

## **HIGH VOLTAGE** INTERCONNECT



Amphenol  
Alden

## ABOUT OUR COMPANY

Amphenol is the world's leading interconnect technology company with more than 80 business units around the globe. Amphenol Alden, an operating unit of Amphenol, was founded in 1929 as Alden Products Company and has a strong legacy in High Voltage products and services. With factories in China, Mexico, and in our Massachusetts headquarters location, Amphenol Alden meets the varying demands of its worldwide customers.

This catalog showcases the Amphenol Alden line of standard high voltage connectors that helped shape the high voltage interconnect industry. In addition to these standard products, our experienced high voltage design engineers collaborate with customers to develop custom solutions and engineered cable assemblies that solve the most demanding high voltage challenges. Throughout our 70 years of high voltage leadership we have served a diverse range of customers in the complex and competitive medical, industrial and military markets and have developed industry standard connectors for X-Ray, ESD, HeNe lasers and more.

At Amphenol Alden, a spirit of collaboration extends from the design process through to final delivery. Utilizing dedicated internal quality and supply chain management teams, Amphenol Alden provides unsurpassed service before, during, and after the sale. This collaborative structure ensures Amphenol Alden is a true partner in solving your most difficult product challenges, whether using standard products or fully customized solutions.

## MARKETS SERVED



### Imaging

Medical X-ray  
Security Detection  
CT Scanners



### Industrial

Laser  
HV Test Equipment  
ESD simulators



### Military/Aerospace

Missile Ignition  
HUD's  
Navigation



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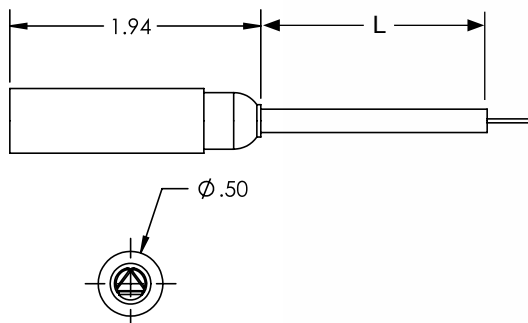
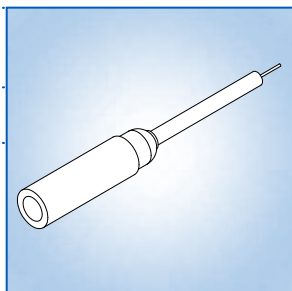
# A-SERIES

The A-Series of high voltage connectors are small, lightweight, and come in a variety of configurations. This high performing connector series perfectly handles the varying demands of high voltage test equipment, ionizers, ESD simulators and many other end uses.

## A100QX"L"

Single Circuit In-Line Receptacle

Up to **15** kVDC



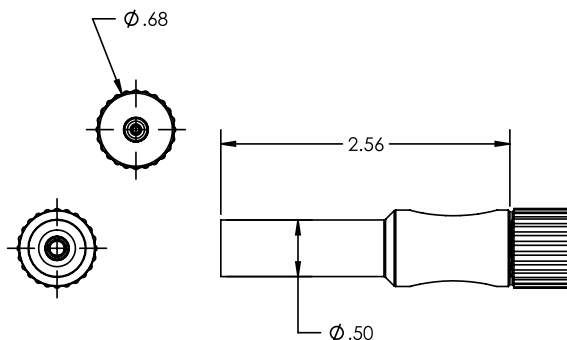
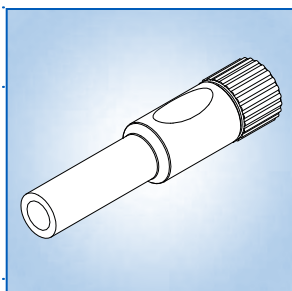
## A109

Field Installable Single Circuit In-Line Receptacle

Available in Panel Mount and Multiple Diameters to Accommodate Different Wire Sizes. Consult Factory for Additional Details.

Molded in Black Polybutylene Terephthalate

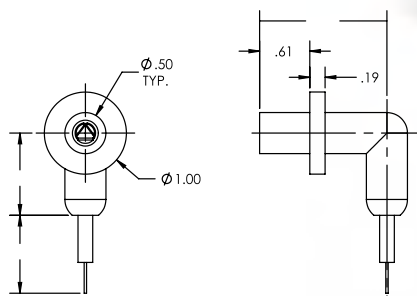
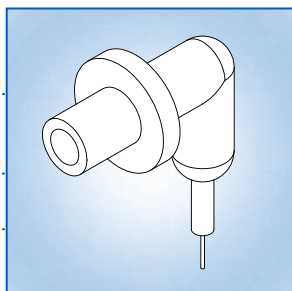
Up to **20** kVDC



## A200QX"L"

90 deg: Single Circuit Flanged Receptacle

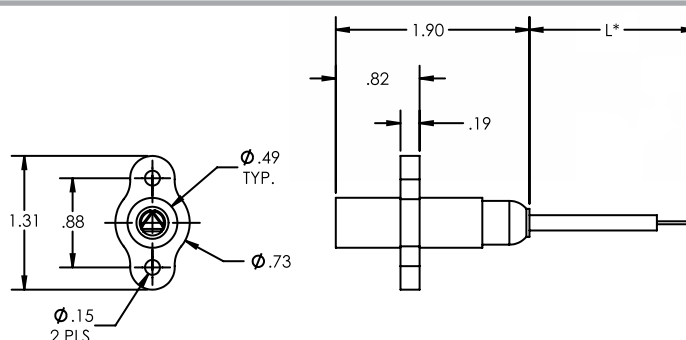
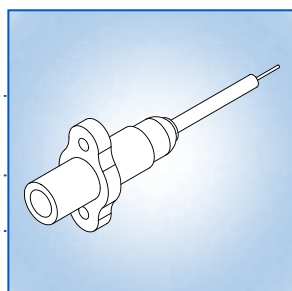
Up to **20** kVDC



## A400QX"L"

Single Circuit Panel Mount Receptacle

Up to **15** kVDC

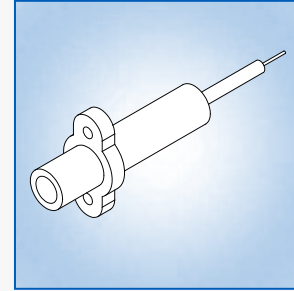
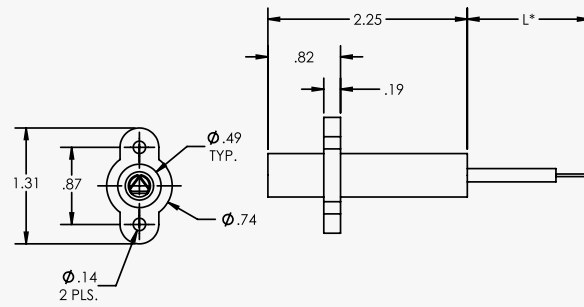




### A401QX"L"

Single Circuit Panel  
Mount Receptacle

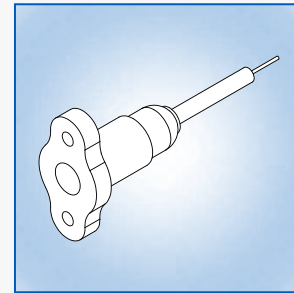
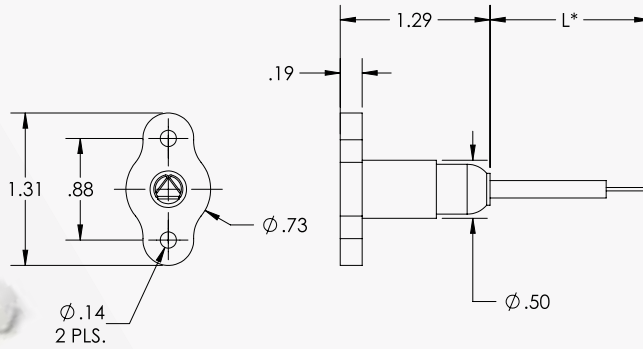
Up to **25** kVDC



### A406QX"L"

Single Circuit Flush  
Profile Panel Mount  
Receptacle

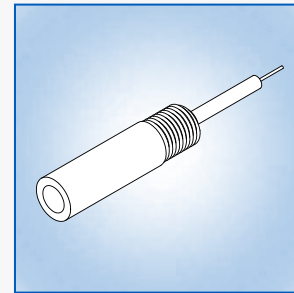
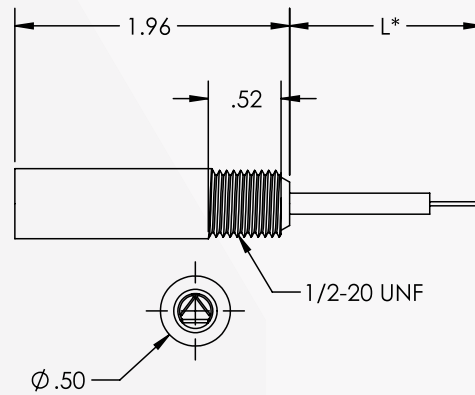
Up to **15** kVDC



### A408QX"L"

Single Circuit In-Line  
Receptacle with  
Threaded Back

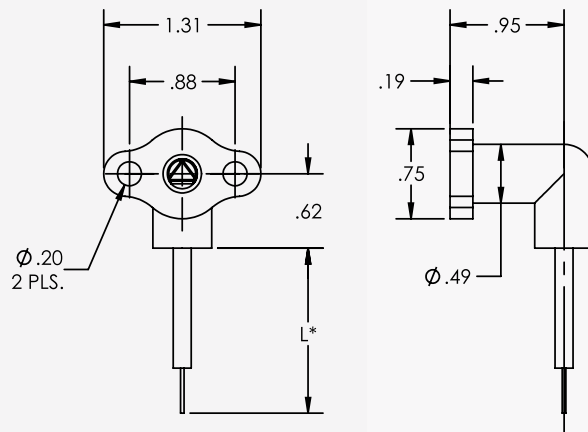
Up to **20** kVDC



### A500QX"L"

90 deg: Single Circuit  
Flush Profile Panel  
Mount Receptacle

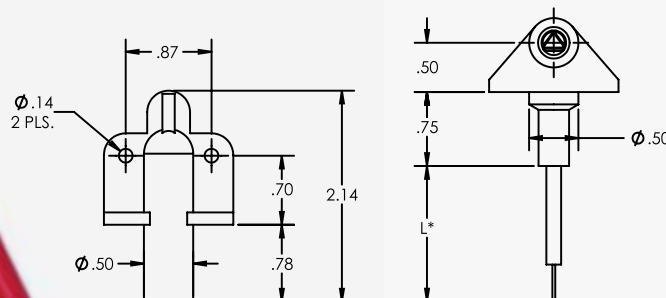
Up to **10** kVDC



### A501QX"L"

90 deg: Low Profile  
Panel Mount  
Receptacle

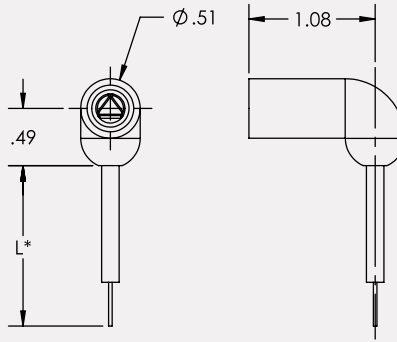
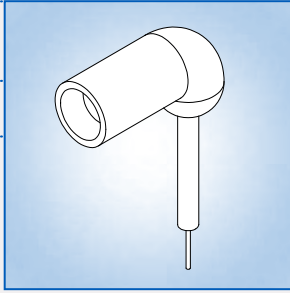
Up to **25** kVDC



## A504QX"L"

90 deg: Compact In-Line Receptacle

Up to **15** kVDC

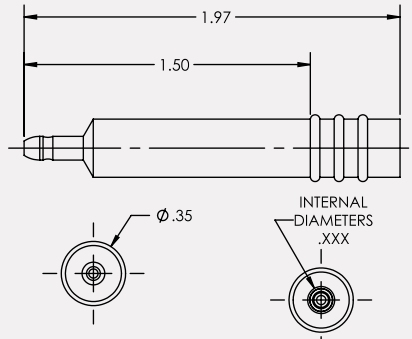
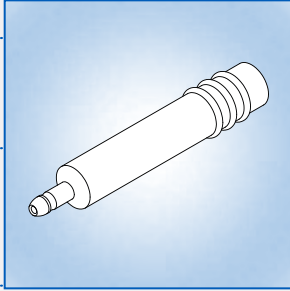


