

Field-Proven Components including Elliott bushings specifically designed for "in-air" operation gives you long-term reliable service

Standard Cable Training means quick, economical installation and assures proper operation for the life of the equipment

Deep Elbow Compartments and careful placement of bushings and parking stands make switching and grounding easier and safer

Tamper-Resistant Enclosure meets National and Regional Enclosure Integrity Standards and virtually eliminates the entrance of airborne contamination to reduce maintenance

Coordinated padlock and penta-head or optional hex-head bolt (top and bottom) provides bolted-door security with visual confirmation by supervisory personnel. Security bolt is made captive with a stainless steel washer compressed to an oval shape to severely discourage removal.

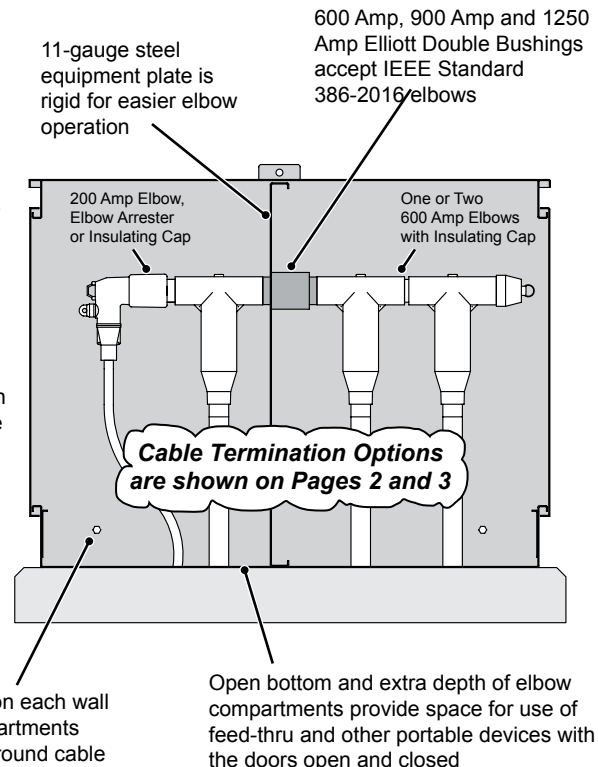
"In-Air" Insulation eliminates leaking or contamination of insulating medium for long trouble-free operation

"In-Air" Visibility allows visual inspection of all components without the inconvenience or expense associated with equipment which must be de-energized for inspection

Superlife Finish Includes phosphatizing, rust-inhibiting epoxy primer and Pad-Mount Green (Munsell 7GY 3.29/1.5) polyurethane top coat - over 5 mils dry

Corrosion proof nameplate is located inside the Side 1 door to provide easy access for the operator

Overlapping door and enclosure flanges - with other features - provide tamper resistance to meet national and regional standards

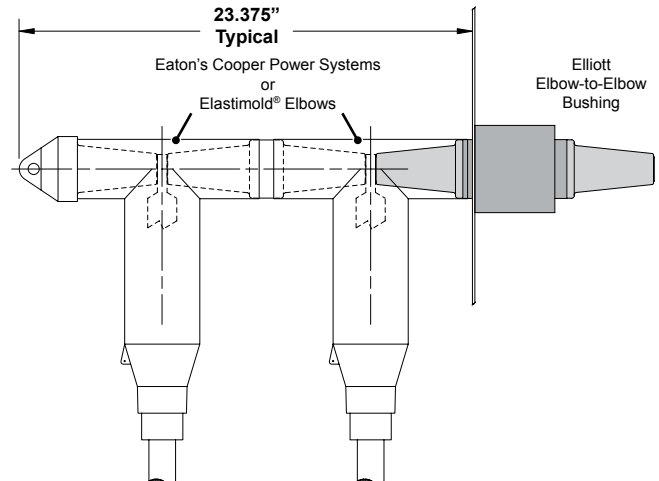
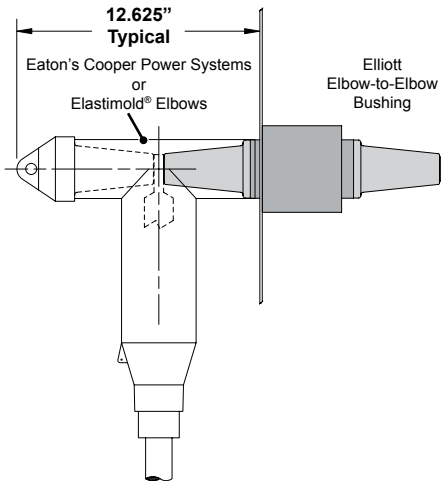


ENCLOSURE OPTIONS:

