

Single Pole Devices

Industrial Grade Connectors for Temporary and Semi-Permanent Power Distribution Applications

rhino-hide®



rhino-hide® Single Pole Cam-Type Devices

Rhino-Hide Single Pole Cam-Type Devices from Leviton are designed to provide superior service and durability, even under the most severe operating conditions. Our 15 Series Taper Nose mini-cam plugs and receptacles are rated to 150 Amps, making them ideal for entertainment applications such as those found in carnivals and theme parks.

Our 16 Series Taper Nose Cam-Type Devices are rated up to 400 Amps, making them the devices of choice for power distribution applications such as construction sites, mining operations, welding, cell tower backup power, concerts, sound stages, movie making, television productions, sporting events and conventions.



15D22-UR



16A23-UB



16D31-UO

The 18 Series Single Pole Ball Nose Cam-Type Devices are also rated to 400 Amps, and are typically favored by the broadcasting and welding industries as well as many end users in Canada.

All of these devices feature solid brass contacts and high-performance TPV insulators, making them ideal for both outdoor and indoor applications. The positive locking connection maintains its integrity even when subjected to vibration. Plus, they are interoperable and interchangeable with competitive products.



16R28-UR



18R22-UG

rhino-hide® Single Pole Cam-Type Devices

Our 17 & 19 Series Taper and Ball Nose devices are rated up to 690 Amps and can withstand grueling, heavy-duty industrial use. Preferred applications for this series include generator test stations, water purification plants, electrochemical machining equipment and other general industrial uses.



17D21-B



17V23-R

Rhino-Hide 22 & 23 Series Single Pole Latching Cam-Type devices are also rated up to 690 Amps and feature an additional latching mechanism for added security, especially in high-vibration applications. These devices can also be retrofitted to existing locations and power distribution systems allowing for an effortless installation.

The 22 Series Plugs offer an innovative solution for all tower-to-cell cable connections in wind turbines. Our In-Line Cam-Type Plugs partnered with pre-assembled harnesses allow quick connect and disconnect on site. In addition when compared to traditional “butt-splice” methods, cam plugs lower total installation costs drastically. These plugs are commonly used to provide power to ships at dock side, and are recognized by ETL Labs to meet U.S. Navy specifications.



22R24-E



22R28-W

rhino-hide® 49 Series Single Pole High Amperage Devices

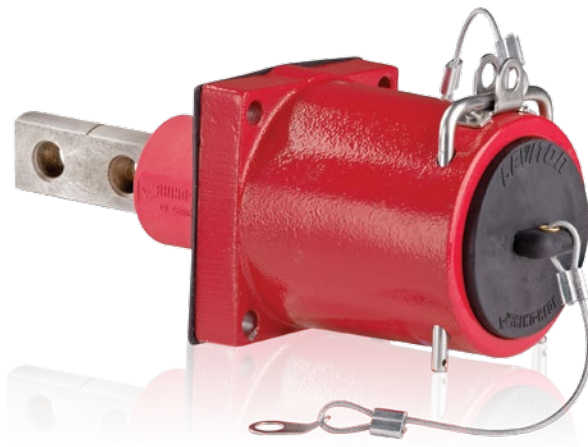
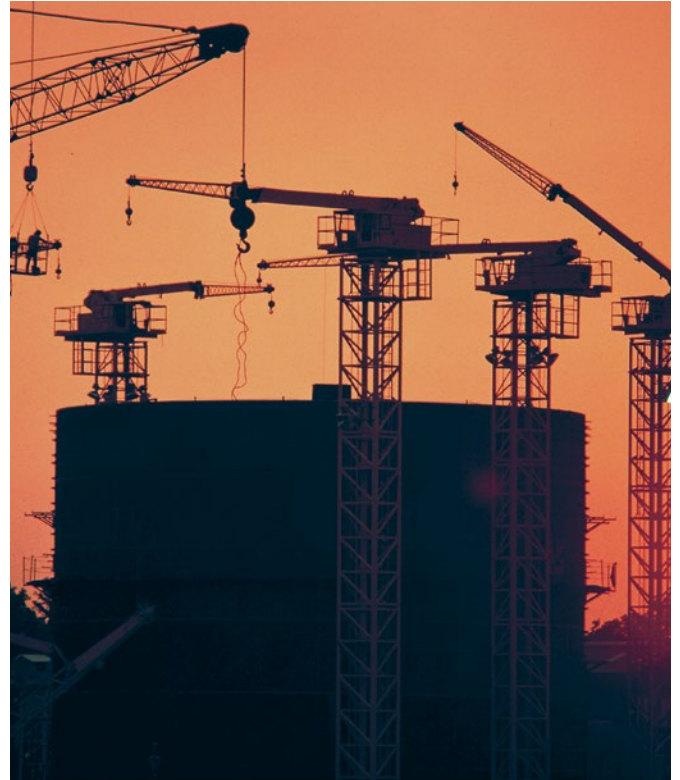
Rhino-Hide 49 Series single pole devices are designed to deliver up to 1135 Amps at 1000 volts, AC or DC, under the most extreme conditions with cables ranging in size from 313 MCM to 777 MCM. Leviton's Rhino-Hide products are designed to mate with other manufacturers' high-amperage single pole devices.

Rhino-Hide 49 Series single pole high amperage devices are CE Certified and cURus recognized components engineered to exceptional standards for high-amperage power delivery.



49F53-R, 49M53-R

Rhino-Hide 49 Series products are ideal for any number of demanding applications requiring continuous, reliable high-amperage power in multi phases. Typical locations where these products are used include oil and gas rigs as well as heavy industrial applications. Rhino-Hide devices can be installed on both existing silicon-controlled rectifiers (SCR's) and generator stations or on new oil and gas rig construction. These devices are used by SCR drive manufacturers and top drive manufacturers to distribute power from the SCR to mud pumps and top drives.



49MR2-CR



49MR1-XR

Cam-Type Devices for Commercial and Industrial Use

Rhino-Hide Single Pole Cam-Type Connectors from Leviton supply temporary electrical power distribution for multiple indoor and outdoor applications.

Common Applications

- Sports, Entertainment and Movie Industry
- Theme Parks and Carnival Equipment
- Concert Venues and Convention Centers
- Motor and Generator Splices
- Mining Operations
- Welding and Construction Sites
- Commercial and Navy Shipbuilding/Repair
- Petrochemical and Manufacturing Plant Turnarounds
- Numerous Other Temporary Power Applications

Features and Benefits

- Plugs are available in set screw or crimp tube termination, taper nose and ball nose configurations
- Intermateable and compatible with competitive cam-type products — can be retrofitted to existing locations and power distribution systems
- Shatter and crack proof – high durometer thermoplastic vulcanizate (TPV) or neoprene rubber
- Color-coded insulating sleeves provide fast and easy phase identification
- Self compensating for wear – slit in male contact provides spring action for longer usage
- Quick connect/disconnect
- High conductivity – positive, vibration-proof connection provided by cam design
- Wide range of applications – usable with a wide range of cable and amperage ratings
- Meets NEC requirements and is UL Listed and CSA Certified; NEMA 3R-Rated for use in outside locations

Experience the Difference

Rhino-Hide Single Pole Cam-Type Connectors are designed for easy assembly and disassembly without special tools. A thermoplastic screw is used to tightly secure the contact inside the insulating sleeve, making assembly, disassembly and field repairs effortless. The plugs use plastic locking and reinforcement rings molded into insulating sleeves and receptacles ensuring the integrity of the connection. Under severe stress and load conditions, these rings will not melt, break or crack.

rhino-hide®
When downtime is not an option.

Cam-Type Plugs Features and Benefits



CAM-TYPE PLUGS

	Component	Description	Standards and Certifications (NEMA, UL, CSA)
15, 16, 18 Series Plugs	Sleeve*	Thermoplastic Vulcanizate (TPV)	See individual pages throughout this section for specific Standards and Certifications information
	Contact	Brass	
	Strain Relief	Copper Wire	
17, 19, 22, 23 Series Plugs	Sleeve**	Neoprene	See individual pages throughout this section for specific Standards and Certifications information
	Contact	Brass	
	Strain Relief	Copper Wire	

**V Series: Neoprene

**22L22-S and 22L25-S Series: TPV

Cam-Type

15 Series Taper Nose Devices - 150A, 600V AC/DC Max NEMA 3R Rated for Outdoor Use

Male Plug - Set Screw Termination

(15D21-UG Shown)



Female Plug - Set Screw Termination

(15D22-UY Shown)



Male Plug - Crimp Tube Termination Contact

(15D23-UC Shown; Uses Same Sleeve As Above)



Female Plug - Crimp Tube Termination Contact

(15D24-UC Shown; Uses Same Sleeve As Above)



Male Panel Receptacle

(15R21-UR Shown)



Enclosure

(15S31-UR Shown)





Female Panel Receptacle



(15R22-UH Shown)



15 Series Device Ordering Information

CAM-TYPE PLUGS





		Single Set Screw Termination  	
		Male Plug	Female Plug
Cable Size: #8 - #2 Max Ampacity: 150A Voltage: 600V AC/DC UL/CSA 1691 Listed	White	15D21-UW	15D22-UW
	Black	15D21-UE	15D22-UE
	Brown	15D21-UH	15D22-UH
	Red	15D21-UR	15D22-UR
	Blue	15D21-UB	15D22-UB
	Orange	15D21-UO	15D22-UO
	Green	15D21-UG	15D22-UG
	Yellow	15D21-UY	15D22-UY
Replacement Contacts		15D21-UC	15D22-UC

		Crimp Tube Termination  	
		Male Plug	Female Plug
Cable Size: #8 - #4 Max Ampacity: 140A Voltage: 600V AC/DC UL/CSA 1691 Listed	White	15D23-UW	15D24-UW
	Black	15D23-UE	15D24-UE
	Brown	15D23-UH	15D24-UH
	Red	15D23-UR	15D24-UR
	Blue	15D23-UB	15D24-UB
	Orange	15D23-UO	15D24-UO
	Green	15D23-UG	15D24-UG
	Yellow	15D23-UY	15D24-UY
Replacement Contacts		15D23-UC	15D24-UC

REPLACEMENT SLEEVES

	Male Plug	Female Plug
White	15SDM-1UW	15SDF-1UW
Black	15SDM-1UE	15SDF-1UE
Brown	15SDM-1UH	15SDF-1UH
Red	15SDM-1UR	15SDF-1UR
Blue	15SDM-1UB	15SDF-1UB
Orange	15SDM-1UO	15SDF-1UO
Green	15SDM-1UG	15SDF-1UG
Yellow	15SDM-1UY	15SDF-1UY

CAM-TYPE PANEL MOUNT RECEPTACLES

		.5" Threaded Stud Term.  		.75" Threaded Stud Term.  		Enclosure
		Male	Female	Male	Female	Male/Female
Cable Size: #8 - #2 Max Ampacity: 150A Voltage: 600V AC/DC UL/CSA 1691 Listed	White	15R21-UW	15R22-UW	15R21-1UW	15R22-1UW	15S31-UW
	Black	15R21-UE	15R22-UE	15R21-1UE	15R22-1UE	15S31-UE
	Brown	15R21-UH	15R22-UH	15R21-1UH	15R22-1UH	15S31-UH
	Red	15R21-UR	15R22-UR	15R21-1UR	15R22-1UR	15S31-UR
	Blue	15R21-UB	15R22-UB	15R21-1UB	15R22-1UB	15S31-UB
	Orange	15R21-UO	15R22-UO	15R21-1UO	15R22-1UO	15S31-UO
	Green	15R21-UG	15R22-UG	15R21-1UG	15R22-1UG	15S31-UG
	Yellow	15R21-UY	15R22-UY	15R21-1UY	15R22-1UY	15S31-UY

Note: Some items may require extended lead times; always consult with your local sales representative for current availability.

Cam-Type

15 Series Device Accessories

“Com-A-Long” Assembly Tools
15CLM-U for Female Plug



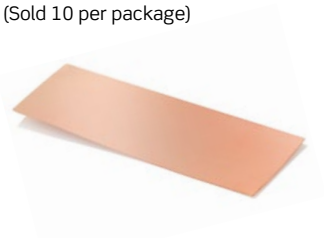
15CLF-U for Male Plug



Lubricating Spray
C0001 for 16 Fl. Oz. Can



Copper Shims
A0006
(Sold 10 per package)



Strain Relief Wire
A0007
(Sold 10 per package)



Set Screws
A0001
(Sold 10 per package)



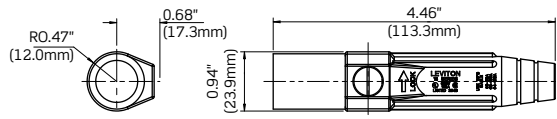
Plastic Screws
A0011
(Sold 10 per package)



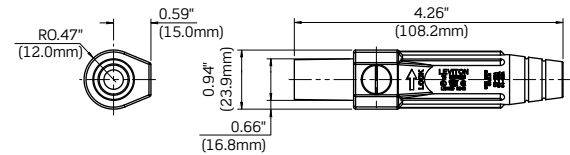
15 Series Device Technical Drawings

DIMENSIONS

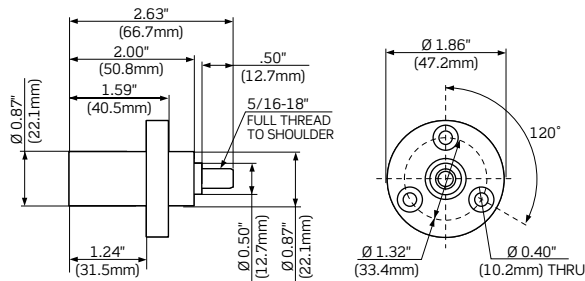
Male Plug



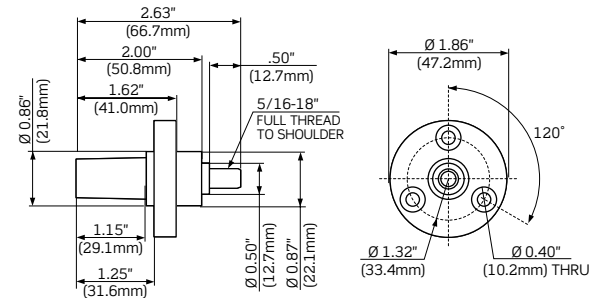
Female Plug



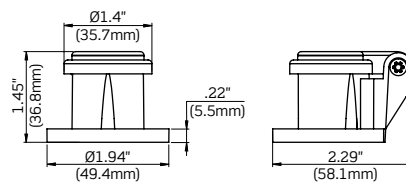
Male Panel Receptacle



Female Panel Receptacle



NEMA 3R Enclosure for Male and Female Panel Receptacles



AMPACITY TABLE

Cable Size	Ampacity
#8	80
#6	105
#4	140
#2	190

Excerpted from NEC Article 400,
Table 400.5(A)(2), 90° column

Cam-Type

16 Series Taper Nose Plugs - 400A, 600V AC/DC Max NEMA 3R Rated for Outdoor Use

Male Plug - Single Set Screw Termination
(16D21-U0 Shown)



Female Plug - Single Set Screw Termination
(16D29-UG Shown)



Male Plug - Double Set Screw Termination Contact
(16D22-PC Shown)



Male Plug - Crimp Tube Termination Contact
(For 16D25 Shown)



Female Plug - Double Set Screw Termination Contact
(16D31-PC Shown)



Female Plug - Crimp Tube Termination Contact
(For 16D34 Shown)



Male Plug - Crimp Tube Termination with Neoprene Sleeve
(16V22-B Shown)



