

Heavy duty 11-gauge steel enclosure is all-welded construction for long life

Kinked roof prevents standing moisture

Removable lift provisions with blind holes for tamper resistance

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

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
Optional Paint: Grey (Munsell 5BG 7.0/0.4)

Corrosion proof nameplate is located to provide easy access for the operator

S&C Mini-Rupter® Switch with side-mounted non-removable handle, padlockable in "Open" or "Close" position. Provisions for key interlock are standard.

Clear polycarbonate door safety barrier. Safety latches on the door safety barrier are insulating and require a positive action to remove the safety barrier. Barrier lift handles are insulating and keyed to prevent rotation

Elliott Live Terminal Thru-Bushings connect to the switch terminals with 0.25" x 2" copper bus

Glass reinforced barriers meet NEMA GPO-3 Standards

Clear Polycarbonate Impact Resistant Bushing Guard with Open Top is available

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.

S&C Mini-Rupter® Switch with front-mounted non-removable handle, padlockable in "Open" or "Close" position. Provisions for key interlock are standard.

Stainless steel hinges are welded to the door and the enclosure - 0.375" pins are standard

Fuse Mountings accept current-limiting clip mounted fuses

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

Ground lugs accept #6 - #2/0 ground cable

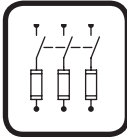
"In-Air" Visibility allows visual inspection of all components without the inconvenience or expense associated with equipment which must be de-energized for inspection

Door-holder rods are stainless steel and hold the door open 100 degrees or 140 degrees

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

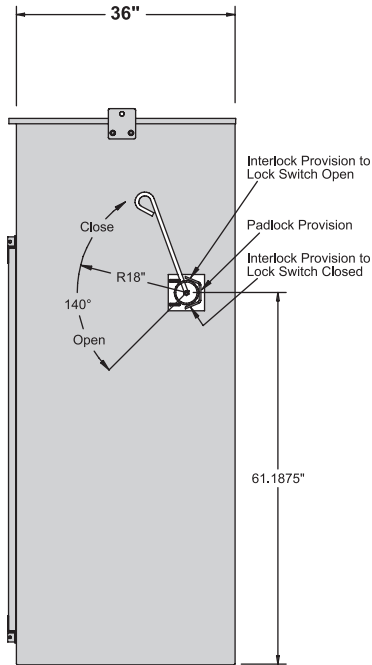
ENCLOSURE OPTIONS:

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

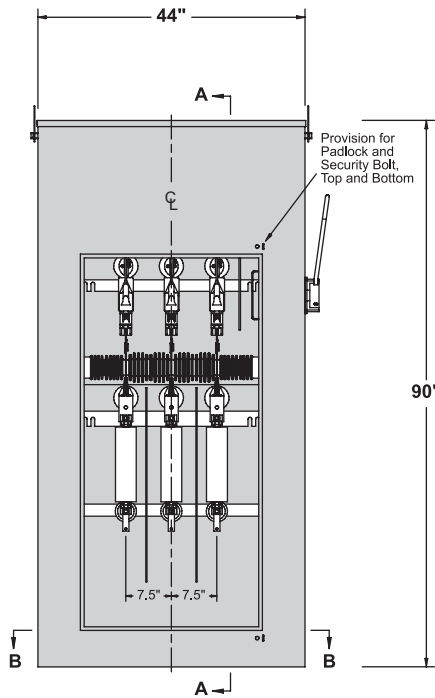


Three-Phase – Two Ways Per Phase

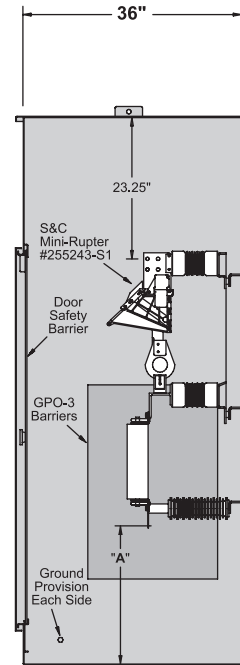
600 Amp S&C Mini-Rupter® Switch
 8.3/14.4 kV Grounded Wye Max Design
 95 kV BIL