- 1) 0.125" #5052H32 Aluminum
- 2) 12-gauge #304L Stainless Steel

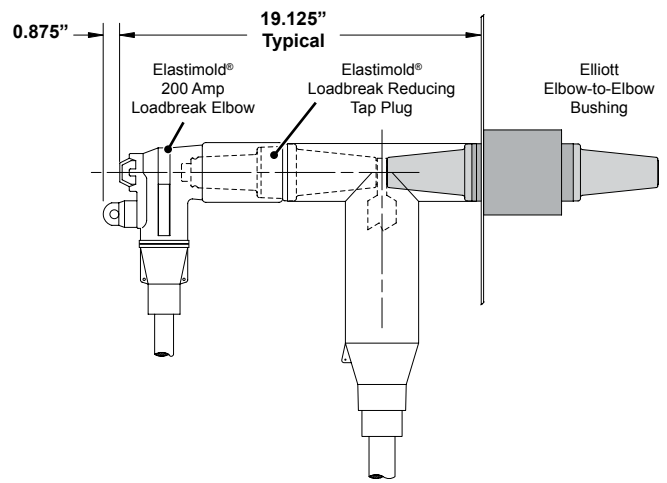
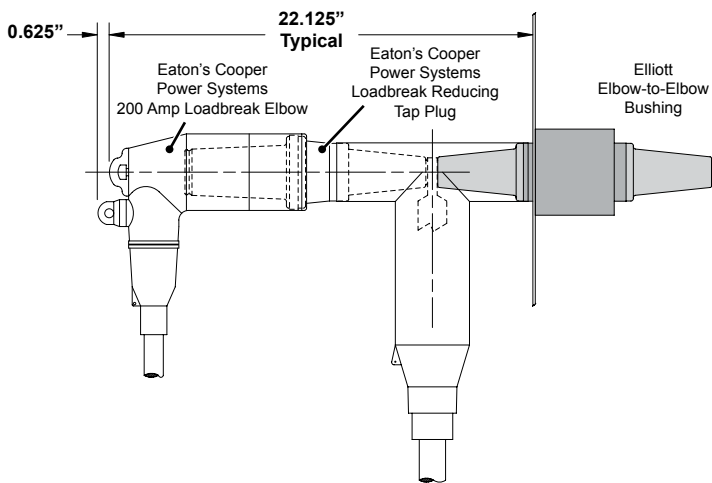
Cable Termination Options

Eaton's Cooper Power Systems and Elastimold® 600 Amp and 900 Amp 35 kV Elbows utilize the IEEE Standard 386-2016 Fig. 15 (Interface 13: a 600 and 900 A Deadbreak Interface, 35 kV class) so both manufacturers' elbows are suitable for use with Elliott 600 Amp, 900 Amp and 1250 Amp 35 kV Elbow-to-Elbow Bushings.



Eaton's Cooper Power Systems 200 Amp 35 kV Loadbreak Reducing Tap Plugs and Loadbreak Elbows utilize the IEEE Standard 386-2016 Fig. 7 (Interface 8, a 200 A Loadbreak Interface, 35 kV class).

Elastimold® 200 Amp 35 kV Loadbreak Reducing Tap Plugs and Loadbreak Elbows utilize the IEEE Standard 386-2016 Fig. 6 (Interface 7A: a 200 A Loadbreak Interface, 25 and 28 class).