Female Plug - Crimp Tube Termination with Neoprene Sleeve
(16V26-R Shown)



Male Plug - Flame Retardant for Mining Applications
(16D40-U Shown)










Female Plug - Flame Retardant for Mining Applications
(16D41-U Shown)



16 Series Plug Ordering Information

CAM-TYPE PLUGS





		Double Set Screw Termination  			
		Male Plug	Female Plug		
Cable Size: #6 - #2 Max Ampacity: 190A Voltage: 600V AC/DC UL/CSA 1691 Listed	White	16D44-UW	16D45-UW		
	Black	16D44-UE	16D45-UE		
	Brown	16D44-UH	16D45-UH		
	Red	16D44-UR	16D45-UR		
	Blue	16D44-UB	16D45-UB		
	Orange	16D44-UO	16D45-UO		
	Green	16D44-UG	16D45-UG		
	Yellow	16D44-UY	16D45-UY		
		Crimp Tube Termination  			
		Male Plug	Female Plug		
Cable Size: #2 - #1 Max Ampacity: 220A Voltage: 600V AC/DC UL/CSA 1691 Listed	White	16D25-UW	16D34-UW		
	Black	16D25-UE	16D34-UE		
	Brown	16D25-UH	16D34-UH		
	Red	16D25-UR	16D34-UR		
	Blue	16D25-UB	16D34-UB		
	Orange	16D25-UO	16D34-UO		
	Green	16D25-UG	16D34-UG		
	Yellow	16D25-UY	16D34-UY		
		Single Set Screw Termination  		Double Set Screw Termination  	
		Male Plug	Female Plug	Male Plug	Female Plug
Cable Size: #2 - 2/0 Max Ampacity: 300A Voltage: 600V AC/DC UL/CSA 1691 Listed	White	16D21-UW	16D29-UW	16D22-UW	16D31-UW
	Black	16D21-UE	16D29-UE	16D22-UE	16D31-UE
	Brown	16D21-UH	16D29-UH	16D22-UH	16D31-UH
	Red	16D21-UR	16D29-UR	16D22-UR	16D31-UR
	Blue	16D21-UB	16D29-UB	16D22-UB	16D31-UB
	Orange	16D21-UO	16D29-UO	16D22-UO	16D31-UO
	Green	16D21-UG	16D29-UG	16D22-UG	16D31-UG
	Yellow	16D21-UY	16D29-UY	16D22-UY	16D31-UY
Replacement Contacts		—	—	16D22-UC	16D31-UC
		Crimp Tube Termination  			
		Male Plug	Female Plug		
Cable Size: 1/0 - 2/0 Max Ampacity: 300A Voltage: 600V AC/DC UL/CSA 1691 Listed	White	16D26-UW	16D35-UW		
	Black	16D26-UE	16D35-UE		
	Brown	16D26-UH	16D35-UH		
	Red	16D26-UR	16D35-UR		
	Blue	16D26-UB	16D35-UB		
	Orange	16D26-UO	16D35-UO		
	Green	16D26-UG	16D35-UG		
	Yellow	16D26-UY	16D35-UY		



Note: Some items may require extended lead times; always consult with your local sales representative for current availability.

Cam-Type

16 Series Plug Ordering Information

CAM-TYPE PLUGS

		Single Set Screw Termination  		Double Set Screw Termination  	
		Male Plug	Female Plug	Male Plug	Female Plug
Cable Size: 2/0 - 4/0 Max Ampacity: 400A Voltage: 600V AC/DC UL/CSA 1691 Listed	White	16D23-UW	16D32-UW	16D24-UW	16D33-UW
	Black	16D23-UE	16D32-UE	16D24-UE	16D33-UE
	Brown	16D23-UH	16D32-UH	16D24-UH	16D33-UH
	Red	16D23-UR	16D32-UR	16D24-UR	16D33-UR
	Blue	16D23-UB	16D32-UB	16D24-UB	16D33-UB
	Orange	16D23-UO	16D32-UO	16D24-UO	16D33-UO
	Green	16D23-UG	16D32-UG	16D24-UG	16D33-UG
	Yellow	16D23-UY	16D32-UY	16D24-UY	16D33-UY
Replacement Contacts		—	—	16D24-UC	16D33-UC

		Crimp Tube Termination  			
		Male Plug	Female Plug		
Cable Size: 3/0 - 4/0 Max Ampacity: 400A Voltage: 600V AC/DC UL/CSA 1691 Listed	White	16D28-UW	16D37-UW		
	Black	16D28-UE	16D37-UE		
	Brown	16D28-UH	16D37-UH		
	Red	16D28-UR	16D37-UR		
	Blue	16D28-UB	16D37-UB		
	Orange	16D28-UO	16D37-UO		
	Green	16D28-UG	16D37-UG		
	Yellow	16D28-UY	16D37-UY		



REPLACEMENT SLEEVES (TPV)

		For Plugs 1/0 to 4/0		For Plugs #2 - 2/0	
		Male Plug	Female Plug	Male Plug	Female Plug
	White	16SDM-1UW	16SDF-1UW	16SDM-2UW	16SDF-2UW
	Black	16SDM-1UE	16SDF-1UE	16SDM-2UE	16SDF-2UE
	Brown	16SDM-1UH	16SDF-1UH	16SDM-2UH	16SDF-2UH
	Red	16SDM-1UR	16SDF-1UR	16SDM-2UR	16SDF-2UR
	Blue	16SDM-1UB	16SDF-1UB	16SDM-2UB	16SDF-2UB
	Orange	16SDM-1UO	16SDF-1UO	16SDM-2UO	16SDF-2UO
	Gray	16SDM-1UG	16SDF-1UG	16SDM-2UG	16SDF-2UG
	Yellow	16SDM-1UY	16SDF-1UY	16SDM-2UY	16SDF-2UY

Note: Some items may require extended lead times; always consult with your local sales representative for current availability.

16 Series Plug Ordering Information

CAM-TYPE PLUGS

		Crimp Tube Termination	
		Male Plug	Female Plug
Cable Size: 1/0 - 2/0 Max Ampacity: 300A Voltage: 600V Neoprene Sleeve	White	16V22-W	16V26-W
	Black	16V22-E	16V26-E
	Brown	16V22-H	16V26-H
	Red	16V22-R	16V26-R
	Blue	16V22-B	16V26-B
	Orange	16V22-O	16V26-O
	Green	16V22-G	16V26-G
	Yellow	16V22-Y	16V26-Y
		Crimp Tube Termination	
		Male Plug	Female Plug
Cable Size: 3/0 - 4/0 Max Ampacity: 400A Voltage: 600V Neoprene Sleeve	White	16V24-W	16V28-W
	Black	16V24-E	16V28-E
	Brown	16V24-H	16V28-H
	Red	16V24-R	16V28-R
	Blue	16V24-B	16V28-B
	Orange	16V24-O	16V28-O
	Green	16V24-G	16V28-G
	Yellow	16V24-Y	16V28-Y
		Double Set Screw Termination  	
		Male Plug	Female Plug
Cable Size: 2/0 - 4/0 Max Ampacity: 400A Voltage: 600V AC/DC Flame Retardant UL/CSA 1691 Listed	White	16D40-U	16D41-U

Note: Some items may require extended lead times; always consult with your local sales representative for current availability.

Cam-Type

16 Series Taper Nose Panel Mount Receptacles - 400A, 600V AC/DC Max NEMA 3R Rated for Outdoor Use

Male - Double Set Screw (16R21-UR Shown)



Female - Double Set Screw (16R22-UG Shown)



Female - Threaded Stud
(Rear View 16R24-UW Shown)



Male - 45° Double Set Screw (16R27-UG Shown)



Female - 45° Double Set Screw (16R28-UB Shown)



Male - Half Round Bus Bar
(Rear View 16R19-UE Shown)



Female Terminal Connector - Angle Style (16F21-UB Shown)



Female Terminal Connector - Offset Style (16F20-UE Shown)



Male Protective Cap
(16P21-UO Shown)



Female Protective Cap
(16P22-UO Shown)





Enclosure for Panel Receptacles
(16S31-UR Shown)





16 Series Receptacle Ordering Information

CAM-TYPE PANEL MOUNT RECEPTACLE

		Double Set Screw Termination 			
		Male, 90°	Female, 90°	Male, 45°	Female, 45°
Cable Size: 2/0 - 4/0 Max Ampacity: 400A Voltage: 600V AC/DC UL/CSA 1691 Listed	White	16R21-UW	16R22-UW	16R27-UW	16R28-UW
	Black	16R21-UE	16R22-UE	16R27-UE	16R28-UE
	Brown	16R21-UH	16R22-UH	16R27-UH	16R28-UH
	Red	16R21-UR	16R22-UR	16R27-UR	16R28-UR
	Blue	16R21-UB	16R22-UB	16R27-UB	16R28-UB
	Orange	16R21-UO	16R22-UO	16R27-UO	16R28-UO
	Green	16R21-UG	16R22-UG	16R27-UG	16R28-UG
	Yellow	16R21-UY	16R22-UY	16R27-UY	16R28-UY

		.75"L Threaded Stud** Termination 				
		Male, 90°	Female, 90°	w/microswitch	Male, 45°	Female, 45°
Cable Size: #2 - 4/0 Max Ampacity: 400A Voltage: 600V AC/DC UL/CSA 1691 Listed	White	16R23-UW	16R24-UW	16RSW-UW	16R29-UW	16R30-UW
	Black	16R23-UE	16R24-UE	16RSW-UE	16R29-UE	16R30-UE
	Brown	16R23-UH	16R24-UH	16RSW-UH	16R29-UH	16R30-UH
	Red	16R23-UR	16R24-UR	16RSW-UR	16R29-UR	16R30-UR
	Blue	16R23-UB	16R24-UB	16RSW-UB	16R29-UB	16R30-UB
	Orange	16R23-UO	16R24-UO	16RSW-UO	16R29-UO	16R30-UO
	Green	16R23-UG	16R24-UG	16RSW-UG	16R29-UG	16R30-UG
	Yellow	16R23-UY	16R24-UY	16RSW-UY	16R29-UY	16R30-UY

		1.125"L Threaded Stud** Termination 			
				Self-Clinching Nut	
		Male, 90°	Female, 90°	Male, 90°	Female, 90°
Cable Size: #2 - 4/0 Max Ampacity: 400A Voltage: 600V AC/DC UL/CSA 1691 Listed	White	16R23-1UW	16R24-1UW	16R25-1UW	16R26-1UW
	Black	16R23-1UE	16R24-1UE	16R25-1UE	16R26-1UE
	Brown	16R23-1UH	16R24-1UH	16R25-1UH	16R26-1UH
	Red	16R23-1UR	16R24-1UR	16R25-1UR	16R26-1UR
	Blue	16R23-1UB	16R24-1UB	16R25-1UB	16R26-1UB
	Orange	16R23-1UO	16R24-1UO	16R25-1UO	16R26-1UO
	Green	16R23-1UG	16R24-1UG	16R25-1UG	16R26-1UG
	Yellow	16R23-1UY	16R24-1UY	16R25-1UY	16R26-1UY

		Half Round w/Tapped Hole 	
		Male, 90°	Female, 90°
Cable Size: #2 - 4/0 Max Ampacity: 400A Voltage: 600V AC/DC UL/CSA 1691 Listed	White	16R19-UW	16R20-UW
	Black	16R19-UE	16R20-UE
	Brown	16R19-UH	16R20-UH
	Red	16R19-UR	16R20-UR
	Blue	16R19-UB	16R20-UB
	Orange	16R19-UO	16R20-UO
	Green	16R19-UG	16R20-UG
	Yellow	16R19-UY	16R20-UY



Note: Some items may require extended lead times; always consult with your local sales representative for current availability.

**Threaded stud termination type receptacles are available with custom stud lengths, from .75"L to 3.00"L.
Please contact your local sales representative for ordering information and availability.

Cam-Type

16 Series Receptacle Ordering Information

TERMINAL CONNECTORS

		Bus Bar Mount  		
		Angled Male	Angled Female	Offset
Cable Size: #2 - 4/0 Max Ampacity: 400A Voltage: 600V AC/DC UL/CSA 1691 Listed	White	16M21-2UW	16F21-UW	16F22-UW
	Black	16M21-2UE	16F21-UE	16F22-UE
	Brown	16M21-2UH	16F21-UH	16F22-UH
	Red	16M21-2UR	16F21-UR	16F22-UR
	Blue	16M21-2UB	16F21-UB	16F22-UB
	Orange	16M21-2UO	16F21-UO	16F22-UO
	Green	16M21-2UG	16F21-UG	16F22-UG
	Yellow	16M21-2UY	16F21-UY	16F22-UY

COVERS

		Enclosure	Caps	
		Male/Female	Male	Female
	White	16S31-UW	16P21-UW	16P22-UW
	Black	16S31-UE	16P21-UE	16P22-UE
	Brown	16S31-UH	16P21-UH	16P22-UH
	Red	16S31-UR	16P21-UR	16P22-UR
	Blue	16S31-UB	16P21-UB	16P22-UB
	Orange	16S31-UO	16P21-UO	16P22-UO
	Green	16S31-UG	16P21-UG	16P22-UG
	Yellow	16S31-UY	16P21-UY	16P22-UY

Note: Some items may require extended lead times; always consult with your local sales representative for current availability.

16 Series Taper Nose Adapters - 400A, 600V AC/DC Max NEMA 3R Rated for Outdoor Use

Assembled Paralleling Tee

(16A31-UE Shown)



Assembled Tapping Tee

(16A32-UR Shown)



Assembled 3-Fer

(16A33-UB Shown)



Assembled Reverse 3-Fer

(16A36-UG Shown)



Double Male

(16A25-UH Shown)



Double Female

(16A24-UB Shown)



Paralleling Tee

(16A21-UY Shown)



Tapping Tee

(16A22-UE Shown)



3-Fer

(16A23-UB Shown)



Reversed 3-Fer

(16A26-UG Shown)



Cam-Type

16 Series Adapter Ordering Information

CAM-TYPE ADAPTERS

		Paralleling Tee F-M-M	Tapping Tee F-F-M		
Max Ampacity: 400A Voltage: 600V AC/DC UL/CSA 1691 Listed	White	16A21-UW	16A22-UW		
	Black	16A21-UE	16A22-UE		
	Brown	16A21-UH	16A22-UH		
	Red	16A21-UR	16A22-UR		
	Blue	16A21-UB	16A22-UB		
	Orange	16A21-UO	16A22-UO		
	Green	16A21-UG	16A22-UG		
	Yellow	16A21-UY	16A22-UY		
		3-Fer M-F-F-F	Reverse 3-Fer F-M-M-M	Double Male	Double Female
Max Ampacity: 400A Voltage: 600V AC/DC UL/CSA 1691 Listed	White	16A23-UW	16A26-UW	16A25-UW	16A24-UW
	Black	16A23-UE	16A26-UE	16A25-UE	16A24-UE
	Brown	16A23-UH	16A26-UH	16A25-UH	16A24-UH
	Red	16A23-UR	16A26-UR	16A25-UR	16A24-UR
	Blue	16A23-UB	16A26-UB	16A25-UB	16A24-UB
	Orange	16A23-UO	16A26-UO	16A25-UO	16A24-UO
	Green	16A23-UG	16A26-UG	16A25-UG	16A24-UG
	Yellow	16A23-UY	16A26-UY	16A25-UY	16A24-UY
		Paralleling Tee F-M-M	Tapping Tee F-F-M	3-Fer M-F-F-F	Reverse 3-Fer F-M-M-M
Assembled Adapters Cable Size: 4/0 Max Ampacity: 400A Voltage: 600V AC/DC UL/CSA 1691 Listed	White	16A31-UW	16A32-UW	16A33-UW	16A36-UW
	Black	16A31-UE	16A32-UE	16A33-UE	16A36-UE
	Red	16A31-UR	16A32-UR	16A33-UR	16A36-UR
	Blue	16A31-UB	16A32-UB	16A33-UB	16A36-UB
	Green	16A31-UG	16A32-UG	16A33-UG	16A36-UG

Note: Some items may require extended lead times; always consult with your local sales representative for current availability.

