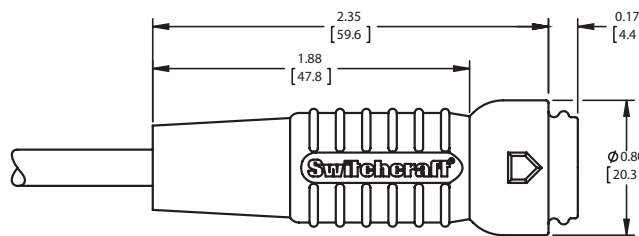


EN3 SERIES QUICK CONNECT OVERMOLD
INLINE CONNECTOR
WITH FLEX RELIEF

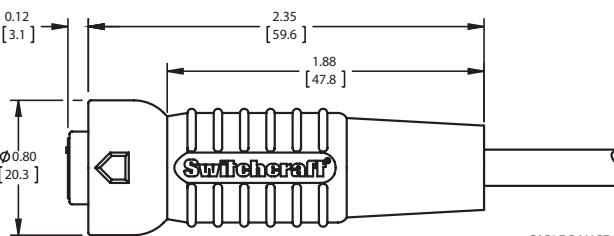


EN3 SERIES QUICK CONNECT OVERMOLD
CORD CONNECTOR
WITH FLEX RELIEF

CABLE RANGE
UP TO Ø0.380



EN3 SERIES QUICK CONNECT OVERMOLD
INLINE CONNECTOR
WITHOUT FLEX RELIEF

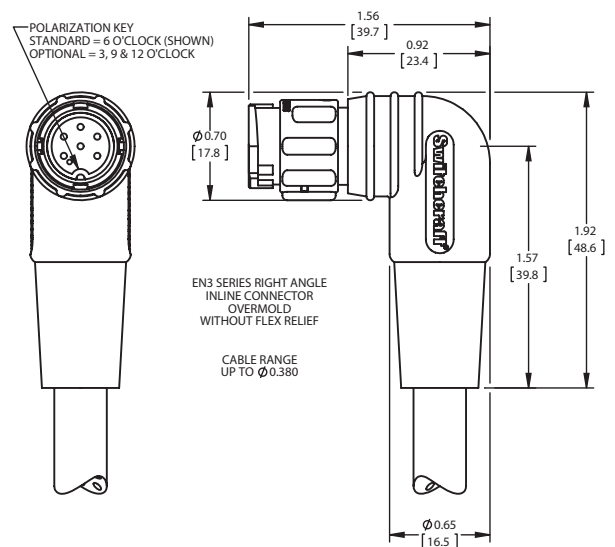
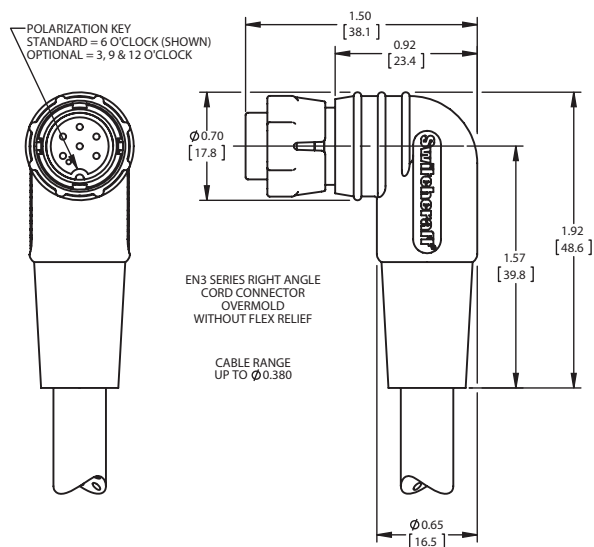
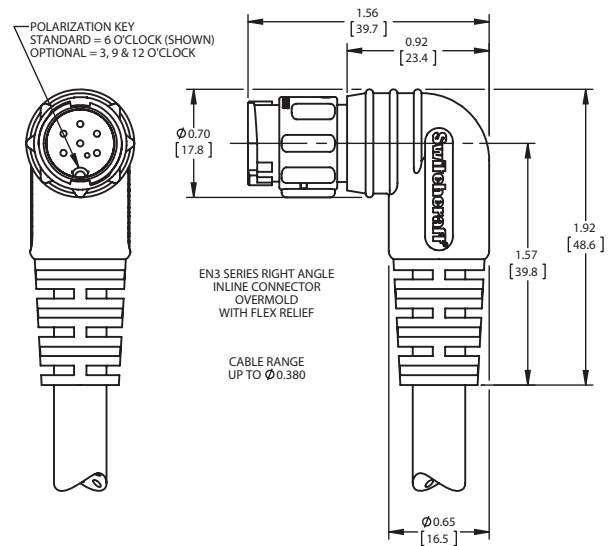
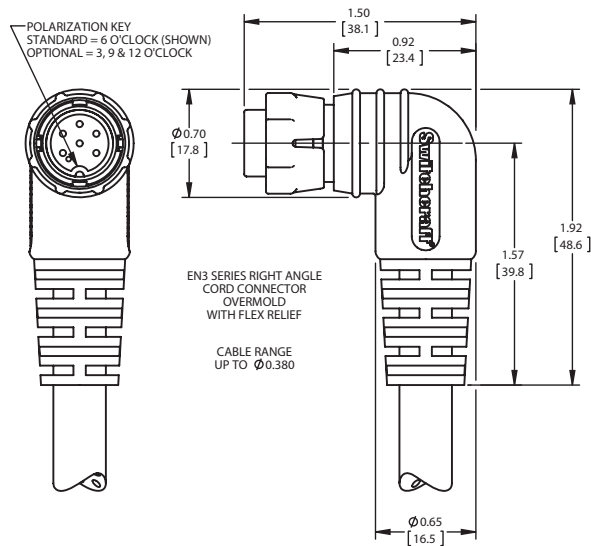


EN3 SERIES QUICK CONNECT OVERMOLD
CORD CONNECTOR
WITHOUT FLEX RELIEF

CABLE RANGE
UP TO Ø0.380

All dimensions are for reference only. Units shown: in[mm].

CUSTOM MOLDED CABLE ASSEMBLIES



All dimensions are for reference only. Units shown: in[mm].



MINI-CON-X®

0.71" [18MM] OD 2-8 CONTACTS



CABLE END - SOCKET

MATES WITH PANEL MOUNT AND
CABLE TO CABLE



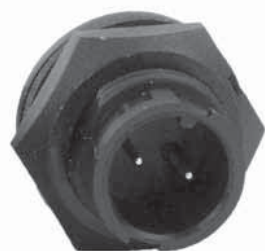
CABLE END - PIN

MATES WITH PANEL MOUNT AND
CABLE TO CABLE



CABLE TO CABLE / INLINE - PIN

MATES WITH CABLE END



PANEL MOUNT - PIN

MATES WITH CABLE END



PANEL MOUNT - SOCKET

MATES WITH CABLE END



DUST CAP

P/N - 6295



IP RATED LOCKING CAP

P/N - 6295P-W



MOLDED CABLE END ASSEMBLY



MOLDED CABLE TO CABLE ASSEMBLY



MOLDED RIGHT ANGLE CABLE ASSEMBLY

SPECIFICATIONS

Mechanical Specifications

| | |
|-------------------------|--|
| Life: | 300 insertion / withdrawal cycles minimum |
| Vibration: | Coupling rings have overriding locking feature to prevent loosening or separation of connector |
| Hex Nut Torque: | 10 in-lb max tightening torque. |
| Coupling Locking Style: | Bayonet with ribbed coupling nut (winged coupling nut available) P/N 6482 |
| Backshell Style: | Removable twist lock |
| Conductor Size: | #16 contacts accepts 16 through 18 AWG #20 contacts accepts 20 through 24 AWG |

Electrical Specifications

| | |
|-----------------|---|
| Voltage Rating: | 600 V AC/DC |
| Current Rating: | 13.0 A – max (See page 107 for Electrical Current Rating Chart) |

Environmental Specifications

| | |
|-------------------------------|----------------------------------|
| Operating Temperature Rating: | -40°C to +85°C (-40°F to +185°F) |
| Salt Atmosphere (Corrosion): | 300 Hr salt spray when mated |
| Weathertight: | IP67 when mated |

Material Specifications

| | |
|--------------------------|--------------------------------------|
| Backshell: | Thermoplastic, UL 94HB, Black |
| Contacts: | Copper Alloy, Gold over Nickel Plate |
| Coupling Ring: | Thermoplastic, UL 94HB, Black |
| Gasket: | Elastomer, Black |
| Grommet / Strain Relief: | Elastomer, Black |
| Hex Nut: | Thermoplastic, UL 94HB, Black |
| O-Ring: | Elastomer, Black |
| Shell: | Thermoplastic, UL 94HB, Black |
| Optional Dust Cap: | Elastomer, Black |

Molded Cable Assemblies

| | |
|---------------|-----------------------|
| Weathertight: | NEMA 6P, 13: IEC IP67 |
|---------------|-----------------------|

Certifications

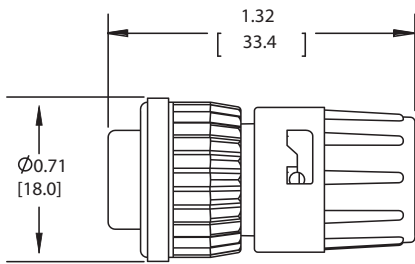
UL File E150822
CSA File 181200
Not for current interruption
RoHS compliant
REACH compliant

Options

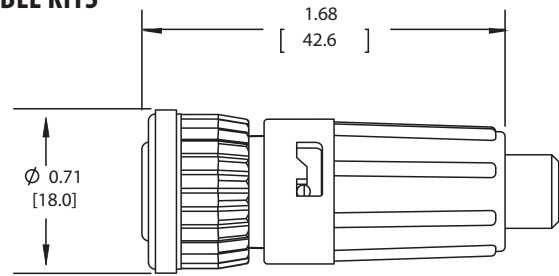
| | |
|---------------|--------------------|
| UV Rating: | F1 available |
| Flame Rating: | UL 94V-0 available |

Consult factory for optional colors and materials

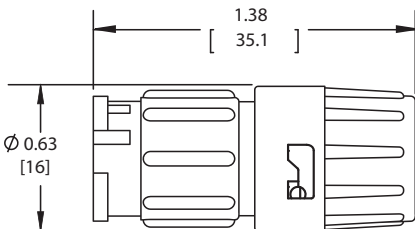
FIELD INSTALLABLE KITS



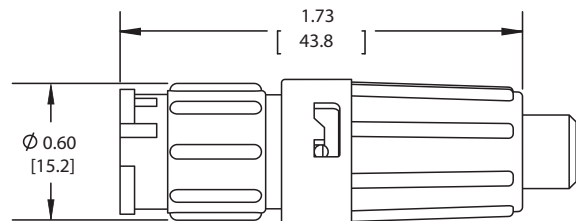
6XXX-XXG-3XX
FIELD INSTALLABLE
CABLE CONNECTOR
TWIST LOCK BACKSHELL
TYPE 3-SHORT



6XXX-XXG-5XX
FIELD INSTALLABLE
CABLE CONNECTOR
TWIST LOCK BACKSHELL
TYPE 5-LONG

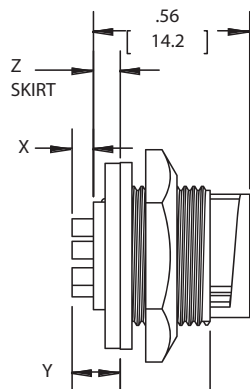


8XXX-XXG-3XX
FIELD INSTALLABLE
CABLE TO CABLE CONNECTOR
TWIST LOCK BACKSHELL
TYPE 3-SHORT

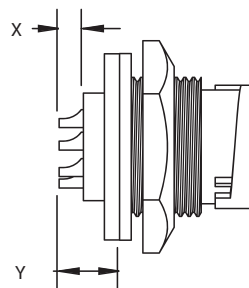


8XXX-XXG-5XX
FIELD INSTALLABLE
CABLE TO CABLE CONNECTOR
TWIST LOCK BACKSHELL
TYPE 5-LONG

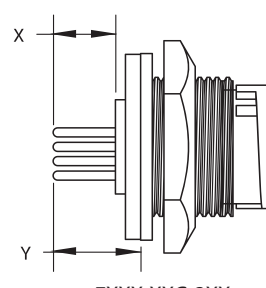
PANEL MOUNT ASSEMBLY KITS



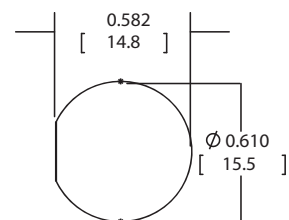
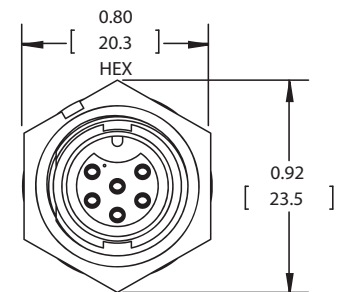
7X80-XXG-3XX
PANEL MOUNT CONNECTOR
CRIMP



7X82-XXG-3XX
PANEL MOUNT CONNECTOR
SOLDER CUP



7XXX-XXG-3XX
PANEL MOUNT CONNECTOR
PC TAIL

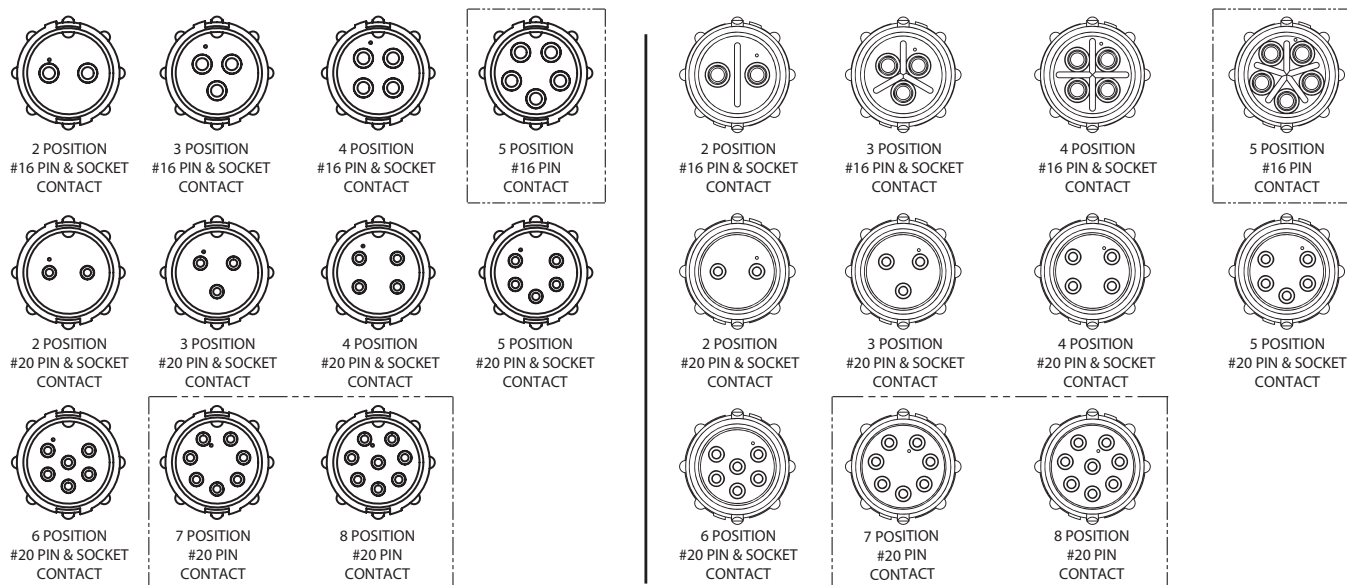


RECOMMENDED
PANEL CUT-OUT
TOLERANCE: ± 0.003 [0.08]

*X, Y, Z - Consult Factory. All dimensions are for reference only. Units shown: in[mm].

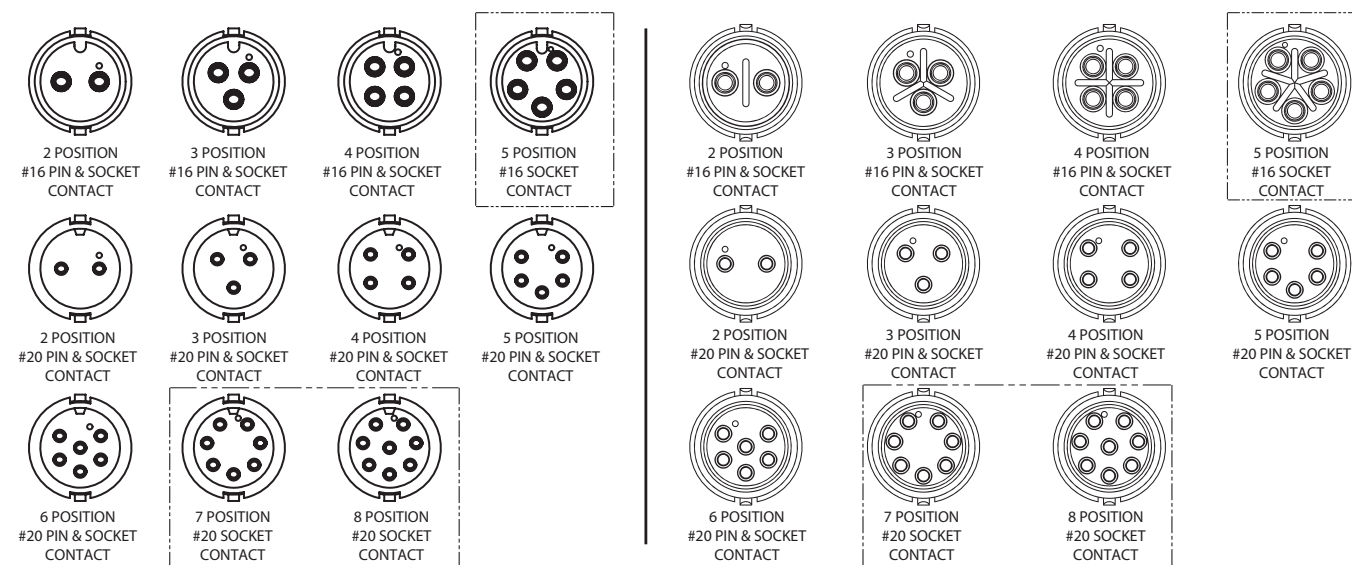
PANEL MOUNT / CABLE TO CABLE CONNECTORS

Front View | Wire View



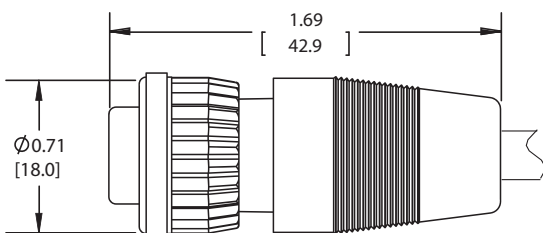
CABLE CONNECTORS

Front View | Wire View

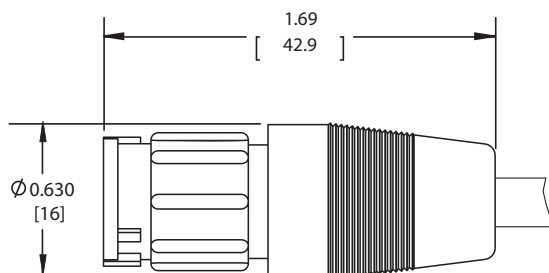


All dimensions are for reference only. Units shown: in[mm].

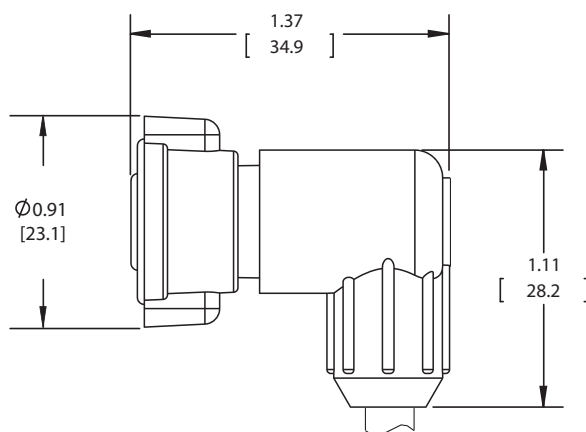
CUSTOM MOLDED CABLE ASSEMBLIES



6XXX-XXG
CUSTOM CABLE CONNECTOR
STRAIGHT OVERMOLDED



8XXX-XXG
CUSTOM CABLE TO CABLE CONNECTOR
STRAIGHT OVERMOLDED



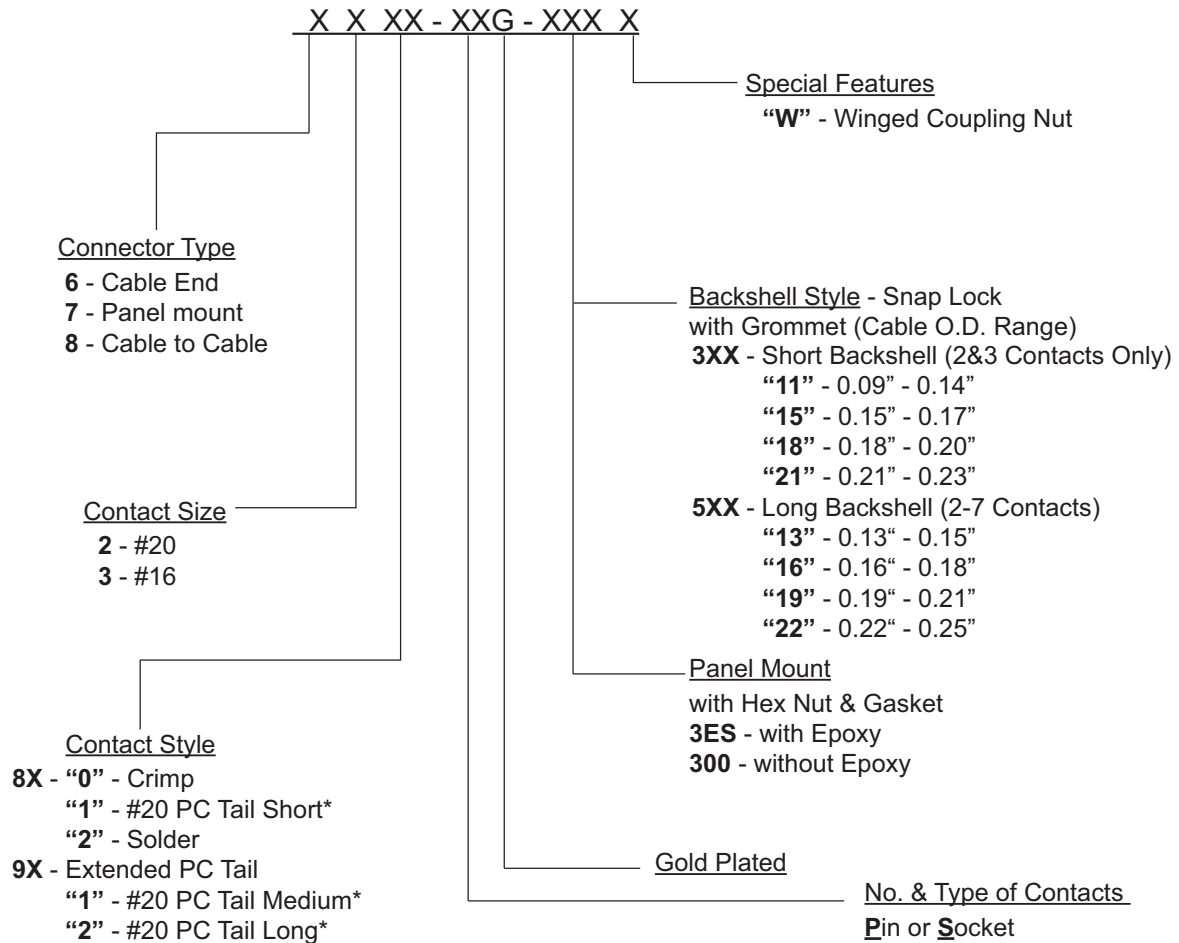
6XXX-XXG
CUSTOM CABLE CONNECTOR
RIGHT ANGLE OVERMOLDED

Note: Mini-Con-X® can be overmolded onto an extended well panel mount. Straight version only.

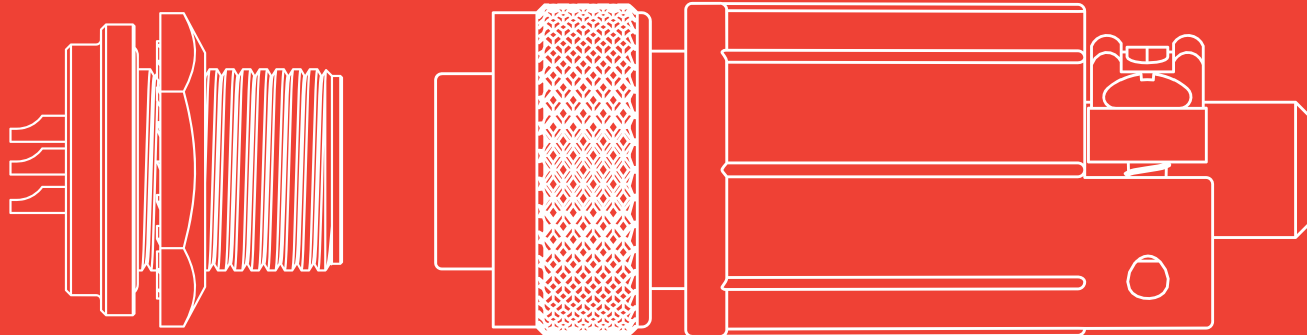
- Available in: 2#20, 4#20 and 6#20 female
- Available in: 4#20, 6#20 and 7#20 male

All dimensions are for reference only. Units shown: in[mm].

PART NUMBER TO ORDER



*Consult factory for length and diameter of PC Tail. Additionally, alternative colors and materials are available.