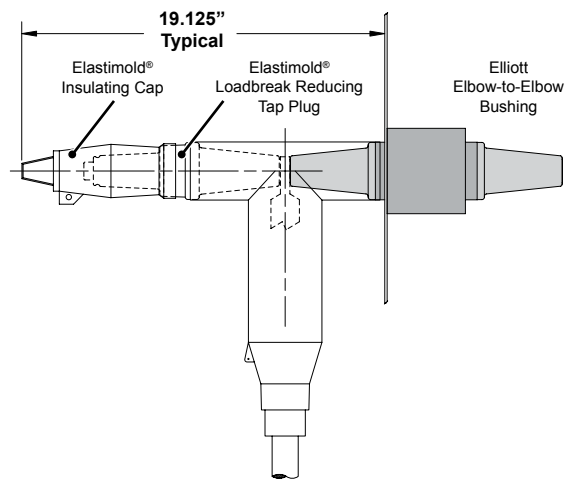
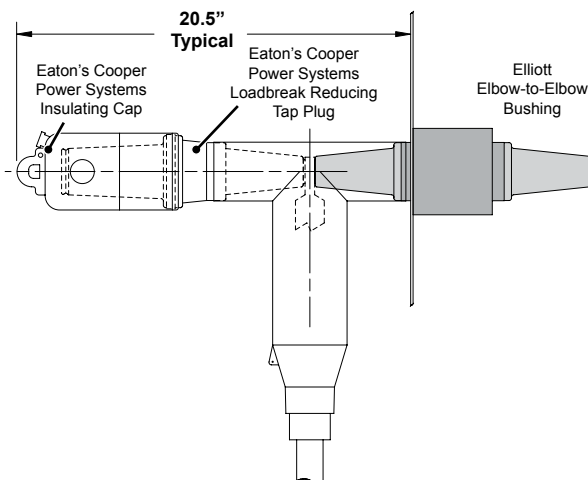
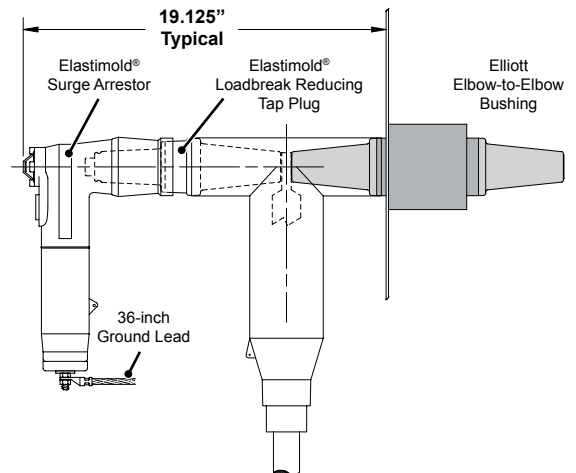
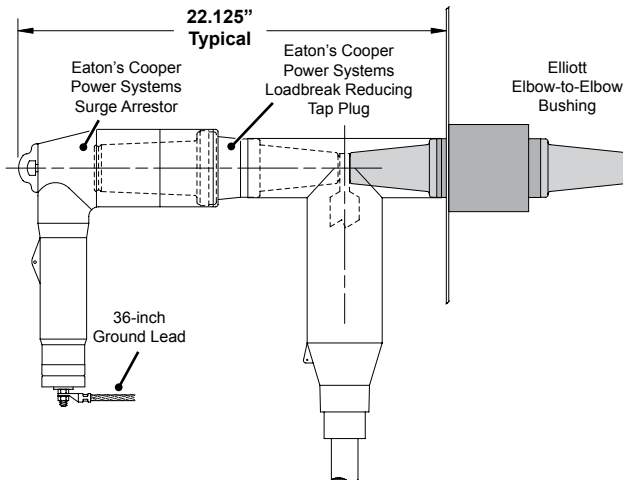
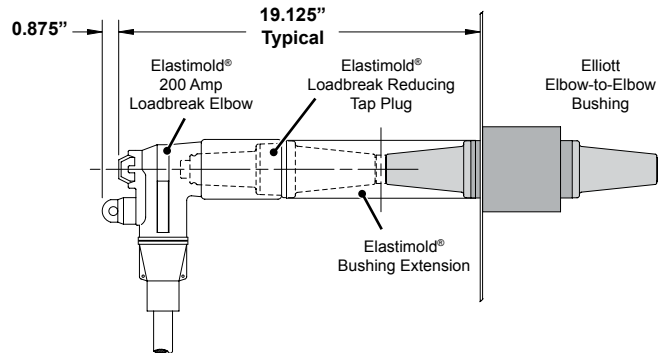
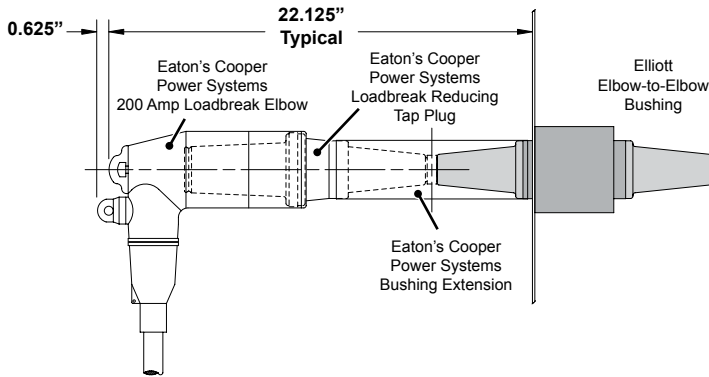