16 Series Device Accessories

"Com-A-Long" Assembly Tools

16CLM-U for Female Plug



16CLF-U for Male Plug



Lubricating Spray

C0001 for 16 Fl. Oz. Can



Copper Shims

A0004

(Sold 10 per package)



Strain Relief Wire

A0003

(Sold 10 per package)



Set Screws

A0002

(Sold 10 per package)



Plastic Screws

A0010

(Sold 10 per package)

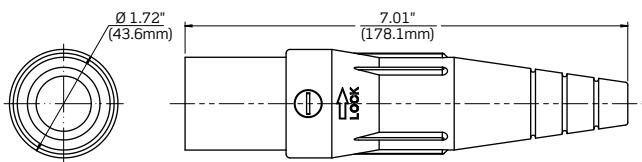


Cam-Type

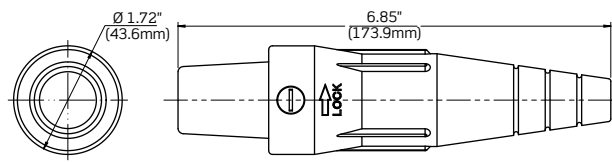
16 Series Device Technical Drawings

DIMENSIONS

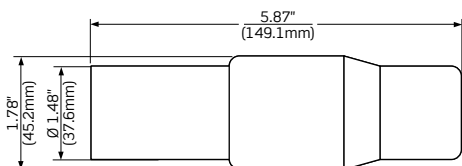
Male Detachable Plug



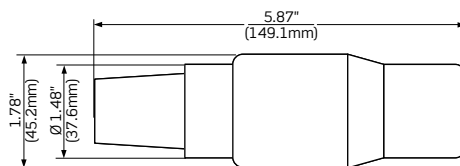
Female Detachable Plug



Male Vulcanized Plug



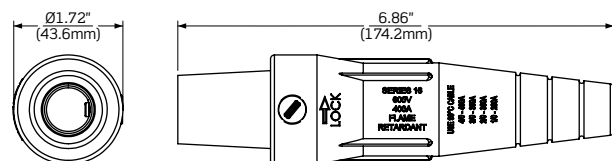
Female Vulcanized Plug



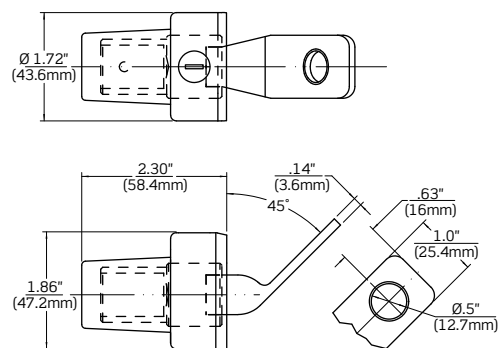
Male Detachable Plug - Flame Retardant



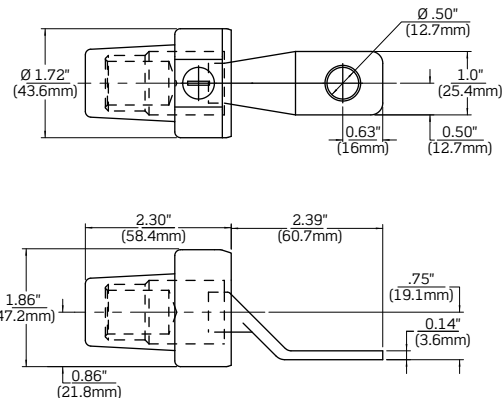
Female Detachable Plug - Flame Retardant



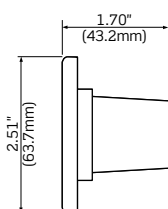
16F21 Female Terminal Connector



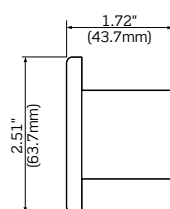
16F22 Female Terminal Connector



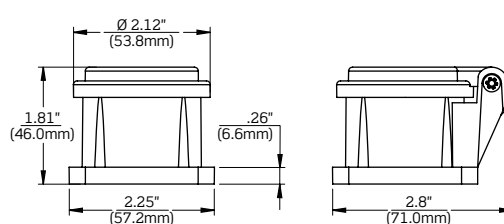
Male Protective Cap



Female Protective Cap



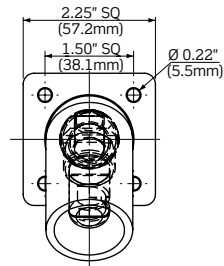
NEMA 3R Enclosure for Male and Female Panel Receptacles



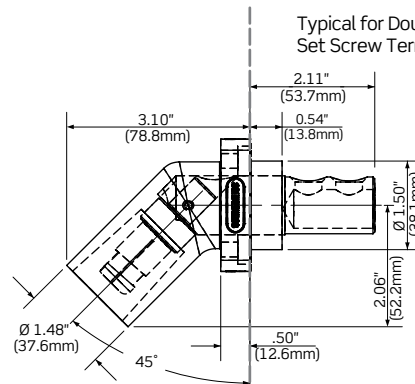
16 Series Device Technical Drawings

DIMENSIONS

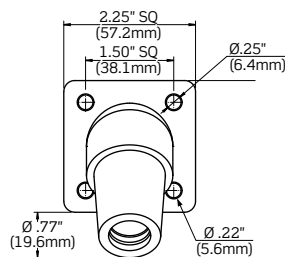
Typical Front for
45° Male Panel Receptacle



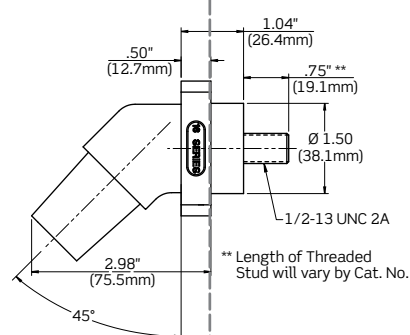
Typical for Double
Set Screw Termination



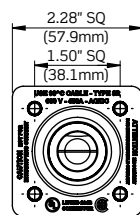
Typical Front for
45° Female Panel Receptacle



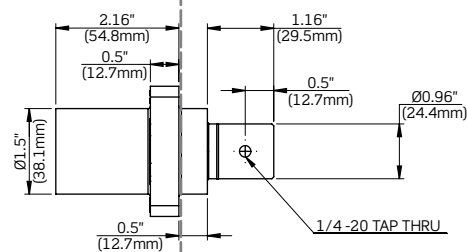
Typical for Threaded
Stud Termination



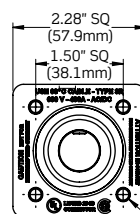
Typical Front for
Male Panel Receptacle



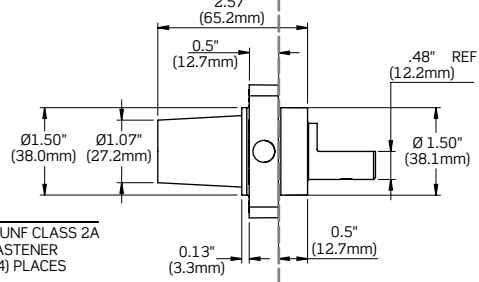
Typical for Bus Bar
Termination (Top View)



Typical Front for Female Panel
Receptacle with PEM Nuts



Typical for Bus Bar
Termination (Side View)

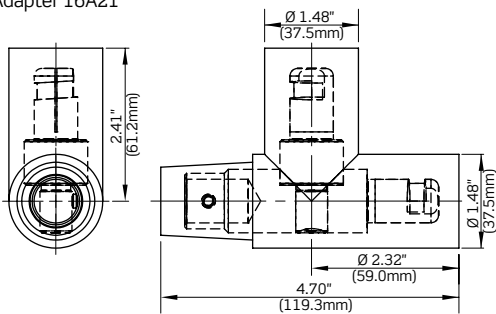


Cam-Type

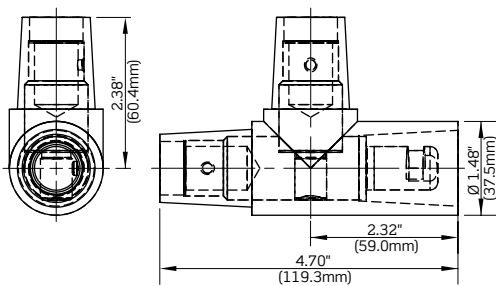
16 Series Device Technical Drawings

DIMENSIONS

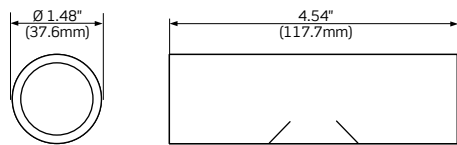
Paralleling Tee Adapter 16A21



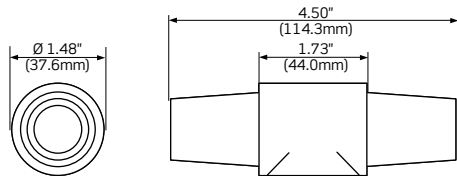
Tapping Tee Adapter 16A22



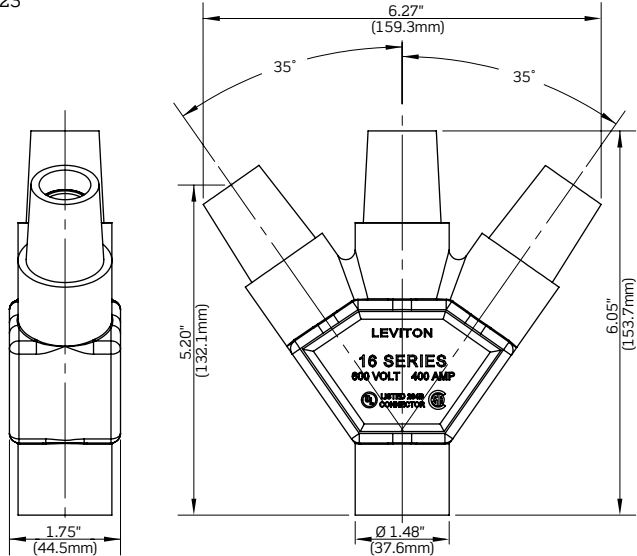
Double Female Adapter 16A24



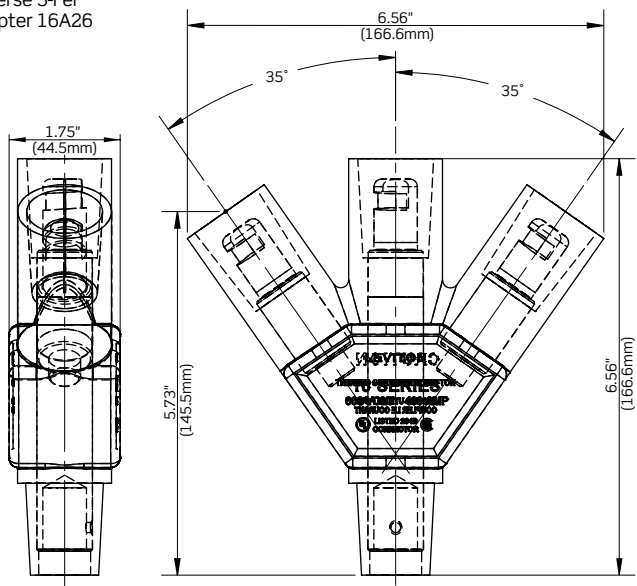
Double Male Adapter 16A25



3-Fer Adapter 16A23



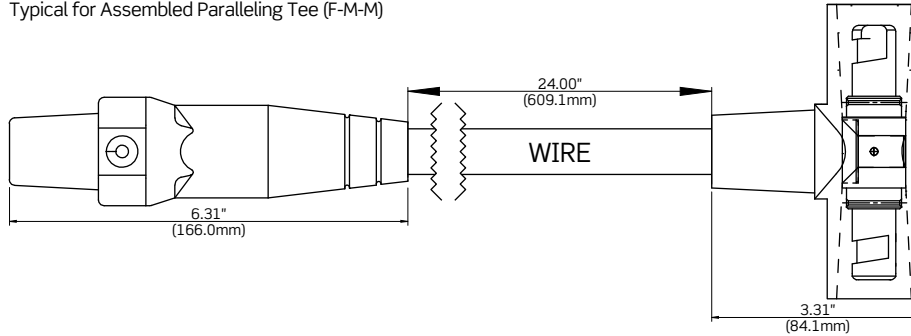
Reverse 3-Fer Adapter 16A26



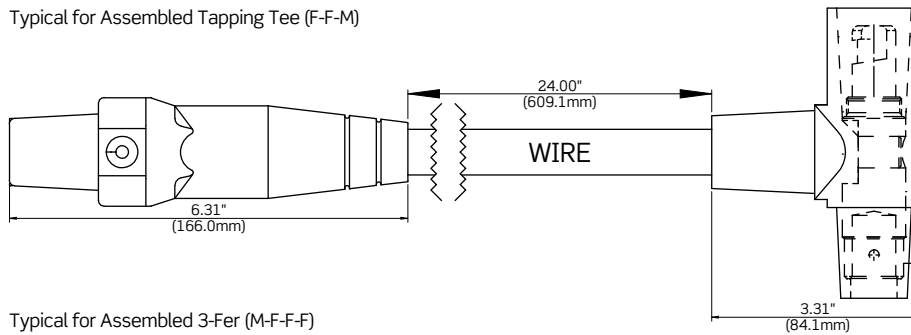
16 Series Device Technical Drawings

DIMENSIONS

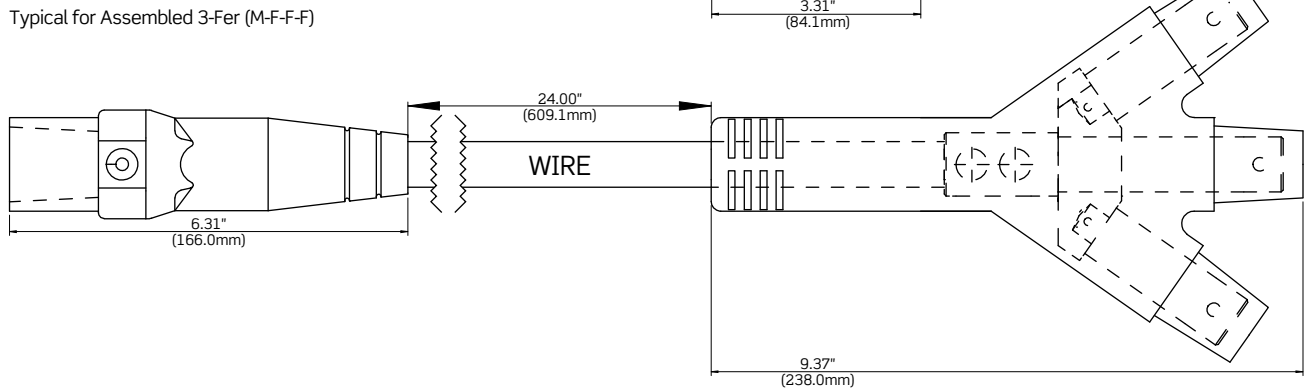
Typical for Assembled Paralleling Tee (F-M-M)