## A000.XXX

Field Installable Single Circuit In-Line Solder-On Plug

XXX = I.D.'s of 0.140"  
0.165"  
0.187"  
0.200

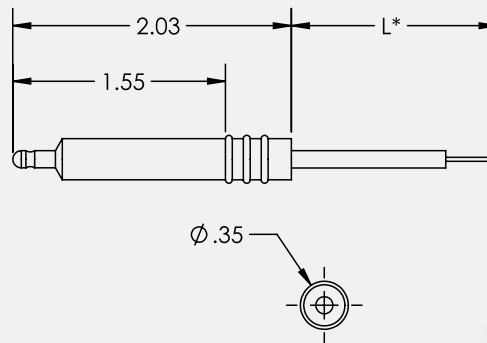
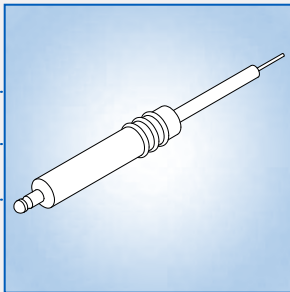
Up to **25** kVDC



## A600QX"L"

In-Line Single Circuit Plug

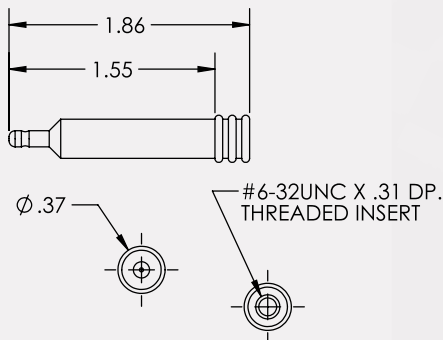
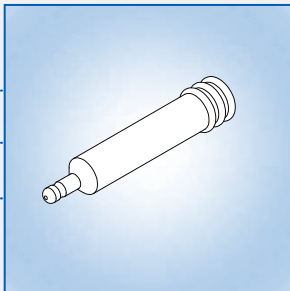
Up to **25** kVDC



## A601

Stud Mount Plug

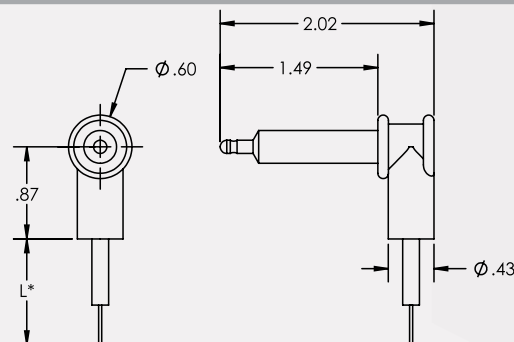
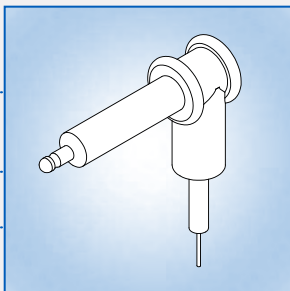
Up to **25** kVDC

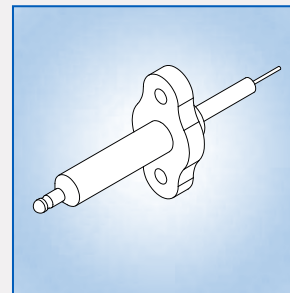
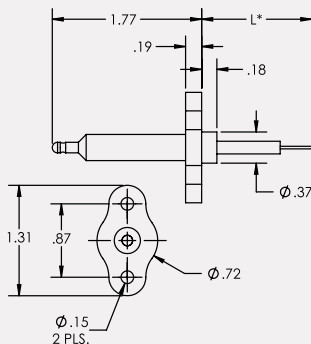


## A700QX"L"

90 deg: In-Line Single Circuit Plug

Up to **25** kVDC

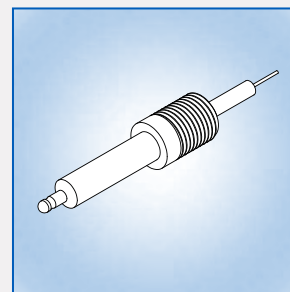
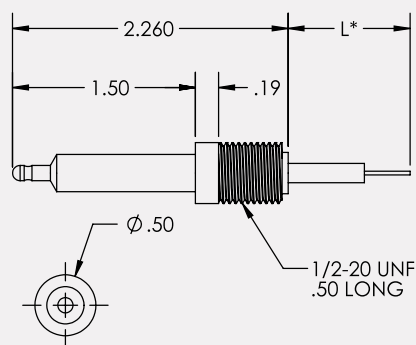




## A800QX"L"

Panel Mount Plug

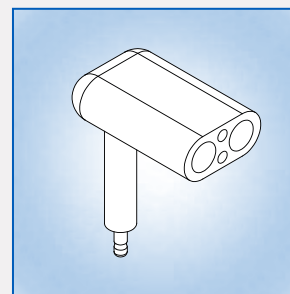
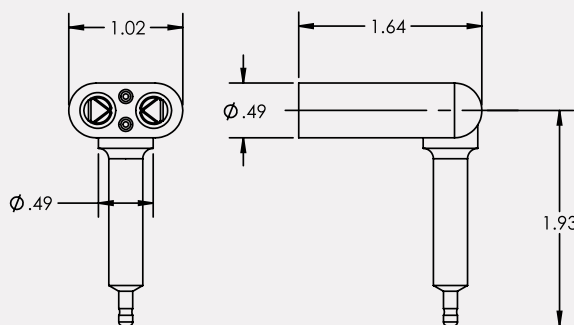
Up to **25** kVDC



## A801QX"L"

In-line Threaded Plug  
with Threaded Back

Up to **25** kVDC



## A900

90 Deg: Dual HV Splitter  
Adapter (2 Recepta-  
cles to Single Plug)

Up to **20** kVDC

Unless otherwise specified:

- "L" in each part number is to be replaced by the desired length of wire in inches – 48 inches is standard (A100QX"L" with 48 inches of wire is ordered as A100QX48)
- "QX" in the part number is the wire type. It is 22AWG, 30 kVDC rated, UL 3239 style wire made with cross-linked polyethylene insulation, color red
- Connector bodies are molded in flame-retardant polypropylene, color white
- Voltage ratings are DC voltages, continuous operation when properly mated
- All A Series plugs will mate with all A Series receptacles
- All dimensions are in inches

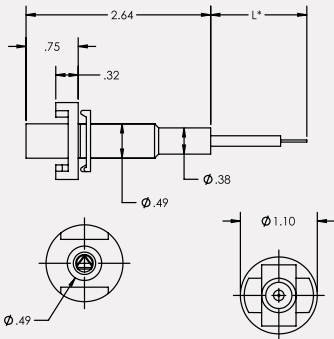
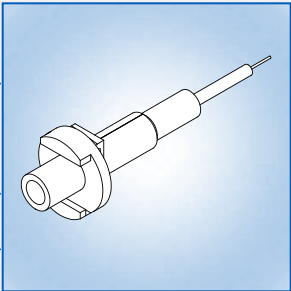
# B-SERIES

The B-Series is a compact single pole high voltage connector system capable of operating as high as 40 kVDC. The quarter turn locking system ensures that the plug and receptacle remain properly mated during operation. There are a variety of receptacle mounting options including an oil-tight feed-through for use in transformer oil.

## B100RX"L"

Quick-Lock Panel Mount  
Single Circuit In-line  
Receptacle

Up to 35 kVDC

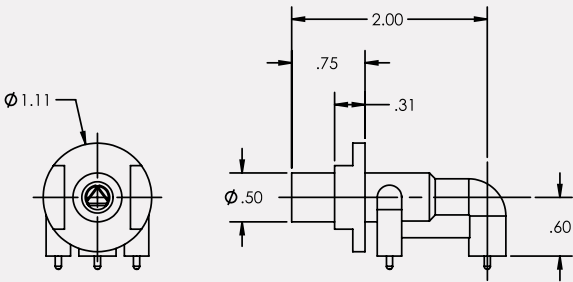
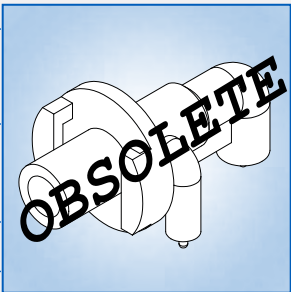


## B101

Quick-Lock Single Circuit  
PC Board Mounting  
Receptacle

Through Circuit to Rear  
Pin - 2 Pins Up Front for  
Soldering to Board

Up to 40 kVDC



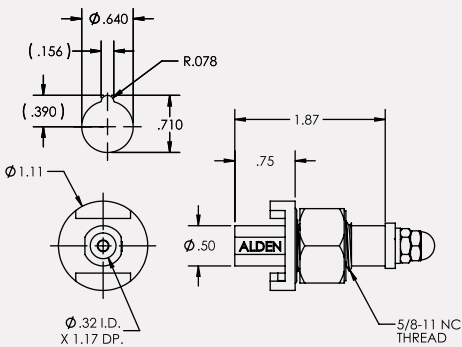
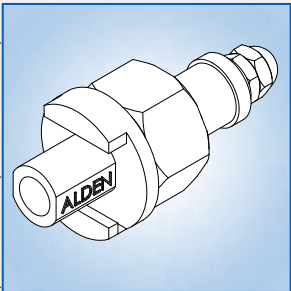
## B102

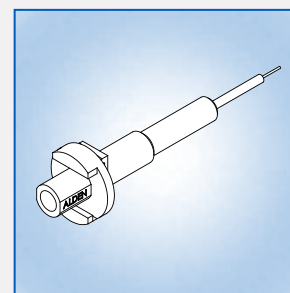
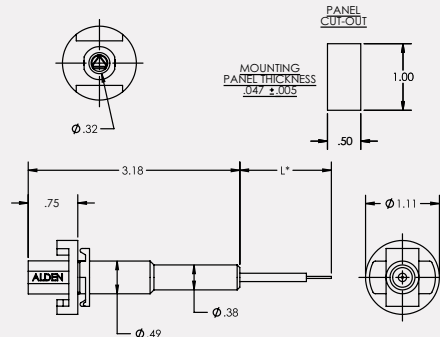
Quick-Lock Single Circuit  
Oil-Tight Feed-Through  
Threaded Panel Mount  
Receptacle

Includes Panel Mounting  
Nut and Cap Nut for Wire  
Retention

Molded in PET

Up to 40 kVDC



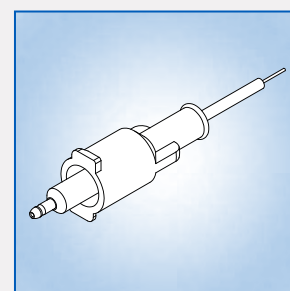
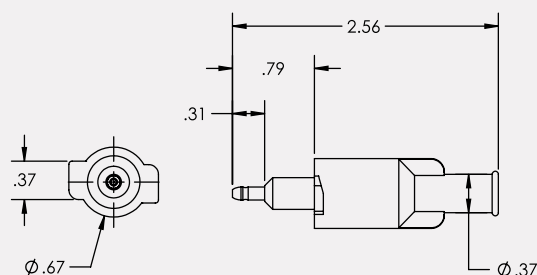


## B110RX"L"

Quick-Lock Panel  
Mount Single Circuit  
In-line Receptacle

Extended Length

Up to **40** kVDC

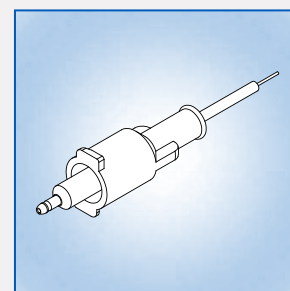
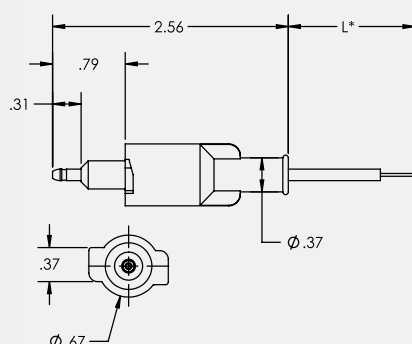


## B200.XXX

Quick-Lock Field  
Installable In-Line Plug

XXX = I.D's of: 0.125"  
0.156"  
0.250"

Up to **40** kVDC



## B200RX"L"

Quick-Lock In-Line Plug

Up to **40** kVDC

Unless otherwise specified:

- "L" in each part number is to be replaced by the desired length of wire in inches – 48 inches is standard (B100RX"L" with 48 inches of wire is ordered as B100RX48)
- "RX" in the part number is the wire type. It is 22AWG, 40 kVDC rated, UL 3239 style wire made with cross-linked polyethylene insulation, color red
- Connector bodies are molded in flame-retardant polypropylene, color white
- Voltage ratings are DC voltages, continuous operation when properly mated
- All B Series plugs will mate with all B Series receptacles
- All dimensions are in inches



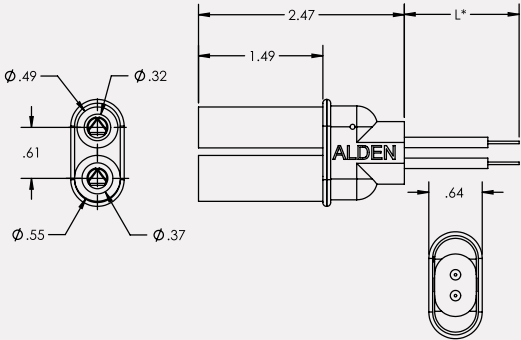
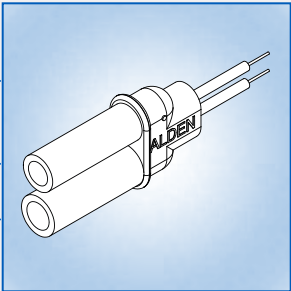
# D-SERIES

The D-Series of high voltage connectors, rated to operate up to 15 kVDC, allows for double circuit polarized configurations used in high voltage feed and return devices. These connectors are the industry standard for Helium Neon Lasers and are popular in other high voltage applications as well.