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Cable Termination Options

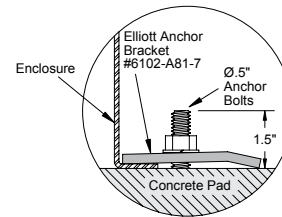
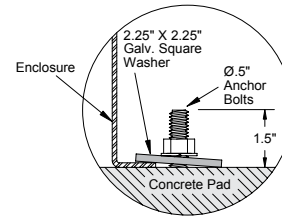
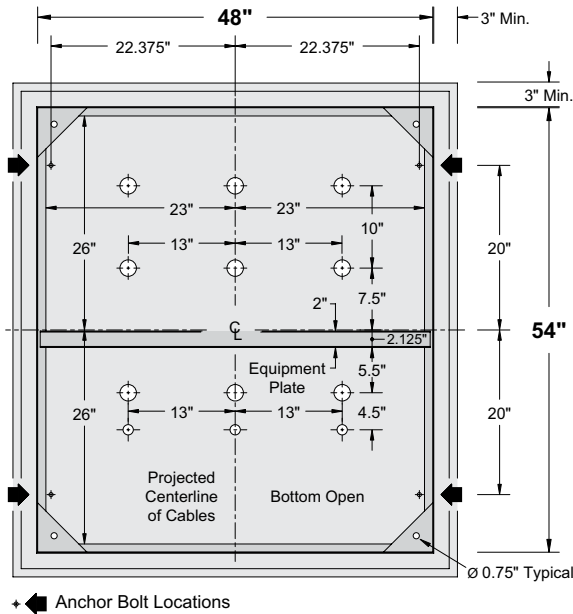
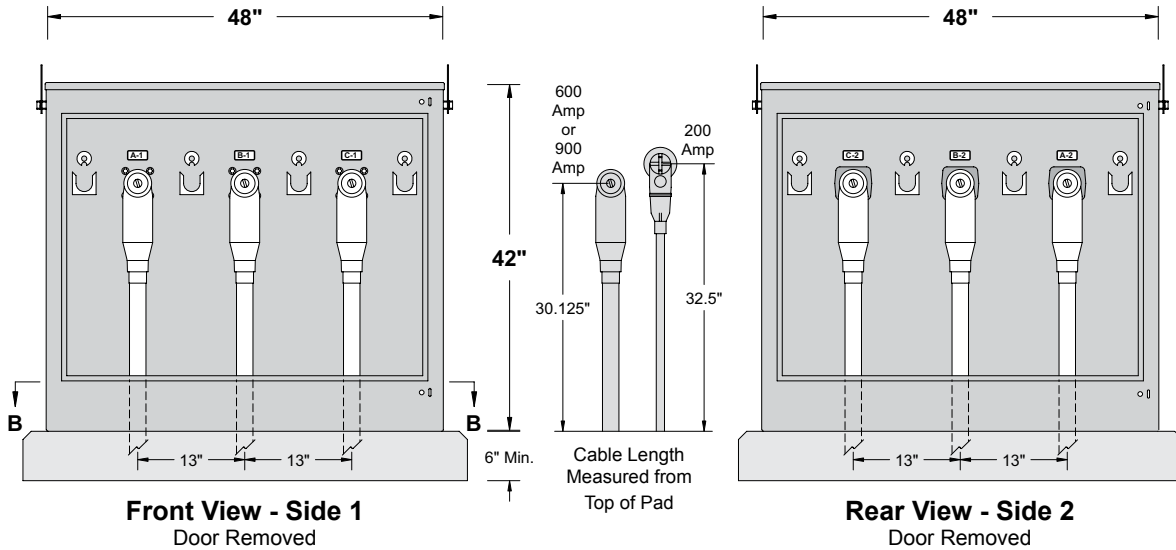
Eaton's Cooper Power Systems

Elastimold®



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Cable Training and Anchor Bolt Locations



Catalog Number	Non-Fusible
EPME-35-311S-E6DB	600 Amp Elliott Double Bushings
EPME-35-311S-E9DB	900 Amp Elliott Double Bushings
EPME-35-311S-E12DB	1250 Amp Elliott Double Bushings

When additional cable terminating space is required, 48" or 54" high enclosure can be supplied to increase cable terminating space by 6" or 12". To order a 48" high enclosure, suffix the catalog number "-48H". To order a 54" high enclosure, suffix the catalog number "-54H".