Typical for Assembled Tapping Tee (F-F-M)



Typical for Assembled 3-Fer (M-F-F-F)



AMPACITY TABLE

Cable Size	Ampacity
#6	105
#4	140
#2	190
#1	220
1/0	260
2/0	300
3/0	350
4/0	405

Excerpted from NEC Article 400,
Table 400.5(A)(2), 90° column

Cam-Type

18 Series Ball Nose Devices - 400A, 600V AC/DC Max NEMA 3R Rated for Outdoor Use

Male Plug - Double Set Screw Termination
(18D24-UE Shown)



Female Plug - Double Set Screw Termination
(18D33-UR Shown)



Male Plug - Single Set Screw Termination Contact
(From 18D21-U* Shown)



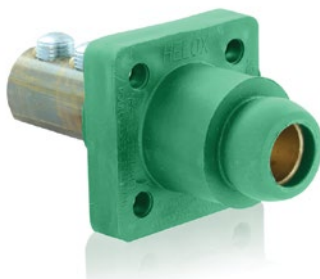
Female Plug - Single Set Screw Termination Contact
(From 18D29-U* Shown)



Male Panel Mount Receptacle - 75" Threaded Stud
(18R21-UB Shown)



Female Panel Mount Receptacle - Double Set Screw
(18R24-UG Shown)



Male Panel Mount Receptacle - Double Set Screw
(18R23-UH Shown)



Female Terminal Connector - Angled
(18F21-UW Shown)



Female Terminal Connector - Offset
(18F22-UE Shown)



18 Series Devices

**Male
Protective Cap**
(18P21-UG Shown)



**Female
Protective Cap**
(18P22-UB Shown)



Paralleling Tee Adapter
(18A21-UE Shown)



Tapping Tee Adapter
(18A22-UO Shown)



3-Fer (MFFF) Adapter
(18A23-UE Shown)



Double Female Adapter
(18A24-UE Shown)



Double Male Adapter
(18A25-UR Shown)



Cam-Type

18 Series Device Ordering Information

CAM-TYPE PLUGS

		Single Set Screw Termination ④ ⑤		Double Set Screw Termination ④ ⑤	
		Male Plug	Female Plug	Male Plug	Female Plug
Cable Size: #2 - 2/0 Max Ampacity: 300A Voltage: 600V AC/DC UL/CSA 1691 Listed	White	18D21-UW	18D29-UW	18D22-UW	18D31-UW
	Black	18D21-UE	18D29-UE	18D22-UE	18D31-UE
	Brown	18D21-UH	18D29-UH	18D22-UH	18D31-UH
	Red	18D21-UR	18D29-UR	18D22-UR	18D31-UR
	Blue	18D21-UB	18D29-UB	18D22-UB	18D31-UB
	Orange	18D21-UO	18D29-UO	18D22-UO	18D31-UO
	Green	18D21-UG	18D29-UG	18D22-UG	18D31-UG
	Yellow	18D21-UY	18D29-UY	18D22-UY	18D31-UY

		Single Set Screw Termination ④ ⑤		Double Set Screw Termination ④ ⑤	
		Male Plug	Female Plug	Male Plug	Female Plug
Cable Size: 2/0 - 4/0 Max Ampacity: 400A Voltage: 600V AC/DC UL/CSA 1691 Listed	White	18D23-UW	18D32-UW	18D24-UW	18D33-UW
	Black	18D23-UE	18D32-UE	18D24-UE	18D33-UE
	Brown	18D23-UH	18D32-UH	18D24-UH	18D33-UH
	Red	18D23-UR	18D32-UR	18D24-UR	18D33-UR
	Blue	18D23-UB	18D32-UB	18D24-UB	18D33-UB
	Orange	18D23-UO	18D32-UO	18D24-UO	18D33-UO
	Green	18D23-UG	18D32-UG	18D24-UG	18D33-UG
	Yellow	18D23-UY	18D32-UY	18D24-UY	18D33-UY

CAM-TYPE PANEL MOUNT RECEPTACLES



		.75"L Threaded Stud Termination ④ ⑤	
		Male, 90°	Female, 90°
Cable Size: #2 - 4/0 Max Ampacity: 400A Voltage: 600V AC/DC UL/CSA 1691 Listed	White	18R21-UW	18R22-UW
	Black	18R21-UE	18R22-UE
	Brown	18R21-UH	18R22-UH
	Red	18R21-UR	18R22-UR
	Blue	18R21-UB	18R22-UB
	Orange	18R21-UO	18R22-UO
	Green	18R21-UG	18R22-UG
	Yellow	18R21-UY	18R22-UY

		Double Set Screw Termination ④ ⑤	
		Male, 90°	Female, 90°
Cable Size: 2/0 - 4/0 Max Ampacity: 400A Voltage: 600V AC/DC UL/CSA 1691 Listed	White	18R23-UW	18R24-UW
	Black	18R23-UE	18R24-UE
	Brown	18R23-UH	18R24-UH
	Red	18R23-UR	18R24-UR
	Blue	18R23-UB	18R24-UB
	Orange	18R23-UO	18R24-UO
	Green	18R23-UG	18R24-UG
	Yellow	18R23-UY	18R24-UY

Note: Some items may require extended lead times; always consult with your local sales representative for current availability.

18 Series Device Ordering Information





FEMALE TERMINAL CONNECTORS







		Bus Bar Mount  	
		Angle	Offset
Cable Size: #2 - 4/0 Max Ampacity: 400A Voltage: 600V AC/DC UL/CSA 1691 Listed	White	18F21-UW	18F22-UW
	Black	18F21-UE	18F22-UE
	Brown	18F21-UH	18F22-UH
	Red	18F21-UR	18F22-UR
	Blue	18F21-UB	18F22-UB
	Orange	18F21-UO	18F22-UO
	Green	18F21-UG	18F22-UG
	Yellow	18F21-UY	18F22-UY

COVERS

		Caps	
		Male	Female
	White	18P21-UW	18P22-UW
	Black	18P21-UE	18P22-UE
	Brown	18P21-UH	18P22-UH
	Red	18P21-UR	18P22-UR
	Blue	18P21-UB	18P22-UB
	Orange	18P21-UO	18P22-UO
	Green	18P21-UG	18P22-UG
	Yellow	18P21-UY	18P22-UY

CAM-TYPE ADAPTERS

		Paralleling Tee  	Tapping Tee  
		F-M-M	F-F-M
Max Ampacity: 400A Voltage: 600V AC/DC UL/CSA 1691 Listed	White	18A21-UW	18A22-UW
	Black	18A21-UE	18A22-UE
	Brown	18A21-UH	18A22-UH
	Red	18A21-UR	18A22-UR
	Blue	18A21-UB	18A22-UB
	Orange	18A21-UO	18A22-UO
	Green	18A21-UG	18A22-UG
	Yellow	18A21-UY	18A22-UY

		3-Fer  	Double Male  	Double Female  
		M-F-F-F		
Max Ampacity: 400A Voltage: 600V AC/DC UL/CSA 1691 Listed	White	18A23-UW	18A25-UW	18A24-UW
	Black	18A23-UE	18A25-UE	18A24-UE
	Brown	18A23-UH	18A25-UH	18A24-UH
	Red	18A23-UR	18A25-UR	18A24-UR
	Blue	18A23-UB	18A25-UB	18A24-UB
	Orange	18A23-UO	18A25-UO	18A24-UO
	Green	18A23-UG	18A25-UG	18A24-UG
	Yellow	18A23-UY	18A25-UY	18A24-UY

Note: Some items may require extended lead times; always consult with your local sales representative for current availability.

Cam-Type

18 Series Accessories

“Com-A-Long” Assembly Tools
16CLM-U for Female Plug



16CLF-U for Male Plug



Lubricating Spray
C0001 for 16 Fl. Oz. Can



Copper Shims
A0004
(Sold 10 per package)



Strain Relief Wire
A0003
(Sold 10 per package)



Set Screws
A0002
(Sold 10 per package)



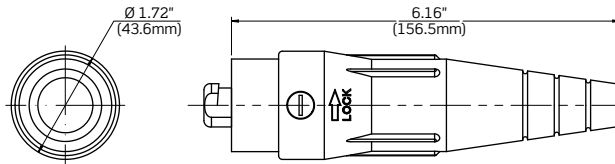
Plastic Screws
A0010
(Sold 10 per package)



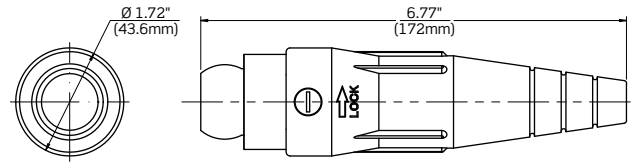
18 Series Device Technical Drawings

DIMENSIONS

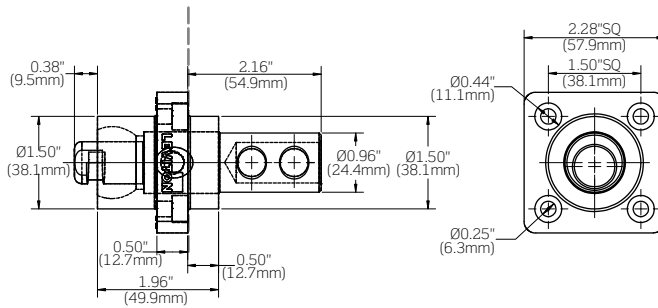
Male Detachable Plug



Female Detachable Plug

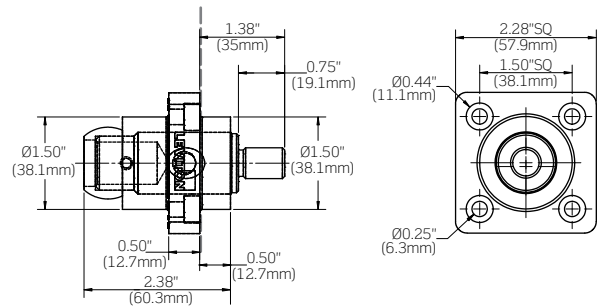


Typical Front for Male Panel Receptacle



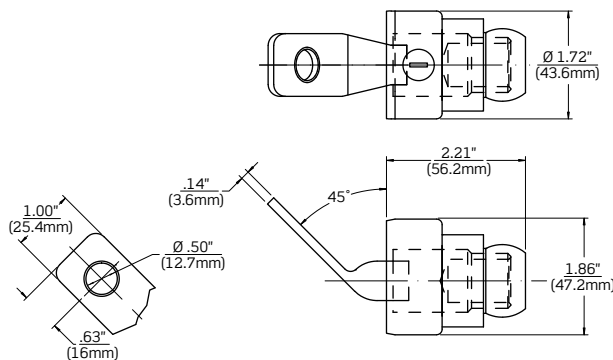
Typical for Double Set Screw Termination

Typical Front for Female Panel Receptacle

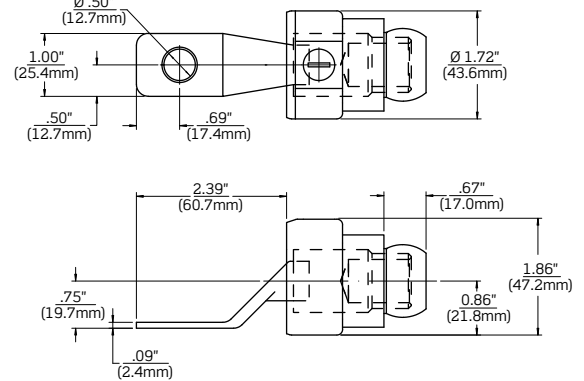


Typical for Threaded Stud Termination

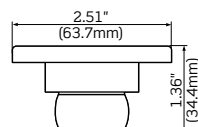
18F21 Female Terminal Connector - Bus Bar Mount, Angled



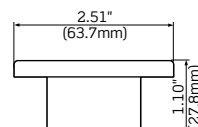
18F22 Female Terminal Connector - Bus Bar Mount, Offset



18P21 Male Protective Cap



18P22 Female Protective Cap

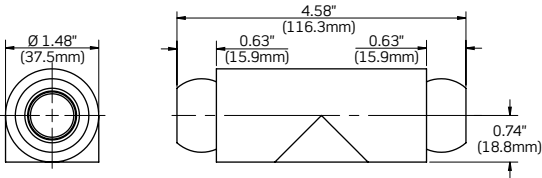


Cam-Type

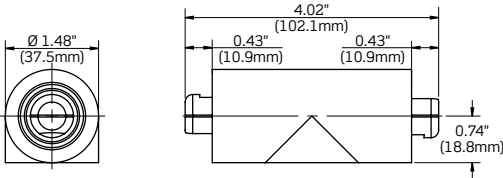
18 Series Device Technical Drawings

DIMENSIONS

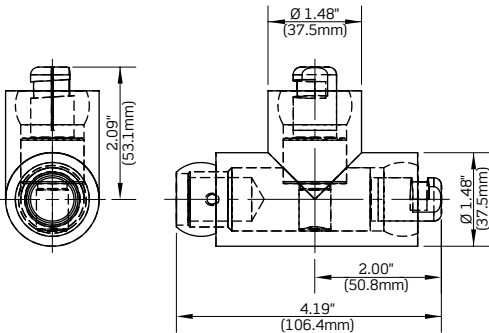
18A25 Double Male Adapter



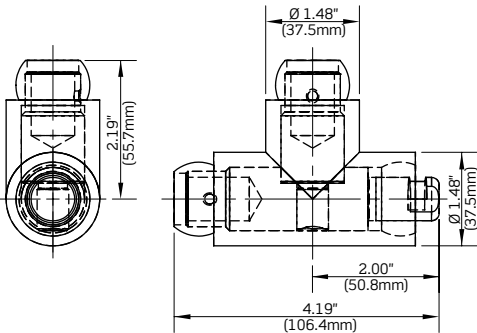
18A24 Double Female Adapter



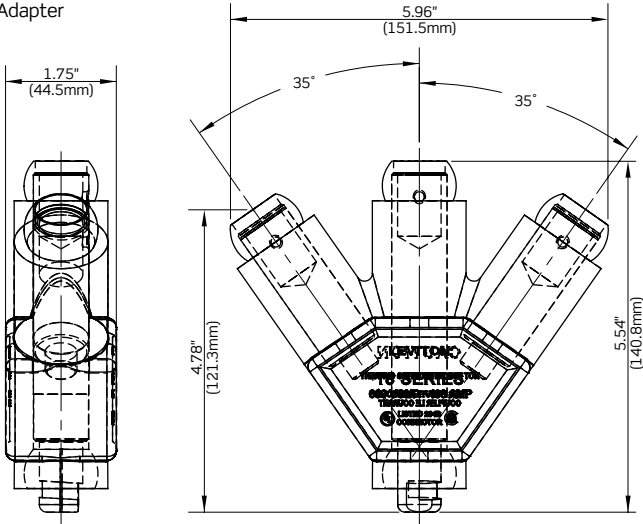
Paralleling Tee Adapter



Tapping Tee Adapter



3-Fer Adapter



AMPACITY TABLE

Cable Size	Ampacity
#2	190
1/0	260
2/0	300
4/0	405

Excerpted from NEC Article 400,
Table 400.5(A)(2), 90° column

17 Series Taper Nose Devices - 690A, 600V Max

Male Plug - Double Set Screw Termination
(17D21-B Shown)