SHIELDED MINI-CON-X®

0.760" [19MM] OD 2-8 CONTACTS



CABLE END - SOCKET
MATES WITH PANEL MOUNT



CABLE END - PIN
MATES WITH PANEL MOUNT



PANEL MOUNT - PIN
MATES WITH CABLE END



PANEL MOUNT - SOCKET
MATES WITH CABLE END



MOLDED CABLE END ASSEMBLY



MOLDED RIGHT ANGLE CABLE ASSEMBLY

SPECIFICATIONS

Mechanical Specifications

| | |
|-------------------------|---|
| Life: | 400 insertion / withdrawal cycles minimum |
| Vibration: | MIL-STD 202G Method 201A |
| Hex Nut Torque: | 10-12 in-lb max tightening torque. |
| Coupling Locking Style: | Threaded Coupling Ring |
| Backshell Style: | Threaded |

Electrical Specifications

| | |
|-----------------|--|
| Voltage Rating: | 600 VAC/DC |
| Current Rating: | 13.0 A – max (See page 107 for Electrical Current Rating Chart) |
| Conductor Size: | 2 through 6 #16 contacts accepts 16 AWG 2 through 8 #20 contacts accepts 20 AWG |

Environmental Specifications

| | |
|-------------------------------|--|
| Operating Temperature Rating: | -40°C to +85°C (-40°F to +185°F) |
| Salt Atmosphere (Corrosion): | Method 106F, Mil-Std 202 |
| Weathertight: | IP66 / IP68 NEMA 250 (6P) (when mated) |

Material Specifications

| | |
|--------------------------|--------------------------------------|
| Backshell & Strap: | Thermoplastic |
| Contacts: | Copper Alloy, Gold over Nickel Plate |
| Coupling Ring: | Nickel Plated Copper Alloy |
| Inserts: | Thermoplastic |
| Grommet / Strain Relief: | Elastomer |
| O-Ring: | Elastomer |
| Shell: | Nickel Plated Copper Alloy |
| Cable Housing: | Nickel Plated Copper Alloy |
| Screws: | Stainless Steel |

Molded Cable Assemblies

| | |
|---------------|--|
| Weathertight: | IP66 / IP68 NEMA 250 (6P) (when mated) |
|---------------|--|

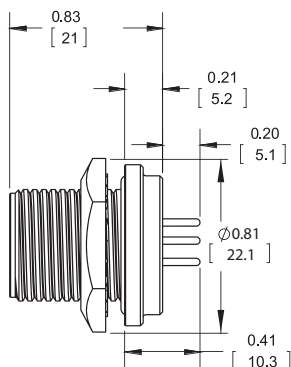
Certifications

Not for current interruption
RoHS compliant

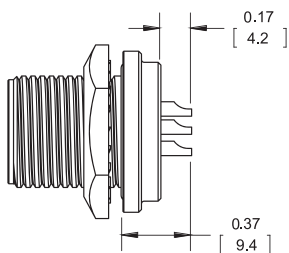
Options

| | |
|---------------|---------|
| Flame Rating: | UL 94HB |
|---------------|---------|

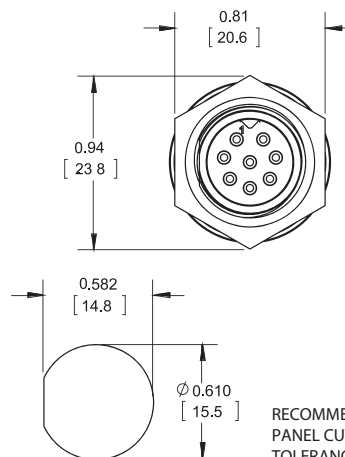
PANEL MOUNT ASSEMBLY KITS



SF7X81-XXG-3XX
PANEL MOUNT CONNECTOR
PC TAIL

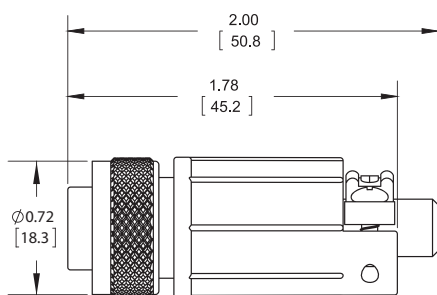


SF7X82-XXG-3XX
PANEL MOUNT CONNECTOR
SOLDER CUP

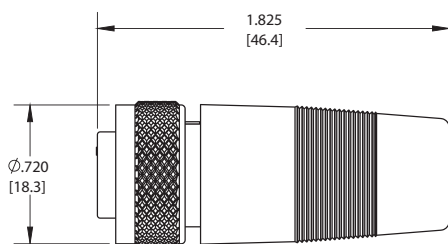


RECOMMENDED
PANEL CUT-OUT
TOLERANCE: ±0.003 [0.08]

FIELD INSTALLABLE KITS

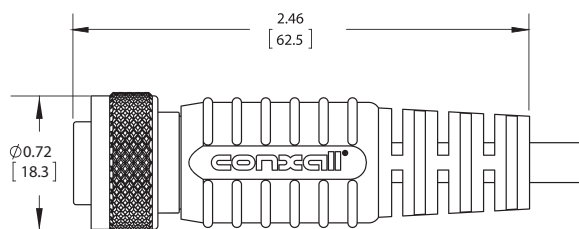


SF6X82-XXG-5XX
CABLE CONNECTOR
SOLDER CUP

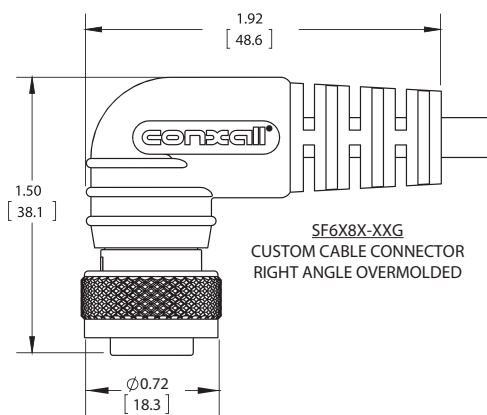


SF6X8X-XXG
CUSTOM CABLE CONNECTOR
STRAIGHT OVERMOLDED (Alternative)

CUSTOM MOLDED CABLE ASSEMBLIES



SF6X8X-XXG
CUSTOM CABLE CONNECTOR
STRAIGHT OVERMOLDED

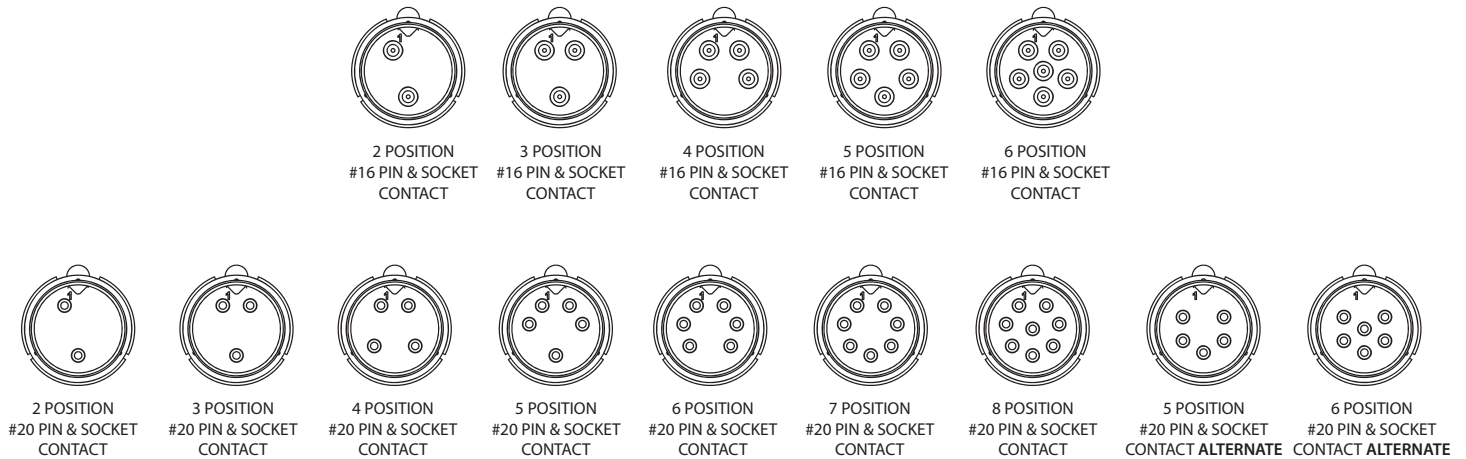


SF6X8X-XXG
CUSTOM CABLE CONNECTOR
RIGHT ANGLE OVERMOLDED

All dimensions are for reference only. Units shown: in[mm].

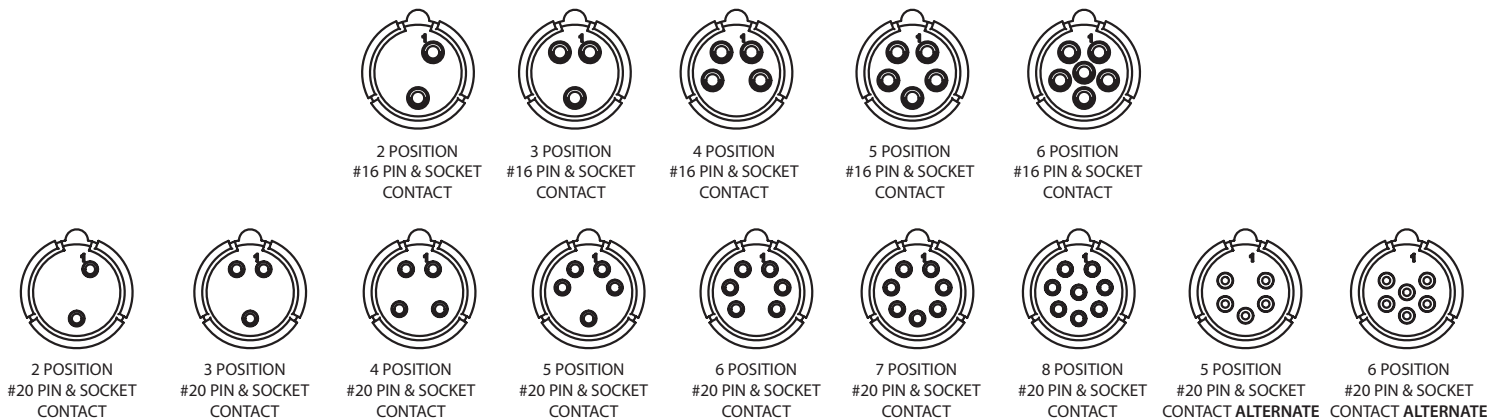
PANEL MOUNT CONNECTOR

Front View



PANEL MOUNT CONNECTOR

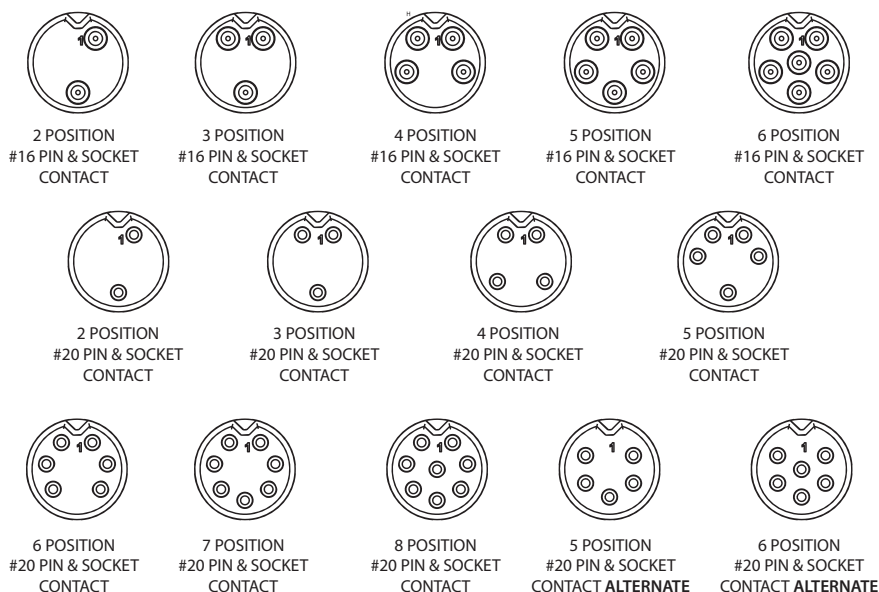
Wire View



All dimensions are for reference only. Units shown: in[mm].

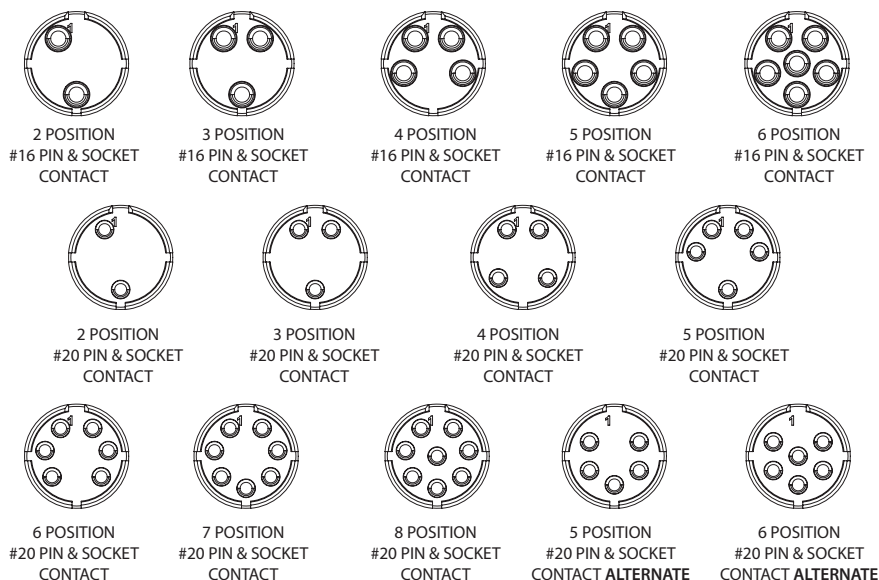
CABLE CONNECTORS

Front View



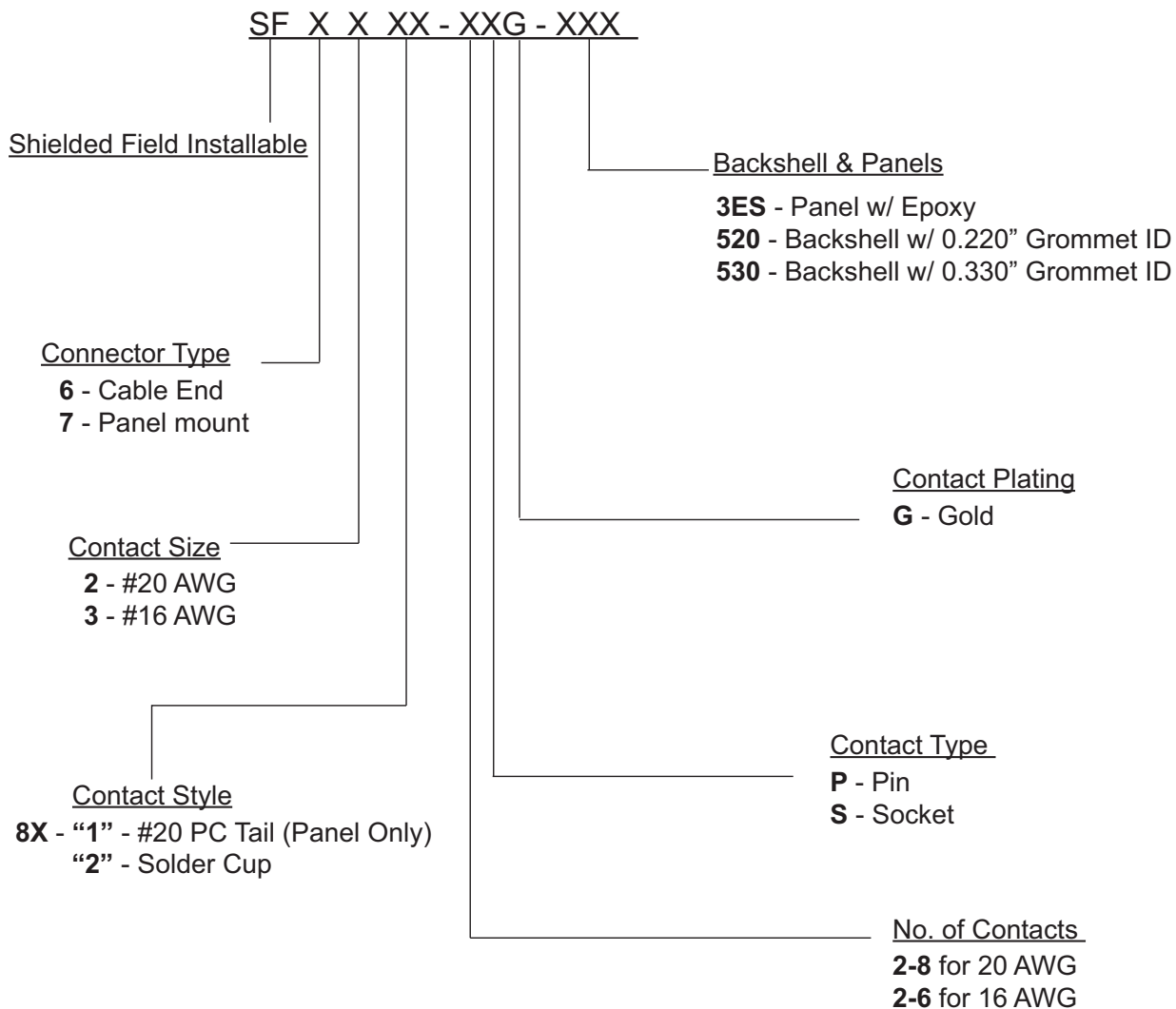
CABLE CONNECTORS

Wire View

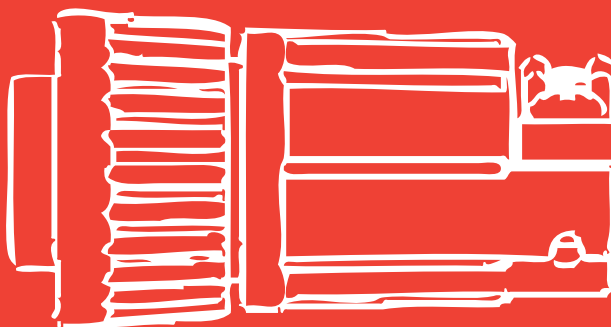


All dimensions are for reference only. Units shown: in[mm].

PART NUMBER TO ORDER



Consult factory for connectors with alternate 5-20AWG and 6-20AWG contact arrangements.



MULTI-CON-X®

0.875" [22MM] OD 2-9 CONTACTS



CABLE END - SOCKET
MATES WITH PANEL MOUNT AND
CABLE TO CABLE



CABLE END - PIN
MATES WITH PANEL MOUNT AND
CABLE TO CABLE



CABLE TO CABLE / INLINE - SOCKET
MATES WITH CABLE END



PANEL MOUNT - PIN
MATES WITH CABLE END



PANEL MOUNT - SOCKET
MATES WITH CABLE END



DUST CAP
P/N - 4295



MOLDED CABLE END ASSEMBLY



MOLDED CABLE TO CABLE ASSEMBLY



MOLDED RIGHT ANGLE CABLE ASSEMBLY

SPECIFICATIONS

Mechanical Specifications

| | |
|-------------------------|--|
| Life: | 300 insertion / withdrawal cycles minimum |
| Vibration: | Coupling rings have overriding locking feature to prevent loosening or separation of connector |
| Hex Nut Torque: | 10 in-lb tightening torque. |
| Coupling Locking Style: | Bayonet with ribbed coupling nut (winged coupling nut available) P/N 4482 |
| Backshell Style: | Threaded |
| Conductor Size: | #12 contacts accepts 12 through 14 AWG #16 contacts accepts 16 through 18 AWG #20 contacts accepts 20 through 24 AWG |

Electrical Specifications

| | |
|-----------------|---|
| Voltage Rating: | 600 VAC/DC |
| Current Rating: | 17.0 A – max (See page 107 for Electrical Current Rating Chart) |

Environmental Specifications

| | |
|-------------------------------|----------------------------------|
| Operating Temperature Rating: | -40°C to +85°C (-40°F to +185°F) |
| Salt Atmosphere (Corrosion): | 300 Hr salt spray when mated |
| Weathertight: | IP67 when mated |

Material Specifications

| | |
|--------------------------|--------------------------------------|
| Backshell: | Thermoplastic, UL 94HB, Black |
| Contacts: | Copper Alloy, Gold over Nickel Plate |
| Coupling Ring: | Thermoplastic, UL 94HB, Black |
| Gasket: | Elastomer, Black |
| Grommet / Strain Relief: | Elastomer, Black |
| Hex Nut: | Thermoplastic, UL 94HB, Black |
| O-Ring: | Elastomer, Black |
| Shell: | Thermoplastic, UL 94HB, Black |
| Optional Dust Cap: | Elastomer, Black |

Molded Cable Assemblies

| | |
|---------------|-----------------------|
| Weathertight: | NEMA 6P, 13: IEC IP67 |
|---------------|-----------------------|

Certifications

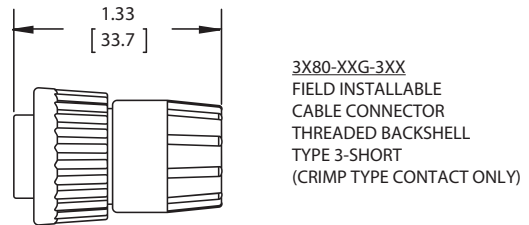
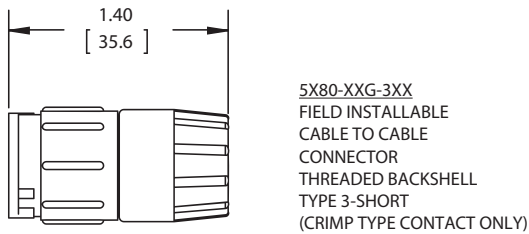
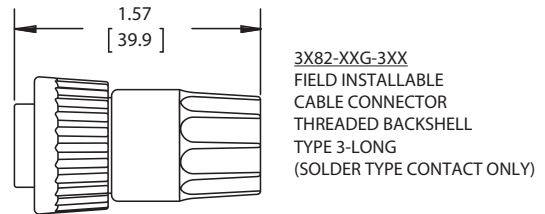
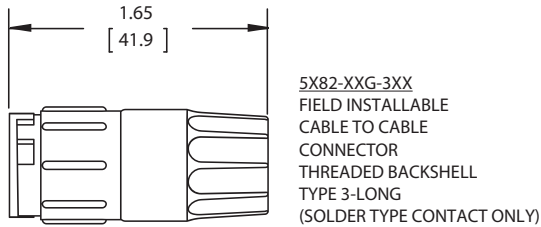
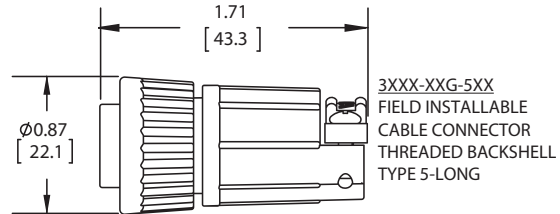
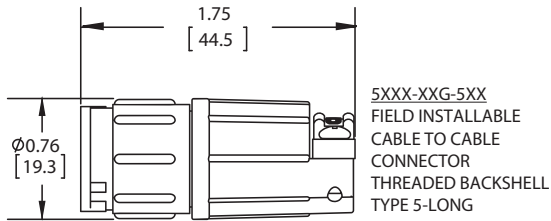
UL File E150822
CSA File 181200
Not for current interruption
RoHS compliant
REACH compliant

Options

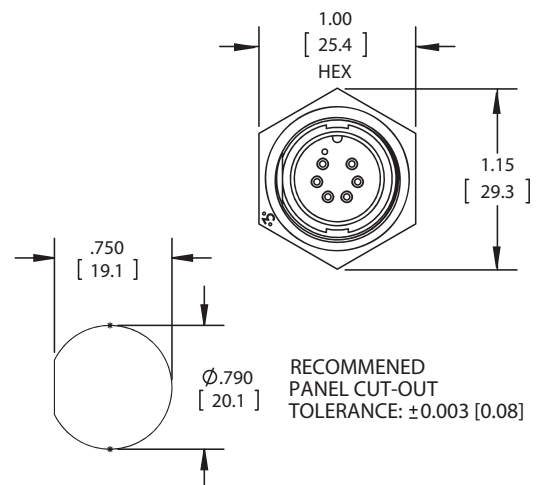
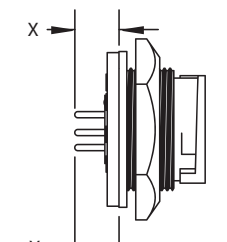
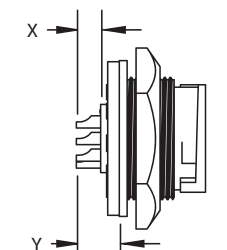
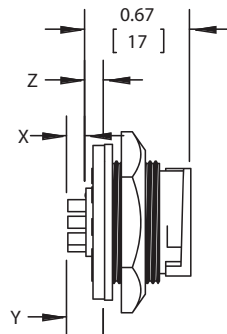
| | |
|---------------|--------------------|
| UV Rating: | F1 available |
| Flame Rating: | UL 94V-0 available |

Consult factory for optional colors and materials

FIELD INSTALLABLE KITS



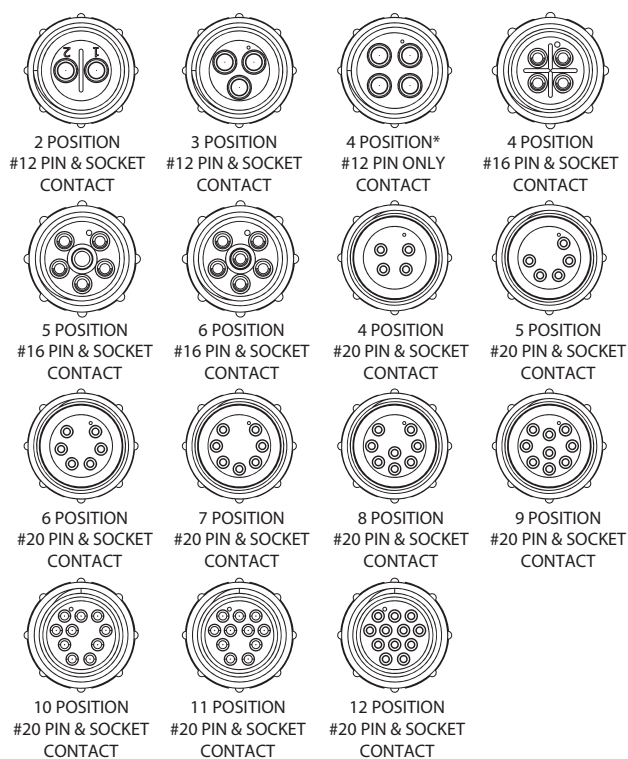
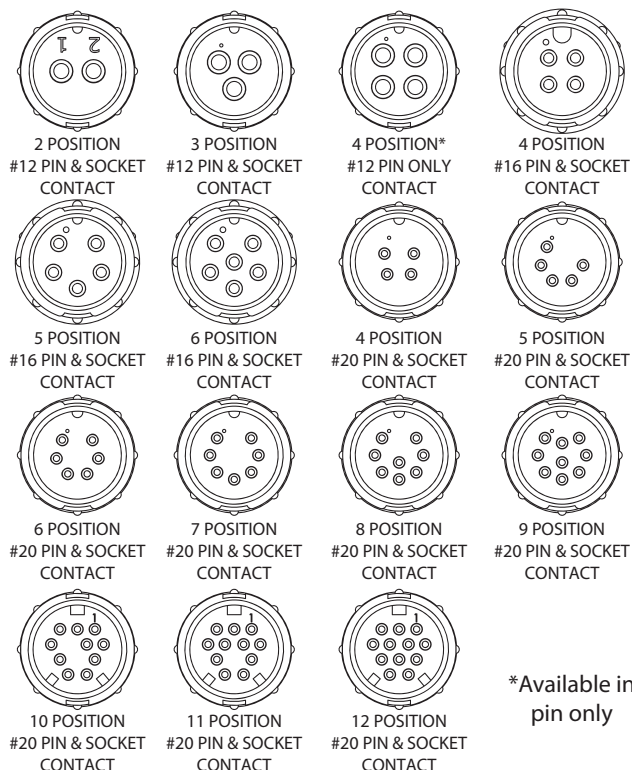
PANEL MOUNT ASSEMBLY KITS



*X, Y, Z - Consult Factory. All dimensions are for reference only. Units shown: in[mm].

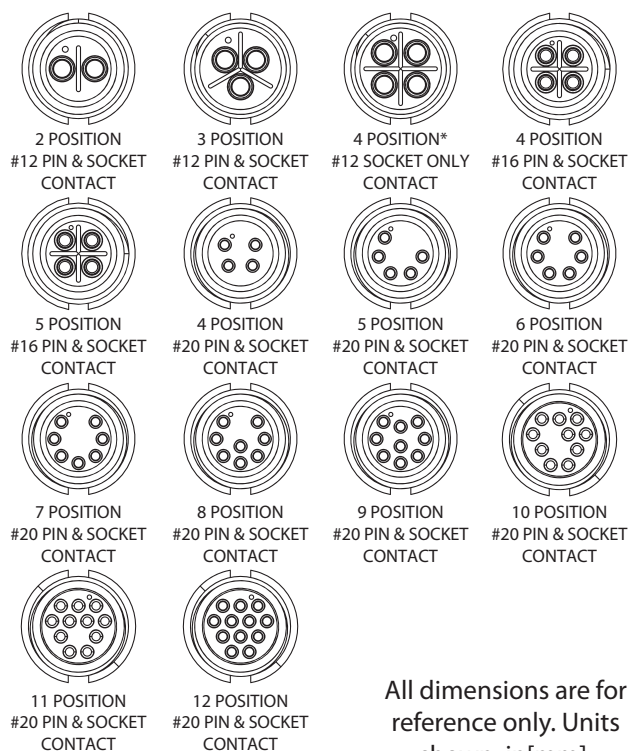
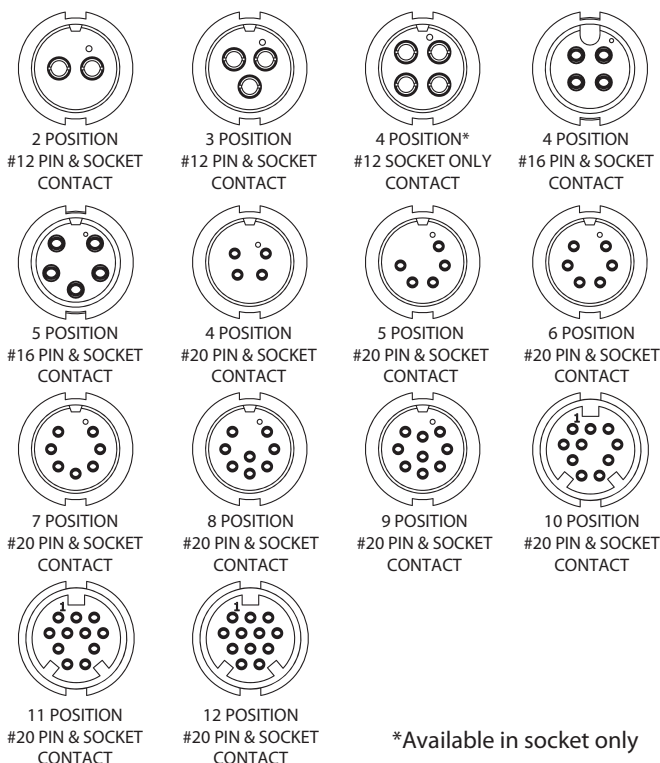
PANEL MOUNT / CABLE TO CABLE CONNECTORS

Front View | Wire View



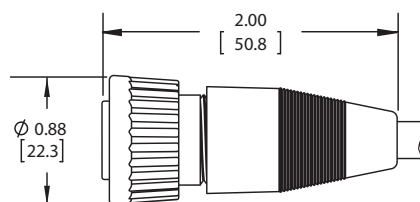
CABLE CONNECTORS

Front View | Wire View

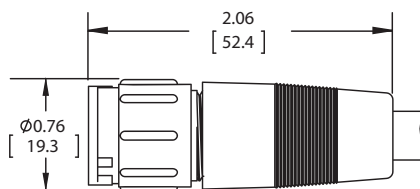


All dimensions are for reference only. Units shown: in[mm].