35-kV Safefront 600 Amp, 900 Amp and 1250 Amp Source Isolated Cable Terminating Station

Pad-Mounted Non-Fusible

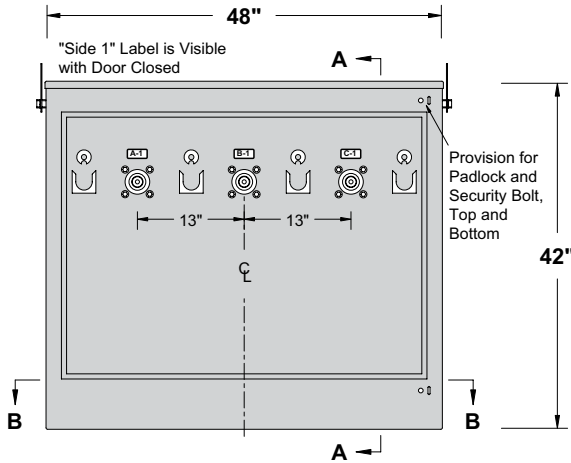
Bulletin
450-322
Page 5 2018

Supersedes 450-314

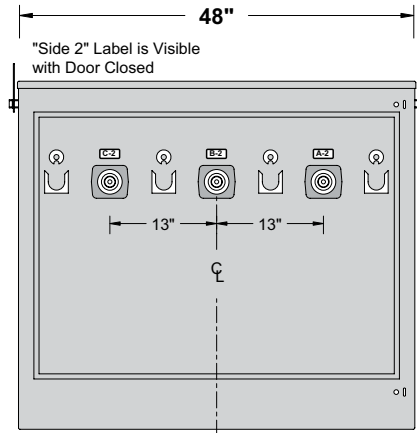


Three Phase – Two Ways per Phase

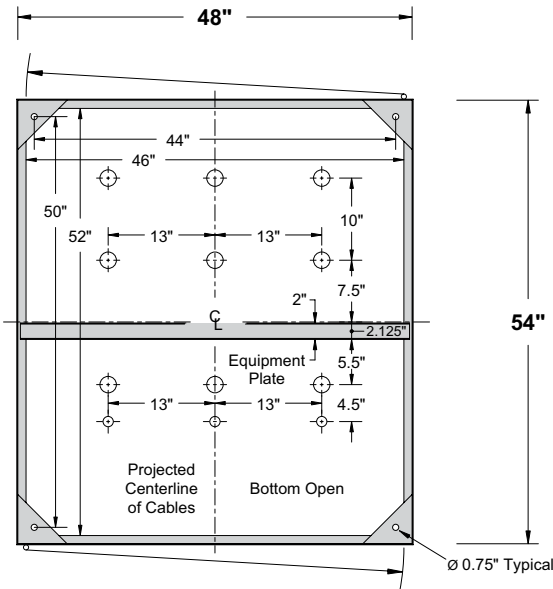
600 Amp or 1250 Amp Elliott Air-Insulated Double Bushings
21.1/36.6 kV Grounded Wye Max Design
150 kV BIL



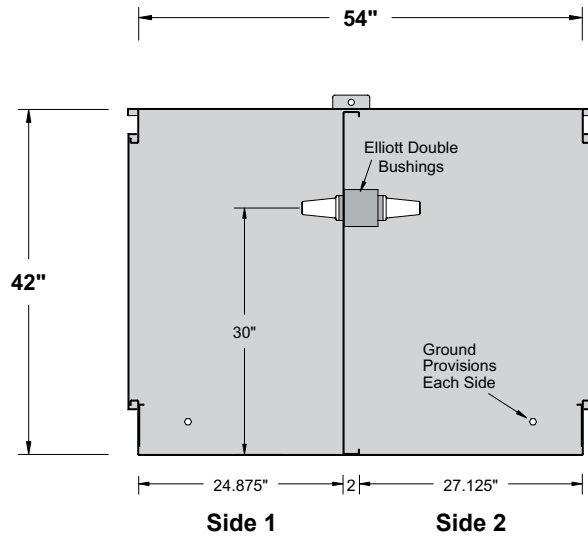
Front View - Side 1
Door Removed



Rear View - Side 2
Door Removed



Section BB



Section AA

Catalog Number	Non-Fusible
EPME-35-311S-E6DB	600 Amp Elliott Double Bushings
EPME-35-311S-E9DB	900 Amp Elliott Double Bushings
EPME-35-311S-E12DB	1250 Amp Elliott Double Bushings

When additional cable terminating space is required, 48" or 54" high enclosure can be supplied to increase cable terminating space by 6" or 12". To order a 48" high enclosure, suffix the catalog number "-48H". To order a 54" high enclosure, suffix the catalog number "-54H".

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Typical Specification - Page 1 of 2**General**

The cable terminating station shall be 35 kV Class, 150 kV BIL, 600 ampere, 900 ampere or 1250 ampere continuous current, suitable for use on 21.1/36.6 kV grounded wye max design systems. The terminating station shall be constructed for connection to the utility system with separable insulated connectors as described in IEEE Standard 386—latest revision (separable insulated connectors [and loadbreak reducing tap plugs when required] shall be supplied by the user). The terminating station shall be designed with two elbow compartments separated by a steel equipment plate. Separate access shall be provided for each compartment. Tamper resistance shall meet the Enclosure Security requirements of IEEE Standard C57.12.28 (Pad-Mounted Equipment—Enclosure Integrity). The tamper resistance shall resist unauthorized entry, protect authorized and unauthorized persons, and provide positive safety features when installed in areas accessible to the general public. The cable terminating station shall be constructed for outdoor installation in areas subject to heavy precipitation and in areas with windblown contamination. The equipment shall be “air-insulated” and completely assembled prior to shipment.