Female Plug - Double Set Screw Termination
(17D23-O Shown)



Male Vulcanized Plug - Crimp Tube Termination, Neoprene Sleeve (17V23-E Shown)



Female Vulcanized Plug - Crimp Tube Termination, Neoprene Sleeve (17D26-B Shown)



Male Panel Mount Receptacle - 90° Threaded Stud Termination
(17R21-G Shown)



Female Panel Mount Receptacle - 30° Threaded Stud Termination
(17R24-R Shown)



NEMA 3R Enclosure
(17S31-B Shown)



Single Pole Cam Devices

rhino-hide®

Industrial Grade

17 Series Devices

**Male
Protective Cap**
(17P21-O Shown)



**Female
Protective Cap**
(17P22-H Shown)



17 Series Accessories

“Com-A-Long” Assembly Tools
17CLM for Female Plug



17CLF for Male Plug



Lubricating Spray
C0001 for 16 Fl. Oz. Can



17 Series Device Ordering Information

CAM-TYPE PLUGS



		Double Set Screw Termination	
		Male Plug	Female Plug
Cable Size: 350-500MCM Max Ampacity: 690A Voltage: 600V Neoprene Sleeve Detachable	White	17D22-W	17D24-W
	Black	17D22-E	17D24-E
	Brown	17D22-H	17D24-H
	Red	17D22-R	17D24-R
	Blue	17D22-B	17D24-B
	Orange	17D22-O	17D24-O
	Green	17D22-G	17D24-G
	Yellow	17D22-Y	17D24-Y

		Crimp Tube Termination	
		Male Plug	Female Plug
Cable Size: 500-750MCM Max Ampacity: 690A Voltage: 600V Neoprene Sleeve	White	17V23-W	17V26-W
	Black	17V23-E	17V26-E
	Brown	17V23-H	17V26-H
	Red	17V23-R	17V26-R
	Blue	17V23-B	17V26-B
	Orange	17V23-O	17V26-O
	Green	17V23-G	17V26-G
	Yellow	17V23-Y	17V26-Y

CAM-TYPE PANEL MOUNT RECEPTACLES

		Threaded Stud Termination			
		Male, 90°	Female, 90°	Male, 30°	Female, 30°
Cable Size: 250-750MCM Max Ampacity: 690A Voltage: 600V	White	17R21-W	17R22-W	17R23-W	17R24-W
	Black	17R21-E	17R22-E	17R23-E	17R24-E
	Brown	17R21-H	17R22-H	17R23-H	17R24-H
	Red	17R21-R	17R22-R	17R23-R	17R24-R
	Blue	17R21-B	17R22-B	17R23-B	17R24-B
	Orange	17R21-O	17R22-O	17R23-O	17R24-O
	Green	17R21-G	17R22-G	17R23-G	17R24-G
	Yellow	17R21-Y	17R22-Y	17R23-Y	17R24-Y

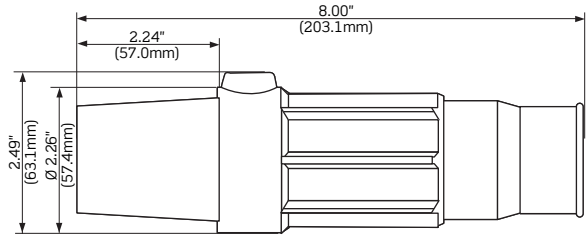
COVERS

		NEMA 3R Enclosure  	Caps	
		Male/Female	Male	Female
	White	17S31-W	17P21-W	17P22-W
	Black	17S31-E	17P21-E	17P22-E
	Brown	17S31-H	17P21-H	17P22-H
	Red	17S31-R	17P21-R	17P22-R
	Blue	17S31-B	17P21-B	17P22-B
	Orange	17S31-O	17P21-O	17P22-O
	Green	17S31-G	17P21-G	17P22-G
	Yellow	17S31-Y	17P21-Y	17P22-Y

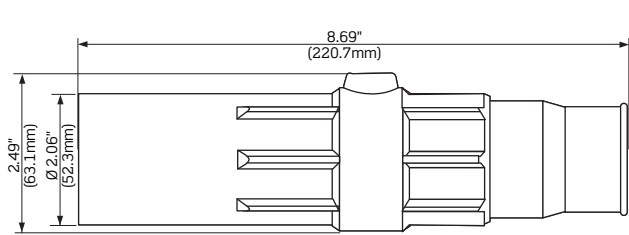
Note: Some items may require extended lead times; always consult with your local sales representative for current availability.

DIMENSIONS

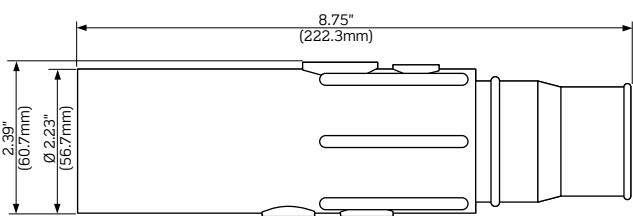
Male Detachable Plug



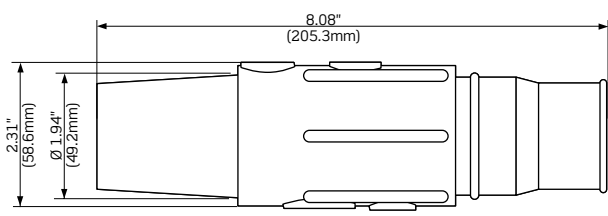
Female Detachable Plug



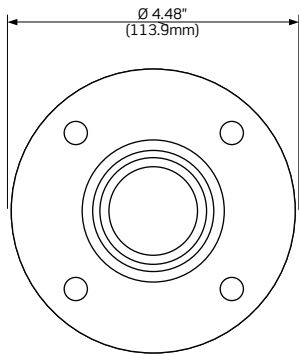
Male Vulcanized Plug



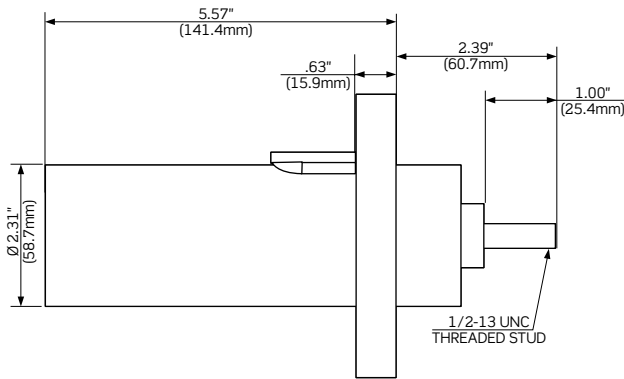
Female Vulcanized Plug



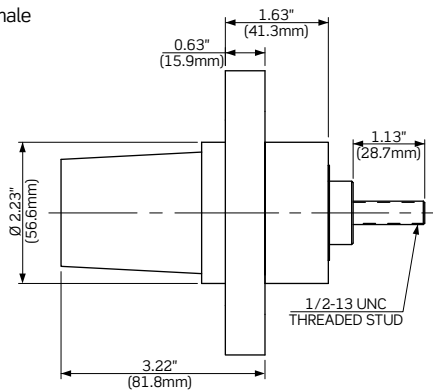
Front View 90° Panel Receptacle - Threaded Stud
Common to Both Male & Female Configurations



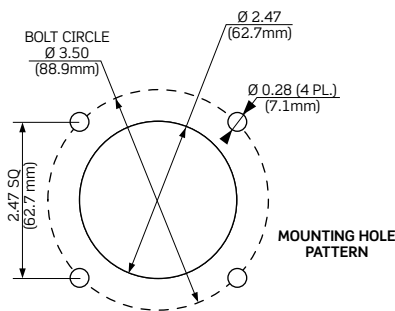
Side View - Male



Side View - Female



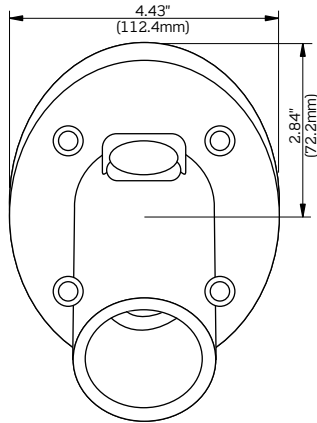
Mounting Pattern Common to
Both Male & Female Configurations



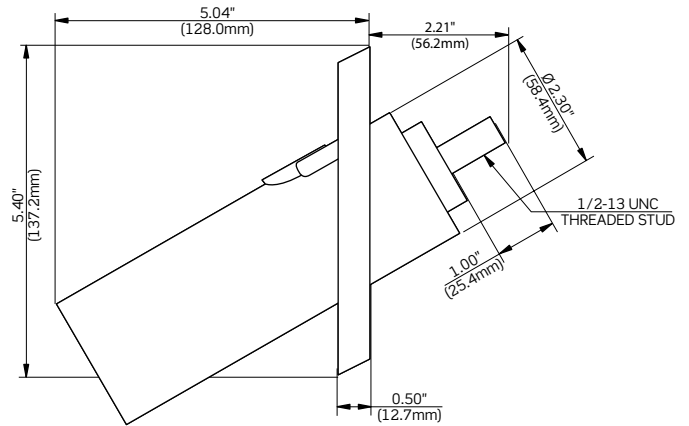
17 Series Technical Drawings

DIMENSIONS

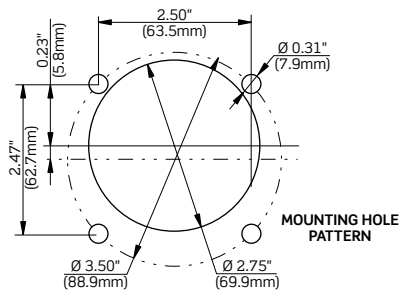
Front View 30° Panel Receptacle - Threaded Stud
Common to Both Male & Female Configurations



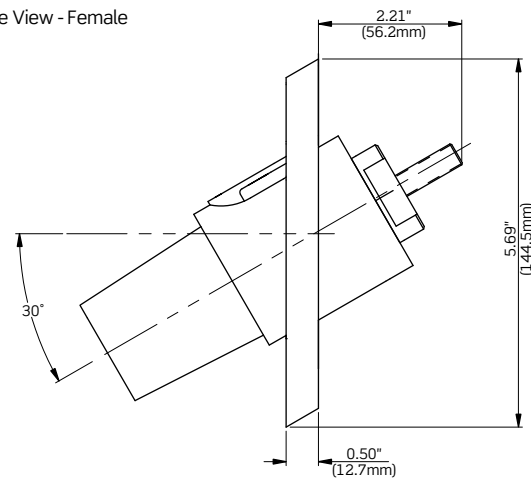
Side View - Male



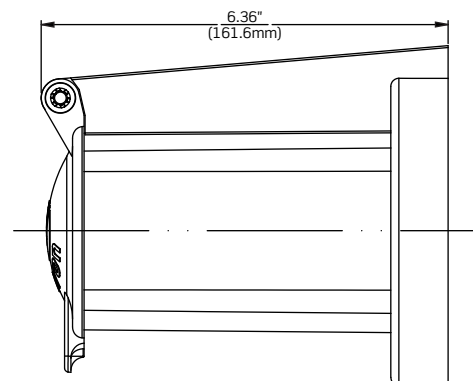
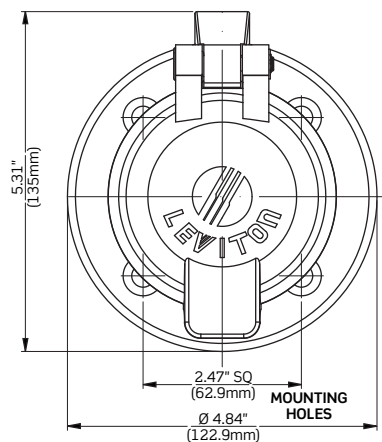
Mounting Pattern Common to
Both Male & Female Configurations



Side View - Female



Protective Cover for 90° 17/19 Series Receptacles

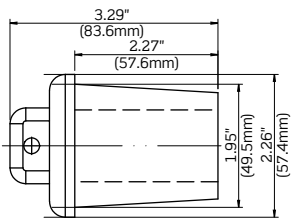


Industrial Grade

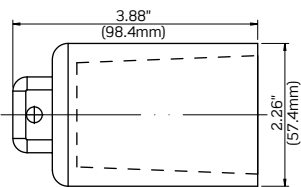
17 Series Technical Specifications

DIMENSIONS

Male Protective Cap



Female Protective Cap



AMPACITY TABLE

Cable Size	Ampacity
250	455
350	570
500	700
750	885

Excerpted from NEC Article 400, Table 400.5(A)(2), 90° column

19 Series Ball Nose Devices - 690A, 600V Max

**Male Plug - Double Set
Screw Termination**
(19D22-G Shown)



**Female Plug - Double Set
Screw Termination**
(19D24-B Shown)



**Male Panel Mount Receptacle -
90° Threaded Stud Termination**
(19R21-H Shown)



**Female Panel Mount Receptacle -
90° Threaded Stud Termination**
(19R22-E Shown)



Male Protective Cap
(19P21-R Shown)



Female Protective Cap
(19P22-O Shown)



19 Series Accessories

“Com-A-Long” Assembly Tools
17CLM for Female Plug



17CLF for Male Plug



Lubricating Spray
C0001 for 16 Fl. Oz. Can



Industrial Grade

19 Series Device Ordering Information

CAM-TYPE PLUGS

		Double Set Screw Termination	
		Male Plug	Female Plug
Cable Size: 350-500MCM Max Ampacity: 690A Voltage: 600V	White	19D22-W	19D24-W
	Black	19D22-E	19D24-E
	Brown	19D22-H	19D24-H
	Red	19D22-R	19D24-R
	Blue	19D22-B	19D24-B
	Orange	19D22-O	19D24-O
	Green	19D22-G	19D24-G
	Yellow	19D22-Y	19D24-Y

CAM-TYPE PANEL MOUNT RECEPTACLES

		1.00"L Threaded Stud Termination	
		Male, 90°	Female, 90°
Cable Size: 250-750MCM Max Ampacity: 690A Voltage: 600V	White	19R21-W	19R22-W
	Black	19R21-E	19R22-E
	Brown	19R21-H	19R22-H
	Red	19R21-R	19R22-R
	Blue	19R21-B	19R22-B
	Orange	19R21-O	19R22-O
	Green	19R21-G	19R22-G
	Yellow	19R21-Y	19R22-Y

COVERS

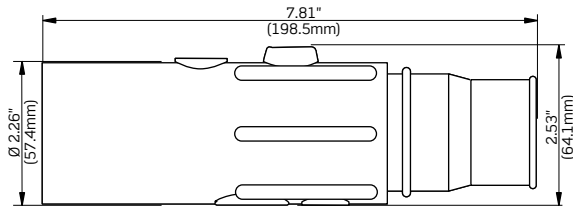
		Caps	
		Male	Female
	White	19P21-W	19P22-W
	Black	19P21-E	19P22-E
	Brown	19P21-H	19P22-H
	Red	19P21-R	19P22-R
	Blue	19P21-B	19P22-B
	Orange	19P21-O	19P22-O
	Green	19P21-G	19P22-G
	Yellow	19P21-Y	19P22-Y

Note: Some items may require extended lead times; always consult with your local sales representative for current availability.