## D100FY"L"

Double Circuit Polarized  
In-Line Receptacle

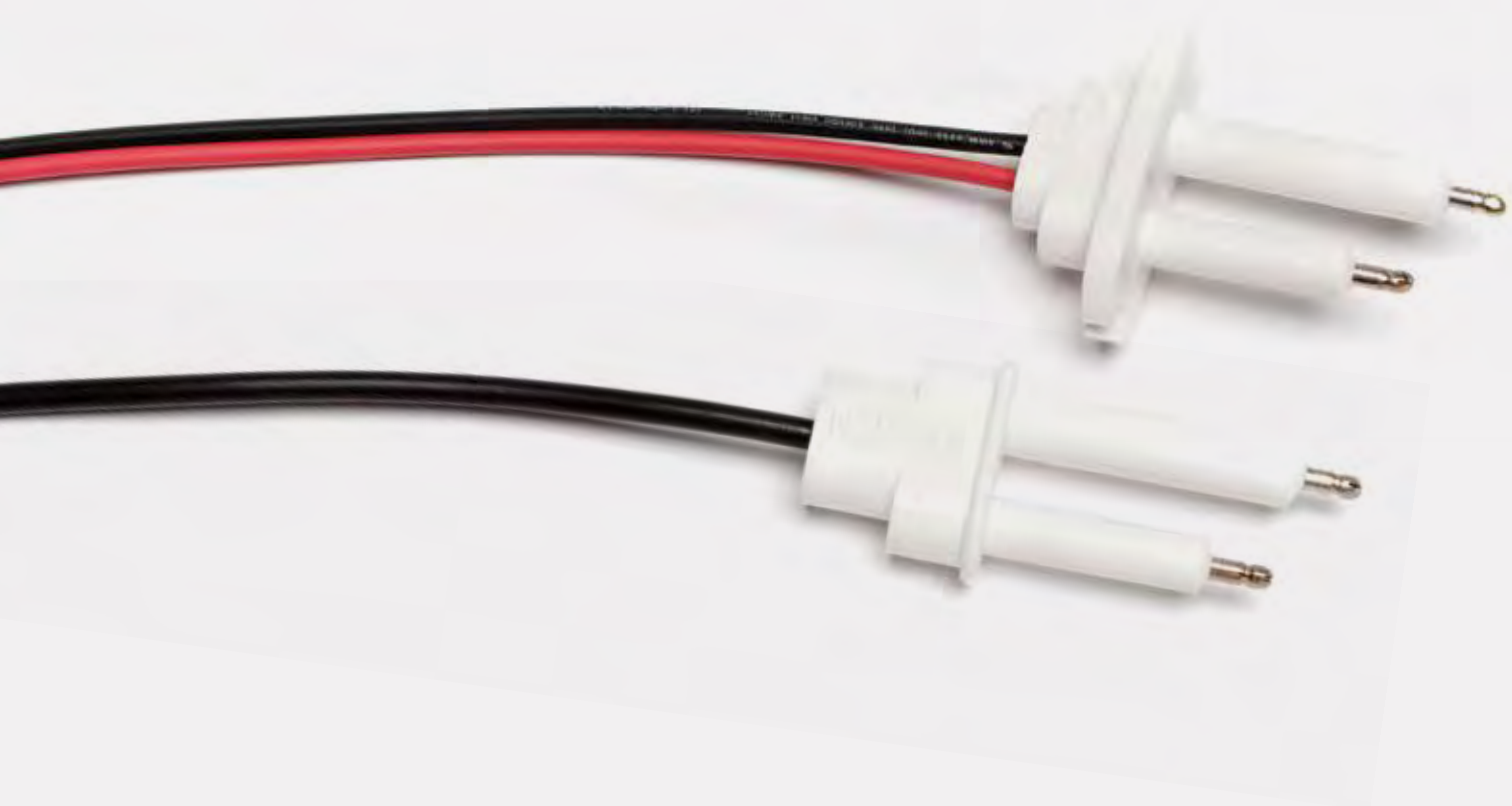
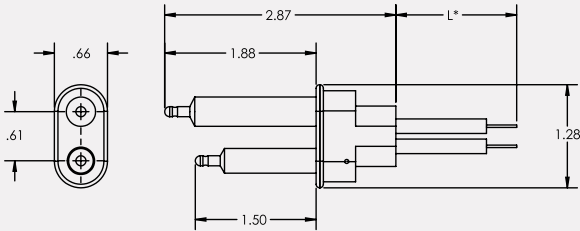
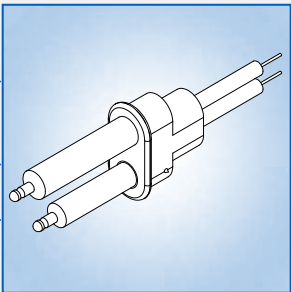
Up to 15 kVDC

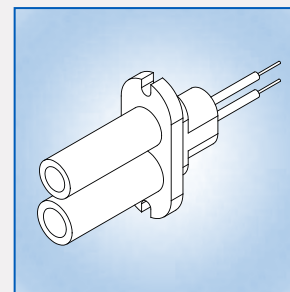
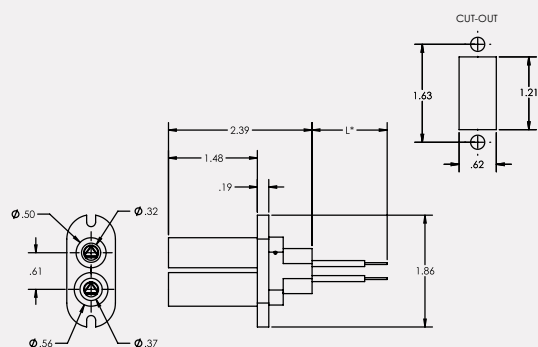


## D200FY"L"

Double Circuit Polarized  
In-Line Plug

Up to 15 kVDC

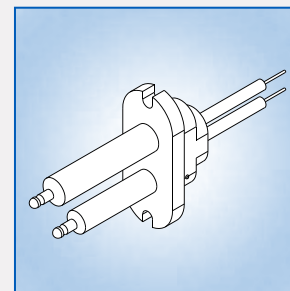
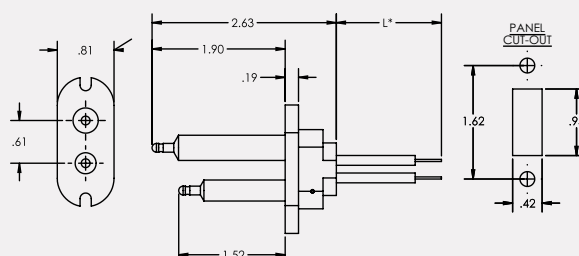




## D300FY"L"

Double Circuit Polarized  
Panel Mount  
Receptacle

Up to 15 kVDC



## D400FY"L"

Double Circuit Polarized  
Panel Mount  
Plug

Up to 15 kVDC

Unless otherwise specified:

- "L" in each part number is to be replaced by the desired length of wire in inches – 48 inches is standard (D100FY"L" with 48 inches of wire is ordered as D100FY48)
- "FY" in the part number is the wire type which is 22AWG, 15 kVDC rated, UL 3239 style twin lead wire made with cross-linked polyethylene insulation, and PVC jacket, color red (small side) and black (large side)
- Optional "VX" in the part number is the wire type which is 22AWG, 15 kVDC rated shielded and jacketed lead wire made with cross-linked polyethylene insulation, color black (small side) with shield terminated to the larger side (not shown)
- Connector bodies are molded in flame-retardant polypropylene, color white
- Voltage ratings are DC voltages, continuous operation when properly mated
- All D Series plugs will mate with all D Series receptacles
- All dimensions are in inches

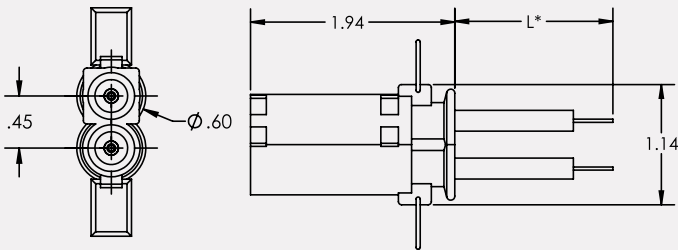
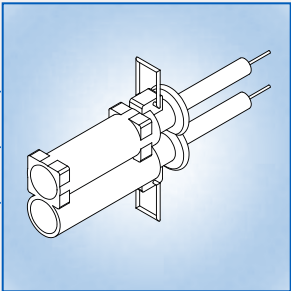


# E-SERIES

The E-Series family of two and three circuit polarized connectors brings simplicity to multi-pin high voltage applications. A unique wire latch system provides an added level of safety and security to the high voltage system.

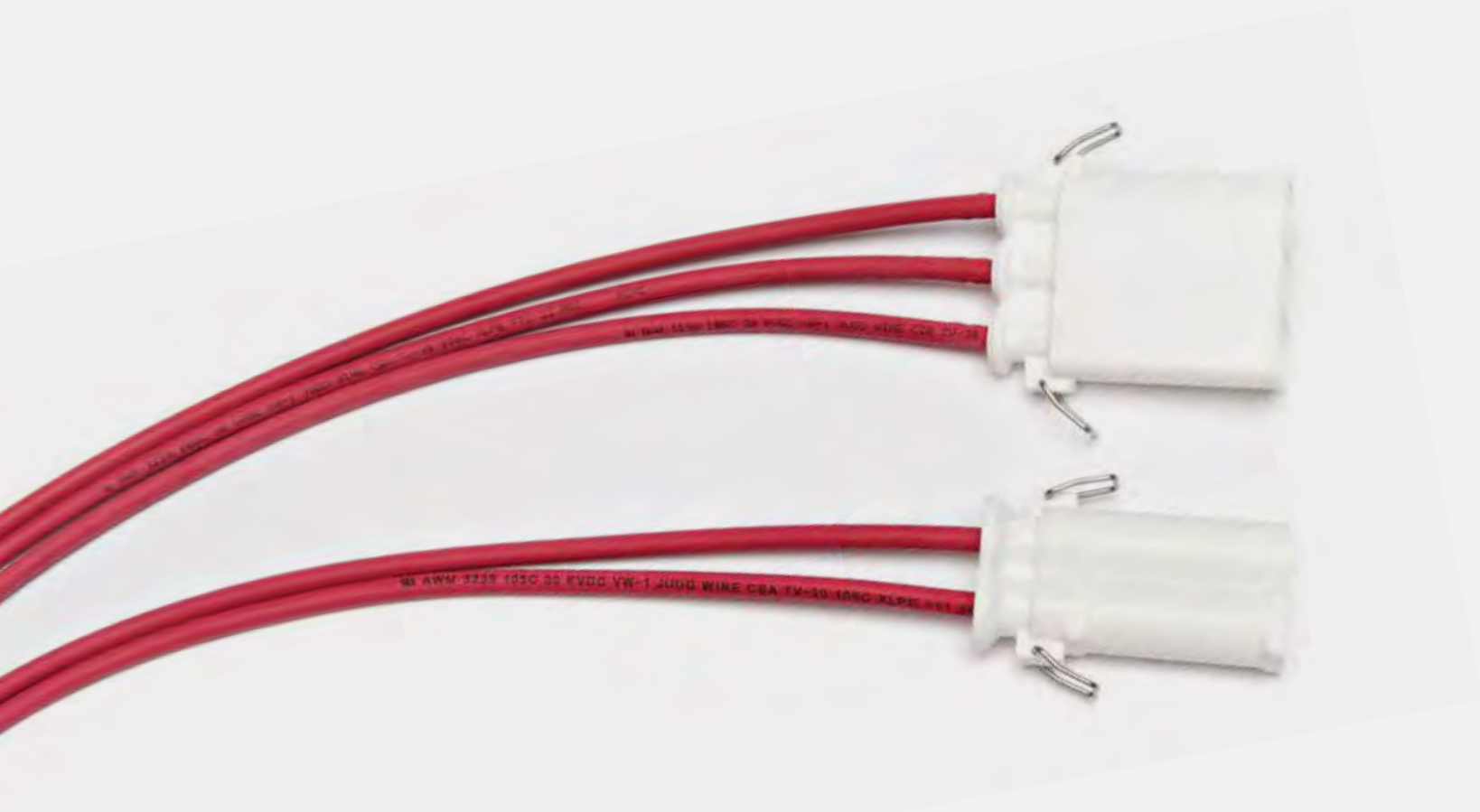
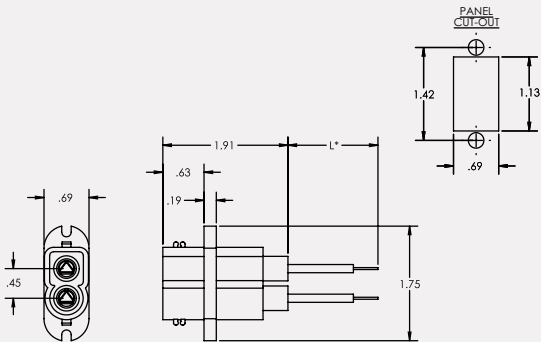
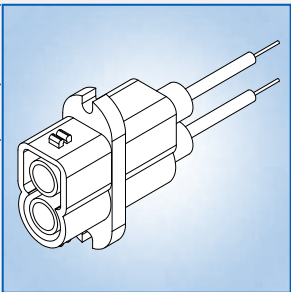
## E200QX"L"