Enclosure Construction

The enclosure shall be tamper-resistant, all-welded construction utilizing 11-gauge minimum sheet steel. Corner plates and braces shall be used as necessary to assure rigidity. The enclosure top shall be cross-kinked to provide watershed and rigidity. The enclosure shall be open bottom with a 1-inch flange inside, all around. Two compartments shall be provided for cable termination—each compartment equipped with its own individual access door(s) furnished with a stainless steel door holder that will latch the door open 100 degrees and 140 degrees and resist accidental closing. The equipment plate separating the two compartments shall be constructed with 11-gauge minimum sheet steel braced to assure rigidity when operating the elbows. Doors shall be provided with provisions for padlocking and a recessed penta-head (or hex-head) security bolt to prevent unauthorized entry (coordinated to prevent installation of the padlock until the security bolt is tightened *when closing the door(s)* and to prevent a wrench from operating the security bolt until the padlock is removed *when opening the door(s)*). The security bolt shall be made captive with a stainless steel washer compressed to an oval shape to severely discourage removal. Hinges shall be stainless steel (with stainless steel pins not less than 0.3125-inch diameter) and shall be welded to both the enclosure and the door(s) to maintain door alignment for the life of the equipment. The enclosure shall be nonventilated to minimize the entrance of airborne contamination, insects, rodents or reptiles. The protective finish shall include necessary grinding, cleaning and phosphatizing, two-component rust-inhibiting epoxy primer and a Pad-Mount Green two-component polyurethane top coat finish (Munsell color 7GY 3.29/1.5). The primer and top coat shall be electronically monitored during application to insure proper ratio and mixing of each component. Total

average thickness of paint (after curing) shall be not less than 5 mils. The protective coating shall meet the Enclosure Coating System requirements of IEEE Standard C57.12.28 (Pad-Mounted Equipment—Enclosure Integrity). Removable lift provisions, adequate to withstand handling with normal utility equipment, shall be provided on the outside of the enclosure. Threaded openings for lift provision bolts shall be blind holes to prevent the entrance of wire or other foreign objects into the enclosure when lift provisions are removed.

Bushings

Alternate 1: Double Bushings shall be 600 ampere Elliott #1335-635B-DB, 35 kV Class (21.1 kV to ground) Bushings, 150 kV BIL, per IEEE Standard 386-2016 Fig. 15 (Interface 13: a 600 and 900 A deadbreak interface, 35 kV class) *for use with 21.1/36.6 kV separable insulated connectors* (Elastimold®, Eaton’s Cooper Power Systems or other approved equal). The bushings shall be pressure-molded cycloaliphatic epoxy with a 1.25-inch diameter tin-plated aluminum conductor that is drilled and tapped 0.625-inch–11UNC x 1.25-inch deep on both ends. Integral shielding shall be provided to eliminate partial discharge caused by off-center mounting and mounting holes that may have sharp edges or burrs. Double Bushings shall mount in a 3.125-inch diameter opening and bolt in place to allow field replacement with standard tools. The bushing mounting bolts shall be self-locking stainless steel serrated-flange hex-head bolts that “cut” through the enclosure protective finish to ground the integral shielding of each bushing. To assure adequate strength for apparatus support, the bushing shall withstand a minimum cantilever loading of 600 pounds for five minutes without damage. The bushing interface shall be free of all voids, holes and heat sinks to assure proper mating with separable insulated connectors. Each bushing shall be tested in free air, mounted in a grounded steel plate not less than 10 inches x 10 inches, with an insulated protective cap (Eaton’s Cooper Power Systems #DPC635 or equal) installed on one interface and an insulated bushing extension (Eaton’s Cooper Power Systems #DBE635 or equal) and an Elliott #1202-635B2 Bushing installed on the other interface to accurately simulate operating conditions (*gas or liquid dielectric on the interface shall not be acceptable for this test*). Each bushing shall meet the requirements for 35 kV devices in accordance with IEEE Standard 386 (latest revision), including 100 percent production testing.