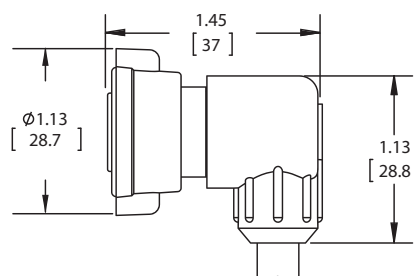
CUSTOM MOLDED CABLE ASSEMBLIES



4XXX-XXG
CUSTOM CABLE CONNECTOR
STRAIGHT OVERMOLDED



5XXX-XXG
CUSTOM CABLE TO CABLE CONNECTOR
STRAIGHT OVERMOLDED



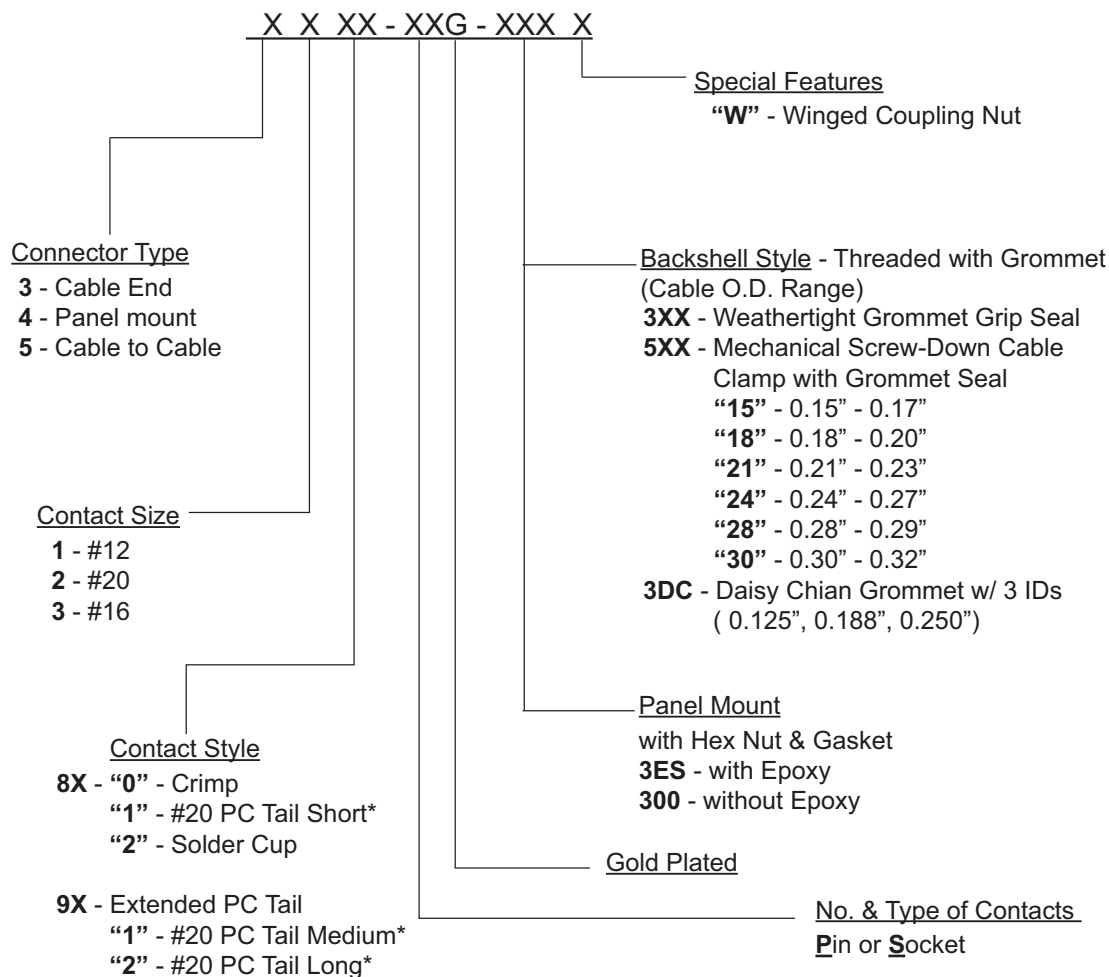
4XXX-XXG
CUSTOM CABLE CONNECTOR
RIGHT ANGLE OVERMOLDED

Note: Multi-Con-X® can be overmolded onto an extended well panel mount. Straight version only.

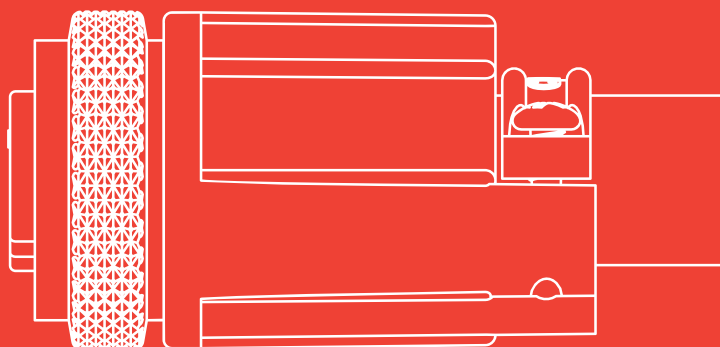
- Available in: 5#20, 6#20 and 9#20 male
- Available in: 4#20 and 9#20 female

All dimensions are for reference only. Units shown: in[mm].

PART NUMBER TO ORDER



*Consult factory for length and diameter of PC Tail. Additionally, alternative colors and materials are available.



SHIELDED MULTI-CON-X® 0.995" [25MM] OD 2-12 CONTACTS



CABLE END - SOCKET
MATES WITH PANEL MOUNT AND
CABLE TO CABLE



PANEL MOUNT - PIN
MATES WITH CABLE END



MOLDED CABLE END ASSEMBLY

SHIELDED MULTI-CON-X[®] 0.995" [25MM]OD 2-12 CONTACTS

SPECIFICATIONS

Mechanical Specifications

| | |
|-------------------------|--|
| Life: | 400 insertion / withdrawal cycles minimum |
| Vibration: | Coupling rings have overriding locking feature to prevent loosening or separation of connector |
| Hex Nut Torque: | 10-12 in-lb tightening torque. |
| Coupling Locking Style: | Threaded Coupling Ring |
| Backshell Style: | Threaded |

Electrical Specifications

| | |
|-----------------|---|
| Voltage Rating: | 600V AC |
| Current Rating: | 13.0 A – max (See page 107 for Electrical Current Rating Chart) |
| Conductor Size: | 2 through 4 #16 contacts accepts 16 AWG 2 through 12 #20 contacts accepts 20 AWG |

Environmental Specifications

| | |
|-------------------------------|--|
| Operating Temperature Rating: | -40°C to +85°C (-40°F to +185°F) |
| Salt Atmosphere (Corrosion): | 48 Hr salt spray when mated |
| Weathertight: | IP66 / IP68 NEMA 250 (6P) (when mated) |

Material Specifications

Cable Ends

| | |
|-------------------------|--|
| Coupling Nut & Housing: | Nickel Plated Copper Alloy |
| Contacts: | Copper Alloy, Gold over Nickel Plating |
| Insert: | Thermoplastic |
| Backshell & Strap: | Thermoplastic |
| Screws: | Stainless Steel |
| O-Rings: | Elastomer |

Metal Panel Mounts

| | |
|-----------|--|
| Shell: | Nickel Plated Copper Alloy |
| Nut: | Nickel Plated Copper Alloy |
| Contacts: | Copper Alloy, Gold over Nickel Plating |
| Insert: | Thermoplastic |

Plastic Panel Mounts

| | |
|----------------|--|
| Housing: | Thermoplastic |
| Shielding Nut: | Nickel Plated Aluminum |
| Contacts: | Copper Alloy, Gold over Nickel Plating |

Molded Cable Assemblies

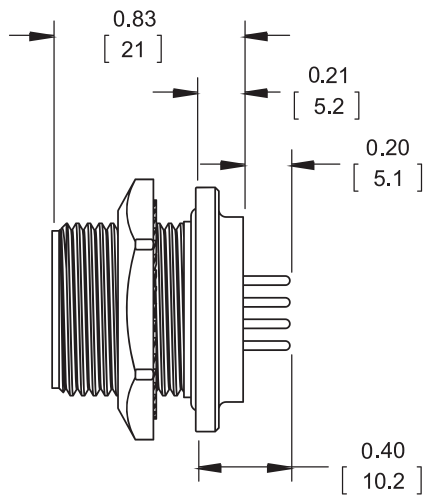
| | |
|---------------|--|
| Weathertight: | IP66 / IP68 NEMA 250 (6P) (when mated) |
|---------------|--|

Certifications

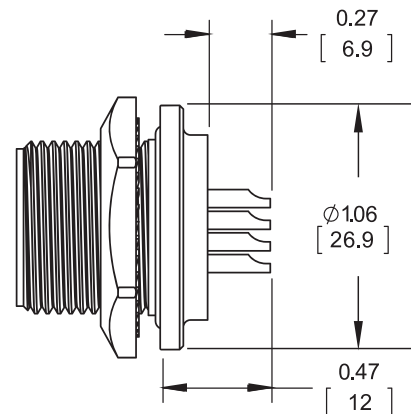
| |
|------------------------------|
| Not for current interruption |
| RoHS compliant |

SHIELDED MULTI-CON-X[®] 0.995" [25MM] OD 2-12 CONTACTS

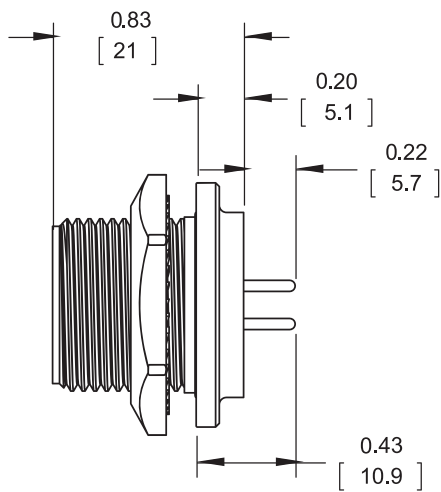
PANEL MOUNT ASSEMBLY KITS - PIN ONLY - METAL



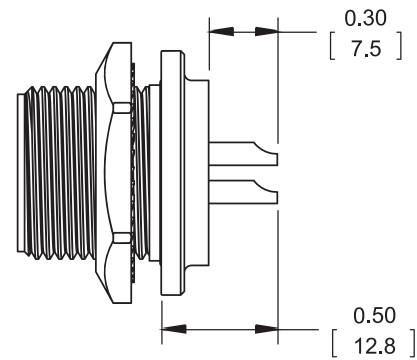
SF4281-XXPG-3XX
PANEL MOUNT CONNECTOR
#20 PC TAIL



SF4282-XXPG-3XX
PANEL MOUNT CONNECTOR
#20 SOLDER CUP



SF4381-XXPG-3XX
PANEL MOUNT CONNECTOR
#16 PC TAIL

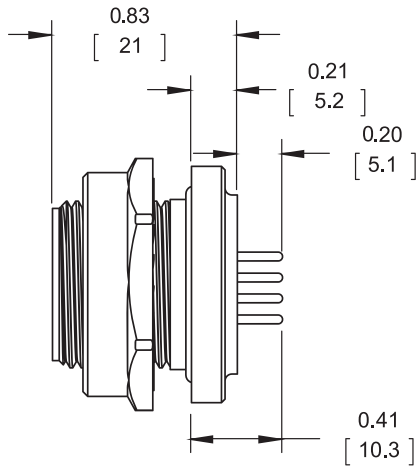


SF4382-XXPG-3XX
PANEL MOUNT CONNECTOR
#16 SOLDER CUP

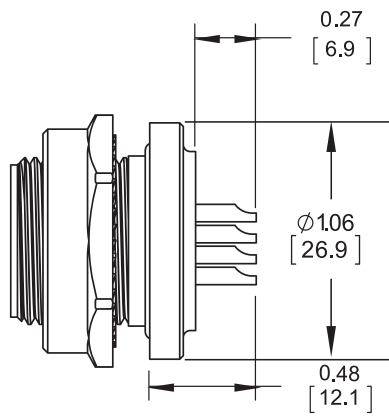
All dimensions are for reference only. Units shown: in[mm].

SHIELDED MULTI-CON-X® 0.995" [25MM] OD 2-12 CONTACTS

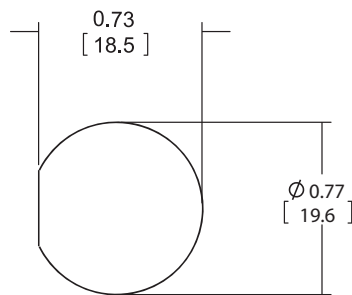
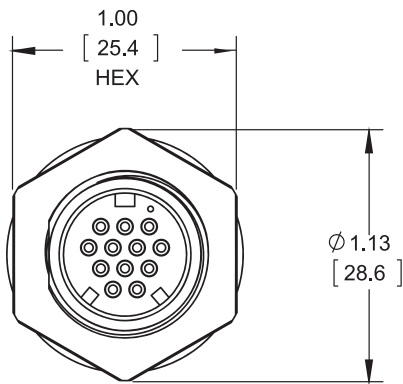
PANEL MOUNT ASSEMBLY KITS - PIN ONLY - PLASTIC



SF4X81V-XXEPG-3XX
PANEL MOUNT CONNECTOR
PC TAIL

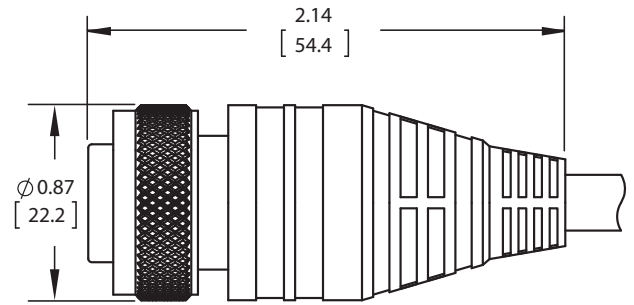


SF4X82V-XXEPG-3XX
PANEL MOUNT CONNECTOR
SOLDER CUP

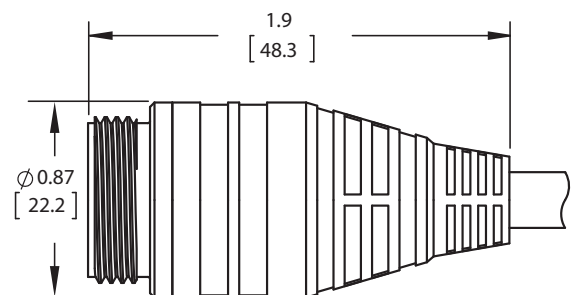


RECOMMENDED
PANEL CUT-OUT
TOLERANCE: ± 0.003 [0.08]

CUSTOM MOLDED CABLE ASSEMBLIES

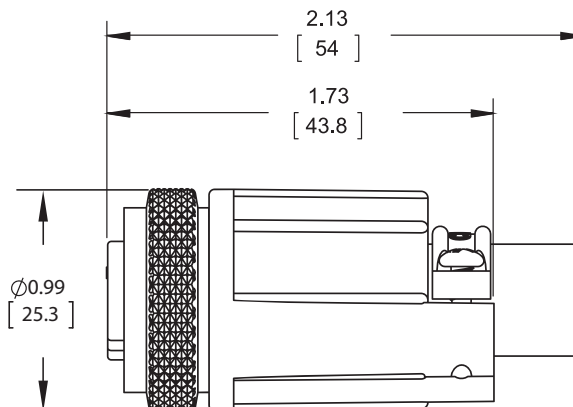


SM3X8X-XXXG
CUSTOM CABLE CONNECTOR, FEMALE
STRAIGHT OVERMOLDED



SM5X8X-XXXG
CUSTOM CABLE TO CABLE CONNECTOR, MALE
STRAIGHT OVERMOLDED

FIELD INSTALLABLE KITS - SOCKET ONLY



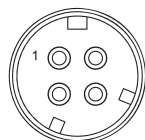
SF3X8X-XXSG-5XX
FIELD INSTALLABLE CABLE CONNECTOR KIT

All dimensions are for reference only.
Units shown: in[mm].

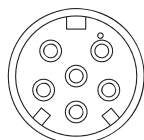
SHIELDED MULTI-CON-X[®] 0.995" [25MM]OD 2-12 CONTACTS

PANEL MOUNT CONNECTORS

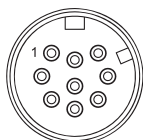
Front View | Wire View



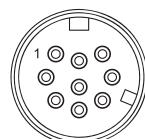
(2-4)-POSITION
#16 PIN CONTACT
"F" KEY



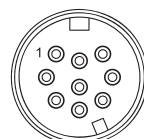
(6)-POSITION
#16 PIN CONTACT
"E" KEY



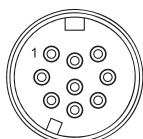
(2-9)-POSITION
#20 PIN CONTACT
"A" KEY



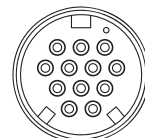
(2-9)-POSITION
#20 PIN CONTACT
"B" KEY



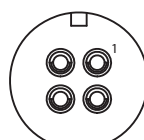
(2-9)-POSITION
#20 PIN CONTACT
"C" KEY



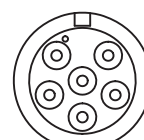
(2-9)-POSITION
#20 PIN CONTACT
"D" KEY



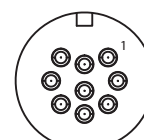
(2-12)-POSITION
#20 PIN CONTACT
"E" KEY



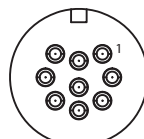
(2-4)-POSITION
#16 PIN CONTACT
"F" KEY



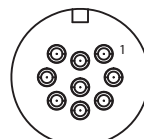
(6)-POSITION
#16 PIN CONTACT
"E" KEY



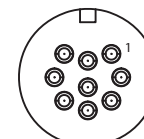
(2-9)-POSITION
#20 PIN CONTACT
"A" KEY



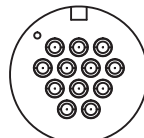
(2-9)-POSITION
#20 PIN CONTACT
"B" KEY



(2-9)-POSITION
#20 PIN CONTACT
"C" KEY



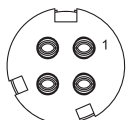
(2-9)-POSITION
#20 PIN CONTACT
"D" KEY



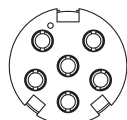
(2-12)-POSITION
#20 PIN CONTACT
"E" KEY

CABLE CONNECTORS

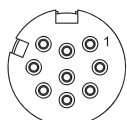
Front View | Wire View



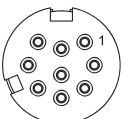
(2-4)-POSITION
#16 PIN CONTACT
"F" KEY



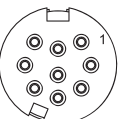
(6)-POSITION
#16 PIN CONTACT
"E" KEY



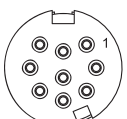
(2-9)-POSITION
#20 PIN CONTACT
"A" KEY



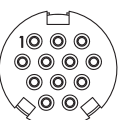
(2-9)-POSITION
#20 PIN CONTACT
"B" KEY



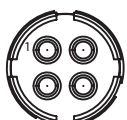
(2-9)-POSITION
#20 PIN CONTACT
"C" KEY



(2-9)-POSITION
#20 PIN CONTACT
"D" KEY



(4-12)-POSITION
#20 PIN CONTACT
"E" KEY



(2-4)-POSITION
#16 PIN CONTACT
"F" KEY



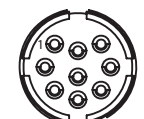
(6)-POSITION
#16 PIN CONTACT
"E" KEY



(2-9)-POSITION
#20 PIN CONTACT
"A" KEY



(2-9)-POSITION
#20 PIN CONTACT
"B" KEY



(2-9)-POSITION
#20 PIN CONTACT
"C" KEY



(2-9)-POSITION
#20 PIN CONTACT
"D" KEY

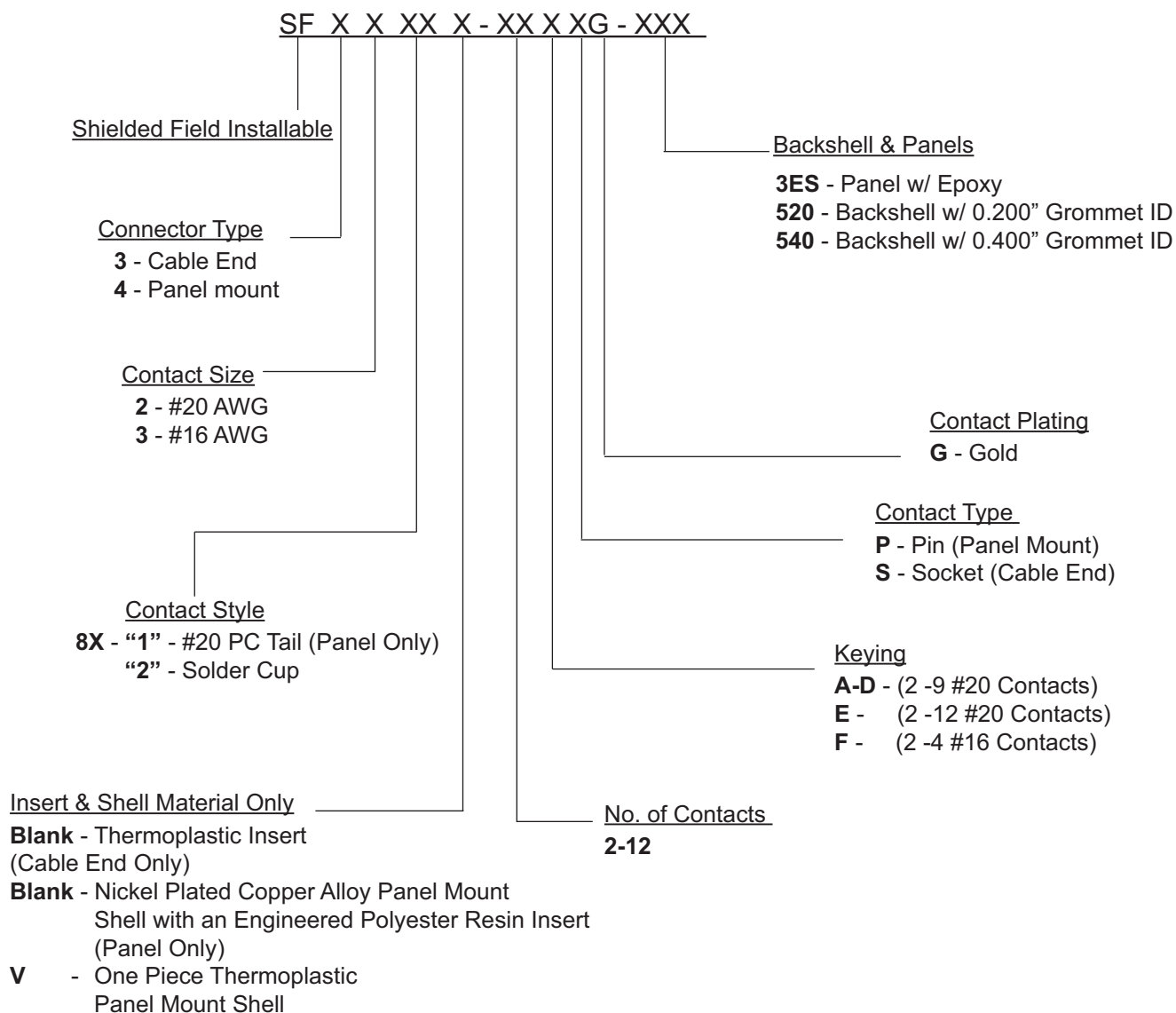


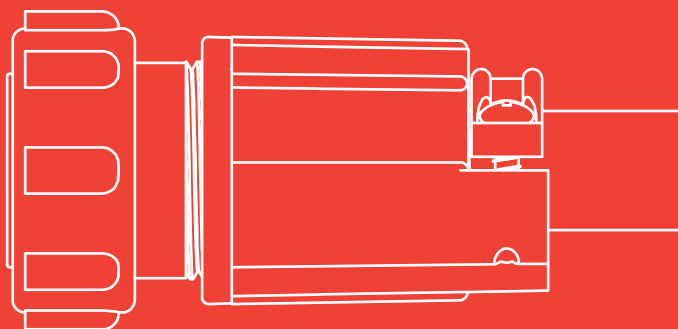
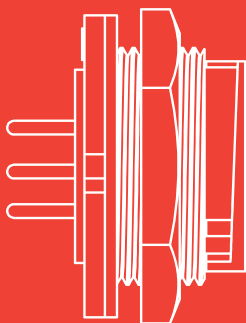
(4-12)-POSITION
#20 PIN CONTACT
"E" KEY

All dimensions are for reference only. Units shown: in[mm].

SHIELDED MULTI-CON-X® 0.995" [25MM] OD 2-12 CONTACTS

PART NUMBER TO ORDER





MAXI-CON-X®

1.17" [29MM] OD 7, 10, 18 & 20 CONTACTS



CABLE END - SOCKET
MATES WITH PANEL MOUNT AND
CABLE TO CABLE



CABLE END - PIN
MATES WITH PANEL MOUNT AND
CABLE TO CABLE



CABLE TO CABLE / INLINE - PIN
MATES WITH CABLE END



PANEL MOUNT - PIN
MATES WITH CABLE END



PANEL MOUNT - SOCKET
MATES WITH CABLE END



DUST CAP
P/N - 14295



MOLDED CABLE END ASSEMBLY



MOLDED CABLE TO CABLE ASSEMBLY



MOLDED RIGHT ANGLE CABLE ASSEMBLY

SPECIFICATIONS

Mechanical Specifications

| | |
|-------------------------|--|
| Life: | 300 insertion / withdrawal cycles minimum |
| Vibration: | Coupling rings have overriding locking feature to prevent loosening or separation of connector |
| Hex Nut Torque: | 10 in-lb max tightening torque. |
| Coupling Locking Style: | Bayonet with ribbed coupling nut (winged coupling nut available) P/N 14482 |
| Backshell Style: | Threaded |
| Conductor Size: | #12 contacts accepts 12 through 14 AWG #16 contacts accepts 16 through 18 AWG #20 contacts accepts 20 through 24 AWG |

Electrical Specifications

| | |
|-----------------|---|
| Voltage Rating: | 600V DC / 480V AC |
| Current Rating: | 23.0 A – max (See page 107 for Electrical Current Rating Chart) |

Environmental Specifications

| | |
|-------------------------------|----------------------------------|
| Operating Temperature Rating: | -40°C to +85°C (-40°F to +185°F) |
| Salt Atmosphere (Corrosion): | 300 Hr salt spray when mated |
| Weathertight: | IP67 when mated |

Material Specifications

| | |
|--------------------------|--------------------------------------|
| Backshell: | Thermoplastic, UL 94HB, Black |
| Contacts: | Copper Alloy, Gold over Nickel Plate |
| Coupling Ring: | Thermoplastic, UL 94HB, Black |
| Gasket: | Elastomer, Black |
| Grommet / Strain Relief: | Elastomer, Black |
| Hex Nut: | Thermoplastic, UL 94HB, Black |
| O-Ring: | Elastomer, Black |
| Shell: | Thermoplastic, UL 94HB, Black |
| Optional Dust Cap: | Elastomer, Black |

Molded Cable Assemblies

| | |
|---------------|-----------------------|
| Weathertight: | NEMA 6P, 13; IEC IP67 |
|---------------|-----------------------|

Certifications

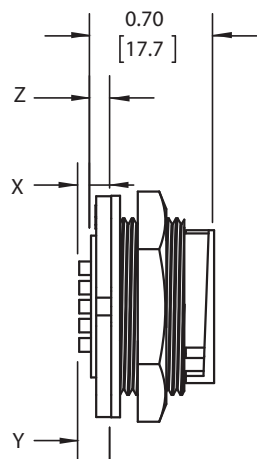
UL File E150822
CSA File 181200
Not for current interruption
RoHs compliant
REACH compliant

Options

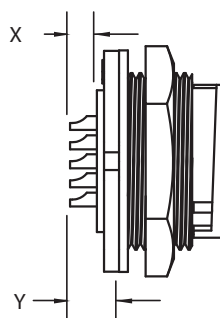
| | |
|---------------|--------------------|
| UV Rating: | F1 available |
| Flame Rating: | UL 94V-0 available |

Consult factory for optional colors and materials

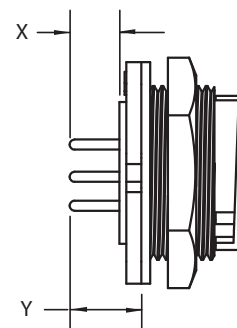
PANEL MOUNT ASSEMBLY KITS



14X80-XXG-3XX
PANEL MOUNT CONNECTOR
CRIMP

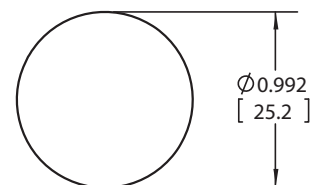
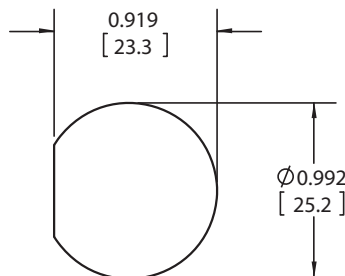
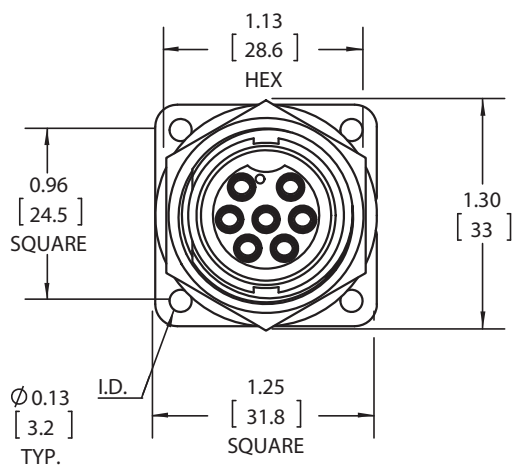


14X82-XXG-3XX
PANEL MOUNT CONNECTOR
SOLDER CUP



14XXX-XXG-3XX
PANEL MOUNT CONNECTOR
PC TAIL

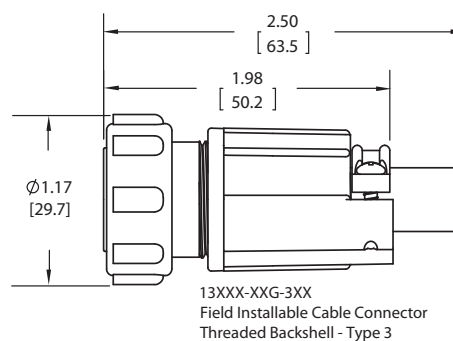
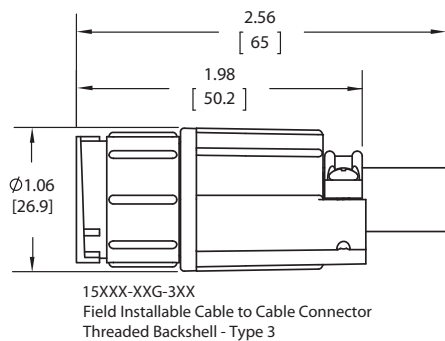
* X, Y, Z - CONSULT FACTORY



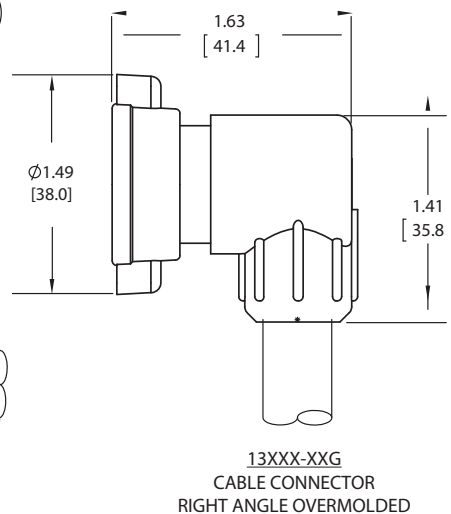
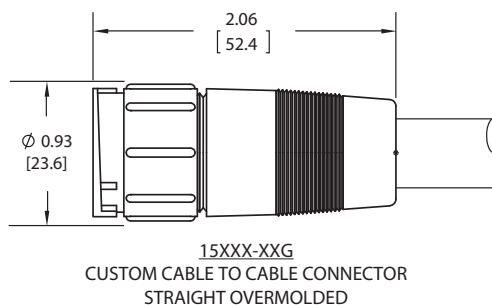
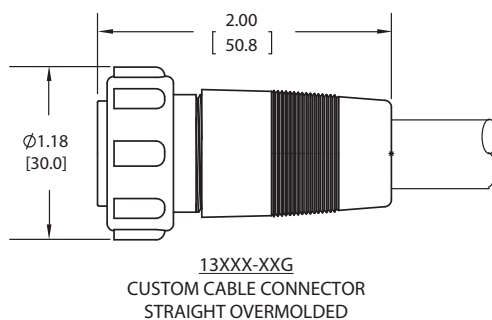
RECOMMENDED
PANEL CUT-OUT
TOLERANCE: ± 0.003 [0.08]

All dimensions are for reference only. Units shown: in[mm].