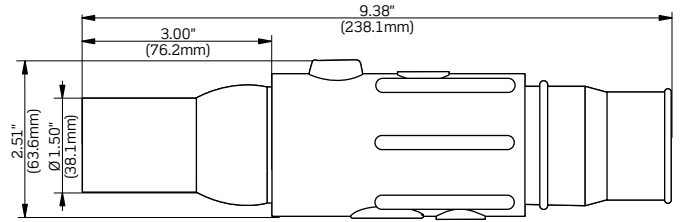
19 Series Technical Drawings

DIMENSIONS

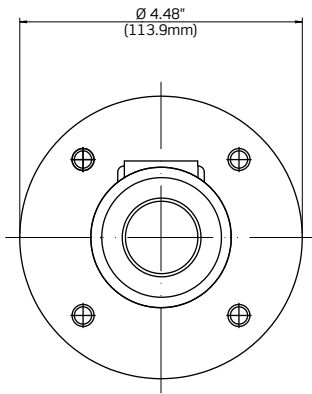
Male Detachable Plug – Double Set Screw



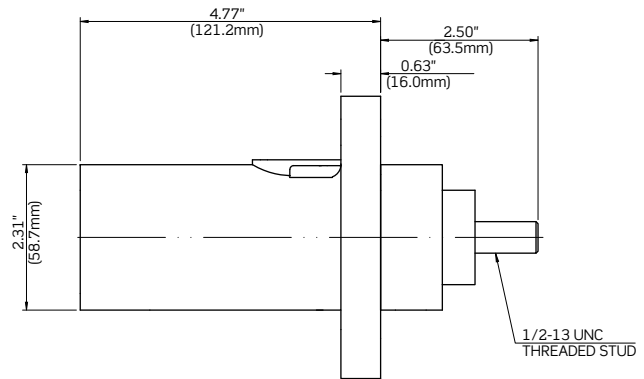
Female Detachable Plug – Double Set Screw



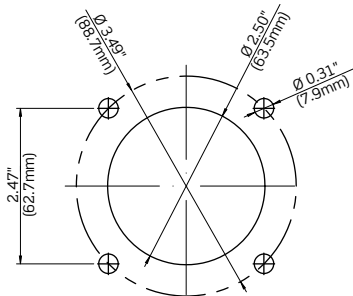
Front View 90° Panel Receptacle
Common to Both Male & Female Configurations



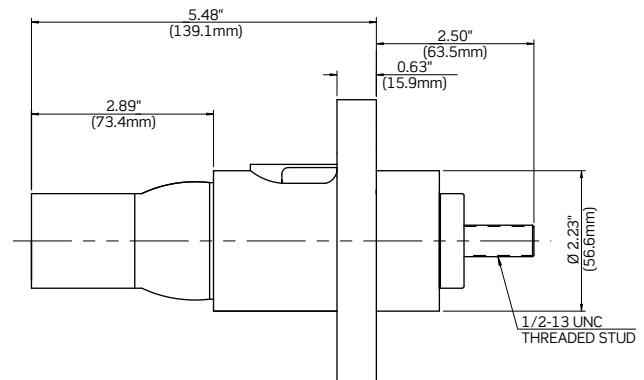
Side View 90° Male Panel Receptacle, Threaded Stud



Mounting Pattern Common to
Both Male & Female Configurations



Side View 90° Female Panel Receptacle, Threaded Stud

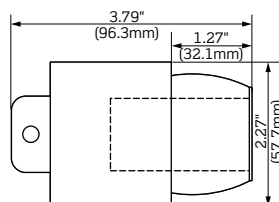


AMPACITY TABLE

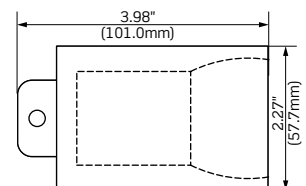
Cable Size	Ampacity
250	455
350	570
500	700
750	885

Excerpted from NEC Article 400, Table 400.5(A)(2), 90° column

Male Protective Cap



Female Protective Cap



Industrial Grade

22 Series Latching Ball Nose Devices - 690A, 600V Max

**Male Plug - Crimp Tube Termination,
Neoprene Sleeve** (22L21-R Shown)



**Female Plug - Crimp Tube Termination,
Neoprene Sleeve** (22L25-E Shown)



**Male Plug - Crimp Tube Termination,
TPV Sleeve** (22L22-SE Shown)



**Female Plug - Crimp Tube Termination,
TPV Sleeve** (22L25-SR Shown)



**Male Panel Mount
Receptacle - 90°
Threaded Stud**
(22R21-E Shown)



**Female Panel Mount
Receptacle - 90°
Threaded Stud**
(22R22-R Shown)



**Male Panel Mount
Receptacle -
30° Threaded Stud**
(22R23-E Shown)



**Female Panel Mount
Receptacle -
30° Threaded Stud**
(22R24-E Shown)



22 Series Latching Ball Nose Devices - 690A, 600V Max

**Female Panel Mount Receptacle -
15° Threaded Stud Termination
with Microswitch** (22R28-W Shown)



**Male
Protective Cap**
(22P21-E Shown)



**Female
Protective Cap**
(22P22-E Shown)



22 Series Accessories

“Com-A-Long” Assembly Tools
17CLM for Female Plug



17CLF for Male Plug



Lubricating Spray
C0001 for 16 Fl. Oz. Can



Industrial Grade

22 Series Device Ordering Information

CAM-TYPE PLUGS

		Crimp Tube Termination	
		Male Plug	Female Plug
Cable Size: 250-350MCM Max Ampacity: 570A Voltage: 600V Neoprene Sleeve	White	22L21-W	22L24-W
	Black	22L21-E	22L24-E
	Brown	22L21-H	22L24-H
	Red	22L21-R	22L24-R
	Blue	22L21-B	22L24-B
	Orange	22L21-O	22L24-O
	Green	22L21-G	22L24-G
	Yellow	22L21-Y	22L24-Y
		Crimp Tube Termination	
		Male Plug	Female Plug
Cable Size: 350-500MCM Max Ampacity: 690A Voltage: 600V Neoprene Sleeve	White	22L22-W	22L25-W
	Black	22L22-E	22L25-E
	Brown	22L22-H	22L25-H
	Red	22L22-R	22L25-R
	Blue	22L22-B	22L25-B
	Orange	22L22-O	22L25-O
	Green	22L22-G	22L25-G
	Yellow	22L22-Y	22L25-Y
		Crimp Tube Termination	
		Male Plug	Female Plug
Cable Size: 350-500MCM Max Ampacity: 690A Voltage: 600V TPV Sleeve	White	22L22-SW	22L25-SW
	Black	22L22-SE	22L25-SE
	Brown	22L22-SH	22L25-SH
	Red	22L22-SR	22L25-SR
	Blue	22L22-SB	22L25-SB
	Orange	22L22-SO	22L25-SO
	Green	22L22-SG	22L25-SG
	Yellow	22L22-SY	22L25-SY
		Crimp Tube Termination	
		Male Plug	Female Plug
Cable Size: 500-750MCM Max Ampacity: 690A Voltage: 600V Neoprene Sleeve	White	22L23-W	22L26-W
	Black	22L23-E	22L26-E
	Brown	22L23-H	22L26-H
	Red	22L23-R	22L26-R
	Blue	22L23-B	22L26-B
	Orange	22L23-O	22L26-O
	Green	22L23-G	22L26-G
	Yellow	22L23-Y	22L26-Y

Note: Some items may require extended lead times; always consult with your local sales representative for current availability.

22 Series Device Ordering Information

CAM-TYPE PANEL MOUNT RECEPTACLES

		1.00"L Threaded Stud Termination			
		Male, 90°	Female, 90°	Male, 30°	Female, 30°
Cable Size: 250-750MCM Max Ampacity: 690A Voltage: 600V	White	22R21-W	22R22-W	22R23-W	22R24-W
	Black	22R21-E	22R22-E	22R23-E	22R24-E
	Brown	22R21-H	22R22-H	22R23-H	22R24-H
	Red	22R21-R	22R22-R	22R23-R	22R24-R
	Blue	22R21-B	22R22-B	22R23-B	22R24-B
	Orange	22R21-O	22R22-O	22R23-O	22R24-O
	Green	22R21-G	22R22-G	22R23-G	22R24-G
	Yellow	22R21-Y	22R22-Y	22R23-Y	22R24-Y

		1.00"L Threaded Stud Termination	
		Female, 15°	w/microswitch
Cable Size: 250-750MCM Max Ampacity: 690A Voltage: 600V	White	22R26-W	22R28-W
	Black	22R26-E	22R28-E
	Red	22R26-R	22R28-R

COVERS

		Caps	
		Male	Female
	White	22P21-W	22P22-W
	Black	22P21-E	22P22-E
	Brown	22P21-H	22P22-H
	Red	22P21-R	22P22-R
	Blue	22P21-B	22P22-B
	Orange	22P21-O	22P22-O
	Green	22P21-G	22P22-G
	Yellow	22P21-Y	22P22-Y

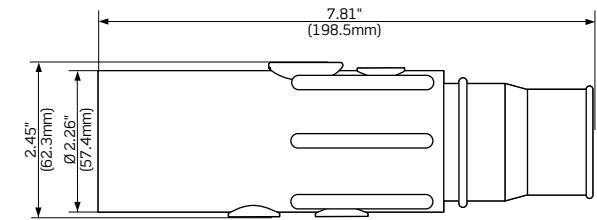
Note: Some items may require extended lead times; always consult with your local sales representative for current availability.

Industrial Grade

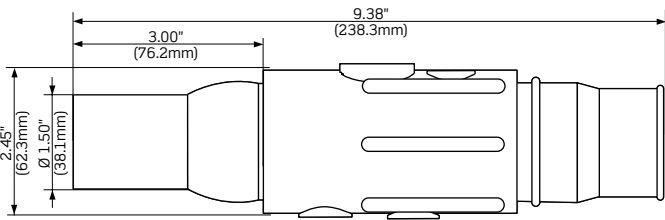
22 Series Device Technical Drawings

DIMENSIONS

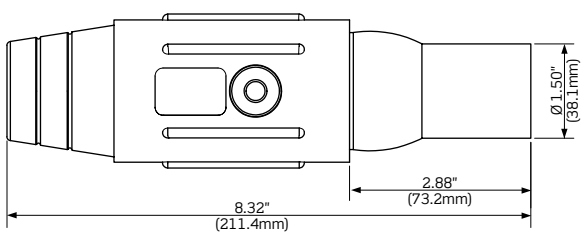
Ball Nose In-line Latching Male Plugs



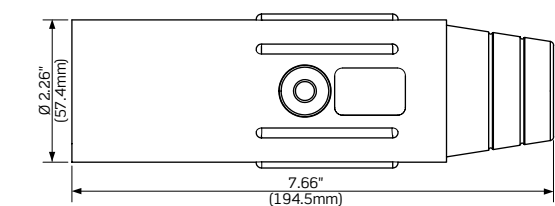
Ball Nose In-line Latching Female Plugs



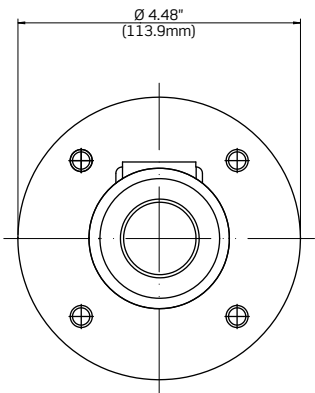
Ball Nose In-line Latching Male Plugs S-Series



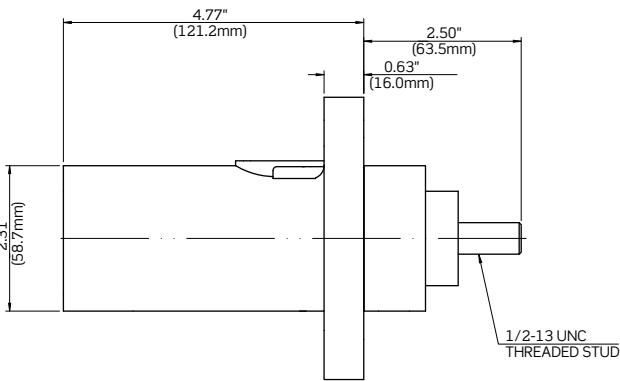
Ball Nose In-line Latching Female Plugs S-Series



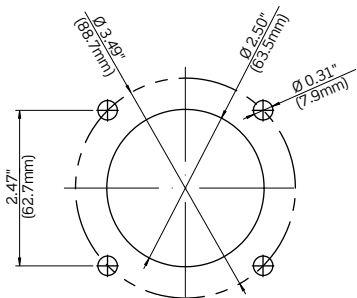
Front View 90° Male Panel Receptacle
Common to Both Male & Female Configurations



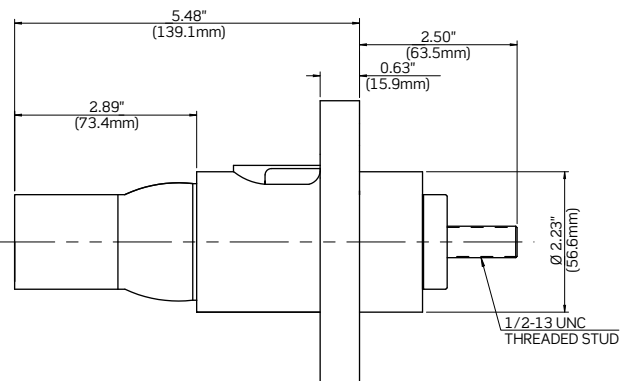
Side View 90° Male Panel Receptacle, Threaded Stud



Mounting Pattern Common to
Both Male & Female Configurations



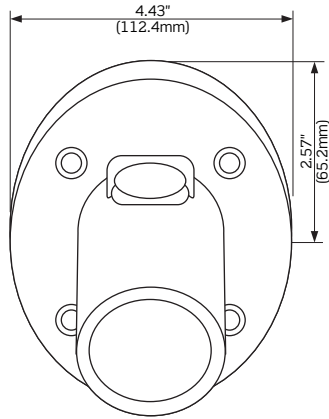
Side View 90° Female Panel Receptacle, Threaded Stud



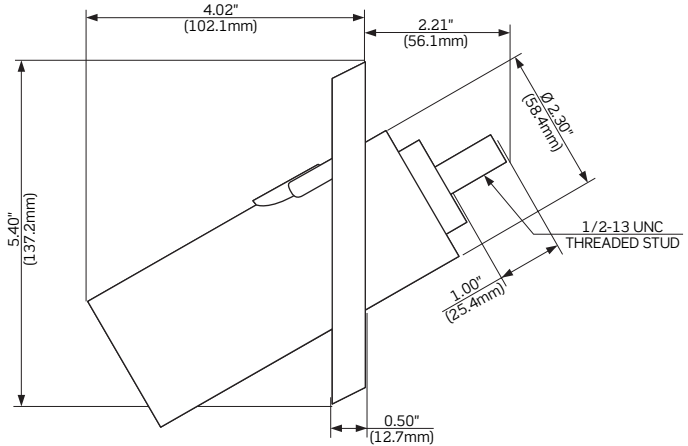
22 Series Device Technical Drawings

DIMENSIONS

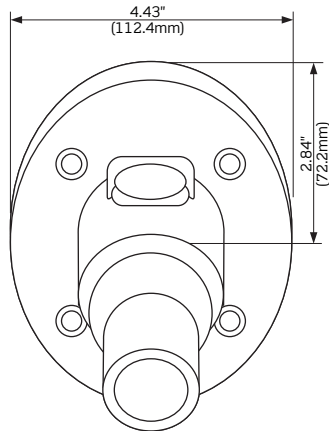
Front View 30° Male Panel Receptacle



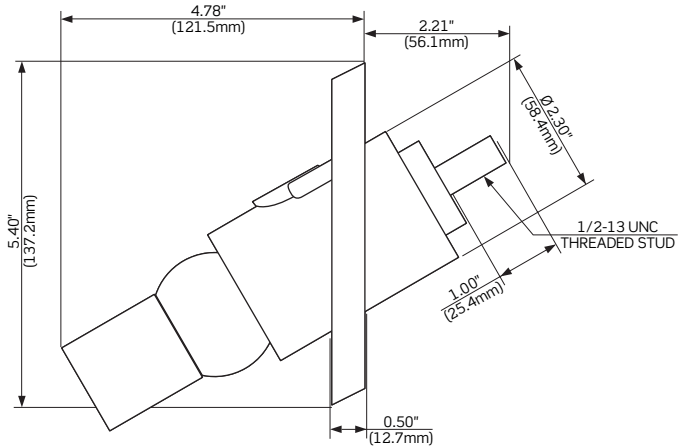
Side View 30° Male Panel Receptacle, Threaded Stud