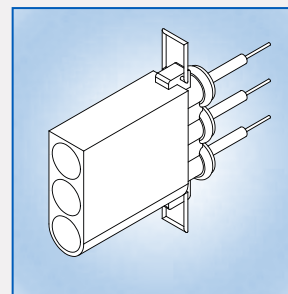
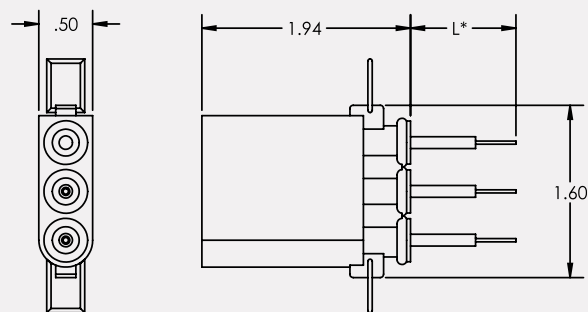
Two Circuit Polarized Plug  
Up to 15 kVDC



## E201QX"L"

Two Circuit Polarized Panel Mounting Receptacle  
Up to 15 kVDC

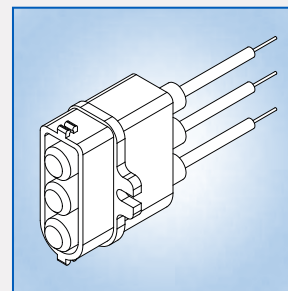
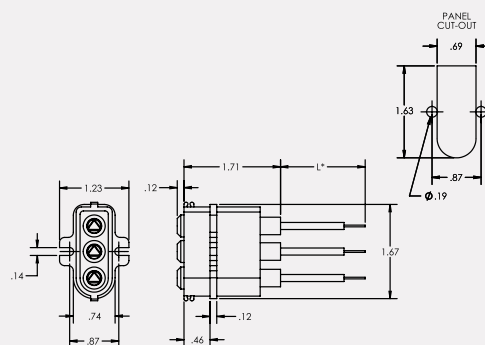




### E300QX"L"

Three Circuit Plug Available in Mixed (Ground/Lead) Configurations

Up to **15** kVDC



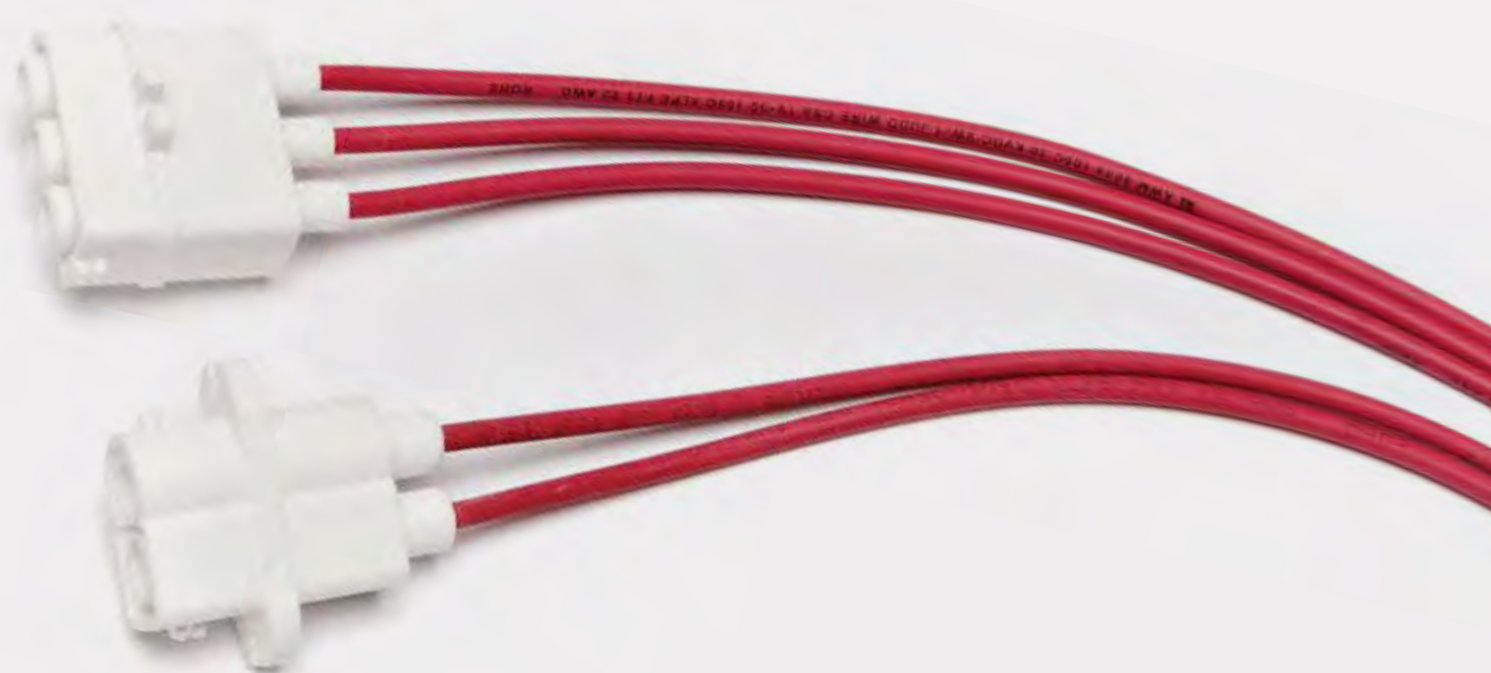
### E301QX"L"

Three Circuit Panel Mount Receptacle Available in Mixed (Ground/Lead) Configurations

Up to **15** kVDC

Unless otherwise specified:

- "L" in each part number is to be replaced by the desired length of wire in inches – 48 inches is standard (E200QX"L" with 48 inches of wire is ordered as E200QX48)
- "QX" in the part number is the wire type. It is 22AWG, 30 kVDC rated, UL 3239 style wire made with cross-linked polyethylene insulation, color red, used in all circuits
- Optional "UX" in the part number is the wire type. It has two (2) 22AWG, 30 kVDC rated, UL 3239 style wires made with cross-linked polyethylene insulation, color red, and one (1) 600 V lead wire 18AWG, green signal wire (not shown)
- Connector bodies are molded in flame-retardant polypropylene, color white
- Voltage ratings are DC voltages, continuous operation when properly mated
- E2 Series plugs will mate with E2 Series receptacles, E3 series plugs mate with E3 series receptacles
- All dimensions are in inches

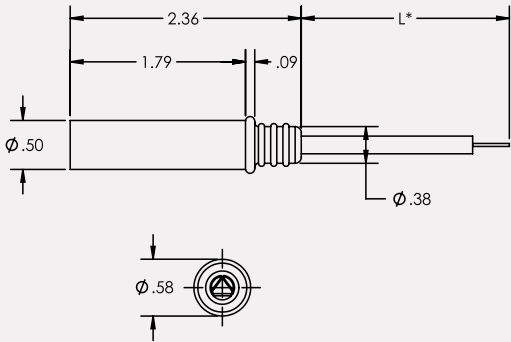
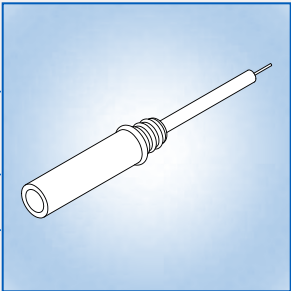


# F-SERIES

The F-Series single pole connectors and cable assemblies carry a higher operating voltage rating than the smaller A-Series. For those applications where a simple yet safe disconnect is required at higher voltages, the F-Series is the perfect choice.

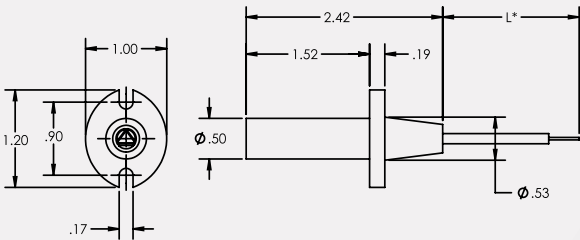
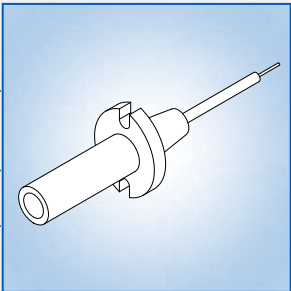
## F101QX"L"

Single Circuit In-Line Receptacle  
Up to **20** kVDC



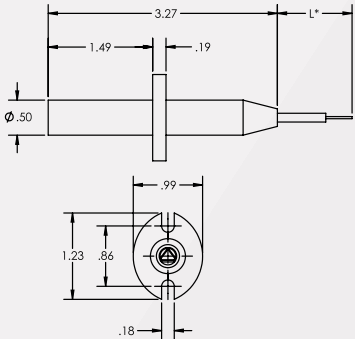
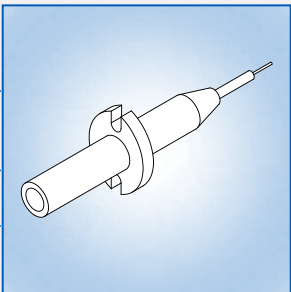
## F301RX"L"

Single Circuit Panel Mount Receptacle  
Up to **30** kVDC

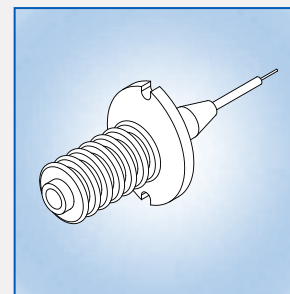
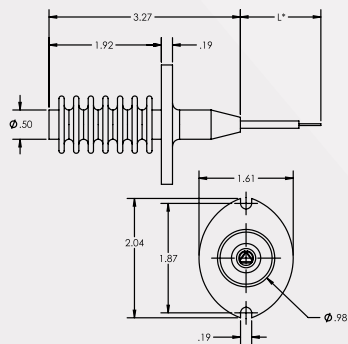


## F303RX"L"

Single Circuit Panel Mount Receptacle  
Up to **35** kVDC



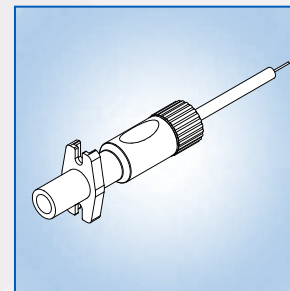
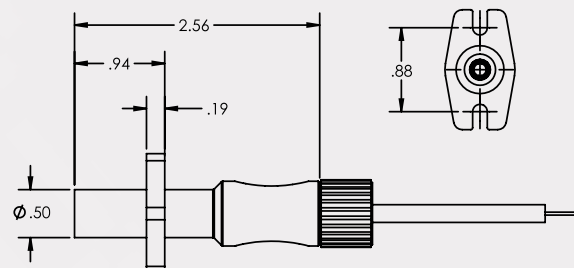




## F310RX"L"

Single Circuit Panel  
Mount Receptacle with  
Extended Surface

Up to **35** kVDC



## F311

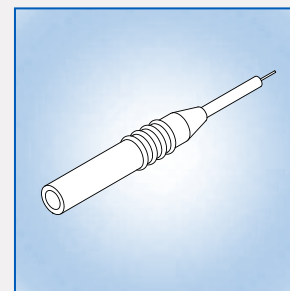
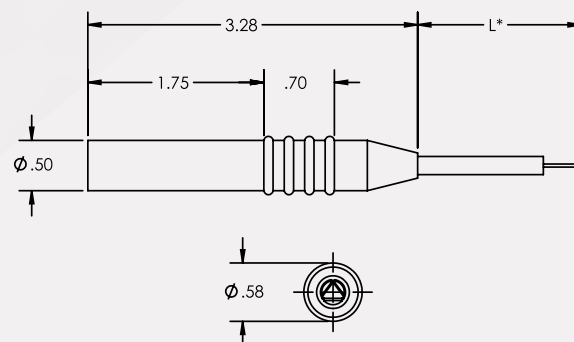
Single Circuit Panel  
Mounted Field Install-  
able Receptacle

Available as an In-Line  
and Multiple Diameters  
to Accommodate Differ-  
ent Wire Sizes. Consult  
Factory for Additional  
Details.