FIELD INSTALLABLE KITS



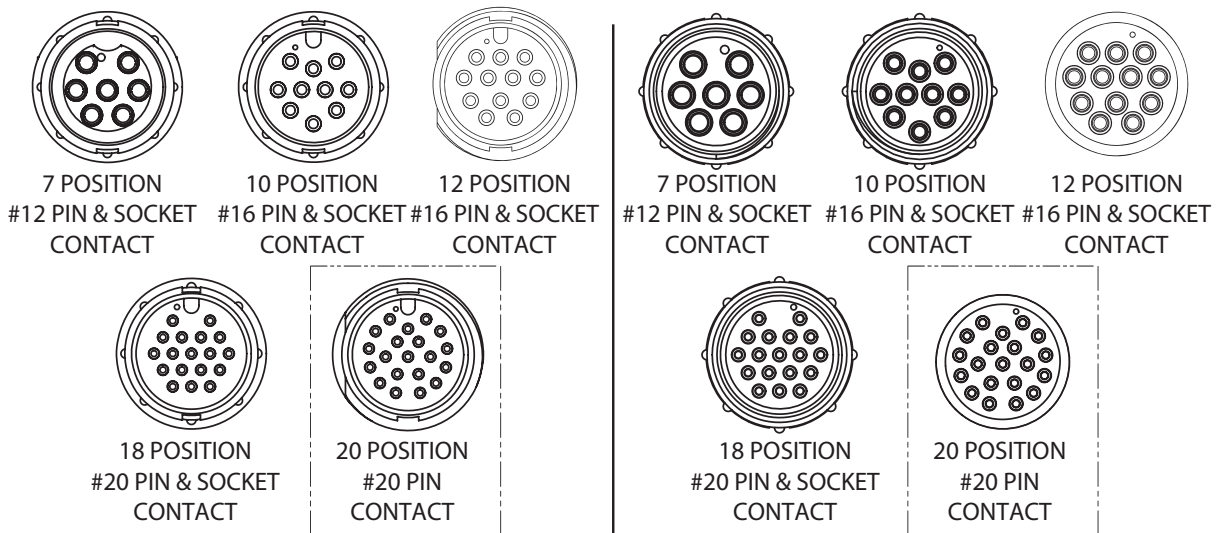
CUSTOM MOLDED CABLE ASSEMBLIES



All dimensions are for reference only. Units shown: in[mm].

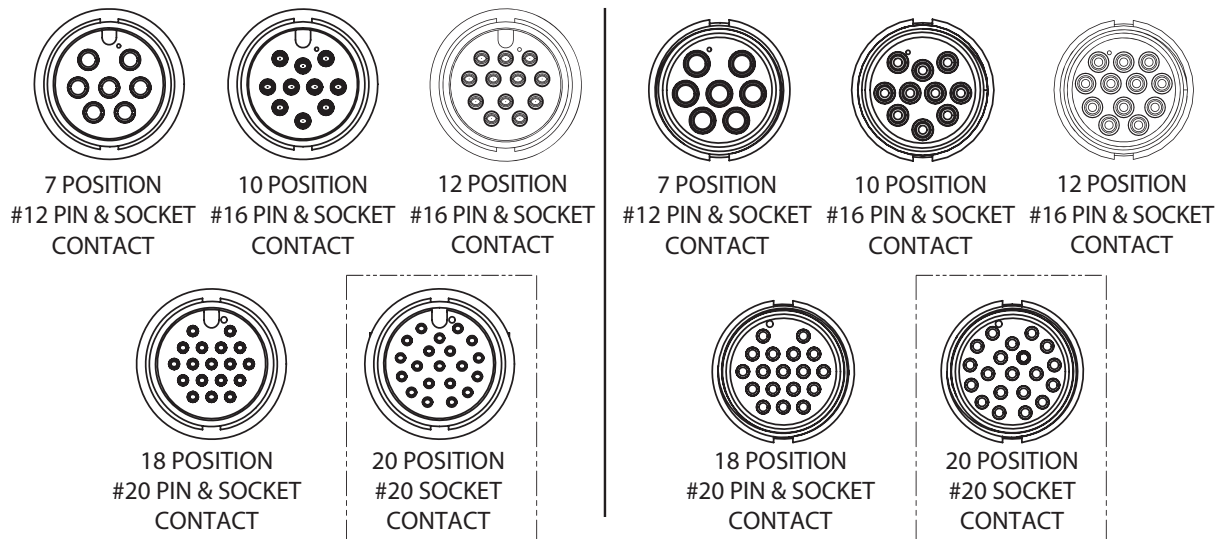
PANEL MOUNT CONNECTORS

Front View | Wire View



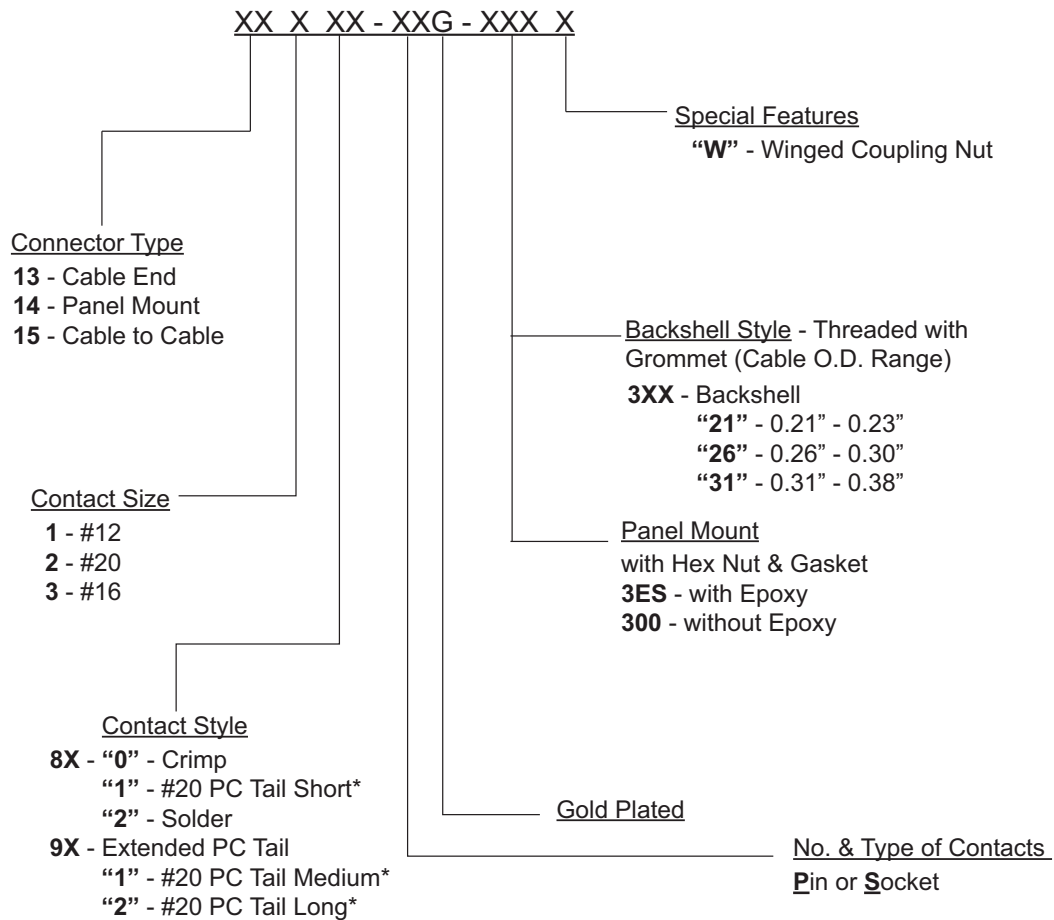
CABLE CONNECTORS

Front View | Wire View

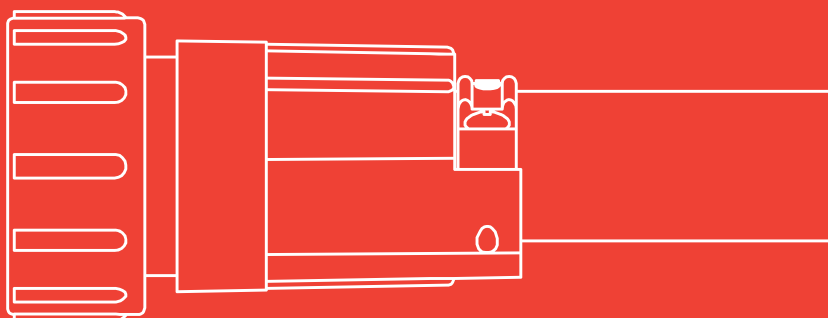
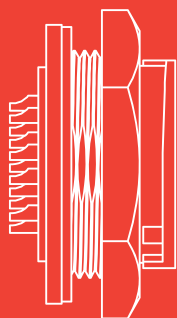


All dimensions are for reference only. Units shown: in[mm].

PART NUMBER TO ORDER



*Consult factory for length and diameter of PC Tail. Additionally, alternative colors and materials are available.



MEGA-CON-X®

1.29" [32MM] OD 31 CONTACTS



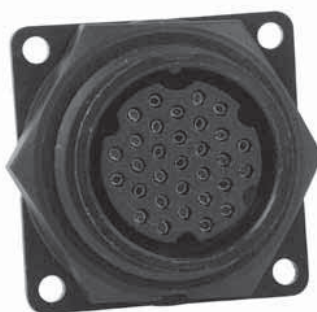
CABLE END - SOCKET
MATES WITH PANEL MOUNT



CABLE END - PIN
MATES WITH PANEL MOUNT



PANEL MOUNT - PIN
MATES WITH CABLE END



PANEL MOUNT - SOCKET
MATES WITH CABLE END



DUST CAP
P/N - 24295



MOLDED CABLE END ASSEMBLY



MOLDED RIGHT ANGLE CABLE ASSEMBLY

SPECIFICATIONS

Mechanical Specifications

| | |
|------------------|--|
| Life: | 300 insertion / withdrawal cycles minimum |
| Vibration: | Coupling rings have overriding locking feature to prevent loosening or separation of connector |
| Hex Nut Torque: | 10 in-lb max tightening torque. |
| Coupling Style: | Bayonet with ribbed coupling nut (winged coupling nut available) |
| Backshell Style: | Threaded |
| Conductor Size: | #20 contacts accepts 20 through 24 AWG |

Electrical Specifications

| | |
|-----------------|--|
| Voltage Rating: | 600V AC |
| Current Rating: | 2.3 A – max (See page 107 for Electrical Current Rating Chart) |

Environmental Specifications

| | |
|-------------------------------|----------------------------------|
| Operating Temperature Rating: | -40°C to +85°C (-40°F to +185°F) |
| Salt Atmosphere (Corrosion): | 300 Hr salt spray when mated |
| Weathertight: | IP67 when mated |

Material Specifications

| | |
|--------------------------|--------------------------------------|
| Backshell: | Thermoplastic, UL 94HB, Black |
| Contacts: | Copper Alloy, Gold over Nickel Plate |
| Coupling Ring: | Thermoplastic, UL 94HB, Black |
| Gasket: | Elastomer, Black |
| Grommet / Strain Relief: | Elastomer, Black |
| Hex Nut: | Thermoplastic, UL 94HB, Black |
| O-Ring: | Elastomer, Black |
| Shell: | Thermoplastic, UL 94HB, Black |
| Optional Dust Cap: | Elastomer, Black |

Molded Cable Assemblies

| | |
|---------------|-----------------------|
| Weathertight: | NEMA 6P, 13: IEC IP67 |
|---------------|-----------------------|

Certifications

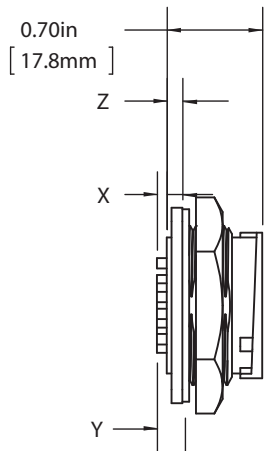
UL File E150822
CSA File 181200
Not for current interruption
RoHS compliant
REACH compliant

Options

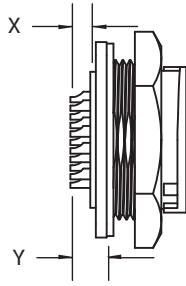
| | |
|---------------|--------------------|
| UV Rating: | F1 available |
| Flame Rating: | UL 94V-0 available |

Consult factory for optional colors and materials

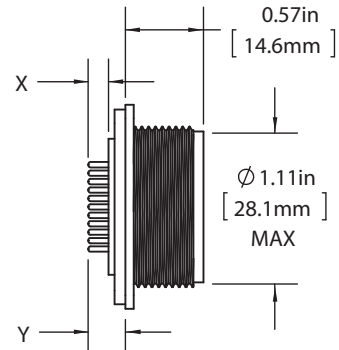
PANEL MOUNT ASSEMBLY KITS



24280-31XG-3XX
PANEL MOUNT CONNECTOR
CRIMP

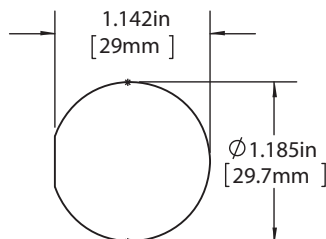
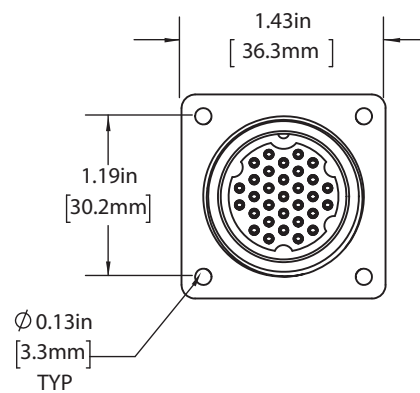
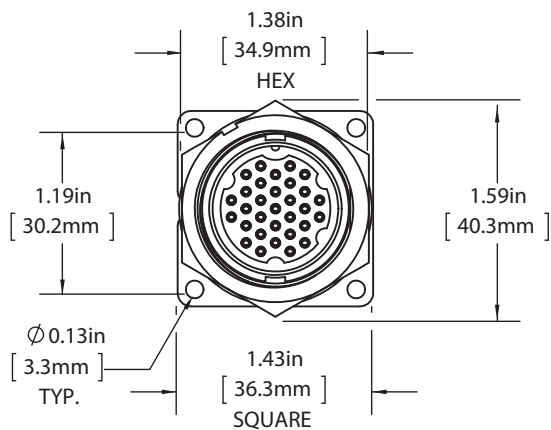


24282-31XG-3XX
PANEL MOUNT CONNECTOR
SOLDER CUP

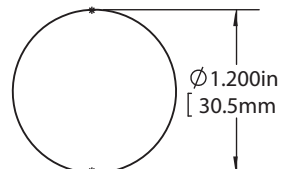


242XX-31XG-3XX
PANEL MOUNT CONNECTOR
PC TAIL

*X, Y, Z - CONSULT FACTORY



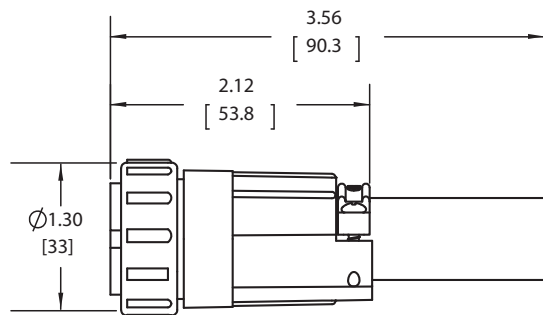
RECOMMENDED
PANEL CUT-OUT
QUICK CONNECT TYPE
TOLERANCE: ± 0.003 [0.08mm]



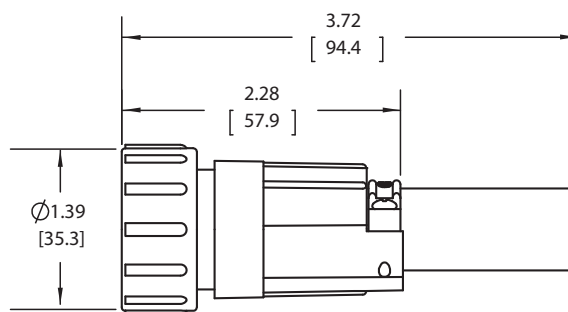
RECOMMENDED
PANEL CUT-OUT
THREADED TYPE
TOLERANCE: ± 0.003 [0.08mm]

All dimensions are for reference only. Units shown: in[mm].

FIELD INSTALLABLE KITS

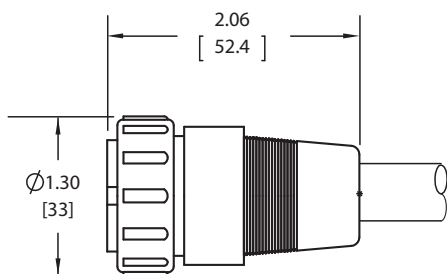


232XX-31XG-3XX
FIELD INSTALLABLE QUICK CONNECT TYPE
CABLE CONNECTOR - BACKSHELL TYPE 3

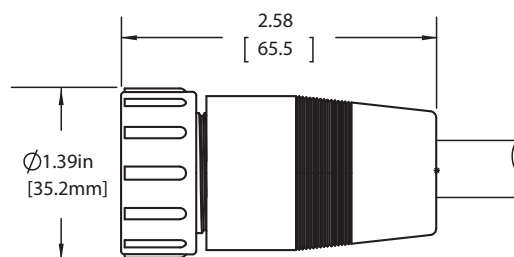


232XX-31XG-T3XX
FIELD INSTALLABLE THREADED TYPE
CABLE CONNECTOR - BACKSHELL TYPE 3

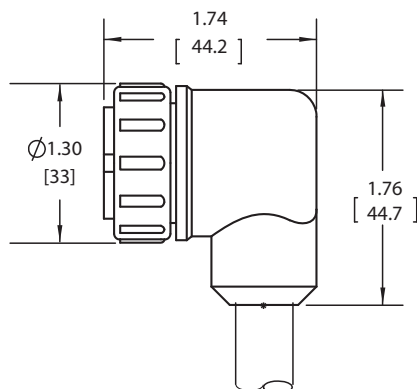
CUSTOM MOLDED CABLE ASSEMBLIES



232XX-31XG
CUSTOM CABLE CONNECTOR STRAIGHT OVERMOLDED
QUICK CONNECT TYPE



232XX-31XG
CUSTOM CABLE CONNECTOR STRAIGHT OVERMOLDED
THREADED CONNECT TYPE

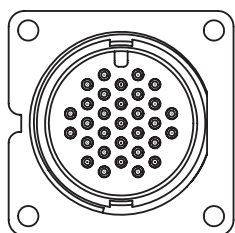


232XX-31XG
CUSTOM CABLE CONNECTOR RIGHT ANGLE OVERMOLDED
QUICK CONNECT TYPE

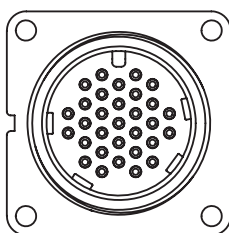
All dimensions are for reference only. Units shown: in[mm].

PANEL MOUNT CONNECTORS

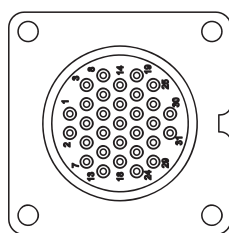
Front View | Wire View



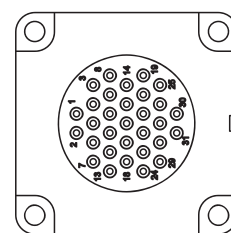
QUICK CONNECT TYPE
SINGLE KEY
31-POSITION
#20 PIN CONTACT



THREADED TYPE
5 KEY
31-POSITION
#20 PIN CONTACT



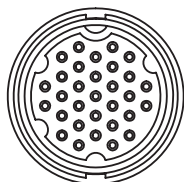
QUICK CONNECT TYPE
SINGLE KEY
31-POSITION
#20 PIN CONTACT



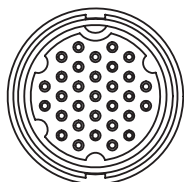
THREADED TYPE
5 KEY
31-POSITION
#20 PIN CONTACT

CABLE CONNECTORS

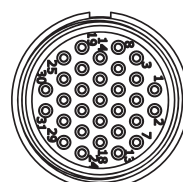
Front View | Wire View



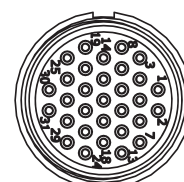
QUICK CONNECT TYPE
5 KEY
31-POSITION
#20 PIN CONTACT



THREADED TYPE
5 KEY
31-POSITION
#20 PIN CONTACT



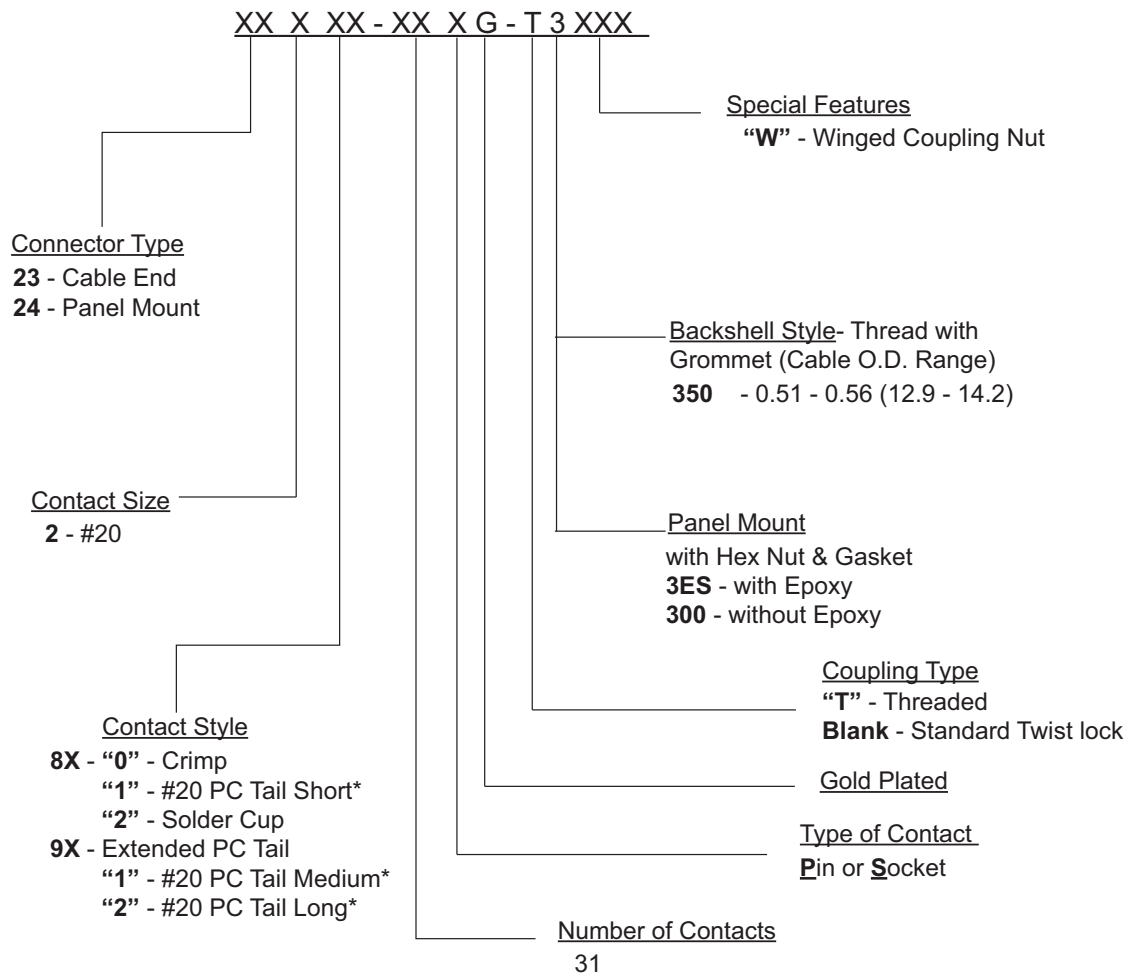
QUICK CONNECT TYPE
5 KEY
31-POSITION
#20 PIN CONTACT



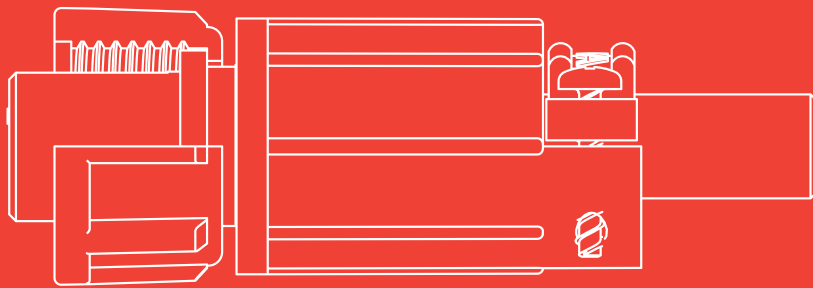
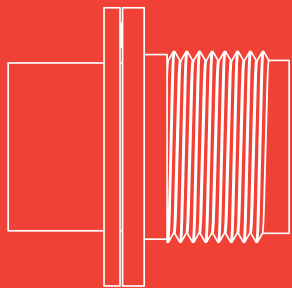
THREADED TYPE
5 KEY
31-POSITION
#20 PIN CONTACT

All dimensions are for reference only. Units shown: in[mm].

PART NUMBER TO ORDER



*Consult factory for length and diameter of PC Tail. Additionally, alternative colors and materials are available.