Alternate 2: Double Bushings shall be 900 ampere Elliott #1335-935B-DB, 35 kV Class (21.1 kV to ground) Bushings, 150 kV BIL, per IEEE Standard 386-2016 Fig. 15 (Interface 13: a 600 and 900 A deadbreak interface, 35 kV class) *for use with 21.1/36.6 kV separable insulated connectors* (Elastimold®, Eaton’s Cooper Power Systems or other approved equal). The bushings shall be pressure-molded cycloaliphatic epoxy with a 1.25-inch diameter copper conductor that is drilled and tapped 0.625-inch–11UNC x 1.25-inch deep on both ends. Integral shielding shall be provided to eliminate partial discharge caused by off-center mounting and mounting holes that may have sharp edges or burrs. Double Bushings shall mount

Typical Specification - Page 2 of 2

in a 3.125-inch diameter opening and bolt in place to allow field replacement with standard tools. The bushing mounting bolts shall be self-locking stainless steel serrated-flange hex-head bolts that "cut" through the enclosure protective finish to ground the integral shielding of each bushing. To assure adequate strength for apparatus support, the bushing shall withstand a minimum cantilever loading of 600 pounds for five minutes without damage. The bushing interface shall be free of all voids, holes and heat sinks to assure proper mating with separable insulated connectors. Each bushing shall be tested in free air, mounted in a grounded steel plate not less than 10 inches x 10 inches, with an insulated protective cap (Eaton's Cooper Power Systems #DPC635 or equal) installed on one interface and an insulated bushing extension (Eaton's Cooper Power Systems #DBE635 or equal) and an Elliott #1202-635B2 Bushing installed on the other interface to accurately simulate operating conditions (*gas or liquid dielectric on the interface shall not be acceptable for this test*). Each bushing shall meet the requirements for 35 kV devices in accordance with IEEE Standard 386 (latest revision), including 100 percent production testing.

Alternate 3: Double Bushings shall be 1250 ampere Elliott #1335-1235B-DB, 35 kV Class (21.1 kV to ground) Bushings, 150 kV BIL, per IEEE Standard 386-2016 Fig. 15 (Interface 13: a 600 and 900 A deadbreak interface, 35 kV class) *for use with 21.1/36.6 kV separable insulated connectors* (Elastimold®, Eaton's Cooper Power Systems or other approved equal). The bushings shall be pressure-molded cycloaliphatic epoxy with a 1.25-inch diameter silver-plated copper conductor that is drilled and tapped 0.625-inch-11UNC x 1.25-inch deep on both ends. Integral shielding shall be provided to eliminate partial discharge caused by off-center mounting and mounting holes that may have sharp edges or burrs. Double Bushings shall mount in a 3.125-inch diameter opening and bolt in place to allow field replacement with standard tools. The bushing mounting bolts shall be self-locking stainless steel serrated-flange hex-head bolts that "cut" through the enclosure protective finish to ground the integral shielding of each bushing. To assure adequate strength for apparatus support, the bushing shall withstand a minimum cantilever loading of 600 pounds for five minutes without damage. The bushing interface shall be free of all voids, holes and heat sinks to assure proper mating with separable insulated connectors. Each bushing shall be tested in free air, mounted in a grounded steel plate not less than 10 inches x 10 inches, with an insulated protective cap (Eaton's Cooper Power Systems #DPC635 or equal) installed on one interface and an insulated bushing extension (Eaton's Cooper Power Systems #DBE635 or equal) and an Elliott #1202-635B2 Bushing installed on the other interface to accurately simulate operating conditions (*gas or liquid dielectric on the interface shall not be acceptable for this test*). Each bushing shall meet the requirements for 35 kV devices in accordance with IEEE Standard 386 (latest revision), including 100 percent production testing.

Grounding Provisions

Two high-conductivity bronze eyebolt-type ground lugs, which accept #6 through #2/0 copper conductor, shall be installed in each cable terminating compartment (located on each side of the door opening in an accessible position).

Accessory Equipment

Stainless steel parking stands shall be provided in the quantity required to allow use of feed-thru bushings, parking bushings and grounding bushings. The parking stands shall be welded in place, in a position to allow the use of hot-line tools for installation of feed thru-bushings, etc. The parking stands shall be *unpainted* (except welds shall be painted) to provide a ground for feed-thru bushings and other devices that may be placed into the parking stands. *Keyed retainers* shall be welded above each parking stand to prevent slipping or accidental removal of portable devices such as feed-thru bushings, etc.

A corrosion proof nameplate with permanent thermal transfer printing shall be installed inside the door on the "Side 1" elbow compartment. It shall be located at the top corner farthest from the elbows when the door is open. The nameplate will provide Type of Equipment, Model Number, Amps Continuous, kV Maximum, BIL, Serial Number, Job Number, Date Manufactured and Weight of Equipment.