Wire Shown Not  
Included

Molded in Black Polybu-  
tylene Terephalate

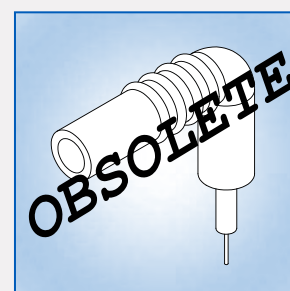
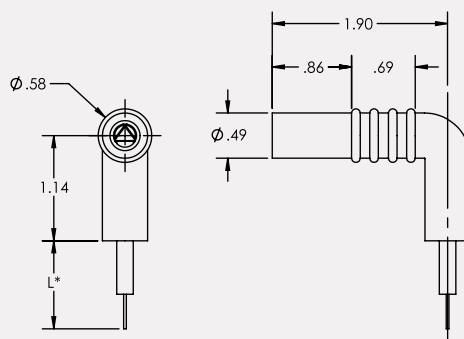
Up to **25** kVDC



## F402RX"L"

Single Circuit In-Line  
Receptacle

Up to **35** kVDC



## F500QX"L"

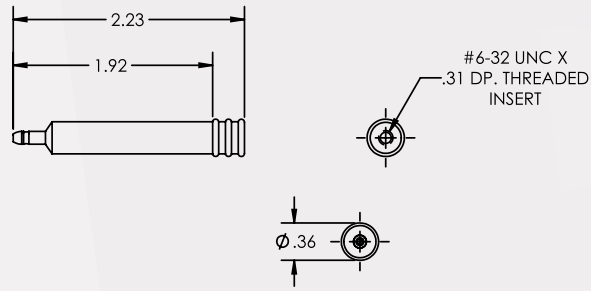
90 deg: Single Circuit  
In-Line Receptacle

Up to **25** kVDC

## F600

Single Circuit Straight Plug  
for Stud Mounting

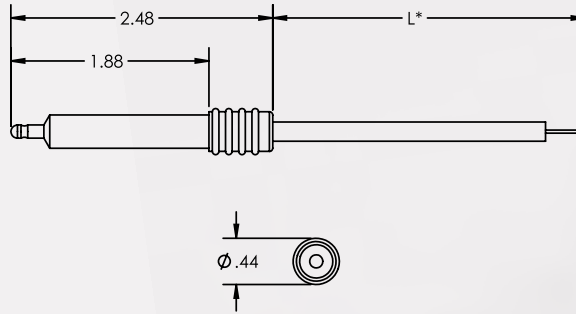
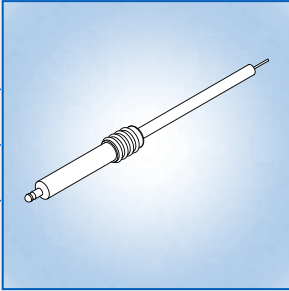
Up to **35** kVDC



## F602RX"L"

Single Circuit Straight Plug

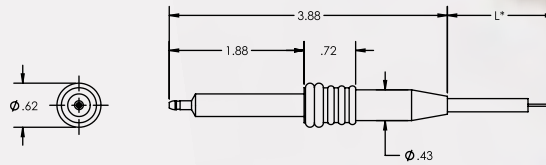
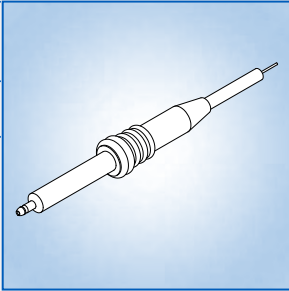
Up to **35** kVDC



## F701RX"L"

Single Circuit Straight Plug  
with Extended Length

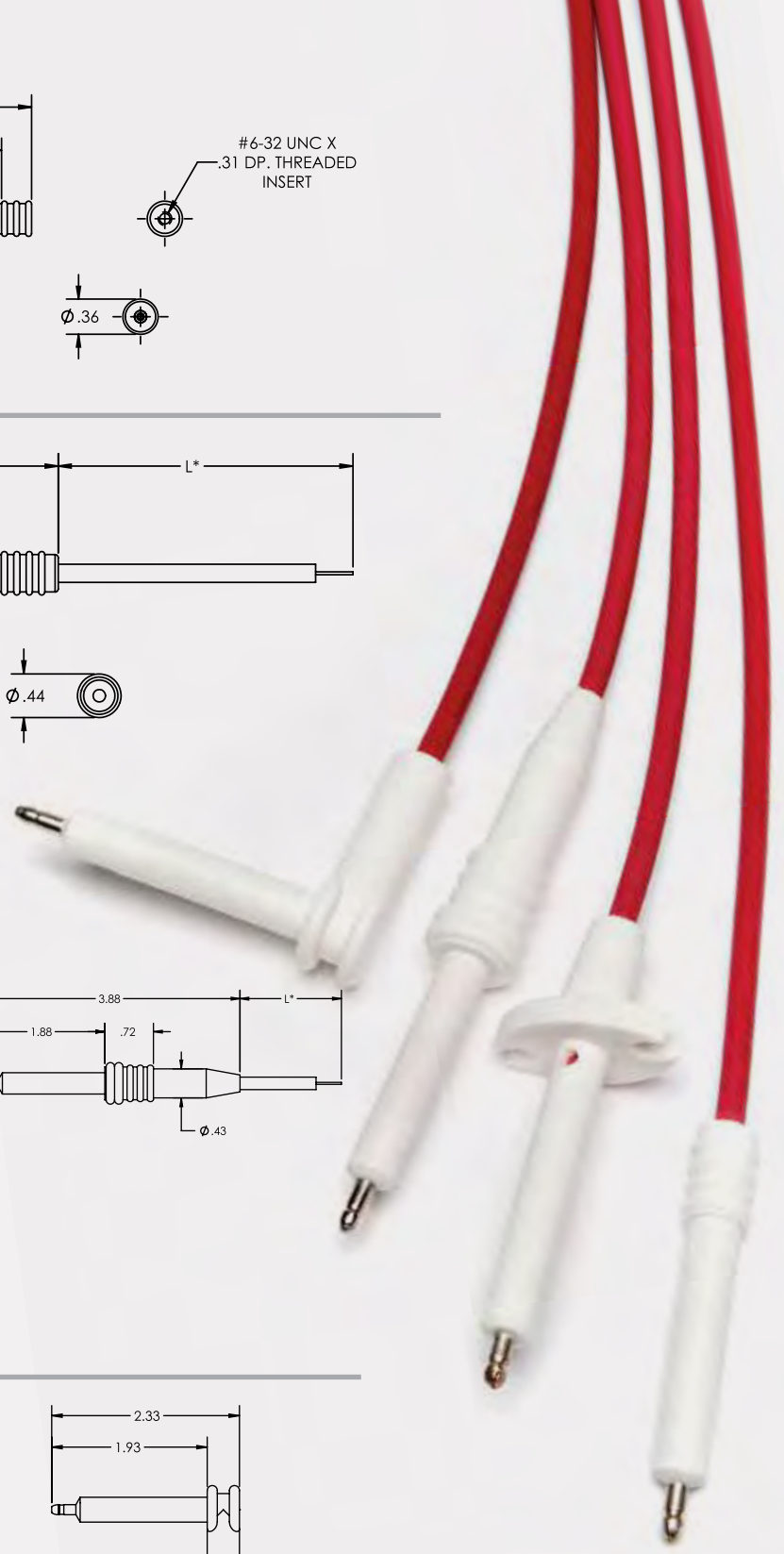
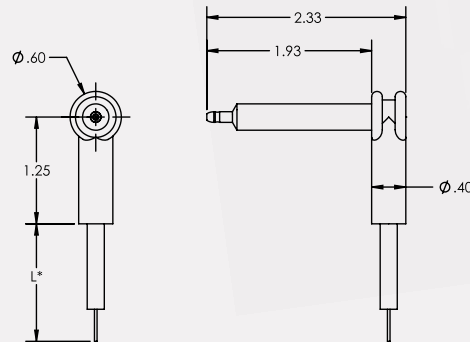
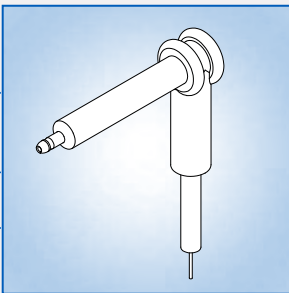
Up to **35** kVDC

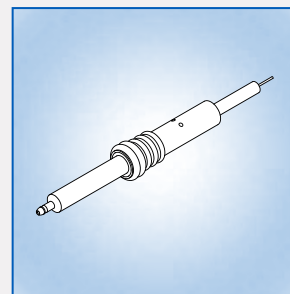
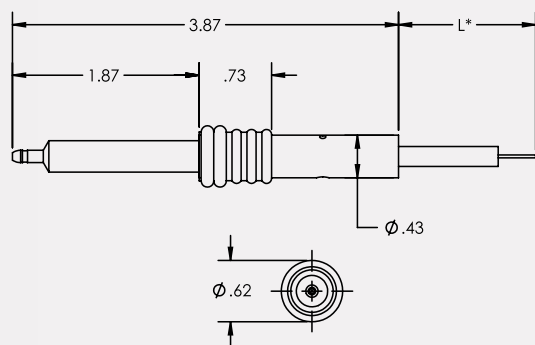


## F702RX"L"

90 deg: Single Circuit  
In-Line Plug

Up to **35** kVDC

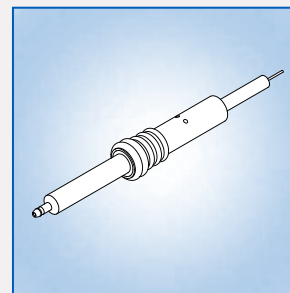
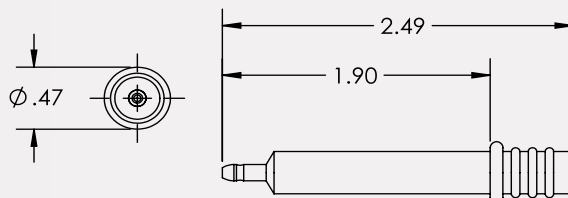




### F705YC"L

Single Circuit In-Line Plug

Up to **30** kVDC

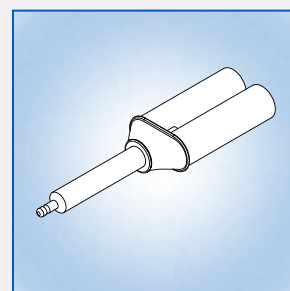
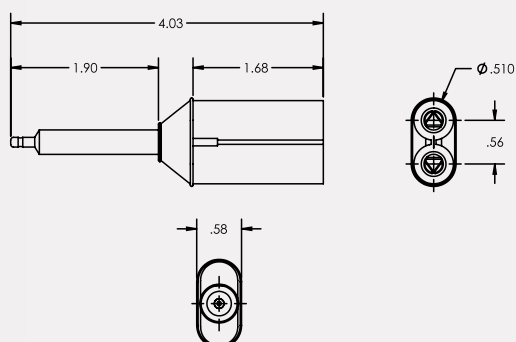


### F800.XXX

Single Circuit Field Installable Plug

XXX = I.D's of: 0.125"  
0.165"  
0.187"  
0.219"  
0.224"

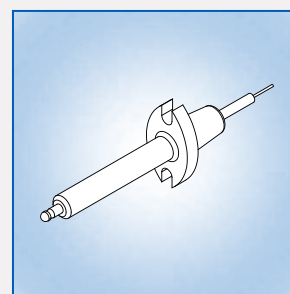
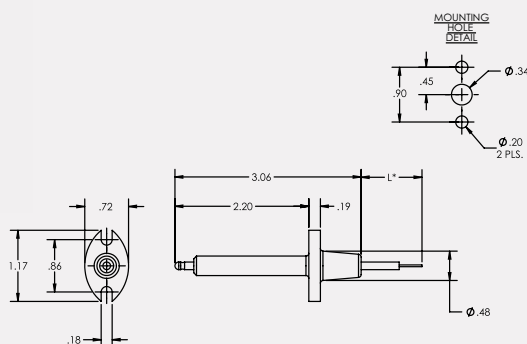
Up to **35** kVDC



### F801

Dual Receptacle to Single Plug Adapter

Up to **30** kVDC



### F901RX"L"

Single Circuit Straight Panel Mount Plug

Up to **35** kVDC

Unless otherwise specified:

- "L" in each part number is to be replaced by the desired length of wire in inches – 48 inches is standard (F301RX"L" with 48 inches of wire is ordered as F301RX48)
- "RX" in the part number is the wire type. It is 22AWG, 40 kVDC rated, UL 3239 style wire made with cross-linked polyethylene insulation, color red
- Connector bodies are molded in flame-retardant polypropylene, color white
- Voltage ratings are DC voltages, continuous operation when properly mated
- All F Series plugs will mate with all F Series receptacles
- All dimensions are in inches

# G-SERIES

The G-Series is perfect for high voltage applications requiring extremely small and lightweight components such as in military or aerospace applications. From heads up displays to missile ignition systems, the G-Series can be deployed almost anywhere.