MIL-E-QUAL[®] (MIL-C-5015 EQUIVALENT)

2-37 CONTACTS



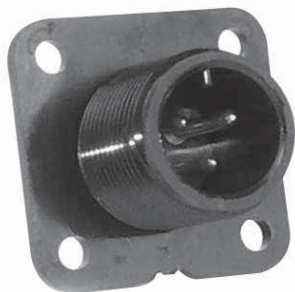
CABLE END - SOCKET
MATES WITH PANEL MOUNT



CABLE END - PIN
MATES WITH PANEL MOUNT



PANEL MOUNT - SOCKET
MATES WITH CABLE END



PANEL MOUNT - PIN
MATES WITH CABLE END



CABLE CAP



RECEPTACLE CAP
OVERMOLDED ONLY



MOLDED CABLE END ASSEMBLY

SPECIFICATIONS

Mechanical Specifications

| | |
|-------------------------|--|
| Life: | 300 insertion / withdrawal cycles minimum |
| Coupling Locking Style: | Threaded |
| Backshell Style: | Threaded |
| Conductor Size: | #12 contacts accepts 12 through 16 AWG #16 contacts accepts 16 through 20 AWG |

Electrical Specifications

| | |
|-----------------|--|
| Voltage Rating: | 600 VAC for shell types 3101A and 3102A 500 VAC for shell type 3106A up to 28 positions 277 VAC for shell type 3106A from 29 or greater positions 23.0 A – max (See page 108 for Electrical Current Rating Chart) |
| Current Rating: | |

Environmental Specifications

| | |
|-------------------------------|--|
| Operating Temperature Rating: | -40°C to +75°C (-40°F to +167°F) |
| Salt Atmosphere (Corrosion): | 48Hr salt spray contacts when mated |
| Weathertight: | Consult factory with specific application |

Material Specifications

Cable Pin / Socket

| | |
|--|---|
| Mechanical Backshell (Threaded): | Thermoplastic, Black with UV Inhibitor UL94HB |
| Strap: | Thermoplastic, Black with UV Inhibitor UL94HB |
| Screws: | Stainless Steel |
| Grommet: | Elastomer |
| Coupling Ring: | Thermoplastic, Black with UV Inhibitor UL94HB |
| Contacts: | Copper Alloy, Silver Plated, Gold Optional |
| Connector Body: | Thermoplastic |
| Connector Cap (Optional): | Thermoplastic |
| O-Ring (Optional): | Elastomer |
| Alternate Keys/Different Keyways Available | W, X, Y or Z Consult factory |

Box Receptacle, In-Line receptacle, Pin/Socket

| | |
|--|---|
| Contacts: | Copper Alloy, Silver Plated, Gold Optional |
| Receptacle Body: | Thermoplastic, Black with UV Inhibitor UL94HB |
| Receptacle Cap (Optional): | Thermoplastic, Black with UV Inhibitor UL94HB |
| Gasket (Optional): | Elastomer |
| Alternate Keys/Different Keyways Available | W, X, Y or Z Consult factory |

Molded Cable Assemblies

| | |
|---------------|----------------------------------|
| Weathertight: | NEMA 6P, 13: IEC IP67 when mated |
|---------------|----------------------------------|

Certifications

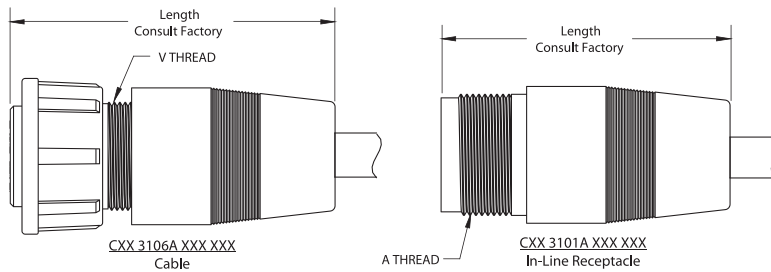
UL File #E150822
CSA File #181200 Patterns: 18-11, 18-1, 18-19, 20-27
U.L. Temperature 75°C (167°F) max.
Not for current interruption

Options

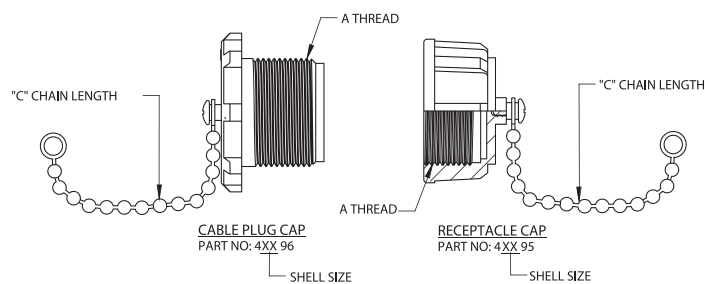
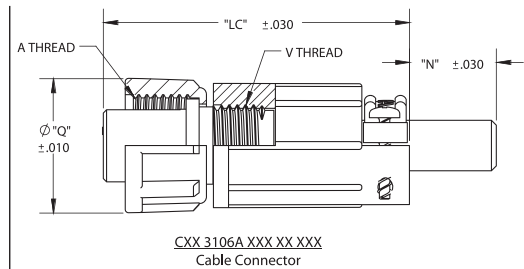
| | |
|---------------|-------------------|
| UV Rating: | F1 available |
| Flame Rating: | UL94V-0 available |

Consult factory for optional colors and materials

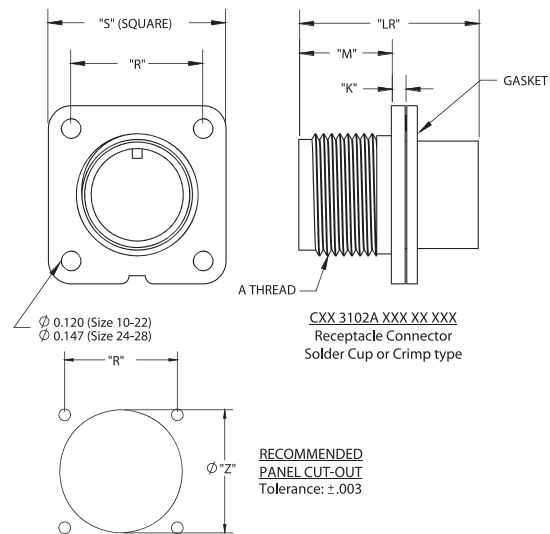
CUSTOM OVERMOLDED ASSEMBLIES



FIELD INSTALLABLE KITS

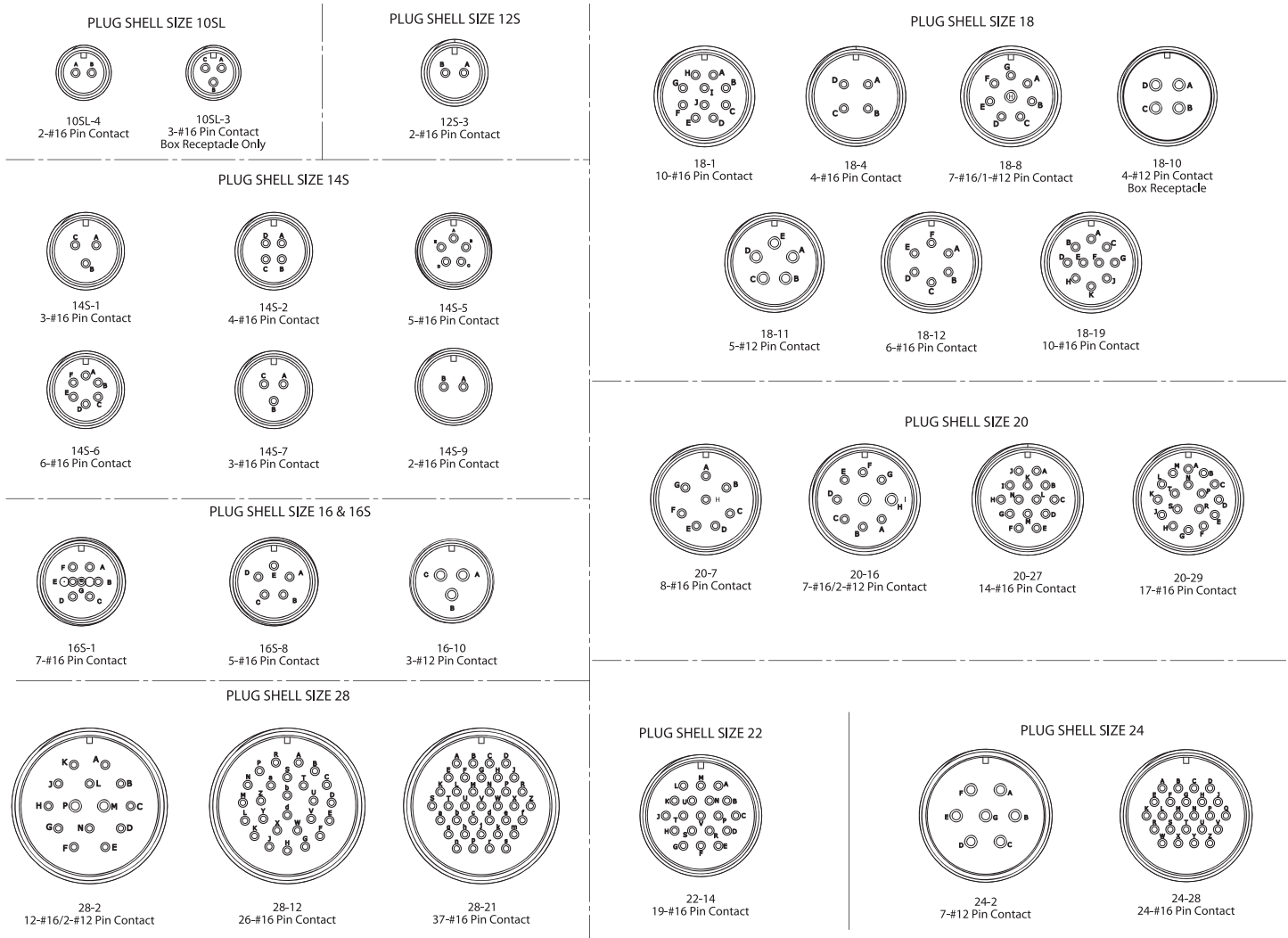


BOX RECEPTACLE KITS



BOX RECEPTACLE / CABLE PLUG / CABLE RECEPTACLE PIN

Face View



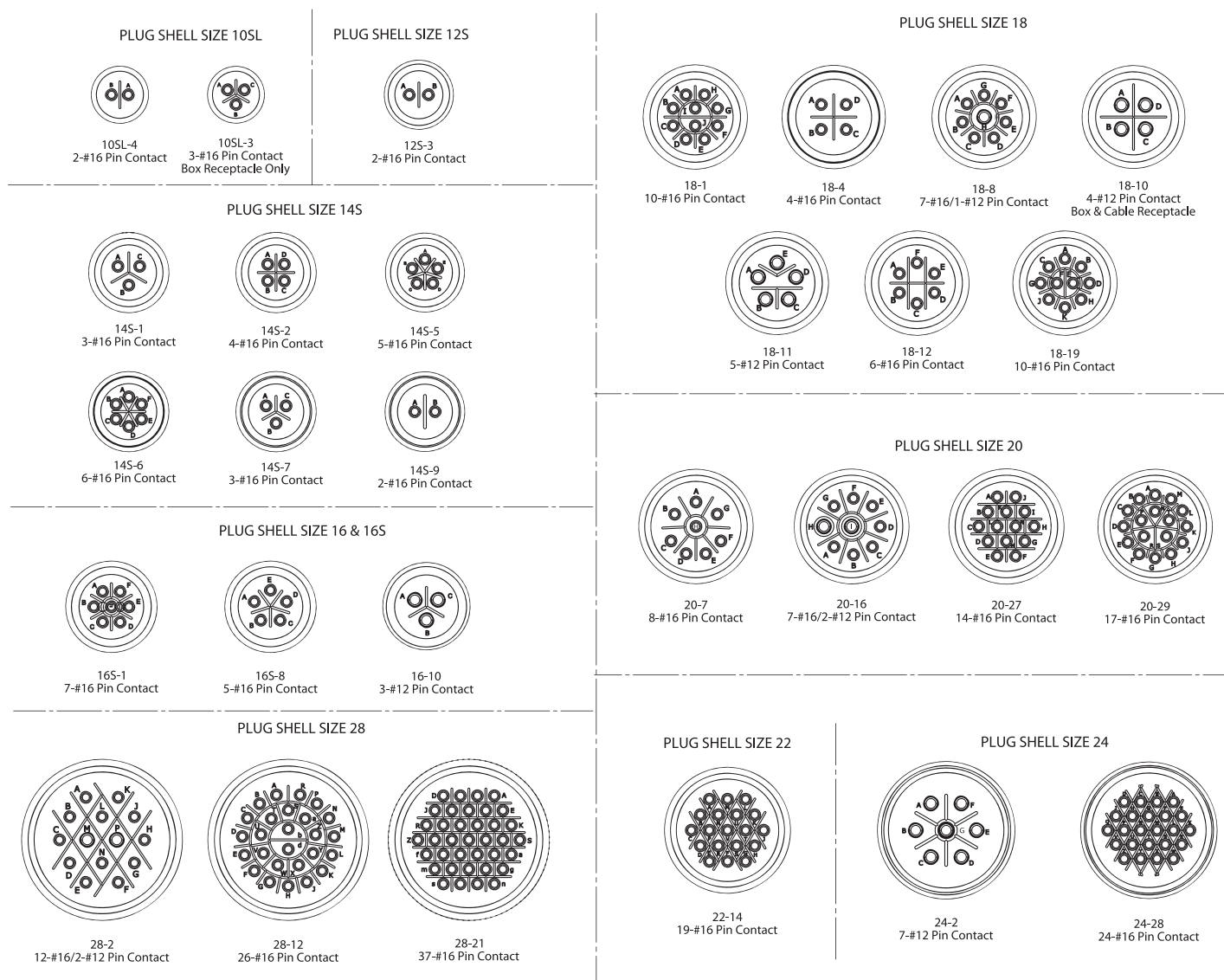
NOTE: Mating face of pin insert shown (socket opposite). Unless otherwise specified, arrangements are per MIL-STD 165L. For alternate key positions, consult factory.

NOTE: *9 contacts: 7-#16/2-#12 cable end, socket only. Panel: pin only.

All dimensions are for reference only. Units shown: in[mm].

BOX RECEPTACLE / CABLE PLUG / CABLE RECEPTACLE PIN

Wire View

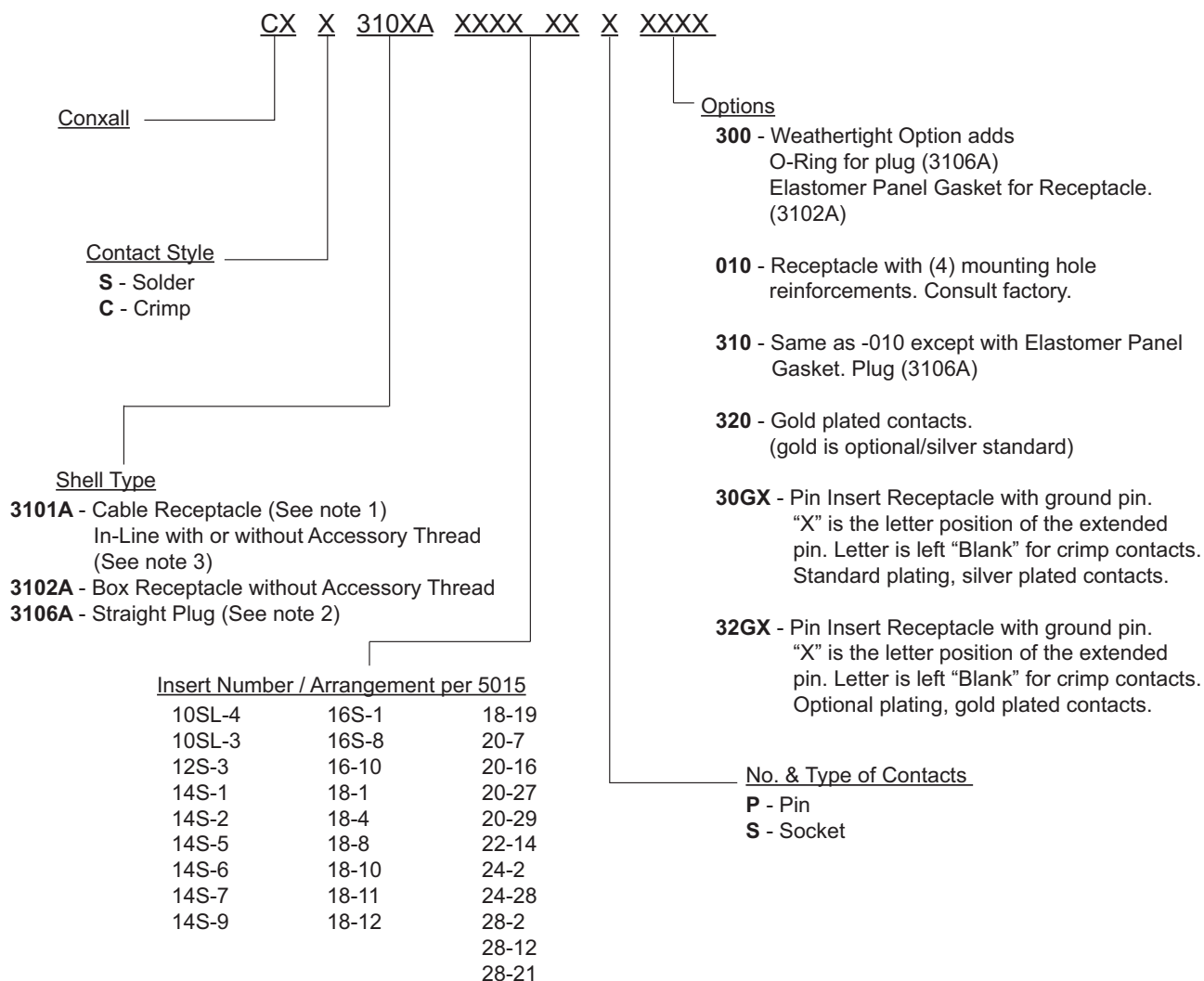


NOTE: Rear face of pin insert shown (socket opposite). Unless otherwise specified, arrangements are per MIL-STD 165L. For alternate key positions, consult factory.

*9 contacts: 7-#16/2-#12 cable end, socket only. Panel: pin only.

All dimensions are for reference only. Units shown: in[mm].

PART NUMBER TO ORDER

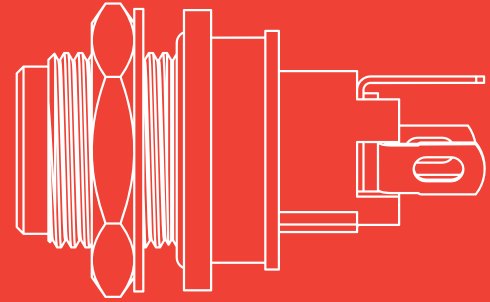
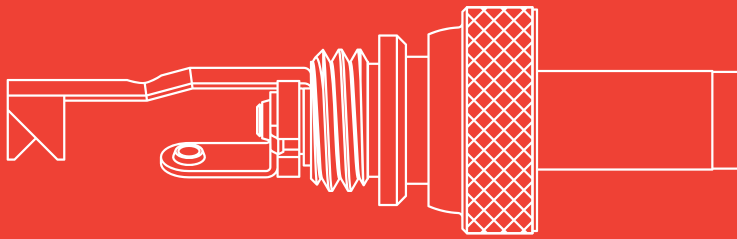


Complete P/N contains no spaces or dashes.
 Consult factory for optional colors and materials

Note 1: All Plugs, Box Mount Receptacles and In-Line Receptacles include Crimp or Solder Contacts specified.

Note 2: Straight Plugs include Backshell Assembly with Cable Clamp and Bushing.

Note 3: In-Line Receptacles can be with or without Accessory Thread. Consult factory for availability. In-Line Receptacles without Accessory Thread can be overmolded.



SEALED DC POWER JACKS & PLUGS

0.62" [15MM] OD



SOLDER LUG JACK

MATES WITH SEALED POWER PLUGS



STRAIGHT PC TERMINAL JACK

MATES WITH SEALED POWER PLUGS



RIGHT ANGLE PC TERMINAL JACK

MATES WITH SEALED POWER PLUGS



PLUG

MATES WITH SEALED POWER JACKS



J CAP

SPECIFICATIONS

Mechanical Specifications

| | |
|-------------------------|--|
| Life: | 5000 insertion / withdrawal cycles minimum |
| Vibration: | MIL-STD 202G Method 201A |
| Hex Nut Torque: | 8-12 in-lb |
| Coupling Locking Style: | Threaded Coupling Ring |
| Backshell Style: | Threaded Handle |

Electrical Specifications

| | |
|------------------------|---|
| Voltage Rating: | 500V AC max |
| Current Rating: | 5A up to 30V DC at 65 °C (149°F) (current carrying only) |
| Contact Resistance: | 0.01 Ω max (Initial) 0.02 Ω (After humidity, durability exposure) 0.10 Ω max(after salt spray) |
| Insulation Resistance: | 10,000 M Ω Min (Initial) 1,000 M Ω (After humidity, durability exposure) |

Environmental Specifications

| | |
|-------------------------------|--|
| Operating Temperature Rating: | -20 °C to +65 °C (-4°F to +149°F) |
| Salt Atmosphere (Corrosion): | MIL-STD 202G Method 101E |
| Thermal Shock: | MIL-STD 202G Method 107G |
| Weathertight: | IP66, IP67 & IP68 / NEMA 250 (6P) (when mated) |

Material Specifications

Jack

| | |
|-------------|--|
| Housing: | Thermoplastic |
| Bushing: | Plated Copper Alloy |
| Terminals: | Plated Copper Alloy |
| Insulators: | Thermoplastic |
| Hardware: | Supplied with one nickel plated copper alloy hex nut (P1489), one nickel plated steel flat washer (P3031) and one o-ring for sealing jack to panel |

Plug

| | |
|----------------------|--|
| Plug Sleeve and Pin: | Plated Copper Alloy |
| Lock Ring: | Plated Copper Alloy |
| Finger Insulator: | Thermoplastic |
| Insulating Washer: | Thermoplastic |
| Sleeve Terminal: | Tin Plated Copper Alloy |
| Handle: | Thermoplastic Over molded with Elastomer |

Cap

| | |
|-------|-----------|
| Body: | Elastomer |
|-------|-----------|

Molded Cable Assemblies

Consult factory for molded options

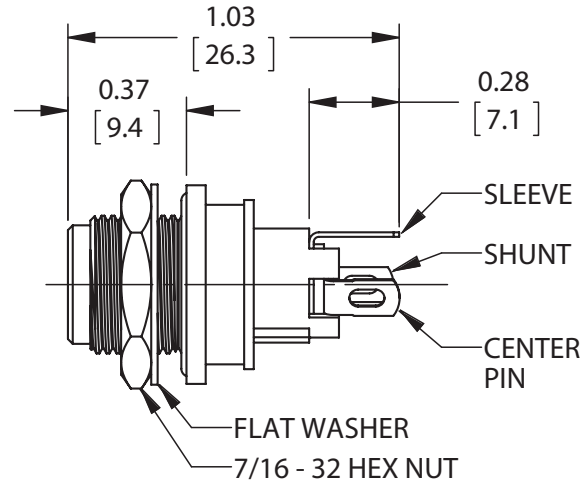
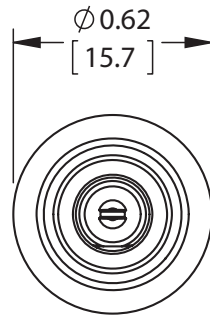
Accessories

Isolated Mount - P3818: Includes insulating shoulder washer/seal and insulating flat washer.

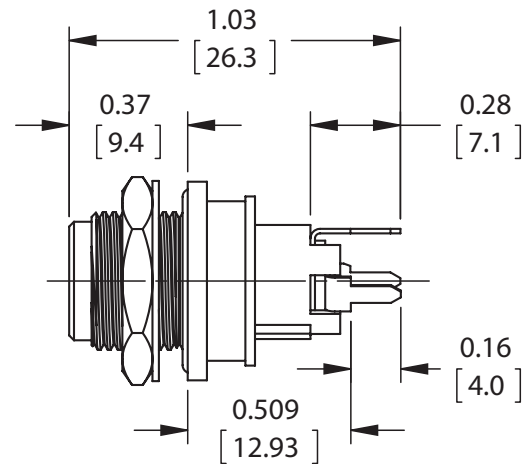
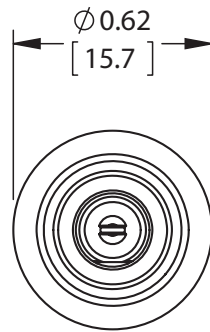
SEALED DC POWER JACKS & PLUGS

0.62" [15MM] OD

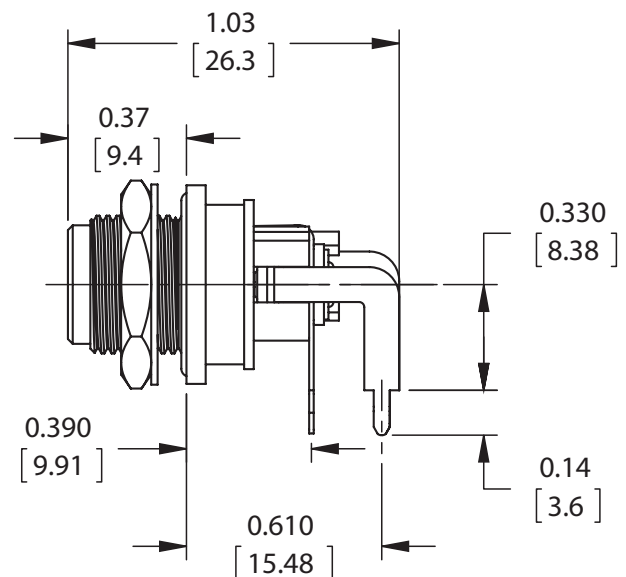
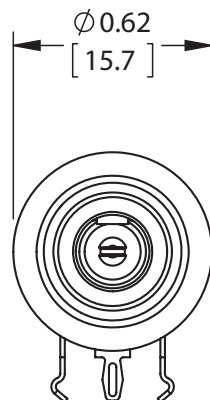
SOLDER LUG



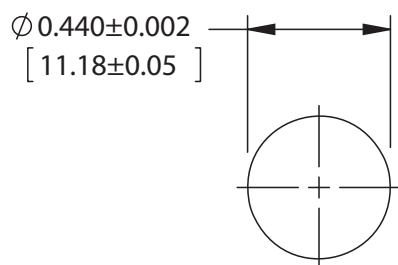
STRAIGHT PC



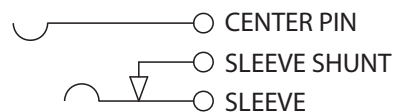
RIGHT ANGLE PC



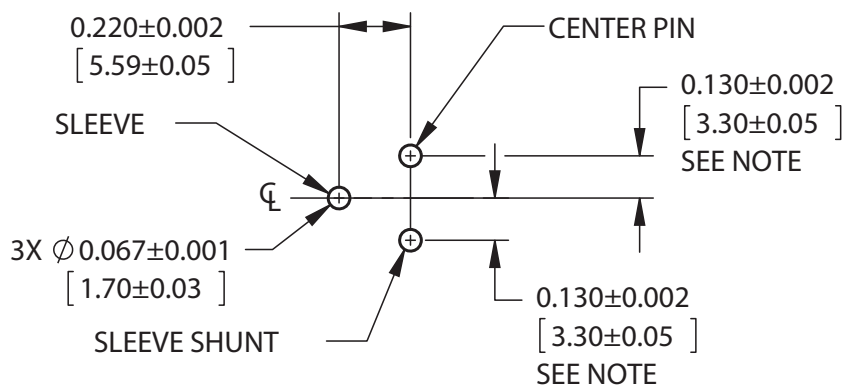
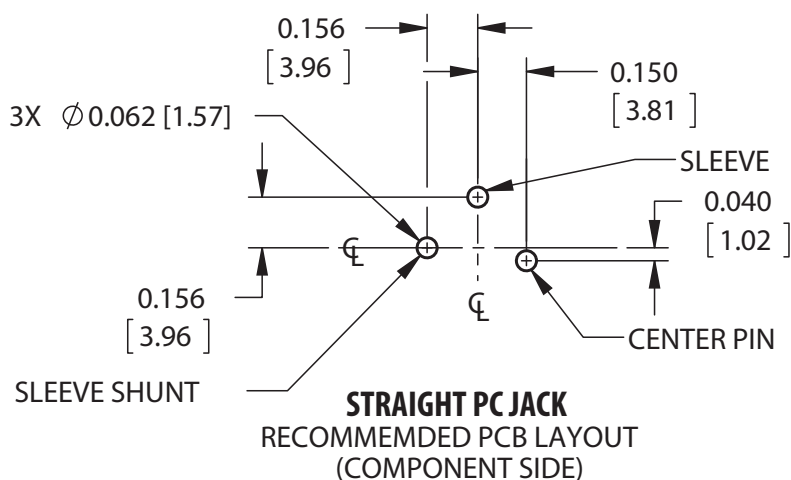
All dimensions are for reference only. Units shown: in[mm].