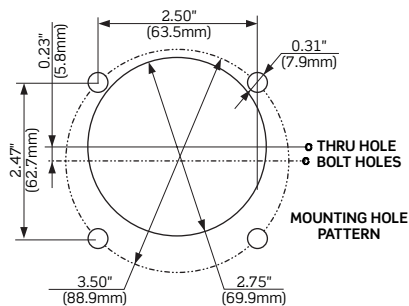
Front View 30° Female Panel Receptacle



Side View 30° Female Panel Receptacle, Threaded Stud



Mounting Pattern Common to Both Male & Female Configurations



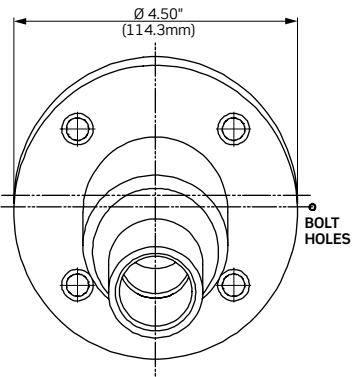
Industrial Grade

22 Series Device Technical Drawings

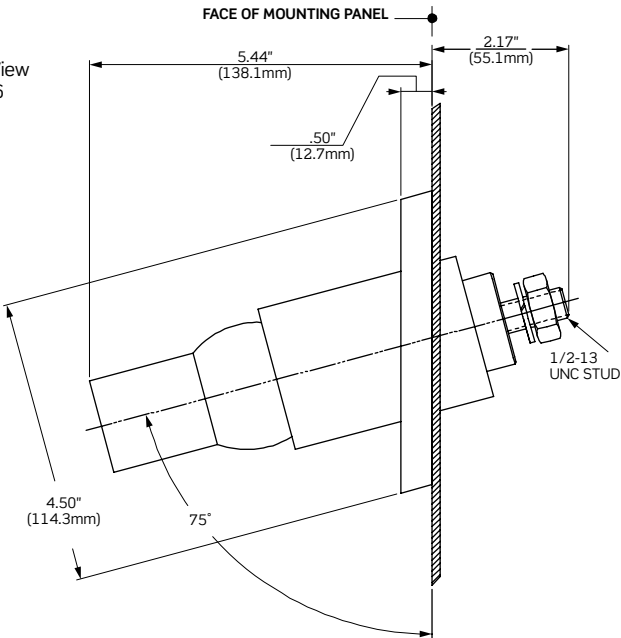
DIMENSIONS

15° Panel Receptacle with Latching Ball Nose

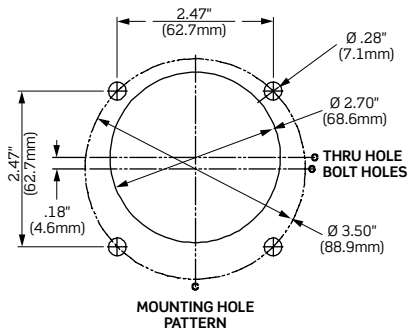
Front View, Common to 22R26 and 22R28 Configurations



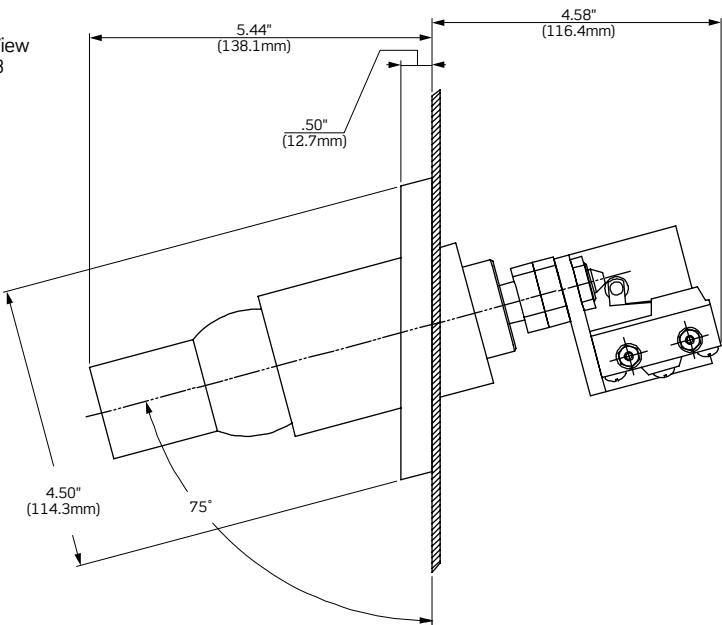
Side View 22R26



Mounting Hole Pattern, Common to 22R26 and 22R28 Configurations



Side View 22R28

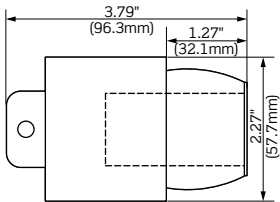


AMPACITY TABLE

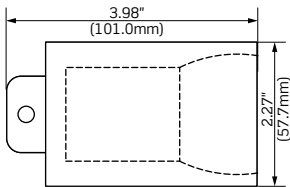
Cable Size	Ampacity
250	455
350	570
500	700
750	885

Excerpted from NEC Article 400, Table 400.5(A)(2), 90° column

Male Protective Cap



Female Protective Cap



23 Series Latching Taper Nose Plugs - 690A, 600V Max

**Male Plug - Latching Taper Nose,
Crimp Tube Termination**
(23L23-E Shown)



**Female Plug - Latching Taper Nose,
Crimp Tube Termination**
(23L26-R Shown)



**Male Panel Receptacle -
30° Tapered Nose, Threaded Stud**
(23R23-E Shown)



**Female Panel Receptacle -
30° Tapered Nose, Threaded Stud**
(23R24-H Shown)



**Male
Protective Cap**
(23P21-O Shown)



**Female
Protective Cap**
(23P22-H Shown)



23 Series Accessories

“Com-A-Long” Assembly Tools
17CLM for Female Plug



17CLF for Male Plug



Lubricating Spray
C0001 for 16 Fl. Oz. Can



Industrial Grade

23 Series Device Ordering Information

CAM-TYPE PLUGS

		Crimp Tube Termination	
		Male Plug	Female Plug
Cable Size: 350-500MCM Max Ampacity: 690A Voltage: 600V Neoprene Sleeve	White	23L22-W	23L25-W
	Black	23L22-E	23L25-E
	Brown	23L22-H	23L25-H
	Red	23L22-R	23L25-R
	Blue	23L22-B	23L25-B
	Orange	23L22-O	23L25-O
	Green	23L22-G	23L25-G
	Yellow	23L22-Y	23L25-Y

		Crimp Tube Termination	
		Male Plug	Female Plug
Cable Size: 500-750MCM Max Ampacity: 690A Voltage: 600V Neoprene Sleeve	White	23L23-W	23L26-W
	Black	23L23-E	23L26-E
	Brown	23L23-H	23L26-H
	Red	23L23-R	23L26-R
	Blue	23L23-B	23L26-B
	Orange	23L23-O	23L26-O
	Green	23L23-G	23L26-G
	Yellow	23L23-Y	23L26-Y

CAM-TYPE PANEL MOUNT RECEPTACLES

		1.00"L Threaded Stud Termination	
		Male, 30°	Female, 30°
Cable Size: 250-750MCM Max Ampacity: 690A Voltage: 600V	White	23R23-W	23R24-W
	Black	23R23-E	23R24-E
	Brown	23R23-H	23R24-H
	Red	23R23-R	23R24-R
	Blue	23R23-B	23R24-B
	Orange	23R23-O	23R24-O
	Green	23R23-G	23R24-G
	Yellow	23R23-Y	23R24-Y

COVERS

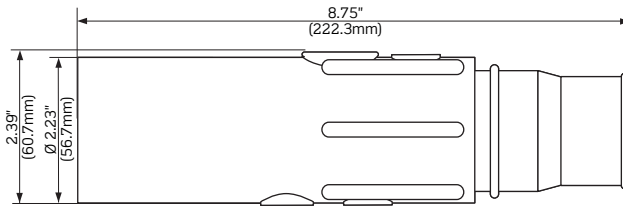
		Caps	
		Male	Female
	White	23P21-W	23P22-W
	Black	23P21-E	23P22-E
	Brown	23P21-H	23P22-H
	Red	23P21-R	23P22-R
	Blue	23P21-B	23P22-B
	Orange	23P21-O	23P22-O
	Green	23P21-G	23P22-G
	Yellow	23P21-Y	23P22-Y

Note: Some items may require extended lead times; always consult with your local sales representative for current availability.

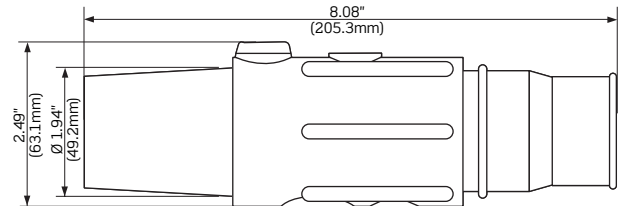
23 Series Technical Drawings

DIMENSIONS

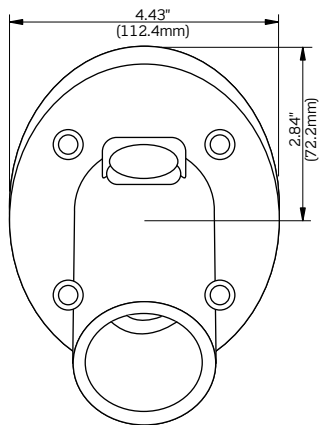
Taper Nose In-line Latching Male Plugs - Vulcanized



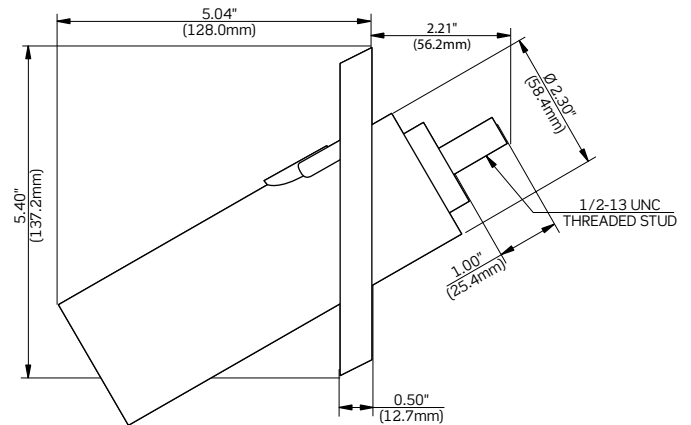
Taper Nose In-line Latching Female Plugs - Vulcanized



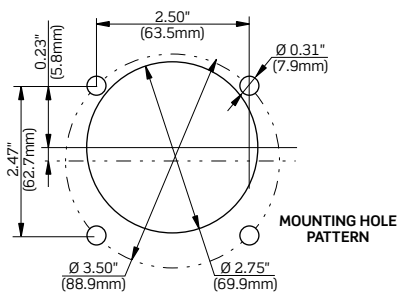
Front View 30° Panel Receptacle



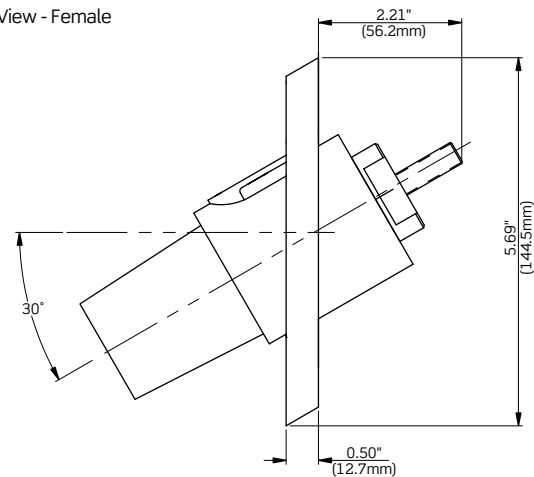
Side View - Male



Mounting Pattern Common to Both Male & Female Configurations



Side View - Female

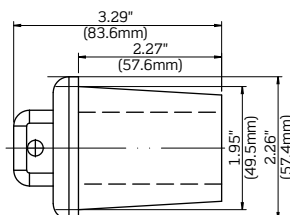


AMPACITY TABLE

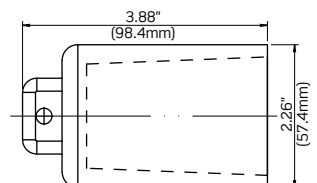
Cable Size	Ampacity
250	455
350	570
500	700
750	885

Excerpted from NEC Article 400, Table 400.5(A)(2), 90° column

Male Protective Cap



Female Protective Cap



Industrial Grade

49 Series Male and Female Plugs, 1135A Max

Color-coded connector insulator for quick, visual identification of circuit and phase connections.
Available colors include: Black, White, Red, Blue, Green, Yellow, Orange, Purple¹, Gray¹ and Brown^{**}



UV stable, high-performance TPV insulator resists fading and cracking for greater service life

Ideal for replacement; plugs mate with other manufacturers' high-amperage single pole plugs and receptacles for fast, easy change-out



Male contact tip is over-plated with gold

TPV dust cap protects contacts when disconnected

Contacts machined from a high conductivity copper alloy and silver-plated for corrosion resistance and superior conductivity

Contacts offered by cable size for the most secure connection. Each contact is designed for a specific cable size ranging from 313 MCM through 777 MCM

Coupler



Color-coded, metal in-line coupler prevents separation of connectors and identifies phase

^{**} For additional colors, consult factory.
¹Select configurations only. See ordering information for details

49 Series Panel Mounted Receptacles, 1135A Max

Ideal for replacement; receptacles mate with other manufacturers' high-amperage single pole plugs for fast, easy change-out

With thermal stability ranging from -60°C to 135°C (-76°F to 275°F) the high-performance TPV bus bar insulator resists cracking for greater service life

Receptacles deliver up to 1,135 Amps continuous duty

Cast aluminum powder-coated receptacle housing is color-coded for quick visual identification of circuit and phase connections

Captive stainless steel clevis bracket

"X" version receptacle housings feature a 45° angle stainless steel clevis pin that permits ganging of multiple receptacles in very close proximity to each other (as close as 1/4") for installation on smaller panels

TPV cap prevents contamination when receptacle is not in use

Detent pin allows clevis pin to stay secure in either open or closed position

Stainless steel clevis bracket accepts industry standard lockout



Available colors include: Black, White, Red, Blue, Green, Yellow, Orange, Brown, Purple and Gray. For additional colors, consult factory.