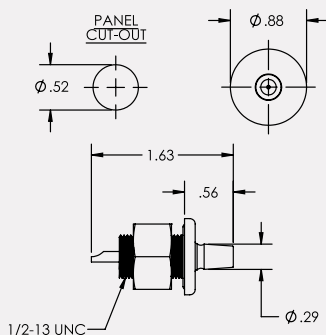
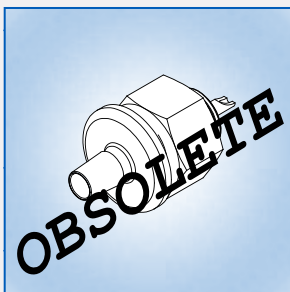
## G100

Single Circuit Panel Mounting Feedthrough Plug with Solder Cup Molded-in Contact

Connector Body molded in Black PBT

Includes Nylon Nut and O-Ring

Up to **20** kVDC



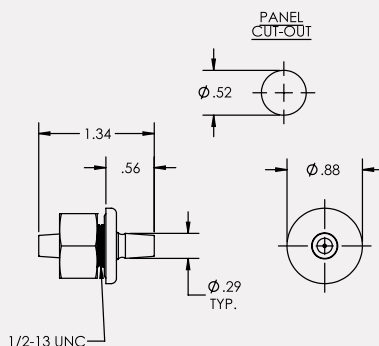
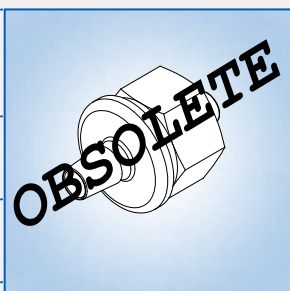
## G101

Single Circuit Panel Mounting Feedthrough Plug with Double-ended Mating

Connector Body Molded in Black PBT

Includes Nylon Nut and O-Ring

Up to **20** kVDC



## G104BA"L"\*

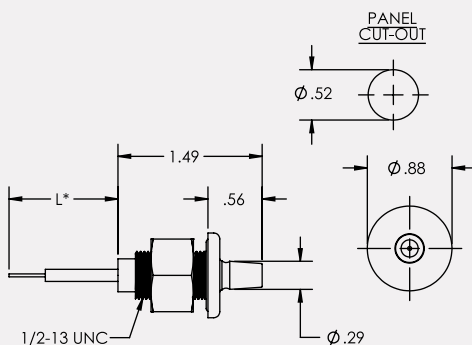
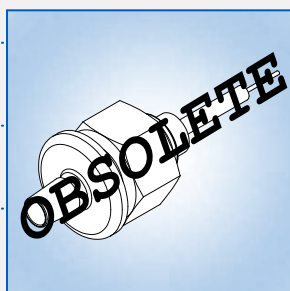
Single Circuit Panel Mounting Plug with Wire Lead

Connector Body Molded in Black PBT

Includes Nylon Nut and O-Ring

BA Wire: 20AWG, 30 kVDC Rating, UL 3239 with White Silicone Insulation

Up to **20** kVDC



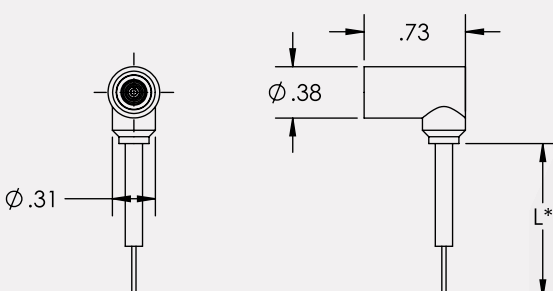
## G102BA"L"\*

Single Circuit Right Angle Receptacle Molded in Silicone Rubber

Connector Body Molded in Silicone Rubber

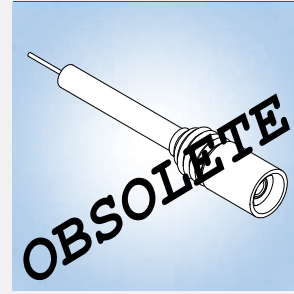
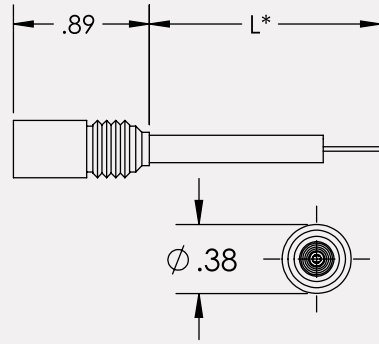
BA Wire: 20AWG, 30 kVDC Rating, UL 3239 with White Silicone Insulation

Up to **20** kVDC





## G103BA"L"



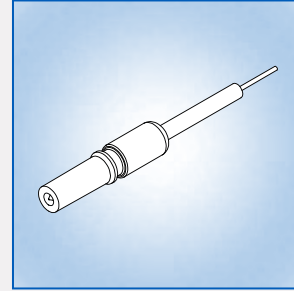
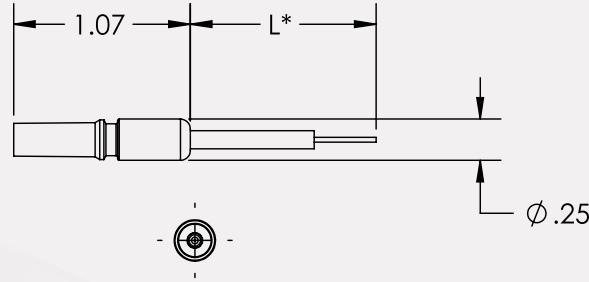
Single Circuit In-line  
Receptacle Molded in  
Silicone Rubber

Connector Body Molded  
in Silicone Rubber

BA Wire: 20AWG, 30  
kVDC Rating, UL 3239  
with White Silicone  
Insulation

Up to 20 kVDC

## G200VG"L"



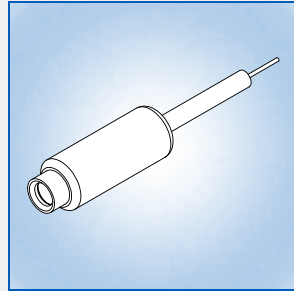
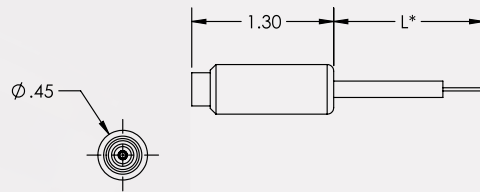
Single Pole Environ-  
mentally Sealed Insert  
Molded Plug

Connector Body Molded in  
Nylon

VG wire: 22 AWG, 20kVDC  
Rating, UL 3239 with White  
Silicone Insulation

Up to 10 kVDC

## G202VG"L"



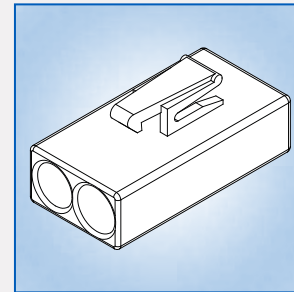
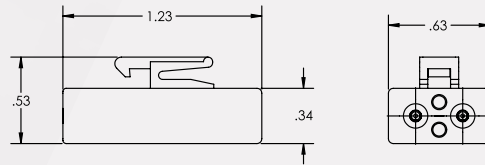
Single Circuit Environ-  
mentally Sealed In-line  
Receptacle

Connector Body molded  
in TPR

VG Wire: 22 AWG, 20  
kVDC Rating, UL 3239 with  
White Silicone Insulation

Up to 10 kVDC

## G400



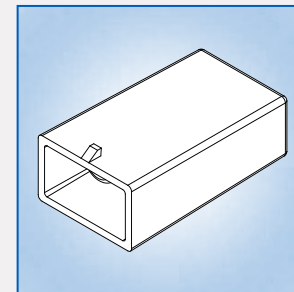
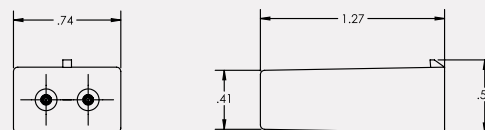
Crimp Contacts

Field Installable Two Pole  
Plug Molded in Black Nylon

Accepts 18-22 AWG Wire  
with O.D's up to 0.150"

Up to 10 kVDC

## G401



Crimp Contacts

Field Installable Two Pole  
Receptacle Molded in  
Black Nylon

Accepts 18-22 AWG wire  
with O.D's up to 0.150"

Up to 10 kVDC



# H-SERIES

The H-Series of circular connectors is designed to bring control circuits into a high voltage environment where dielectric transformer oils are used. The receptacles are panel mounted and provide a seal that keeps the oil in place, even in harsh environments such as x-ray tubes used in CT Scan imaging equipment.

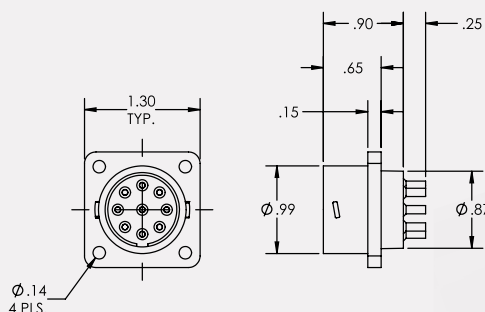
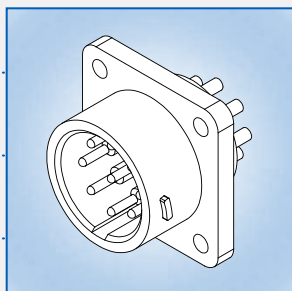
## H401

Nine Pin Circular Receptacle with Short Tail

Requires O-Ring Seat on Panel Wall

Molded in Black PET

Up to 5 kVDC in oil

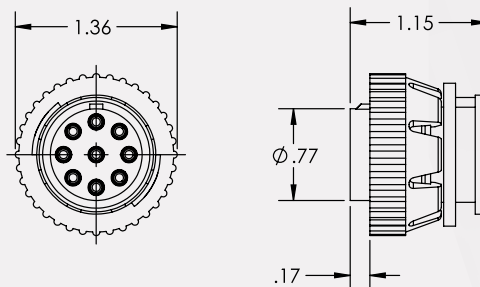
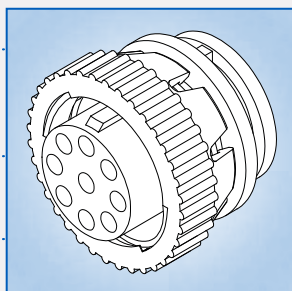


## H403

Nine Pole Plug with Rapid Action Vibration Resistant Locking Collar

Body Molded in Black PET, Collar Molded in Black Nylon

Up to 5 kVDC



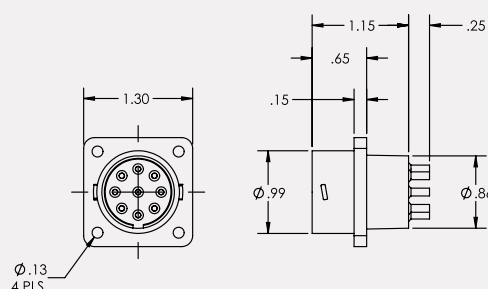
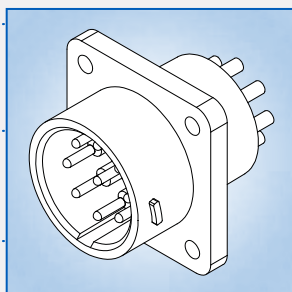
## H404