RECOMMENDED
PANEL MOUNTING HOLE



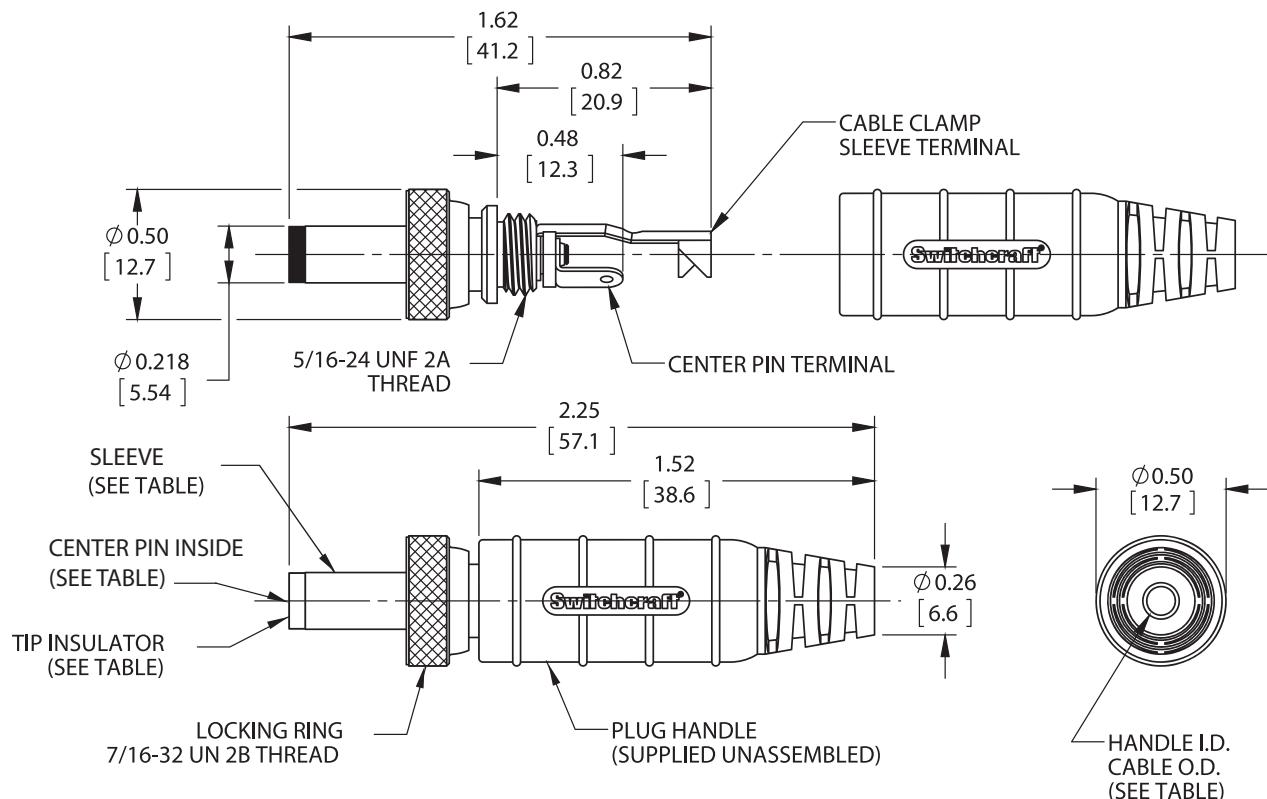
JACK SCHEMATIC



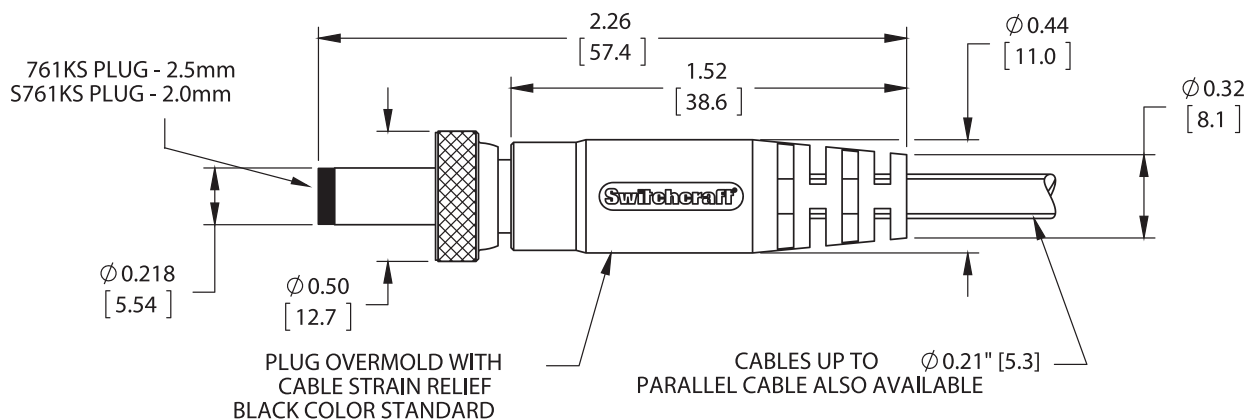
NOTE: 0.130 [3.30] FOR HAND INSERTION
0.135 [3.43] FOR AUTOMATED INSERTION

All dimensions are for reference only. Units shown: in[mm].

SEALED POWER PLUGS ASSEMBLED HANDLE

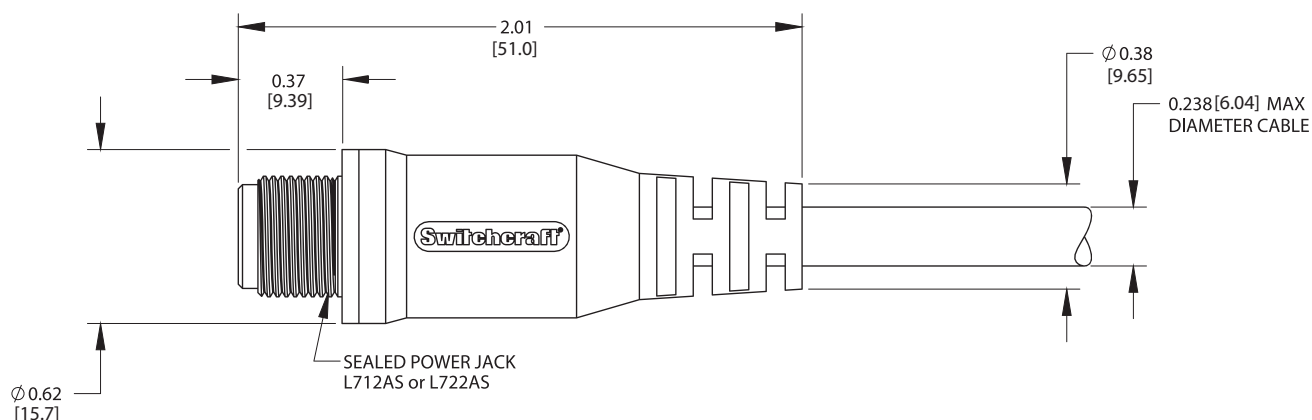


SEALED POWER PLUGS MOLDED CABLE ASSEMBLY



All dimensions are for reference only. Units shown: in[mm].

SEALED POWER JACK MOLDED CABLE ASSEMBLY

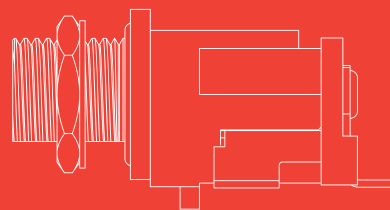
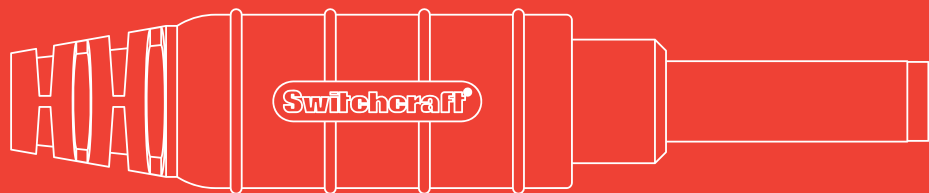


PART NUMBER TO ORDER

| Part Number | Center Pin/ Jack Size | Terminal Type | Mating Power Plug |
|-------------|--------------------------|----------------|-------------------------------|
| L712AS | 0.10 [2.5] | Solder Lugs | 761KS12, 761KS15, 761KS17 |
| PCL712AS | | Straight PC | |
| L712RAS | | Right Angle PC | |
| L722AS | 0.08 [2.0] | Solder Lugs | S761KS12, S761KS15, S761KS17, |
| PCL722AS | | Straight PC | |
| L722RAS | | Right Angle PC | |
| JCAP | Power Jack Seal Cap | | |

| Part Number | Center Pin ID/ Jack Size | Tip Insulator Color | Cable Nominal O.D. Range | Mating Power Plug |
|-------------|-----------------------------|------------------------|--------------------------|---------------------------|
| 761KS12 | 0.10 [2.5] | Black | 0.125-0.150 [3.2-3.8mm] | L712AS, L712RAS, PCL712AS |
| 761KS15 | | Black | 0.150-0.175 [3.8-4.4mm] | |
| 761KS17 | | Black | 0.175-0.200 [4.4-5.1mm] | |
| S761KS12 | 0.08 [2.0] | White | 0.125-0.150 [3.2-3.8mm] | L722AS, L722RAS, PCL722AS |
| S761KS15 | | White | 0.150-0.175 [3.8-4.4mm] | |
| S761KS17 | | White | 0.175-0.200 [4.4-5.1mm] | |

All dimensions are for reference only. Units shown: in[mm].



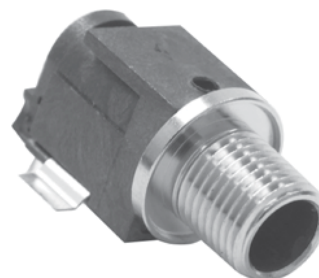
HIGH AMPERAGE DC POWER JACKS & PLUGS .43" [11MM] OD



**RIGHT ANGLE HIGH AMPERAGE
POWER JACK - PC MOUNT**



**RIGHT ANGLE HIGH AMPERAGE
POWER JACK - SMT MOUNT**



**RIGHT ANGLE HIGH AMPERAGE
POWER JACK - HYBRID MOUNT**



**HIGH AMPERAGE
POWER PLUG - SEALED
LOCKING**



**HIGH AMPERAGE
POWER PLUG - NON SEALED
LOCKING**



**HIGH AMPERAGE
POWER PLUG - NON SEALED
NON LOCKING**

HIGH AMPERAGE DC POWER JACKS & PLUGS .43" [11MM] OD

SPECIFICATIONS

Mechanical Specifications

| | |
|------------------------|---|
| Life: | 5000 insertion/withdrawal cycles minimum |
| Vibration: | Mil-Std 202G Method 201A (Locking Only) |
| Operating Forces: | 5 lb maximum insertion. 0.5 lb minimum withdrawal |
| Panel Mounting Torque: | 8-10 in-lb |

Electrical Specifications

| | |
|-------------------------------|---|
| Voltage Rating: | 24 V AC/DC |
| Current Rating: | See page 88 for Electrical Current Rating Chart |
| Insulation Resistance: | 1000MΩ min |
| Contact Resistance (initial): | 15 mΩ max |

Environmental Specifications

| | |
|-------------------------------|---|
| Operating Temperature Rating: | -40 °C to +105 °C (-40°F to +221°F) |
| Moisture Resistance | MIL-STD 202G Method 106G (Sealed Only) |
| Insulation Resistance | MIL-STD 202G Method 302 Condition B |
| Thermal Shock: | MIL-STD 202G Method 107G |
| Salt Atmosphere (Corrosion): | MIL-STD 202G Method 101E Condition B (Sealed Only) |
| Weathertight Ratings: | IP66, IP67, IP68, NEMA 250 (6p) when mated (Sealed Only) |

Material Specifications - Jacks

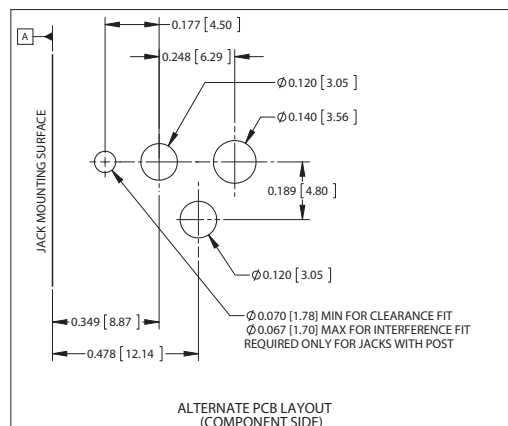
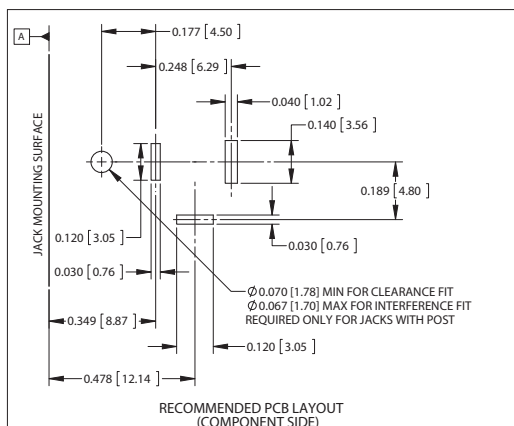
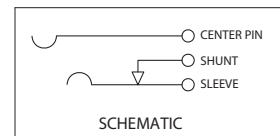
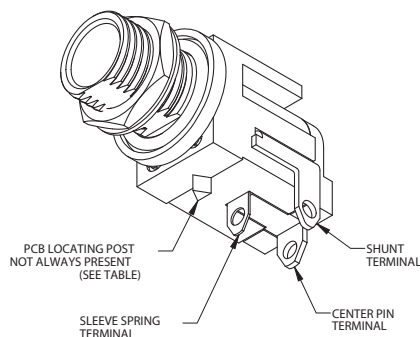
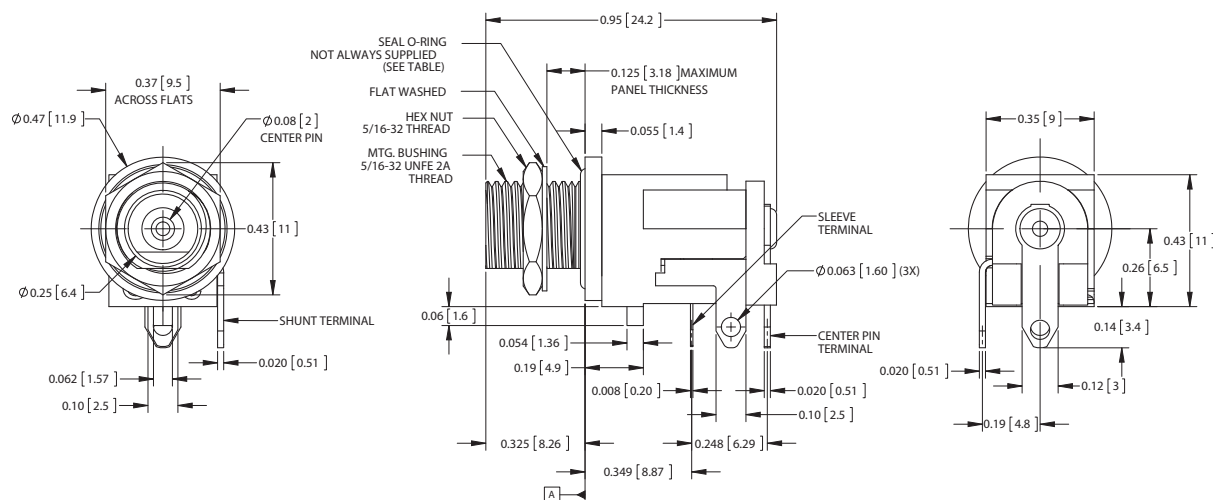
| | |
|--|---|
| Housing, Cover (insulators): | Thermoplastic, Black |
| Mounting Bushing, Hex Nut: | Copper Alloy, Nickel Plated |
| Flat Washer: | Steel, Nickel Plated |
| O-Ring: | Elastomer, Black |
| Center Pin: | Copper Alloy, Nickel Plated |
| Center Pin Terminal & Shunt Terminals: | Copper Alloy, Silver or Matte Tin Plated |
| Sleeve Spring Terminal: | Spring Copper Alloy, Silver or Matte Tin Plated |

Material Specifications - Plugs

| | |
|-------------------------|-----------------------------------|
| Plug Barrel (Sleeve): | Copper Alloy, Nickel Plated |
| Coupling Ring: | Copper Alloy, Nickel Plated |
| Metal Handle: | Copper Alloy, Nickel Plated |
| Rubber Seal Handle: | Black Elastomer over Metal Handle |
| O-Ring: | Elastomer, Black |
| Center Contact (Tip): | Copper Alloy, Silver Plated |
| Tip & Sleeve Terminals: | Copper Alloy, Tin Plated |
| Tip Insulator: | Thermoplastic, Blue |
| Terminal Insulator: | Epoxy Glass FR4 |
| Tubular Insulator: | Mylar |

HIGH AMPERAGE DC POWER JACKS & PLUGS .43" [11MM] OD

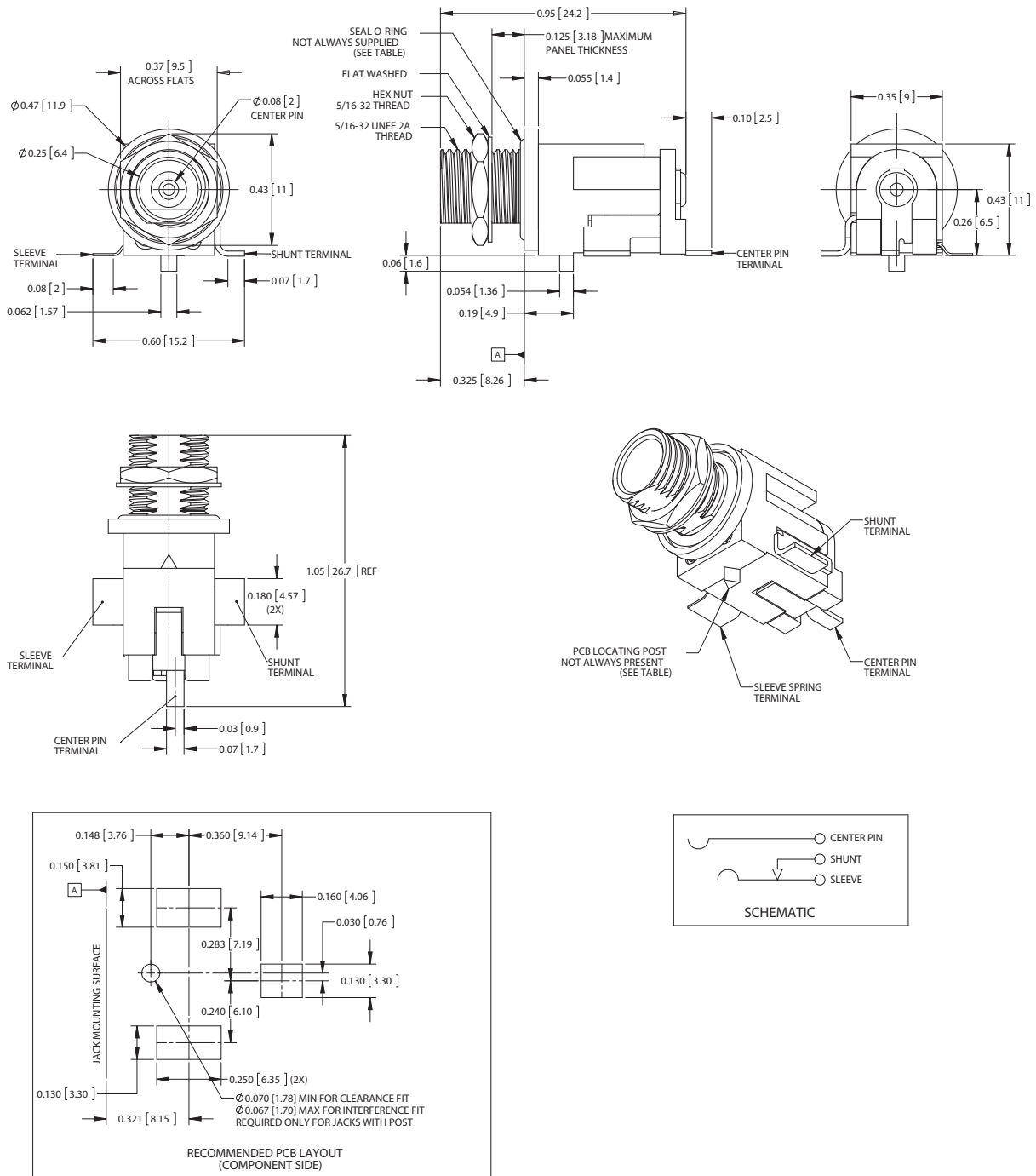
PC-MOUNT HIGH AMPERAGE POWER JACKS



All dimensions are for reference only. Units shown: in[mm].

HIGH AMPERAGE DC POWER JACKS .43" [11MM] OD

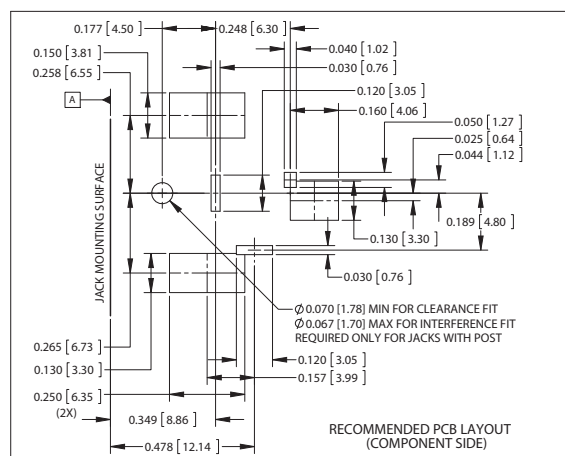
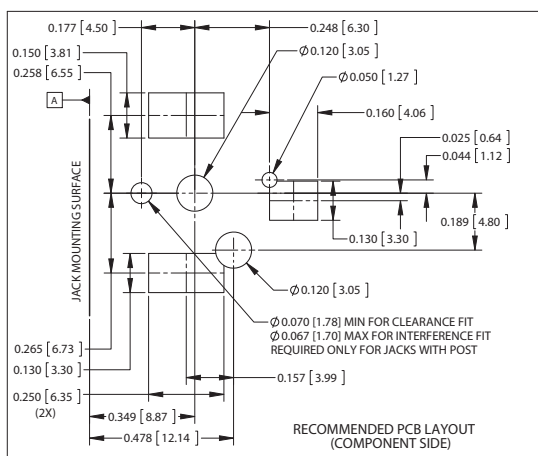
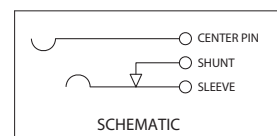
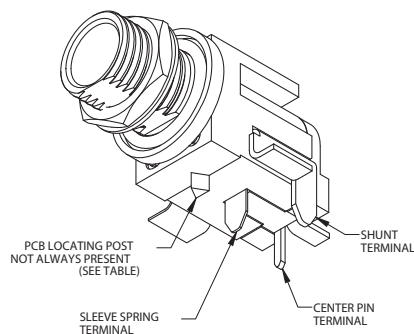
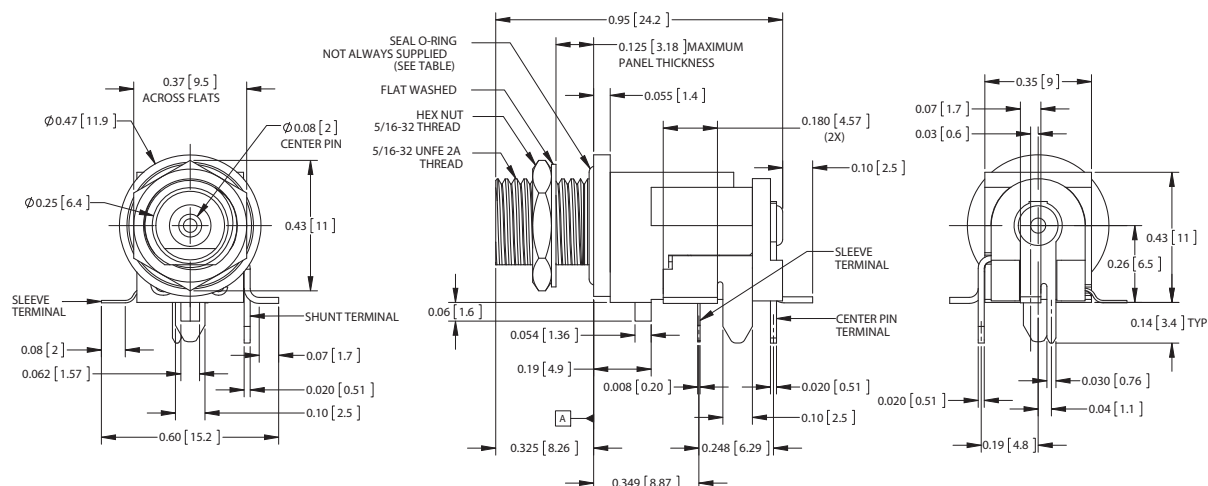
SMT-MOUNT HIGH AMPERAGE POWER JACKS



All dimensions are for reference only. Units shown: in[mm].

HIGH AMPERAGE DC POWER JACKS & PLUGS .43" [11MM] OD

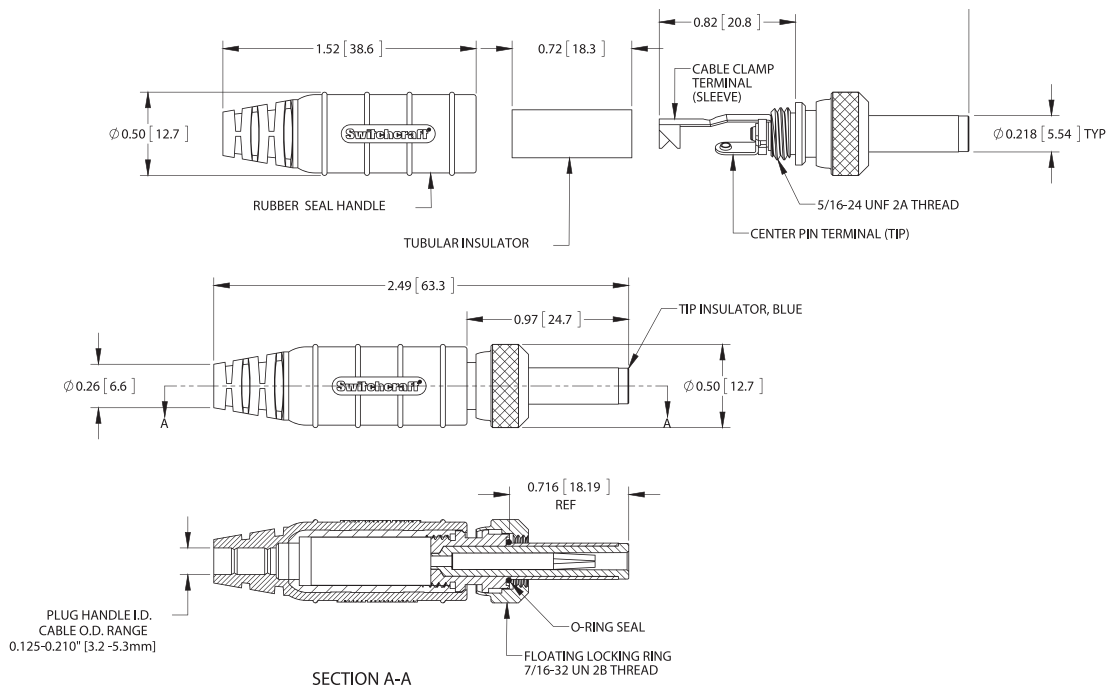
HYBRID-MOUNT HIGH AMPERAGE POWER JACKS



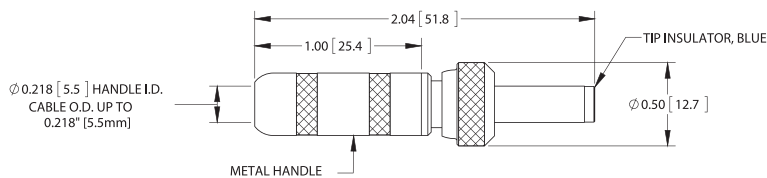
All dimensions are for reference only. Units shown: in[mm].

HIGH AMPERAGE DC POWER JACKS & PLUGS .43" [11MM] OD

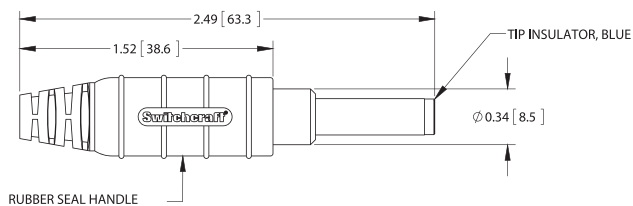
LOCKING AND SEALED PLUGS S10KS12, S10KS15, S10KS17



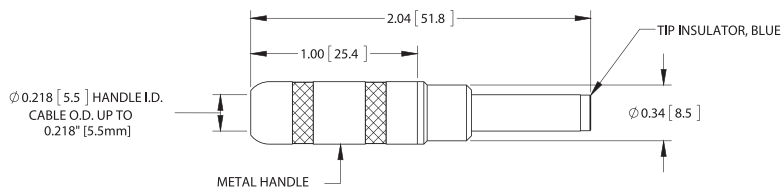
LOCKING, NON-SEALING PLUG S10K



NON-LOCKING, NON-SEALING PLUGS S1012, S1015, S1017



NON-LOCKING, NON-SEALING PLUG S10



All dimensions are for reference only. Units shown: in[mm].