Color-coding the devices minimizes errors due to mis-wiring, and saves time during assembly and troubleshooting, especially on dusty and dirty oil rigs.

Industrial Grade

49 Series Device Ordering Information

MALE PLUGS

Max Ampacity Conductor Size	636A 313 MCM	796A 444 MCM	898A 535 MCM	1009A 646 MCM	1135A 777 MCM	Replacement Sleeve
White	49M31-W	49M44-W	49M53-W	49M64-W	49M77-W	49MSL-W
Black	49M31-E	49M44-E	49M53-E	49M64-E	49M77-E	49MSL-E
Brown	49M31-H	49M44-H	49M53-H	49M64-H	49M77-H	49MSL-H
Red	49M31-R	49M44-R	49M53-R	49M64-R	49M77-R	49MSL-R
Blue	49M31-B	49M44-B	49M53-B	49M64-B	49M77-B	49MSL-B
Orange	49M31-O	49M44-O	49M53-O	49M64-O	49M77-O	49MSL-O
Green	49M31-G	49M44-G	49M53-G	49M64-G	49M77-G	49MSL-G
Yellow	49M31-Y	49M44-Y	49M53-Y	49M64-Y	49M77-Y	49MSL-Y
Purple	49M31-P	49M44-P	49M53-P	49M64-P	49M77-P	49MSL-P
Gray	49M31-GY	49M44-GY	49M53-GY	49M64-GY	49M77-GY	49MSL-GY
Replacement Contact	49M31-C	49M44-C	49M53-C	49M64-C	49M77-C	—

FEMALE PLUGS

Max Ampacity Conductor Size	636A 313 MCM	796A 444 MCM	898A 535 MCM	1009A 646 MCM	1135A 777 MCM	Replacement Sleeve
White	49F31-W	49F44-W	49F53-W	49F64-W	49F77-W	49FSL-W
Black	49F31-E	49F44-E	49F53-E	49F64-E	49F77-E	49FSL-E
Brown	49F31-H	49F44-H	49F53-H	49F64-H	49F77-H	49FSL-H
Red	49F31-R	49F44-R	49F53-R	49F64-R	49F77-R	49FSL-R
Blue	49F31-B	49F44-B	49F53-B	49F64-B	49F77-B	49FSL-B
Orange	49F31-O	49F44-O	49F53-O	49F64-O	49F77-O	49FSL-O
Green	49F31-G	49F44-G	49F53-G	49F64-G	49F77-G	49FSL-G
Yellow	49F31-Y	49F44-Y	49F53-Y	49F64-Y	49F77-Y	49FSL-Y
Purple	49F31-P	49F44-P	49M53-P	49F64-P	49M77-P	49FSL-P
Gray	49F31-GY	49F44-GY	49F53-GY	49F64-GY	49F77-GY	49FSL-GY
Replacement Contact	49F31-C	49F44-C	49F53-C	49F64-C	49F77-C	—

Note: Some items may require extended lead times; always consult with your local sales representative for current availability.

49 Series Device Ordering Information

PANEL MOUNT RECEPTACLES

		Complete Male Receptacle		Complete Female Receptacle	
		Single Hole Bus Bar	Double Hole Bus Bar	Single Hole Bus Bar	Double Hole Bus Bar
Receptacle Spacing: 1/4" Horizontally, 3-1/4" Vertically Cable Size: 313-777MCM Max Ampacity: 1135A Voltage: 1000V	White	49MR1-CW	49MR2-CW	49FR1-CW	49FR2-CW
	Black	49MR1-CE	49MR2-CE	49FR1-CE	49FR2-CE
	Brown	49MR1-CH	49MR2-CH	49FR1-CH	49FR2-CH
	Red	49MR1-CR	49MR2-CR	49FR1-CR	49FR2-CR
	Blue	49MR1-CB	49MR2-CB	49FR1-CB	49FR2-CB
	Orange	49MR1-CO	49MR2-CO	49FR1-CO	49FR2-CO
	Green	49MR1-CG	49MR2-CG	49FR1-CG	49FR2-CG
	Yellow	49MR1-CY	49MR2-CY	49FR1-CY	49FR2-CY
	Purple	49MR1-CP	49MR2-CP	49FR1-CP	49FR2-CP
	Gray	49MR1-CGY	49MR2-CGY	49FR1-CGY	49FR2-CGY

		Complete Male Receptacle		Complete Female Receptacle	
		Single Hole Bus Bar	Double Hole Bus Bar	Single Hole Bus Bar	Double Hole Bus Bar
Receptacle Spacing: 1/4" Horizontally and Vertically Cable Size: 313-777MCM Max Ampacity: 1135A Voltage: 1000V	White	49MR1-XW	49MR2-XW	49FR1-XW	49FR2-XW
	Black	49MR1-XE	49MR2-XE	49FR1-XE	49FR2-XE
	Brown	49MR1-XH	49MR2-XH	49FR1-XH	49FR2-XH
	Red	49MR1-XR	49MR2-XR	49FR1-XR	49FR2-XR
	Blue	49MR1-XB	49MR2-XB	49FR1-XB	49FR2-XB
	Orange	49MR1-XO	49MR2-XO	49FR1-XO	49FR2-XO
	Green	49MR1-XG	49MR2-XG	49FR1-XG	49FR2-XG
	Yellow	49MR1-XY	49MR2-XY	49FR1-XY	49FR2-XY
	Purple	49MR1-XP	49MR2-XP	49FR1-XP	49FR2-XP
	Gray	49MR1-XGY	49MR2-XGY	49FR1-XGY	49FR2-XGY

Note: Some items may require extended lead times; always consult with your local sales representative for current availability.

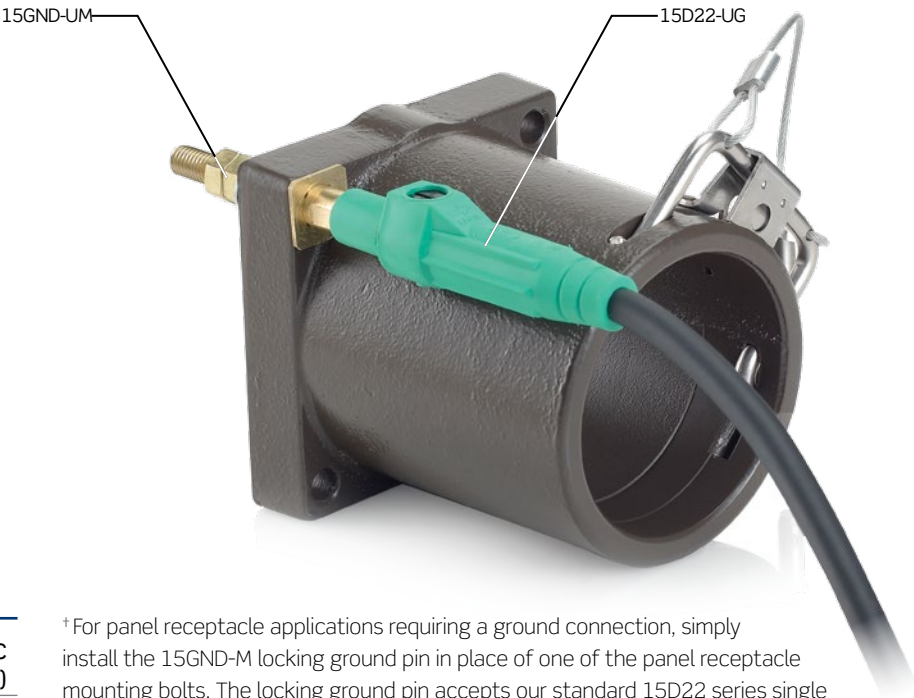
Industrial Grade

49 Series Device Ordering Information

ACCESSORIES AND REPLACEMENT PARTS

	Description	Color	Material	Cat. No.
For Plugs	Clevis Pin for In-Line Connector Coupler	Silver	Stainless Steel	49PNR
	Male Dust Cap	Black	High-Performance TPV	49DSM
	Female Dust Cap	Black	High-Performance TPV	49DSF
	In-line Coupler	White	Powder-coated aluminum	49COP-W
	In-line Coupler	Black	Powder-coated aluminum	49COP-E
	In-line Coupler	Brown	Powder-coated aluminum	49COP-H
	In-line Coupler	Red	Powder-coated aluminum	49COP-R
	In-line Coupler	Blue	Powder-coated aluminum	49COP-B
	In-line Coupler	Orange	Powder-coated aluminum	49COP-O
	In-line Coupler	Green	Powder-coated aluminum	49COP-G
	In-line Coupler	Yellow	Powder-coated aluminum	49COP-Y
For Panel Mounted Receptacles	Clevis Pin for Panel Mount Receptacle	Silver	Stainless Steel	49PNR*
	Dust Cover Cap for Male or Female Receptacle	Black	High-Performance TPV	49DSR
	Receptacle Housing Gasket	Black	Rubber	49GAS
	Locking Ground Pin	—	Brass	15GND-UM
	Locking Ground Plug (Female)	Green	TPV/Brass	15D22-UG

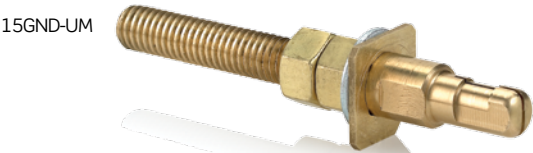
*Does not fit "X" Version.



AMPACITY RATINGS IN 40° AMBIENT FOR HIGH AMPERAGE APPLICATIONS

Cable Size	90°C (194°)	125°C (257°F)
313 MCM	513	636
444 MCM	642	796
535 MCM	724	898
646 MCM	814	1009
777 MCM	916	1135

+For panel receptacle applications requiring a ground connection, simply install the 15GND-M locking ground pin in place of one of the panel receptacle mounting bolts. The locking ground pin accepts our standard 15D22 series single pole cam connectors as shown in the diagram above.

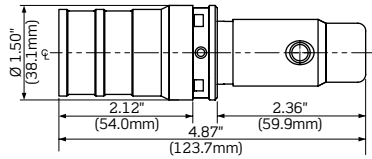


Note: Some items may require extended lead times; always consult with your local sales representative for current availability.

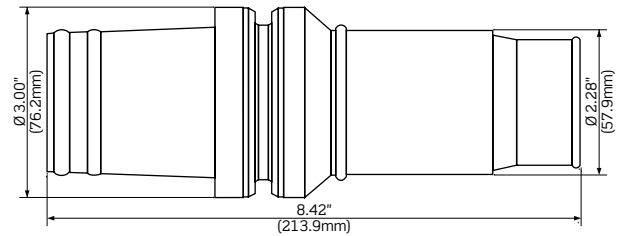
49 Series Device Technical Drawings

DIMENSIONS

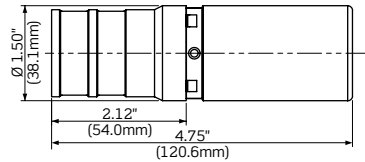
Male Contact



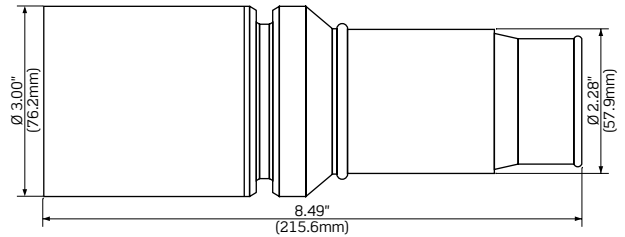
Male Plug Housing



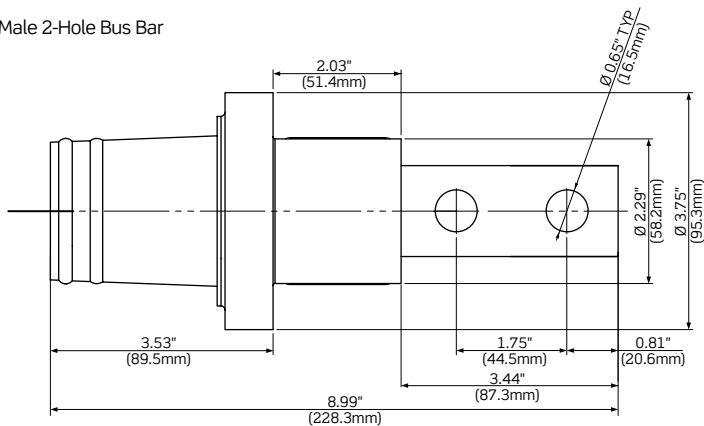
Female Contact



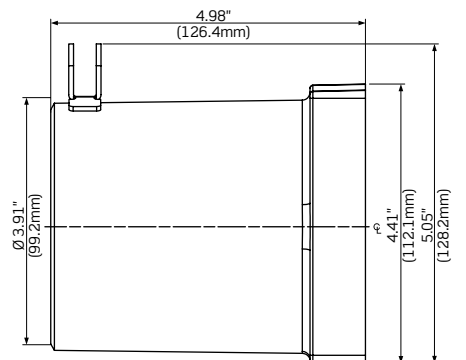
Female Plug Housing



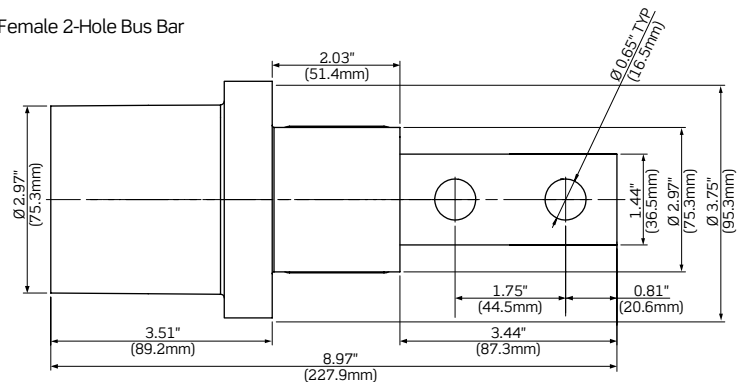
Male 2-Hole Bus Bar



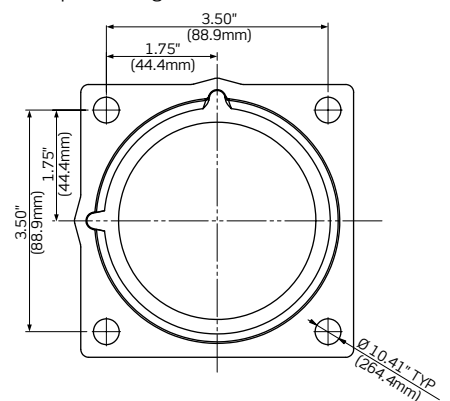
Panel Receptacle Housing



Female 2-Hole Bus Bar



Panel Receptacle Flange



More Power Solutions for Rough Service Environments

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Rhino-Hide® NEMA Wiring Devices

These devices are watertight, submersible, corrosion resistant and have threaded fittings to provide positive locking connections in physically demanding environments that suffer from exposure to weather, chemicals, vibration, and physical strain, including:

- Oil Drilling Rigs
- Mining Operations
- Shore Power
- Wind Power Turbines
- Construction Sites

Rhino-Hide® Multi-Pin Connectors

The Rhino-Hide LZ Series connectors are heavy duty, environmentally sealed plugs and receptacles used for power, control and instrumentation applications in the harshest environments. These devices meet or exceed the requirements specified in the stringent Military Specification MIL-5015, making them suitable for a variety of industrial environments. Typical applications include:

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- Aerospace and Marine Environments
- Land Transportation
- Factories, Refineries and More



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