Nine Pole Panel Mount Receptacle with 4 Clearance Holes for Screw Mounting

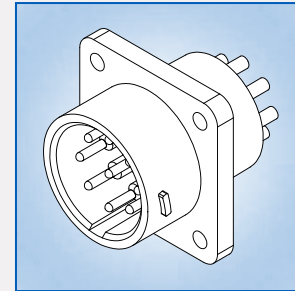
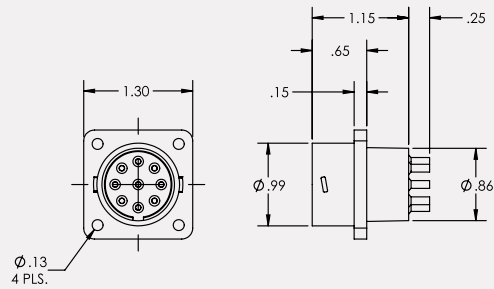
Molded in Place Pins with Field Installable Crimp Snap-On Connections

Molded in Black PET

Up to 5 kVDC in oil



## H407



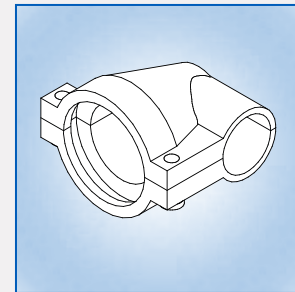
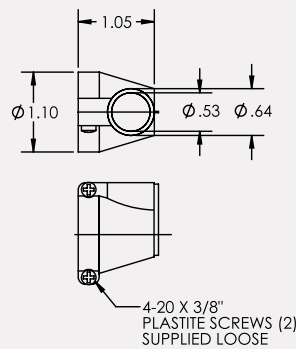
Nine Pole Panel Mount  
Receptacle with 4  
Clearance Holes for  
Screw Mounting

Pins Molded in Place  
with Solder Cup  
Terminals

Molded in Black PET

Up to 5 kVDC in oil

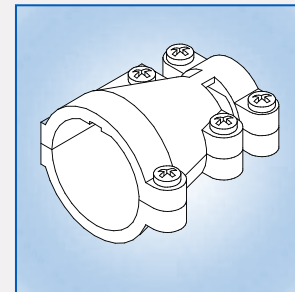
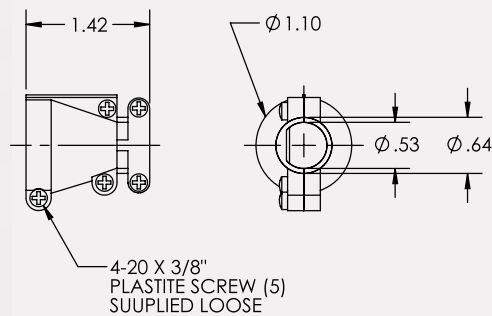
## H411



Optional Right Angle Ca-  
ble Clamp with 2 Plastic  
Assembly Screws

For Use with H403 Plug

Molded in Black  
Polypropylene



## H414

Optional Straight Cable  
Clamp with 5 Plastic  
Assembly Screws

For use with H403 Plug

Molded in Black  
Polypropylene



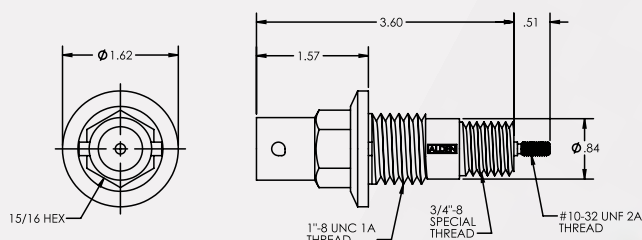
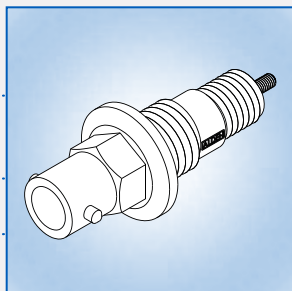
# P-SERIES

The P-Series connectors and cable assemblies are designed specifically for applications requiring higher voltages in a compact size. The panel mounted receptacles can be immersed in dielectric transformer oils where they maintain a perfect seal even in extreme temperatures. The P-50 series is the industry standard for mammography x-ray tubes and is used in high power laser applications as well.

## P500

Single Circuit Panel Mounting Oil Tight Receptacle

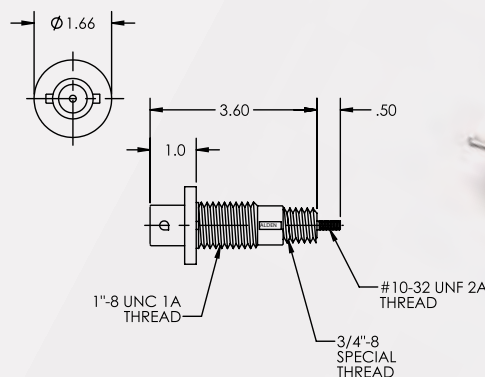
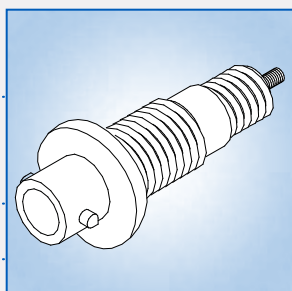
Up to **55** kVDC



## P502

Single Circuit Low Profile Panel Mounting Oil-Tight Receptacle

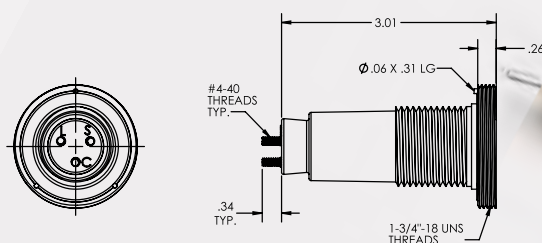
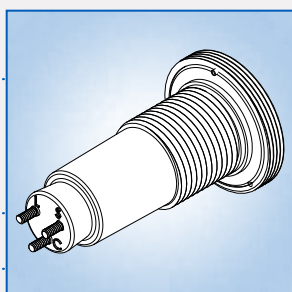
Up to **55** kVDC



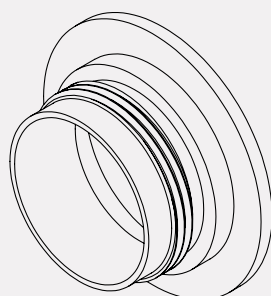
## P700

Three Pole Panel Mounting Oil Tight Receptacle with Threaded Flange for Panel Ground

Up to **75** kVDC

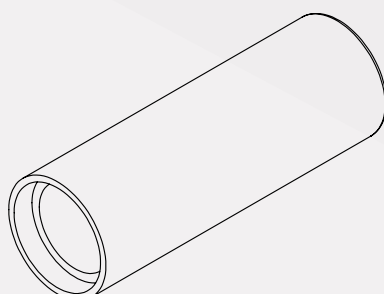


## P5 Series Accessories\*



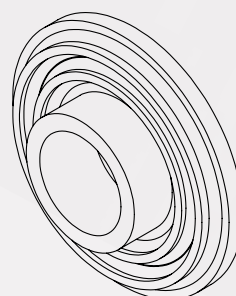
### P-FLNG

Provides Mounting Flange to be used with the P502 when the P506 plug is specified



### PL-50

Potting Cup provides easy use of potting P5 Receptacle

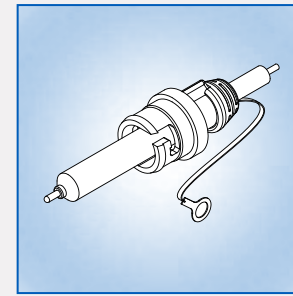
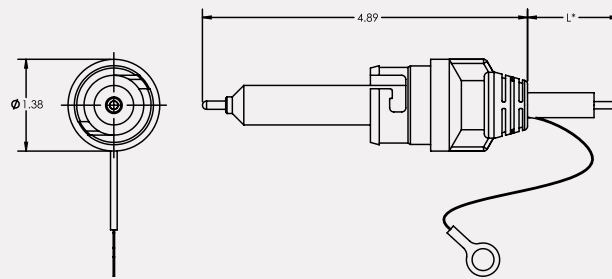


### BN-50

Provides an external creep path for P5 Receptacles

\* Consult factory for further details



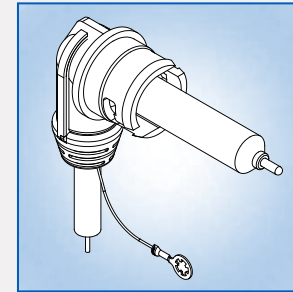
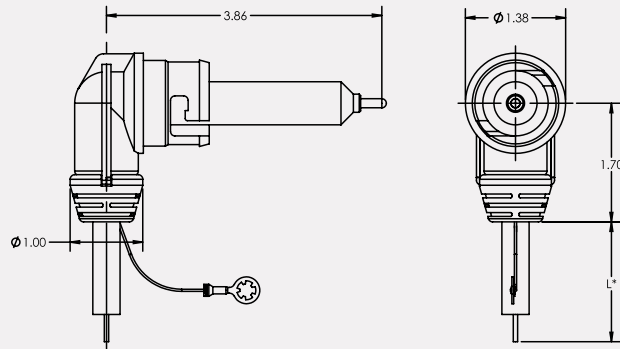


### P503BH\"L\"

Single Circuit Twist  
Locking Plug

Mates with P500  
& P502

Up to **55** kVDC

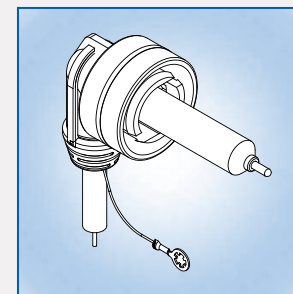
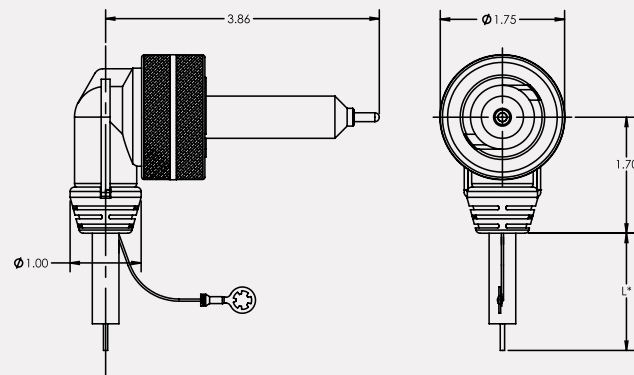


### P504BH\"L\"

Single Circuit Right An-  
gle Twist Locking Plug

Mates with P500  
& P502

Up to **55** kVDC

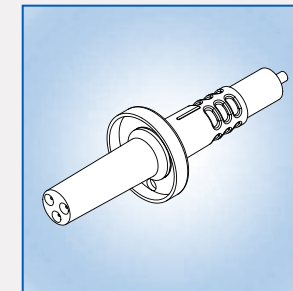
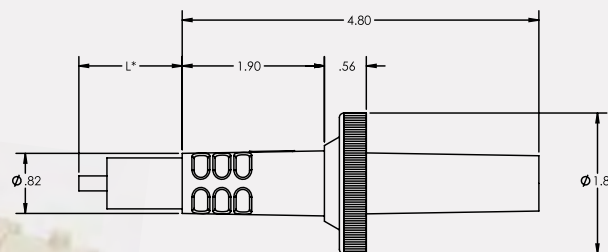


### P506BH\"L\"

Single Circuit  
Self-Grounding Right  
Angle Twist Locking  
Plug

Requires the use of  
P-FLNG and Can Only  
Mate with P502

Up to **55** kVDC



### P701QS\"L\"

Three Pole Plug and  
Cable Assembly

Mates with P700

Up to **75** kVDC

Unless otherwise specified:

- "L" in each part number is to be replaced by the desired length of wire in inches – 48 inches is standard (P503BH\"L\" with 48 inches of wire is ordered as P503BH48)
- "BH" and "QS" in the part numbers are the wire types. Consult factory for details
- Connector bodies are molded in flame-retardant PET or PBT, color natural
- Voltage ratings are DC voltages, continuous operation when properly mated
- All dimensions are in inches

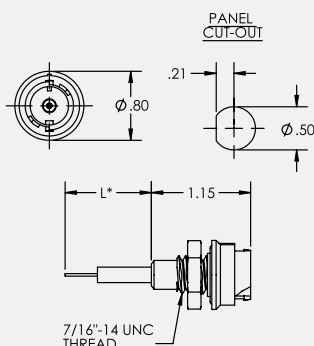
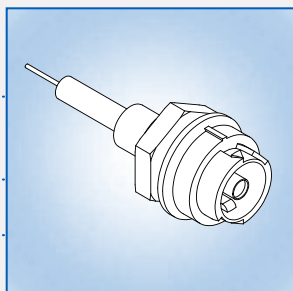
# V-SERIES

The V-Series features ergonomic, intuitive auto-locking connectors that are well-suited for hand held devices that require high voltage. In applications where easy, fast and secure connections are required frequently, the V-Series is the right choice.