HIGH AMPERAGE DC POWER JACKS & PLUGS .43" [11MM] OD

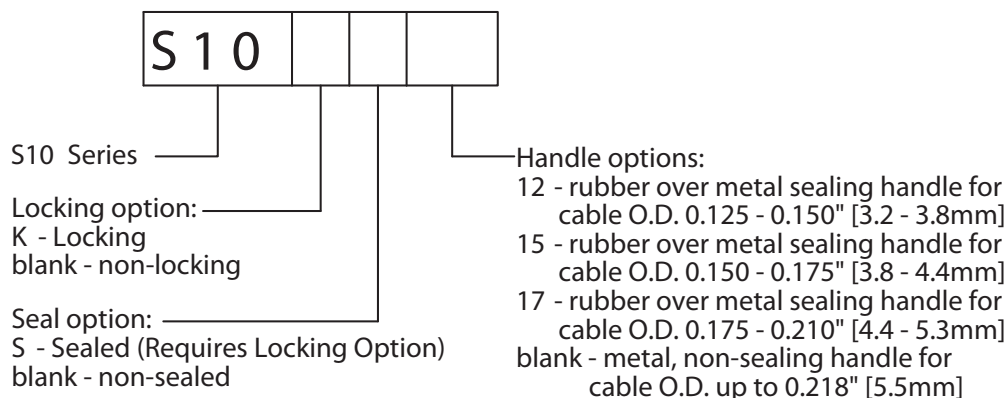
CURRENT RATING TABLE

| Jack Terminal Plating | Wire (awg) | Current Rating (A) at Operating Temperature (°C) | | | | | |
|-----------------------|------------|---|----------|----------|----------|----------|-----------|
| | | 55°C max | 65°C max | 75°C max | 85°C max | 95°C max | 105°C max |
| Silver | 16 | 11 | 10 | 9.5 | 9 | 7.5 | 6 |
| | 18 | 9.5 | 9 | 8 | 7 | 5.5 | 5 |
| | 20 | 9 | 8 | 6.5 | 6 | 5 | 4 |
| Tin | 16 | 11 | 10 | 9 | 8 | 7 | 5.5 |
| | 18 | 9.5 | 9 | 8 | 7 | 5.5 | 5 |
| | 20 | 8.5 | 8 | 6.5 | 5.5 | 5 | 4 |

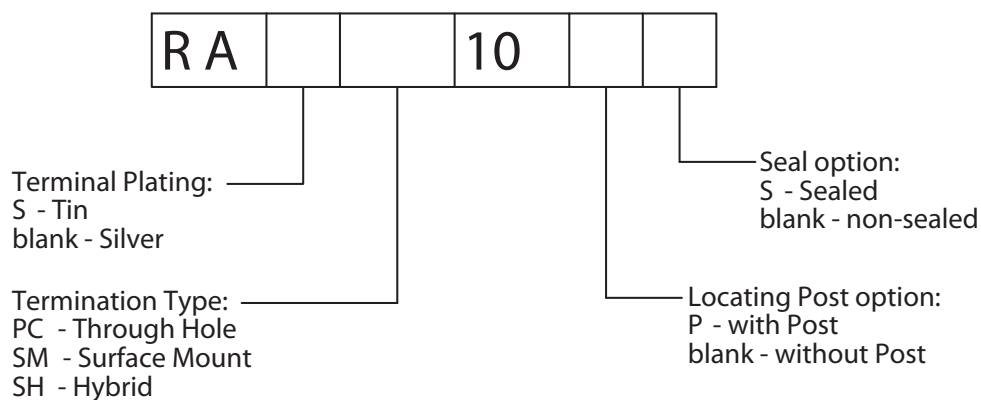
Note: DC Power Plugs & Jacks are for current carry only. Switching Power Jack on-off under resistive load is not recommended. The circuitry on-off switch should be off before connecting or disconnecting the Power Plug to Jack. For electrical life limitations under resistive load, consult factory.

HIGH AMPERAGE DC POWER JACKS & PLUGS .43" [11MM] OD

HIGH AMPERAGE POWER PLUG ORDERING CODE:

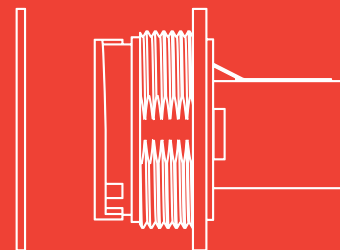
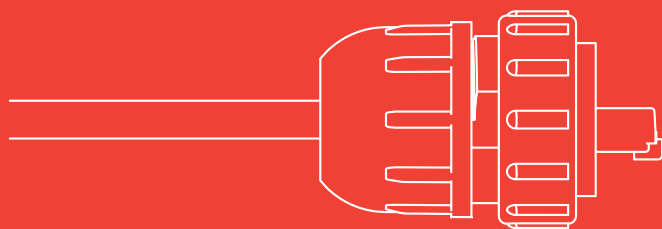


HIGH AMPERAGE POWER JACK ORDERING CODE:



Notes:

1. Standard packaging is bulk. Contact factory for tube or tape & reel packaging options.
2. Tin plating currently not available for the hybrid (SH) termination option.



RJ45 WEATHERTIGHT CONNECTORS

1.44" [37_{MM}] OD



QUICK CONNECT CABLE END
MATES WITH PANEL MOUNT



THREADED CABLE END
MATES WITH PANEL MOUNT



PANEL MOUNT
MATES WITH CABLE END



SHIELDED PANEL MOUNT
MATES WITH CABLE END



**REAR VIEW
FEED-THRU TERMINATION**



**REAR VIEW
STRAIGHT IDC TERMINATION**



REAR VIEW-RIGHT ANGLE IDC TERMINATION



MOLDED CABLE ASSEMBLY

SPECIFICATIONS

Manufacturers Identifications

| | |
|-------------------------|---|
| Life: | 750 insertion / withdrawal cycles minimum |
| Vibration: | Mil-Std 202G Method 201A |
| Hex Nut Torque: | 10-12 in-lb |
| Coupling Locking Style: | Quick Connect (Bayonet) |
| | Threaded |
| Backshell Style: | Threaded |

Electrical Specifications

| | |
|------------------------|------------|
| Voltage Rating: | 1000V DC |
| Current Rating: | 1.5 A |
| Contact Resistance: | 20 mΩ max |
| Insulation Resistance: | 500 MΩ min |

Environmental Specifications

| | |
|-------------------------------|---|
| Operating Temperature Rating: | -10 °C to +60 °C (+14°F to +140°F) |
| Insulation Resistance: | Mil-Std 202G Method 302G |
| Thermal Shock: | Mil-Std 202G Method 107G |
| Weathertight: | IP67 & IP68, NEMA 250 (6P) (when mated) |

| | | |
|------------------|------------------------------------|-----------------|
| Product Ratings: | RJ45 Cable Plug (Category 6): | TIA/EIA 568 C.2 |
| | RJ45 Panel Jack (Category 5e & 6): | TIA/EIA 568 B.2 |

Material Specifications

Field Installable Plug Assembly:

| | |
|-----------------------------|---------------|
| Sealing Nut, Coupling Ring: | Thermoplastic |
| Plug Housing, Insert: | Thermoplastic |
| Sealing Ring: | Elastomer |
| O-Ring: | Elastomer |

RJ45 Plug:

| | |
|--------------------------------|---------------------------|
| Insulator: | Thermoplastic |
| Contacts: | Copper Alloy, Gold Plated |
| Shield (Shielded Option Only): | Copper Alloy, Tin Plated |

Panel Housing Jack Assembly:

| | |
|-------------------------|---------------|
| Panel Housing, Hex Nut: | Thermoplastic |
| Gasket: | Elastomer |

RJ45 Jack:

| | |
|------------------------------|---------------------------|
| Housing: | Thermoplastic |
| Contacts: | Copper Alloy, Gold Plated |
| Printed Circuit Board (PCB): | FR-4 |
| IDC Contacts: | Copper Alloy, Tin Plated |

Molded Cable Assemblies:

Consult factory for molded options

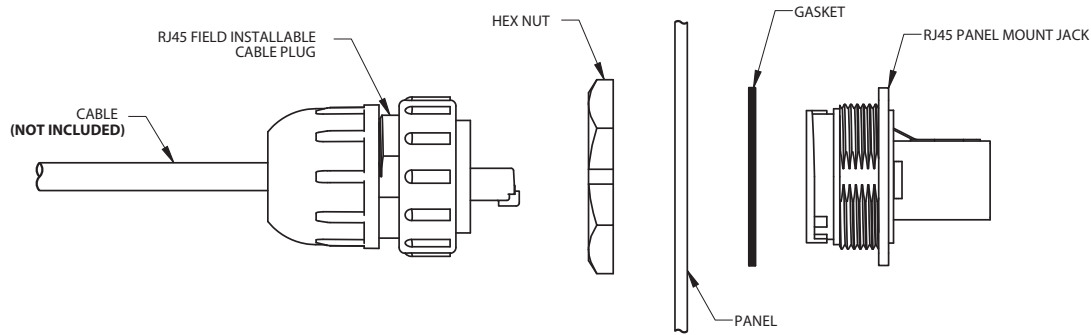
Other

| | |
|------------------------------|--|
| Flame Rating: | UL 94V-0 |
| Recommended Panel Thickness: | 1/32" to 3/16" [0.8mm to 4.8mm] - Quick Connect Coupling |
| | 1/32" to 5/32" [0.8mm to 3.9mm] - Threaded Coupling |

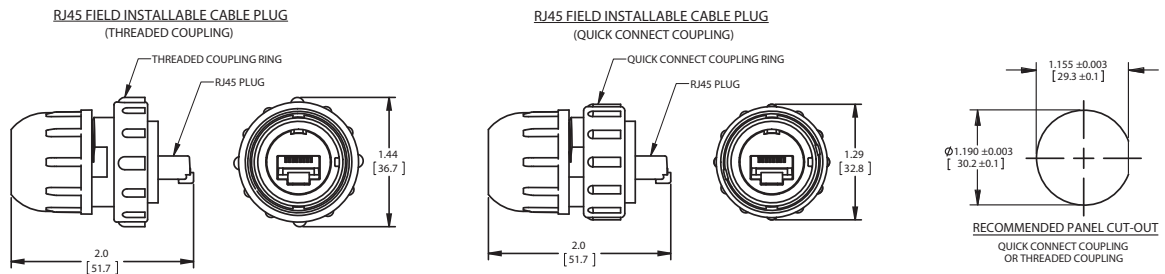
Recommended Cable Type

| | |
|---------------------------------|--------------------------------------|
| Conductor Type: | Solid or Stranded Conductors |
| Outer Cable O.D. Range: | Ø0.190" - Ø0.250" [4.83mm to 6.35mm] |
| Conductor insulator O.D. Range: | Ø0.037" - Ø0.042" [0.94mm to 1.06mm] |

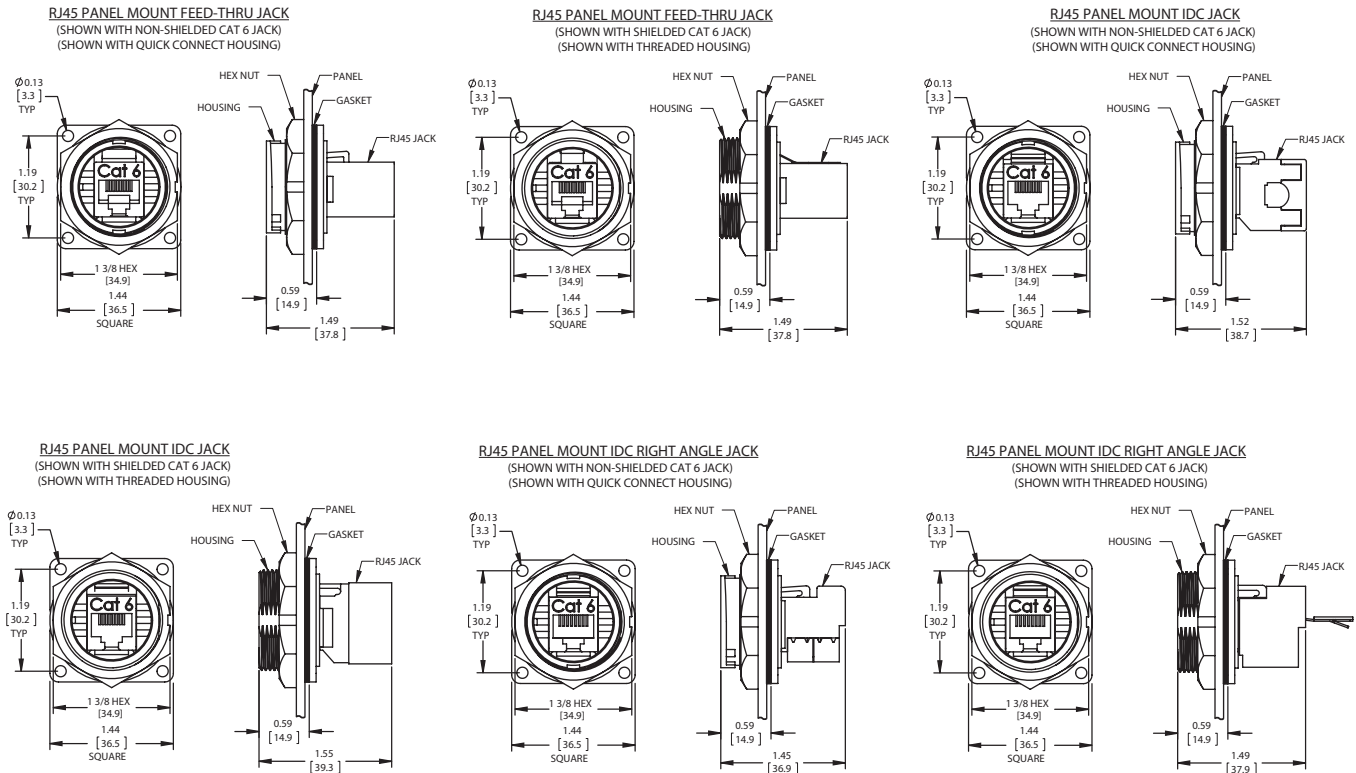
DATA-CON-X®: RJ45 WEATHERTIGHT CONNECTORS



FIELD INSTALLABLE KITS

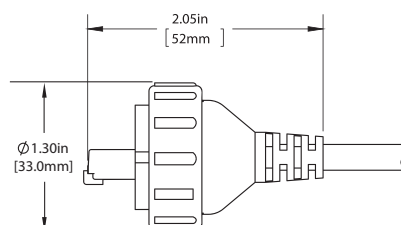


PANEL MOUNT ASSEMBLY KITS

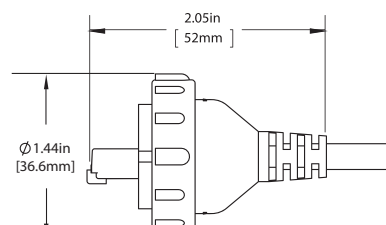


All dimensions are for reference only. Units shown: in[mm].

CUSTOM MOLDED CABLE ASSEMBLIES



DCM-RJXXB-XXXX
CUSTOM CABLE CONNECTOR
STRAIGHT OVERMOLD
QUICK CONNECT



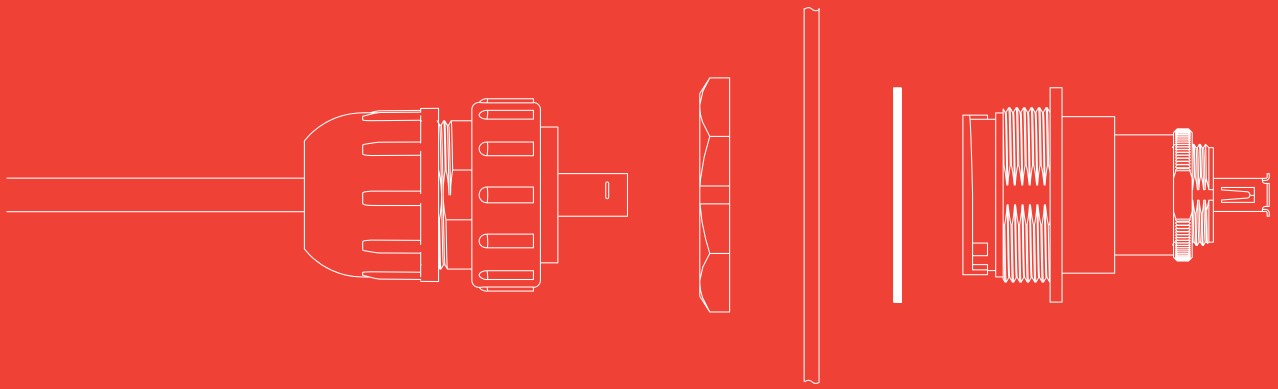
DCM-RJXXT-XXXX
CUSTOM CABLE CONNECTOR
STRAIGHT OVERMOLD
THREADED CONNECT

PART NUMBER TO ORDER

| DCC | - | RJ6 | X | X | - | 310 |
|---|---|------------------|------------------------------------|-----------------------------------|---|--------|
| RJ45 FIELD INSTALLABLE CABLE PLUG ASSEMBLY | | PLUG TYPE | PLUG SHIELDING | COUPLING TYPE | | SERIES |
| DCC | | RJ6 = RJ45 CAT 6 | BLANK = UNSHIELDED S = SHIELDED | B = QUICK CONNECT T = THREADED | | 310 |

| DCP | - | XXX | X | X | - | XX |
|--|---|---------------------------------------|------------------------------------|-----------------------------------|---|--|
| RJ45 FIELD INSTALLABLE PANEL HOUSING ASSEMBLY | | JACK TYPE | JACK SHIELDING | COUPLING TYPE | | SERIES |
| DCP | | RJ5 = RJ45 CAT 5e RJ6 = RJ45 CAT 6 | BLANK = UNSHIELDED S = SHIELDED | B = QUICK CONNECT T = THREADED | | F = FEED-THRU (TO SAME CONNECTOR) SD = IDC, STRAIGHT RD = IDC, RIGHT ANGLE |

All dimensions are for reference only. Units shown: in[mm].



USB A & B WEATHERTIGHT CONNECTORS

1.44" [37_{MM}] OD



**CABLE END - USB A
QUICK CONNECT**

MATES WITH PANEL MOUNT



**CABLE END - USB A
THREADED CONNECT**

MATES WITH PANEL MOUNT



**CABLE END - USB B
QUICK CONNECT**

MATES WITH PANEL MOUNT



**CABLE END - USB B
THREADED CONNECT**

MATES WITH PANEL MOUNT



**PANEL MOUNT - USB A
QUICK CONNECT**

MATES WITH CABLE END



**PANEL MOUNT - USB A
THREADED CONNECT**

MATES WITH CABLE END



**PANEL MOUNT - USB B
QUICK CONNECT**

MATES WITH CABLE END



**PANEL MOUNT - USB B
THREADED CONNECT**

MATES WITH CABLE END

SPECIFICATIONS

Mechanical Specifications

| | |
|-------------------------|---|
| Life: | 350 insertion/withdrawal cycles minimum |
| Hex Nut Torque: | 10-12 in-lb max |
| Coupling Locking Style: | Quick Connect (Bayonet) or Threaded |
| Backshell Style: | Threaded Nut-Squeezed Grommet |

Electrical Specifications

| | |
|----------------------------------|----------------------|
| Current Rating: | 1.5 A |
| Voltage Rating: | Per USB 2.0 standard |
| Contact Resistance: | 30 mΩ max |
| Insulation Resistance: | 1000 MΩ min |
| Dielectric Withstanding Voltage: | 500 V AC/one minute |

Environmental Specifications

| | |
|-------------------------------|---|
| Operating Temperature Rating: | 0 °C to +50 °C (+32°F to +122°F) |
| Storage Temperature: | -20 °C to +60 °C (-4°F to +140°F) |
| Moisture Resistance: | Mil-Std 202G Method 106G |
| Insulation Resistance: | Mil-Std 202G Method 302 |
| Vibration: | Mil-Std 202G Method 201A |
| Thermal Shock: | Mil-Std 202G Method 107G |
| Weathertight: | IP67 & IP68, NEMA 250 (6P) (when mated) |
| Salt Spray: | Mil-Std 202G Method 101E |
| Product Ratings: | Tested per USB 2.0 |

Material Specifications

| | |
|--------------------------|-----------------------------|
| Plug Nut, Coupling Ring: | Thermoplastic |
| Plug Housing, Insert: | Thermoplastic |
| Sealing Ring, O-Ring: | Elastomer |
| Panel Housing, Hex Nut: | Thermoplastic |
| Retaining Nut: | Copper Alloy, Nickel Plated |
| Gasket: | Elastomer |

USB A or B Plug:

| | |
|------------|------------------------------|
| Shell: | Steel, Nickel Plated |
| Contacts: | Copper Alloy, Gold Plated |
| Insulator: | Thermoplastic UL94V-0, White |

USB A Receptacle:

| | |
|------------|------------------------------|
| Shell: | Steel, Nickel Plated |
| Contacts: | Copper Alloy, Gold Plated |
| Insulator: | Thermoplastic UL94V-0, White |

USB B Receptacle:

| | |
|------------|------------------------------|
| Shell: | Copper Alloy, Nickel Plated |
| Contacts: | Copper Alloy, Gold Plated |
| Insulator: | Thermoplastic UL94V-0, White |

Molded Cable Assemblies

Consult factory for molded options

Other

| | |
|------------------------------|---|
| Flame Rating: | UL 94V-0 |
| Recommended Panel Thickness: | 1/32" - 3/16" [0.8mm to 4.8mm] - Quick Connect Coupling 1/32" - 5/32" [0.8mm to 3.9mm] - Threaded Coupling |

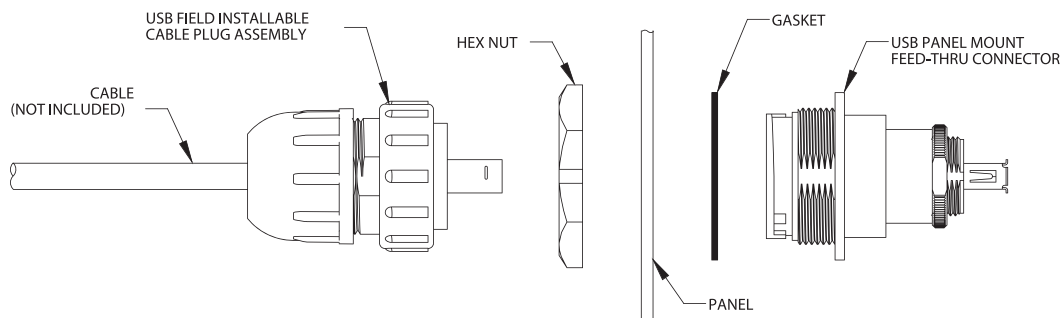
Recommended Cable Type

| | |
|-------------------------|--|
| Conductor Type: | Solid or Stranded Conductors |
| Outer Cable O.D. Range: | Product 150 Series: 0.134"-0.170" [3.40mm-4.33mm] Product 180 Series: 0.171"-0.208" [4.34mm-5.28mm] |

USB A & B WEATHERTIGHT CONNECTORS

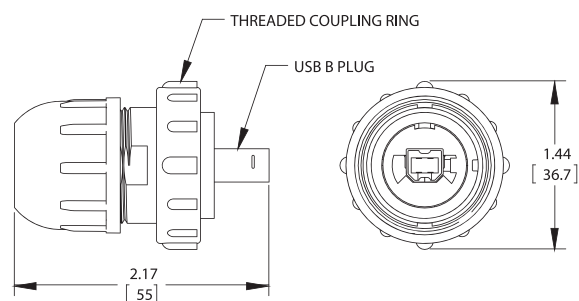
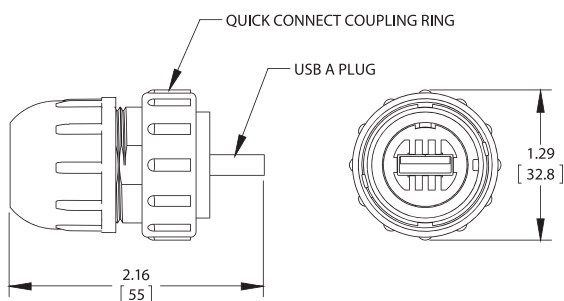
1.44" [37_{MM}] OD

DATA-CON-X®:USB A & B WEATHERTIGHT CONNECTORS



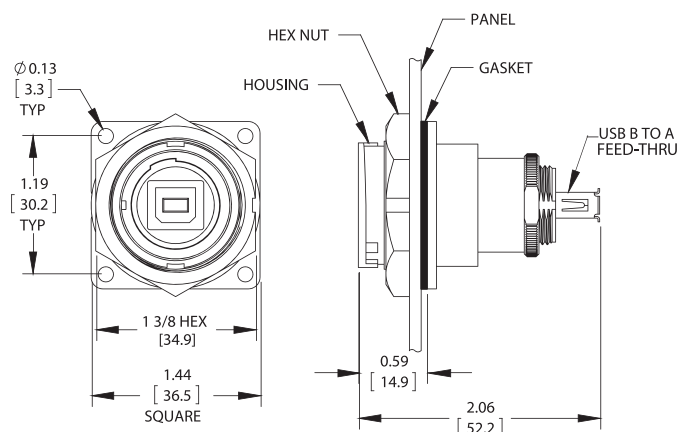
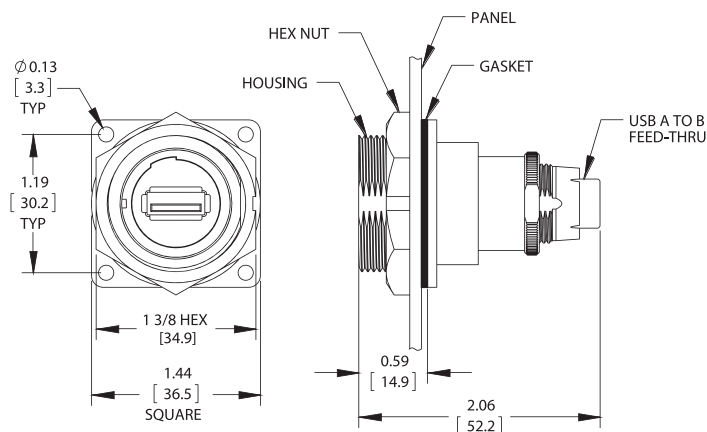
USB A FIELD INSTALLABLE CABLE PLUG
(SHOWN WITH QUICK CONNECT COUPLING)

USB B FIELD INSTALLABLE CABLE PLUG
(SHOWN WITH THREADED COUPLING)



USB PANEL MOUNT FEED-THRU CONNECTOR
(SHOWN WITH USB A TO B FEED-THRU CONNECTOR)
(SHOWN WITH THREADED HOUSING)

USB PANEL MOUNT FEED-THRU CONNECTOR
(SHOWN WITH USB B TO A FEED-THRU CONNECTOR)
(SHOWN WITH QUICK CONNECT HOUSING)



All dimensions are for reference only. Units shown: in[mm].