Bushings on the "Side 1" elbow side of the equipment plate shall be labeled "A1", "B1", "C1" and bushings on the "Side 2" elbow side of the equipment plate shall be labeled "C2", "B2", "A2" with pressure-sensitive vinyl labels using letters not less than 0.375-inch nor more than 0.625-inch high.

When enclosures have more than one door (or other access provision) each access shall be labeled in near proximity of the locking provisions with a pressure-sensitive vinyl label using letters not less than 0.375-inch nor more than 0.625-inch high. The label shall indicate "Side 1" or "Side 2".

When specified, four anchor-bolt brackets, Elliott #6102-A81-7 or approved equal, shall be supplied with each cable terminating station to provide a means of clamping the equipment to the concrete pad.

Packaging

Each cable terminating station shall be bolted to a solid-top wood pallet (to prevent the forks of a forklift truck from entering the open bottom of the equipment) to prevent hidden damage. The equipment shall be wrapped with 0.125-inch thick polyethylene foam or other suitable material to minimize damage to the finish during shipment.

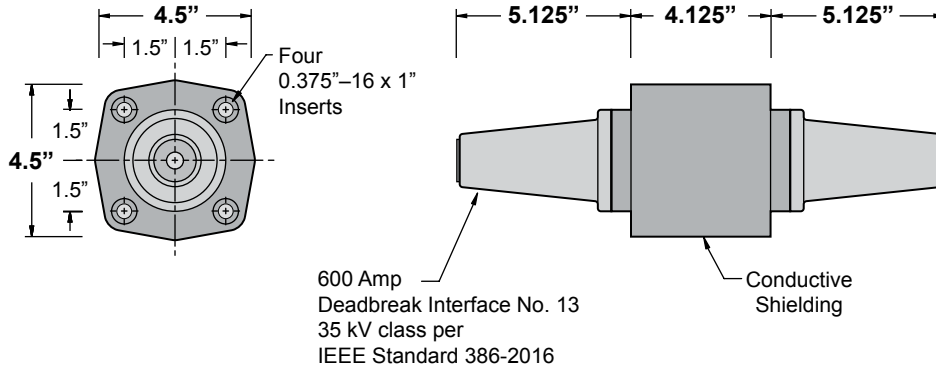
Drawings

When specified, drawings shall be furnished for each cable terminating station that include:

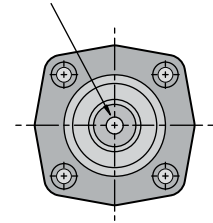
- 1) enclosure dimensions and location of components.
- 2) proposed cable-training layout and dimensions.
- 3) proposed pad dimensions and location of anchor bolts.

35-kV Apparatus Bushings
"B" Series (bolt-in) for Elbow-to-Elbow Service

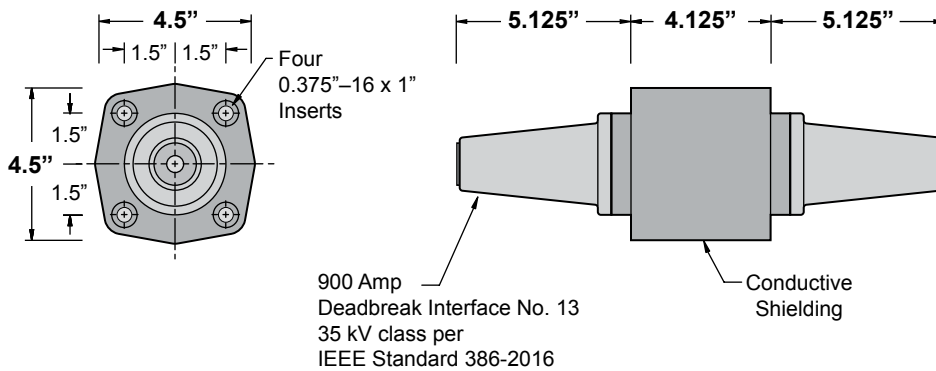
600 Amp Double Bushing #1335-635B-DB



1.25" Dia. Tin-Plated Aluminum Conductor
Tapped 0.625"-11 x 1.25" Deep
(both ends of conductor)

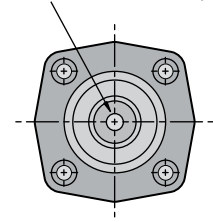


900 & 1250 Amp Double Bushing # 1335-935B-DB & #1335-1235B-DB



1250 Amp Double Bushing has a Silver-Plated Copper Conductor

1.25" Dia. Copper Conductor
Tapped 0.625"-11 x 1.25" Deep
(both ends of conductor)



Bushing Mounting Provisions