## V121QX"L"

Single Pole Panel Mount Receptacle

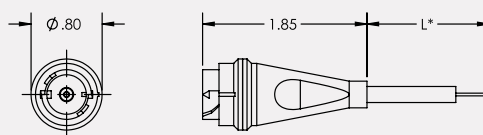
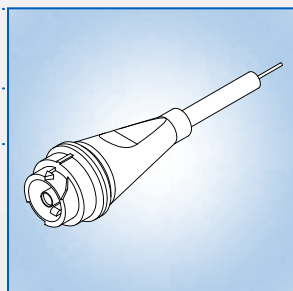
Up to **20** kVDC



## V171QX"L"

Single Pole In-Line Receptacle

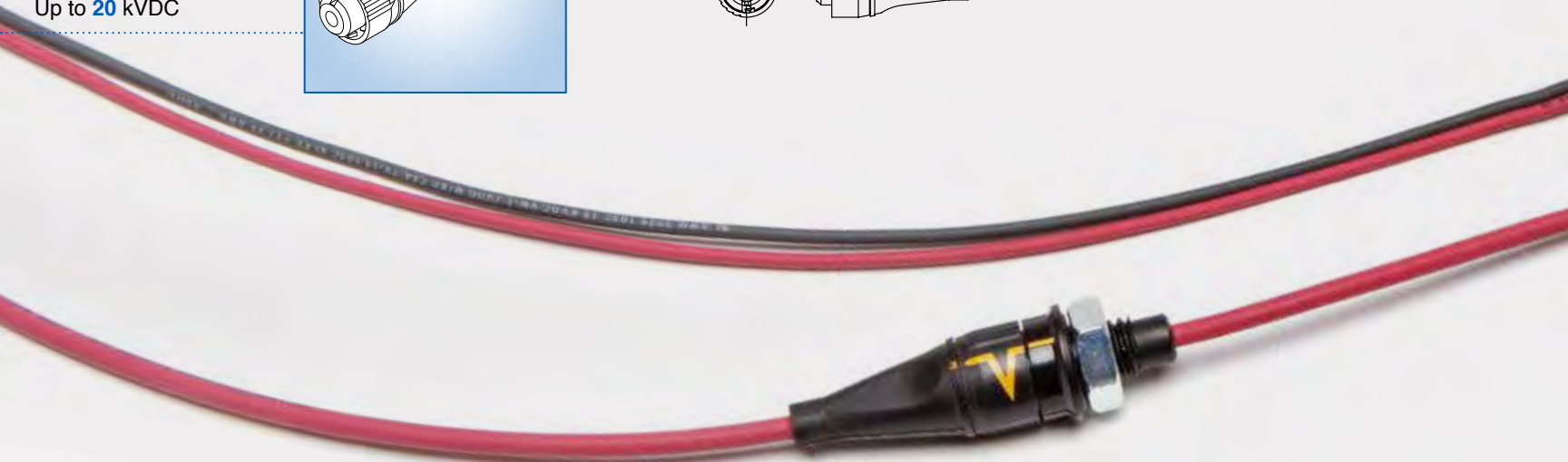
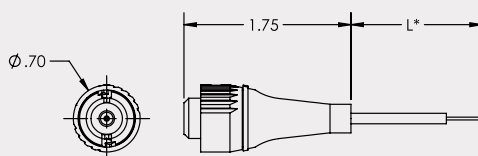
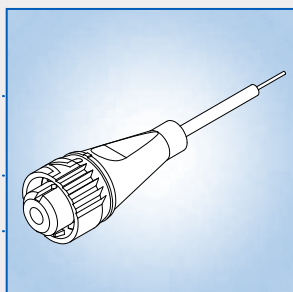
Up to **20** kVDC



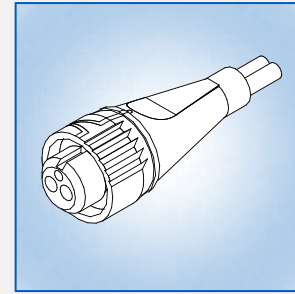
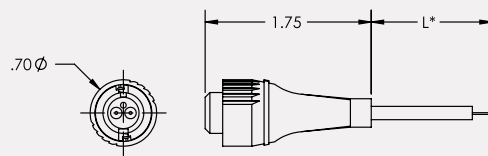
## V131QX"L"

Single Pole Plug/Cable Assembly

Up to **20** kVDC



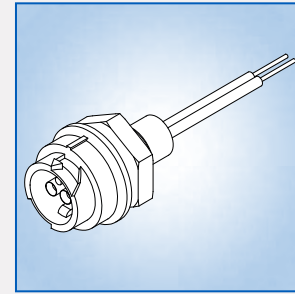
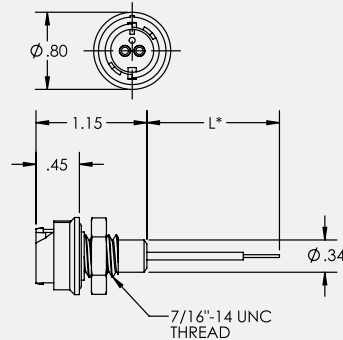




### V132CY"L"

Two Pole Plug/Cable  
Assembly

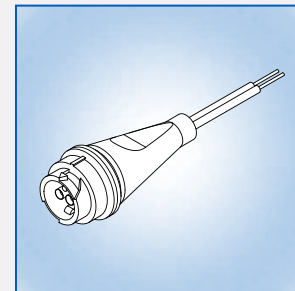
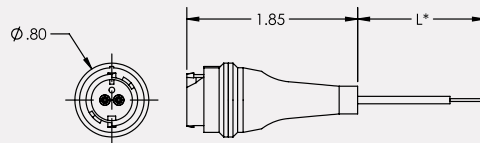
Up to **20** kVDC



### V122CY"L"

Two Pole Panel Mount  
Receptacle

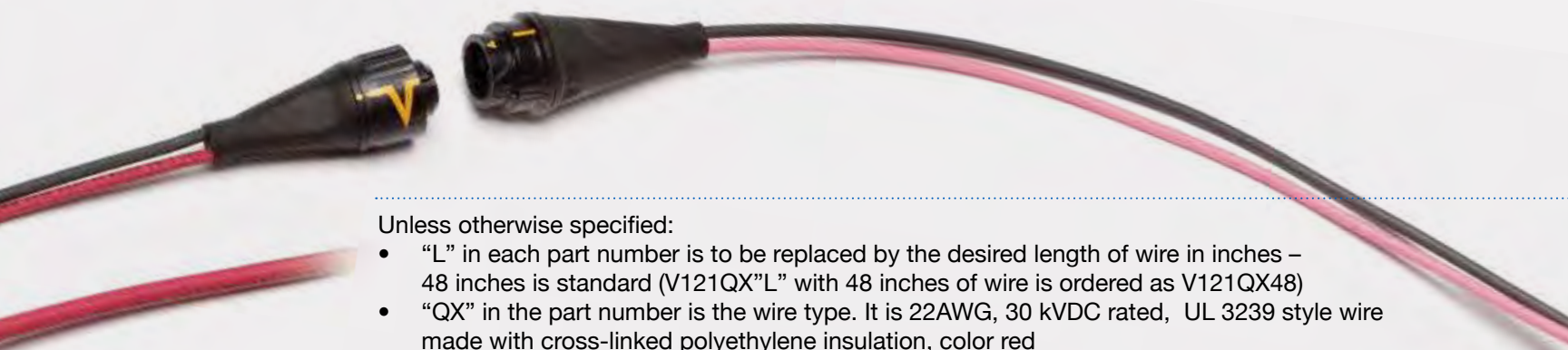
Up to **20** kVDC



### V172CY"L"

Two Pole In-line  
Receptacle

Up to **20** kVDC



Unless otherwise specified:

- "L" in each part number is to be replaced by the desired length of wire in inches – 48 inches is standard (V121QX"L" with 48 inches of wire is ordered as V121QX48)
- "QX" in the part number is the wire type. It is 22AWG, 30 kVDC rated, UL 3239 style wire made with cross-linked polyethylene insulation, color red
- "CY" in the part number is the wire type. It is 22AWG, 15 kVDC rated, UL 3239 style wire made with cross-linked polyethylene insulation, one color red, the other black
- Connector bodies are molded in polyamide materials
- Voltage ratings are DC voltages, continuous operation when properly mated
- All V131 Series plugs will mate with all V121 and V171 Series receptacles. All V132 Series plugs will mate with all V122 and V172 Series receptacles
- All dimensions are in inches

## **ORDERING INFORMATION**

To order the standard products listed in this catalog please find your local Amphenol Alden sales rep at [www.AmphenolAlden.com](http://www.AmphenolAlden.com), or contact our customer service and marketing team directly at (508) 427-7000.

When placing an order, please reference the connector and length of wire you require. For example, to order an A400QX connector with a lead of 72 inches, the sales part number would be "A400QX72."

Single or double ended standard cable assemblies can be made to meet the needs of your end application. Our experienced high voltage engineers are available to discuss your application and determine which product is right for you, or to help develop a custom solution that exactly meets your needs.

## **ELECTRICAL CONNECTOR VOLTAGE RATINGS**

Ratings listed in this catalog apply to clean and dry mated connector pairs in standard atmospheric conditions. NO WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE IS MADE and all customers must test each component to determine that it meets their operating and reliability requirements. Connectors are tested at elevated voltages and then derated for operation to assure that the rated potential does not exceed the insulating value of the body of the device, the wire, or exceed sparkover value to an electrical ground from the wire exit or the connector aperture when properly mated or mounted. Electrical ratings and test voltage are based on using direct current (DC) with less than 5 milliamps of current applied at less than 1 kilovolt rise per second. Test duration is for one minute. Connector mated pairs must be rated by the lowest connector (or component) value, using customer applied safety factors. When connectors are used in an adverse environment, such as high temperature, humidity, or dust content, the connector should be derated. Customer must also verify the suitability of connector use under power application conditions other than that used of rating determination per the above.

## **AMPHENOL ALDEN HIGH VOLTAGE CAPABILITIES**

### **Engineering**

At Amphenol Alden we pride ourselves on our talented and experienced design team. When something off the shelf can't meet your needs, our team will ensure an optimal solution is developed. Working collaboratively, we engage with customers on quick custom projects as well as multi-year new product introductions. Utilizing our dedicated project management organization we ensure a smooth development process from start to finish. Whether you need a custom proprietary interconnect or a non-standard cable, we will find a great solution for you and your end application.

### **Engineering Snapshot**

- Global Engineering Team with Engineers in the USA, Mexico, and China
- Rapid Prototyping with in house 3D Printing
- Electrical, Mechanical, & Flow Analysis
- 70 Years of custom High Voltage Design History

### **Cable Assembly & Fabrication**

Having helped shape the high voltage interconnect industry, Amphenol Alden has developed and refined numerous insert and over molding techniques. Given our global manufacturing footprint, we can tailor a production solution to fit projects at low or high volume. When you need a partner with deep expertise in high voltage interconnect and cable assembly manufacturing, look no further than Amphenol Alden.

### **Cable Assembly & Fabrication Snapshot**

- Manufacturing in the USA, Mexico, and China
- Thermoplastic and silicone liquid injection molding
- Overmolding of cable assemblies with components, strain relief, and yokes
- Insert molding of pins, sockets, and other components as required
- Inventory control & total supply chain management

### **Test & Validation**

Ensuring a design meets your exacting specifications before and after product launch is a primary focus of Amphenol Alden. During development, we utilize high voltage test equipment capable of testing up to 200 kVDC and partial discharge corona testing up to 100 kVAC. Beyond product specifications, our quality department is adept at validating and monitoring processes and conformance to quality standards. With products from Amphenol Alden, you can rest easy knowing that the first part off the line will be the same as the last.

### **Test & Validation Snapshot**

- Hipot testing to 200 kVAC
- Partial discharge corona detection to 100 kVAC
- X-Ray inspection
- Helium leak testing
- Systematic quality control conforming to ISO9001:2008 & ISO13485:2003

[www.amphenolalden.com](http://www.amphenolalden.com)

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Alden

Phone (508) 427-7000

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