USB A & B WEATHERTIGHT CONNECTORS

1.44" [37_{MM}] OD

PART NUMBER TO ORDER

DCC
-
XXXX
-
X
-
XXX

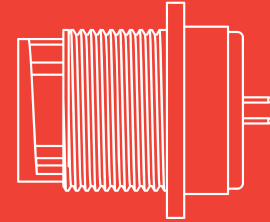
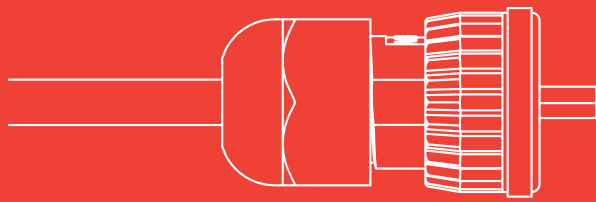
| USB FIELD INSTALLABLE CABLE PLUG PART NUMBER CHART | | | |
|--|--|---|--|
| USB FIELD INSTALLABLE CABLE PLUG ASSEMBLY | PLUG TYPE | COUPLING TYPE | SERIES |
| DCC | USBA = USB "A" 2.0 USBB = USB "B" 2.0 | B = QUICK CONNECT T = THREADED | 150 = $\varnothing 0.134'' - 0.170''$ [3.40-4.33mm] 180 = $\varnothing 0.171'' - 0.208''$ [4.34-5.28mm] |

DCC
-
XXXX
-
X
-
XXXX

| USB PANEL MOUNT FEED-THRU CONNECTORS PART NUMBER CHART | | | |
|--|--|---|---|
| USB FIELD INSTALLABLE PANEL HOUSING ASSEMBLY | RECEPTACLE TYPE (SEALED END) | COUPLING TYPE | RECEPTACLE TYPE (NON-SEALED END) |
| DCP | USBA = USB "A" 2.0 USBB = USB "B" 2.0 | B = QUICK CONNECT T = THREADED | USBA = USB "A" 2.0 * USBB = USB "B" 2.0 ** |

* (NOT AVAILABLE WITH USBA ON SEALED END)

** (NOT AVAILABLE WITH USBB ON SEALED END)



SEALED MINI USB CONNECTORS

0.71" [18MM] OD



QUICK CONNECT CABLE END
MATES WITH PANEL MOUNT



PANEL MOUNT
MATES WITH CABLE END



REAR VIEW - PC TAIL



REAR VIEW - FEED-THRU TERMINATION



REAR VIEW - SOLDER HOLES

SPECIFICATIONS

Mechanical Specifications

| | |
|-------------------------|---|
| Life: | 500 insertion / withdrawal cycles minimum |
| Vibration: | Mil-Std 202G Method 201A |
| Hex Nut Torque: | 10-12 in-lb |
| Coupling Locking Style: | Quick Connect (Bayonet) |
| Backshell Style: | Threaded |

Electrical Specifications

Tested Per USB 2.0 Specifications

Environmental Specifications

| | |
|-------------------------------|---|
| Operating Temperature Rating: | -20 °C to +75 °C (-4°F to +167°F) |
| Moisture Resistance: | Mil-Std 202G method 106G |
| Insulation Resistance: | Mil-Std 202G Method 302G |
| Thermal Shock: | Mil-Std 202G Method 107G |
| Weathertight: | IP67 & IP68, NEMA 250 (6P) (when mated) |

Material Specifications

| | |
|------------------------------|---------------|
| Plug Nut, Coupling Nut: | Thermoplastic |
| Plug Housing, Insert: | Thermoplastic |
| Sealing Ring, O-Ring: | Elastomer |
| Panel Housing, Hex Nut: | Thermoplastic |
| Gasket: | Elastomer |
| Printed Circuit Board (PCB): | FR-4 |

Header:

| | |
|------------|------------------------------|
| Insulator: | Thermoplastic UL94V-0, Black |
| Contacts: | Copper Alloy, Gold Plated |

USB Mini-B Plug:

| | |
|---------------|--|
| Insulator: | Thermoplastic UL94V-0, Black |
| Contacts: | Copper Alloy, Gold Plated (Contact Area) |
| Metal Shield: | Steel, Tin Plated |

USB Mini-B Receptacle:

| | |
|---------------|--|
| Insulator: | Thermoplastic UL94V-0, Black |
| Contacts: | Copper Alloy, Gold Plated (Contact Area) |
| Metal Shield: | Copper Alloy, Nickel Plated |

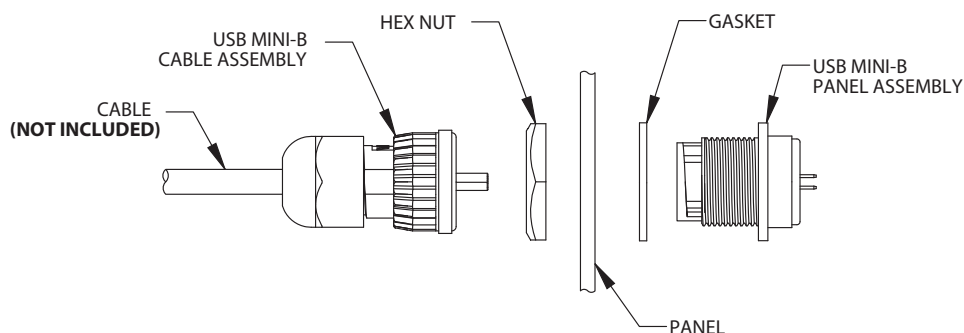
Molded Cable Assemblies

Consult factory for molded options

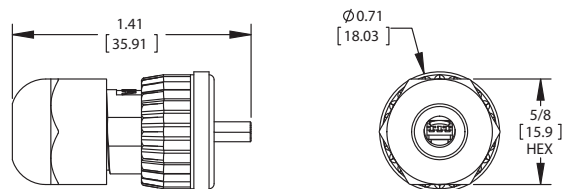
Other

| | |
|-------------------------------|-------------------------------|
| Recommended Cable O.D. Range: | Ø0.161"-Ø0.181" [4.1mm-4.6mm] |
| Recommended Panel Thickness: | Ø0.031"-Ø0.187" [0.8mm-4.8mm] |

DATA-CON-X®: SEALED MINI USB CONNECTORS



DCC-USBNB-160
USB MINI-B CABLE PLUG FIELD INSTALLABLE



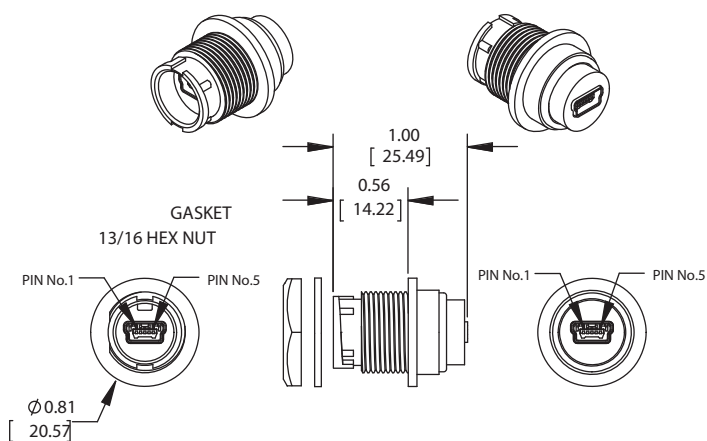
PART NUMBER TO ORDER

| Part Number | Style | Description |
|----------------|------------|---|
| DCC-USBNB-160 | Plug | Field Installable Cable Plug |
| DCP-USBNB-MNHD | Receptacle | Panel Mount: USB Mini-B to PC Tails |
| DCP-USBNB-MNSC | Receptacle | Panel Mount: USB Mini-B to Solder Holes |
| DCP-USBNB-USBN | Receptacle | Panel Mount: USB Mini-B Feed-thru |

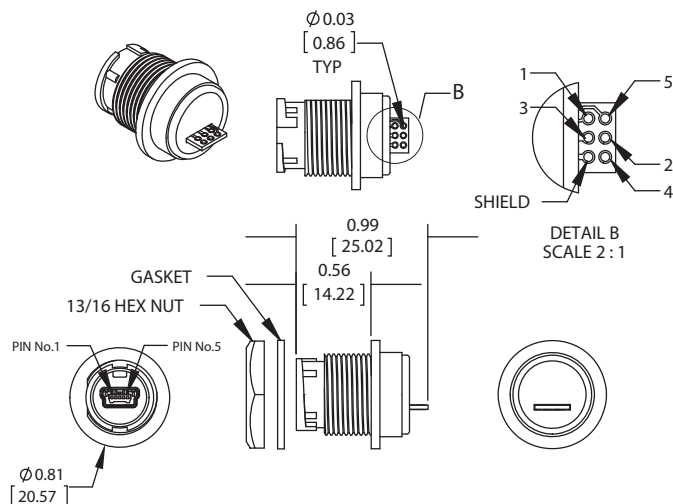
All dimensions are for reference only. Units shown: in[mm].

PANEL MOUNT ASSEMBLY KITS

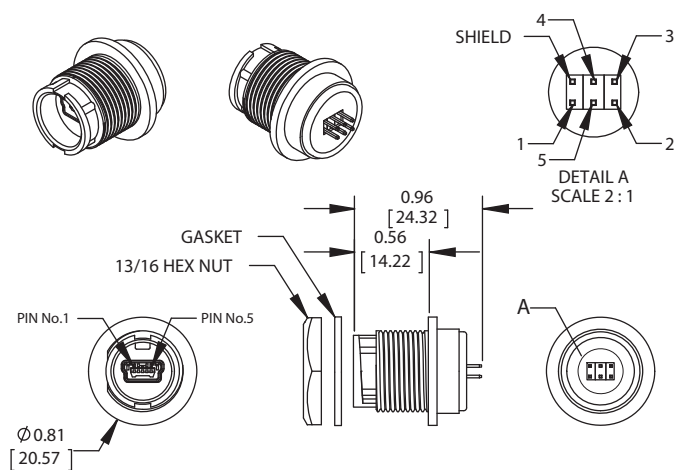
DCP-USBNB-USBN
USB MINI-B FEED-THRU



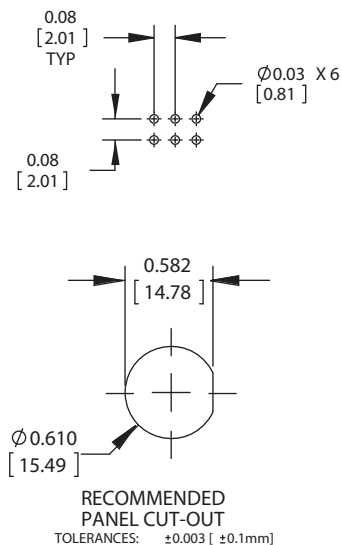
DCP-USBNB-MNSC
USB MINI-B TO SOLDER HOLES



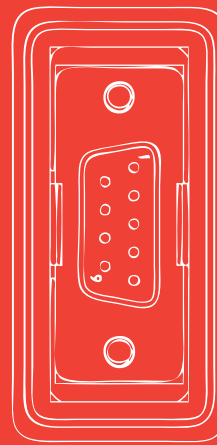
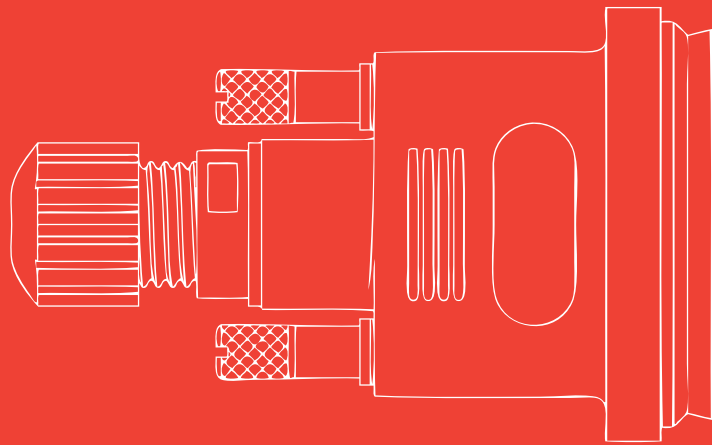
DCP-USBNB-MNHD
USB MINI-B TO PC TAILS



PCB HOLE LAYOUT FOR DCP-USBNB-MNHD



All dimensions are for reference only. Units shown: in[mm].



SEALED D-SUB CONNECTORS

9 OR 15 CONTACTS



9 PIN STANDARD CABLE MOUNT-SOCKET
MATES WITH PANEL MOUNT



9 PIN STANDARD CABLE MOUNT-PIN
MATES WITH PANEL MOUNT



9 PIN STANDARD PANEL MOUNT
MATES WITH CABLE MOUNT



**15 PIN HIGH DENSITY
CABLE MOUNT-SOCKET**
MATES WITH PANEL MOUNT



**15 PIN HIGH DENSITY
CABLE MOUNT-PIN**
MATES WITH PANEL MOUNT



**15 PIN HIGH DENSITY
PANEL MOUNT**
MATES WITH CABLE MOUNT



CAP FOR PANEL MOUNT
P/N DBSCAP

SPECIFICATIONS

Mechanical Specifications

| | |
|-------------------------|---|
| Life: | 500 insertion / withdrawal cycles minimum |
| Coupling Locking Style: | Standard Jackscrew |
| Backshell Style: | Threaded |

Electrical Specifications

| | |
|------------------------|---|
| Voltage Rating: | 1000V AC for 1 Minute |
| Current Rating: | 5.0A- Standard D-Sub (9 Contacts) 2.0A- High Density D-Sub (15 Contacts) |
| Contact Resistance: | 25 mΩ max |
| Insulation Resistance: | 500MΩ at |

Environmental Specifications

| | |
|-------------------------------|---------------------------------------|
| Operating Temperature Rating: | -55 °C to +85 °C (-67°F to +185°F) |
| Thermal Shock: | MIL-STD 202G Method 107G, Condition A |
| Weathertight: | IP67 (when mated) |

Material Specifications

D-Sub Backshell Kit

| | |
|------------------------|-----------------------------|
| Housing, Clamp, & Nut: | Thermoplastic, Black |
| Insulator: | Thermoplastic (UL94V-0) |
| Gasket & Seal: | Elastomer, Black |
| Shell: | Steel, Tin Plated |
| Screw: | Copper Alloy, Nickel Plated |
| Contact Pins: | Copper Alloy, Gold Plated |

D-Sub Panel Mount Connector

| | |
|---------------------|-----------------------------|
| Flange & Insulator: | Thermoplastic (UL94V-0) |
| Shell: | Steel, Tin Plated |
| Epoxy: | Epoxy, Black |
| O-Ring: | Elastomer, Light Blue |
| Screw: | Copper Alloy, Nickel Plated |
| Contact Pin: | Copper Alloy, Gold Plated |

D-Sub Connector Cap

| | |
|------------------|-----------------------------|
| Body: | Thermoplastic, Black |
| Gasket & O-ring: | Elastomer, Black |
| Screw: | Copper Alloy, Nickel Plated |
| Chain: | Stainless Steel |

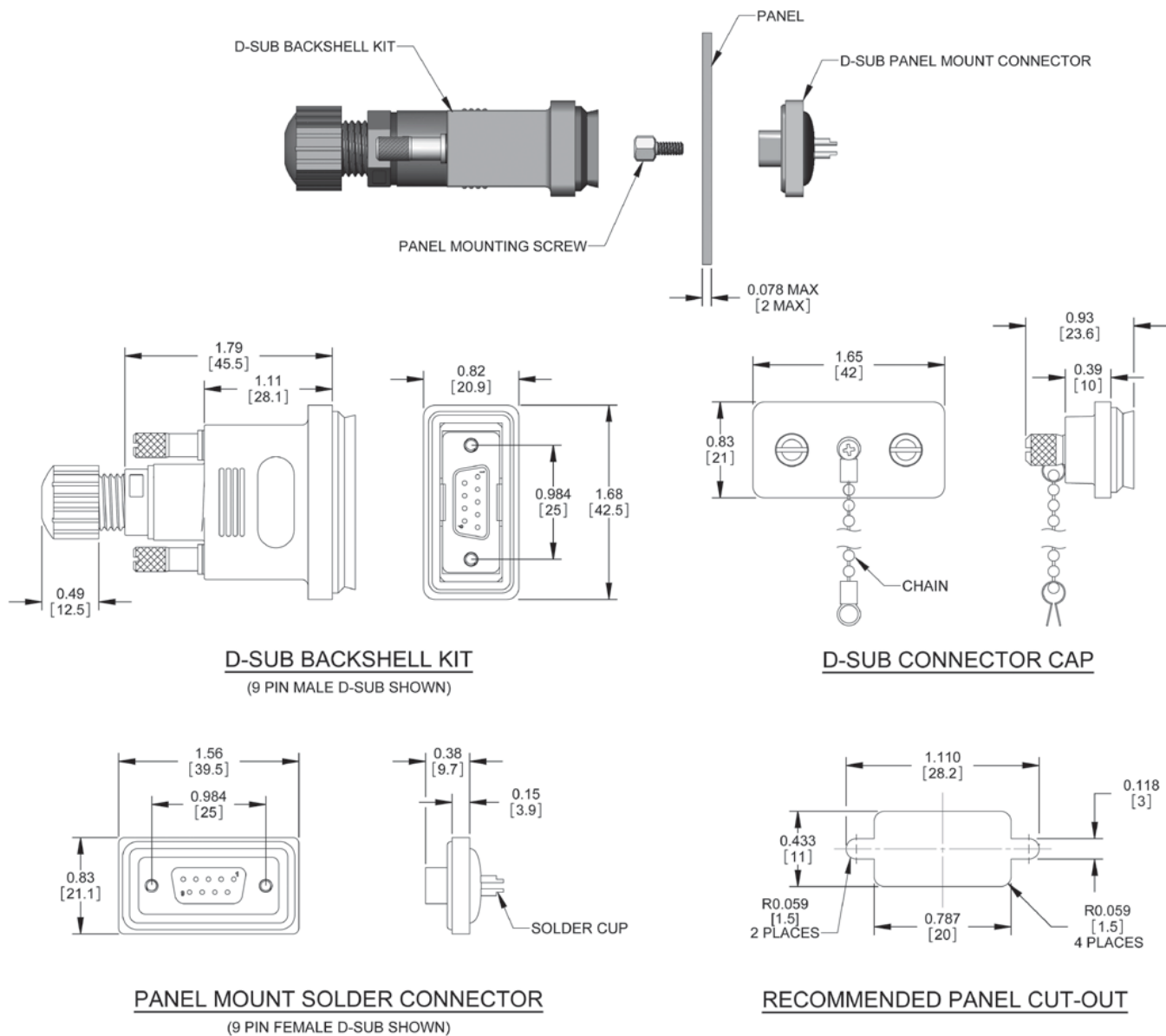
Other

| | |
|------------------------------|------------------------------------|
| Flame Rating: | UL 94V-0 |
| Recommended Panel Thickness: | 0.048" - 0.078" [1.22mm to 1.98mm] |

Recommended Cable Type

| | |
|-------------------------|---|
| Conductor Type: | Solid or Stranded Conductors, 22-26 AWG |
| Outer Cable O.D. Range: | Ø0.138" - Ø0.276" [3.51mm to 7.01mm] |

DATA-CON-X®: SEALED D-SUB



All dimensions are for reference only. Units shown: in[mm].

SEALED D-SUB CONNECTORS

9 OR 15 CONTACTS

PART NUMBER TO ORDER

| | | | | |
|--------------------------|--|--------------------------------------|------------------------|------------------------------------|
| DCP | XXXX | X | SC | P |
| D-Sub Panel Mount Series | D-Sub | Gender | Termination Style | Panel |
| DCP | DB09 = 9 pin Standard HD15 = 15 Pin, High Density | M = Male F = Female | SC = Solder Cup | 1 = 0.48-0.78 in [1.22-1.98 mm] |

| | | |
|----------------------------|--|--------------------------------------|
| DCC | XXXX | X |
| D-Sub Backshell Kit Series | D-Sub | Gender |
| DCC | DB09 = 9 pin Standard HD15 = 15 Pin, High Density | M = Male F = Female |

MOLDED CABLE ASSEMBLY CHECKLIST

CUSTOMER INFORMATION

Company: _____ Date: _____
Contact Name: _____ Email: _____ Phone: _____
Address: _____
City, State, Zip, Country: _____

PROJECT INFORMATION

Project Name: _____ Quantity requested to quote: _____
Application / Description: _____

CONNECTOR REQUIREMENTS

End "A" Part Number: _____ Is right angle required? (Y/N): _____
End "B" Part Number: _____ Is right angle required? (Y/N): _____
If single ended cable, how should "B" side be terminated? _____
Yes No

Strip & Tin (S&T)

Standard 1/4" outer jacket, 1/8" inner jacket

Straight cut-off (SCO)

Other (Please specify) _____
Please note some insulation may be removed for quality control. _____

CABLE REQUIREMENTS

Cable vendor & P/N: _____
If cable vendor is known, is equivalent cable acceptable? (Y/N): _____
UL # of cable (if applicable): _____
Outer cable jacket material (PUR, PVC, Other): _____
Outer cable jacket color (Black, Grey, Other): _____
Number of conductors: _____ Conductor AWG: _____
Is cable shielded? If yes, what type of shield (foil, braided, etc.): _____
Is there a drain wire (Y/N): _____ If yes, where terminated?: _____
Overall length of assembly. Determined by connector ends. Please specify units: _____
Does cable have any environment requirements? (Temperature, UV, other): _____
Is an adhesive moisture bond to the outer jacket of the cable required? (Y/N): _____
Comments / Special Notes: _____

NOTE: Please submit completed form and drawing (if available) by fax to 630-834-8540 or email: sales@switchcraft.com. If a single ended assembly is requested, a diagram of the wire color code illustrating the conductors and the corresponding contact position is required. Also show drain wire and shield terminators if applicable. We thank you for giving us the opportunity to quote your cable assembly requirements. MADE IN USA.

CON-X® ELECTRICAL CURRENT RATING CHART

| CONTACT SIZE | CONDUCTOR SIZE - AWG | NUMBER OF CONDUCTORS | CURRENT RATING |
|--------------|----------------------|----------------------|----------------|
| #12 | #12 | 1 through 7 | 23.0A |
| | #14 | 1 through 3 | 17.0A |
| | | 4 through 6 | 12.75A |
| | | 7 through 9 | 11.0A |
| | #16 | 1 through 3 | 13.0A |
| | | 4 through 6 | 9.75A |
| | | 7 | 8.45A |
| #16 | #16 | 1 through 10 | 13.0A |
| | | 11 and 12 | 7.5A |
| | #18 | 1 through 3 | 10.0A |
| | | 4 through 12 | 7.5A |
| #20 | #18 | 1 through 3 | 7.5A |
| | | 4 through 20 | 5.6A |
| | | 21 through 31 | 2.3A |
| | #20 | 1 through 3 | 7.5A |
| | | 4 through 20 | 5.6A |
| | | 21 through 31 | 2.3A |
| | #20 Multi-Con-X | 10 through 12 | 5.0A |
| | #22 | 1 through 3 | 6.0A |
| | | 4 through 20 | 2.5A |
| | | 21 through 31 | 2.5A |
| | #24 | 1 through 3 | 4.5A |
| | | 4 through 20 | 2.0A |
| | | 21 through 31 | 1.5A |
| #22 | #22 | 4 | 5.5A |
| | #24 | 4 | 5.0A |
| #26 | #24 | 5 to 6 | 4.0A |
| | #24 | 7 | 3.5A |
| | #26 | 5 to 6 | 2.5A |
| | #26 | 7 | 2.5A |
| | #28* | 5 to 6 | 2.0A |
| | #28* | 7 | 2.0A |

*Not UL tested for this wire conductor size

MAX. NUMBER AND SIZE OF CONTACTS PER SERIES:

| | | | |
|---------------------|---------------------|---------------------|---------------------|
| 4 - #12 Multi-Con-X | 6 - #16 Multi-Con-X | 8 - #20 Mini-Con-X | 31 - #20 Mega-Con-X |
| 7 - #12 Maxi-Con-X | 12 - #16 Maxi-Con-X | 9 - #20 Multi-Con-X | 4 - #22 Micro-Con-X |
| 5 - #16 Mini-Con-X | 3 - #20 Micro-Con-X | 20 - #20 Maxi-Con-X | 7 - #26 Micro-Con-X |

MIL-E-QUAL® ELECTRICAL CURRENT RATING CHART

| CONTACT SIZE | CONDUCTOR SIZE - AWG | NUMBER OF CONDUCTORS | CURRENT RATING |
|--------------|----------------------|----------------------|----------------|
| #12 | #12 | 1 through 3 | 23.0A |
| | | 4 through 6 | 17.0A |
| | | 7 through 9 | 13.0A |
| | #14 | 1 through 3 | 17.0A |
| | | 4 through 6 | 12.75A |
| | | 7 through 9 | 11.0A |
| | #16 | 1 through 3 | 13.0A |
| | | 4 through 6 | 9.75A |
| | | 7 through 9 | 8.45A |
| #16 | #16 | 1 through 3 | 13.0A |
| | | 4 through 6 | 9.75A |
| | | 7 through 10 | 8.45A |
| | | 10 through 20 | 5.85A |
| | | 21 through 30 | 4.55A |
| | | 31 and up | 3.9A |
| | #18 | 1 through 3 | 10.0A |
| | | 4 through 6 | 7.5A |
| | | 7 through 9 | 6.5A |
| | | 10 through 20 | 4.5A |
| | | 21 through 30 | 3.5A |
| | | 31 and up | 3.0A |
| | #20 | 1 through 3 | 7.5A |
| | | 4 through 6 | 5.6A |
| | | 7 through 9 | 4.8A |
| | | 10 through 20 | 3.4A |
| | | 21 through 30 | 2.62A |
| | | 31 and up | 2.3A |

EN2™ & EN3® ELECTRICAL CURRENT RATING CHART

EN2™ SERIES CURRENT RATING TABLE

| CONTACTS | WIRE (AWG) | CURRENT RATING (A) AT OPERATING TEMPERATURE (°C) | | | | |
|----------|------------|--|-----------|-----------|-----------|-----------|
| | | 45° C MAX | 55° C MAX | 65° C MAX | 75° C MAX | 85° C MAX |
| 2 #20 | 20 | 7 | 6 | 5 | 4 | 3.5 |
| | 22 | 5.5 | 5 | 4 | 3 | 2.5 |
| | 24 | 5.5 | 5 | 4 | 3 | 2.5 |
| | 26 | 4 | 3.5 | 2.5 | 2 | 1 |
| 3 #20 | 20 | 6.5 | 5.5 | 4.5 | 3.5 | 2 |
| | 22 | 5 | 4.5 | 3.5 | 3 | 1.5 |
| | 24 | 5 | 4.5 | 3.5 | 3 | 1.5 |
| | 26 | 3 | 2.5 | 2 | 1.5 | 0.5 |
| 4 #22 | 20 | 5 | 4.5 | 3.5 | 3 | 1.5 |
| | 22 | 4.5 | 4 | 3 | 2 | 1 |
| | 24 | 4.5 | 4 | 3 | 2 | 1 |
| | 26 | 3 | 2.5 | 2 | 1.5 | 0.5 |
| 5-7 #26 | 26 | 3 | 2.5 | 2 | 1.5 | 1 |
| | 28 | 2.5 | 2 | 1.5 | 1 | 0.5 |
| | 30 | 2 | 1.5 | 1 | 0.5 | 0.5 |

EN3® SERIES CURRENT RATING TABLE

| CONTACT SIZE | CONDUCTOR SIZE - AWG | NUMBER OF CONDUCTORS | CURRENT RATING |
|--------------|----------------------|----------------------|----------------|
| #16 | 16 | 2 through 3 | 13.0A |
| | 18 | | |
| #20 | 20 | 2 through 6 | 7.5A |
| | 22 | | |
| | 20 | 7 through 8 | 6.5A |
| | 22 | | |
| #26 | 26 | 9 through 18 | 3A |
| | 28 | | |

CON-X® MANUAL CONTACT CRIMPING TOOL

| Handle | Description | Positioner | Contact Sizes | Wire Sizes | Conductor Strip Length |
|--------|---------------------------------|------------|--------------------------------------|--------------|------------------------|
| 359-24 | Multi Contact Turret Crimp Tool | 357-124 | #12 | 12-14 AWG | 7/32 in |
| | | | #16 | 16-18-20 AWG | 7/32 in |
| | | | #20 | 20-22-24 AWG | 3/16 in |
| 359-21 | Single Contact Crimp Tool | 357-122 | #20 | 20-22-24 AWG | 3/16 in |
| | | 357-125 | #22 | 22-24 AWG | 5/32 in |
| | | 357-126 | #26(Cable Pin Only) | 24-26-28 AWG | 3/16 in |
| | | 357-127 | #26(Panel Pin, Cable & Panel Socket) | 24-26-28 AWG | 3/16 in |

CON-X® MANUAL CONTACT INSERTION TOOL

| Handle | Description | Insertion Bits | Contact Sizes |
|--------|--------------------------|----------------|---------------------------|
| 356-1 | Single Contact Hand Tool | 356-12 | #12 |
| | | 356-16 | #16 |
| | | 356-20 | #20 |
| | | 356-22 | #22 (20 AWG Crimp Barrel) |
| | | 356-22-1-K | #22 (22 AWG Crimp Barrel) |
| | | 356-26-K | #26 |

MIL-E-QUAL® MANUAL CONTACT CRIMPING TOOL

| Handle | Description | Positioner | Contact Sizes | Wire Sizes | Conductor Strip Length |
|--------|-----------------|------------|---------------|--------------|------------------------|
| 359-24 | Hand Crimp Tool | 358-112 | #12 | 12-14 AWG | 7/32 in |
| | | | #16 | 16-18-20 AWG | 9/32 in |

MIL-E-QUAL® MANUAL CONTACT INSERTION TOOL

| Handle | Description | Insertion Bits | Contact Sizes |
|--------|--------------------------|----------------|---------------|
| 356-1 | Single Contact Hand Tool | 356-12 | #12 |
| | | 356-16 | #16 |

TOOLING

EN2™ & EN3® CONTACT CRIMPING TOOL

| Handle | Description | Positioner | Contact Sizes | Wire Sizes |
|-----------|----------------------|------------|---------------|-----------------|
| EN3CR | Crimp Hand Tool | EN3POS16 | #16 | 16 AWG |
| | | EN3POS20 | #20 | 20 & 22 AWG |
| | | EN3POS26 | #26 | 26, 28 & 30 AWG |
| EN3CRAUTO | Pneumatic Crimp Tool | EN3POS16 | #16 | 16 AWG |
| | | EN3POS20 | #20 | 20 & 22 AWG |
| | | EN3POS26 | #26 | 26, 28 & 30 AWG |

EN2™ & EN3® INSERTION / EXTRACTION TOOLS

| Part Number | Contact Sizes | Description |
|-------------|---------------|---|
| EN3INS16 | #16 | Insertion / Extraction Tool for 16 AWG |
| EN3INS20 | #20, #22 | Insertion / Extraction Tool for 20 & 22 AWG |
| EN3INS26 | #26 | Insertion / Extraction Tool for 26, 28 & 30 AWG |

EN2™ & EN3® ALTERNATE LARGER FRAME TOOL

| Handle | Description | Positioner | Contact Sizes | Wire Sizes |
|------------|----------------|------------|---------------|-----------------|
| EN2CRL | Hand Tool | EN2POS20L | #20, #22 | 20-22-24-26 AWG |
| EN2CRAUTOL | Pneumatic Tool | | | |

NOTES