Side View

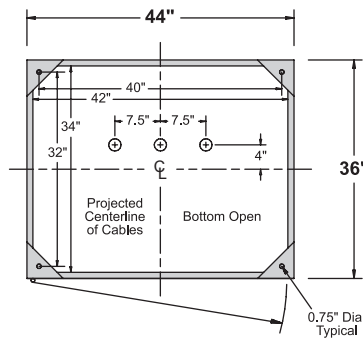


Front View
 Door & Door Safety Barrier Removed



Section AA

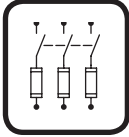
600 Amp S&C #255243-S1 Mini-Rupter® Switch, with side mounted non-removable handle, padlockable in "Open" or "Close" position, provisions for key interlock are standard



Section BB

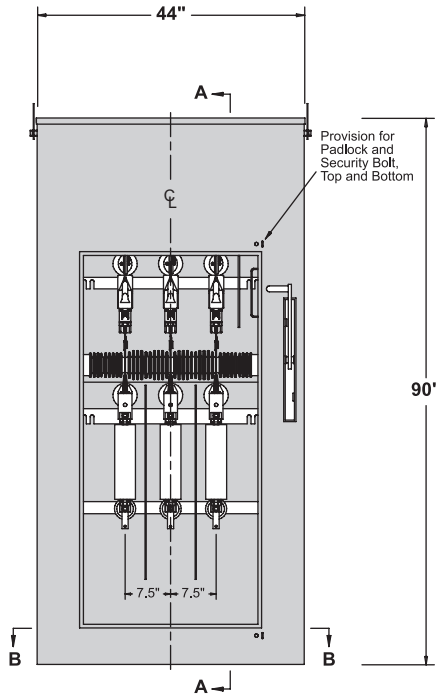
- Option G2: Ground studs at main contact of Switch
- Option G3: Ground studs at bottom terminal of Fuses
- Option K: Key interlock

| Catalog Number | Operating Handle | Fuse Mounting | Dim. "A" |
|-----------------------------------|---------------------------|--|----------|
| EMEHGL-15-311S-LT-RHMR-CM5 | Right Side (Shown Above) | 8.3 kV (Code 5) 1.5 to 140 Amp Clip Mounted Current-Limiting Fuse | 22.75" |
| EMEHGL-15-311S-LT-LHMR-CM5 | Left Side (Opposite Hand) | 8.3 kV (Code 5) 1.5 to 140 Amp Clip Mounted Current-Limiting Fuse | 22.75" |
| EMEHGL-15-311S-LT-RHMR-CM6 | Right Side (Shown Above) | 15.5 kV (Code 6) 1.5 to 125 Amp Clip Mounted Current-Limiting Fuse | 19.9375" |
| EMEHGL-15-311S-LT-LHMR-CM6 | Left Side (Opposite Hand) | 15.5 kV (Code 6) 1.5 to 125 Amp Clip Mounted Current-Limiting Fuse | 19.9375" |

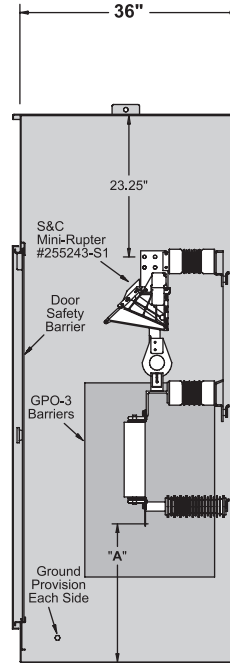


Three-Phase – Two Ways Per Phase

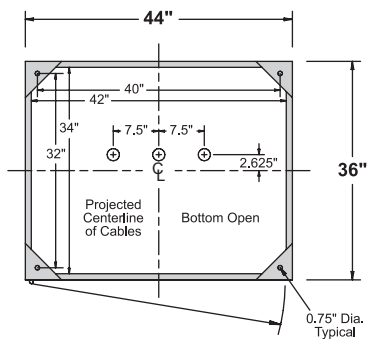
600 Amp S&C Mini-Rupter® Switch
8.3/14.4 kV Grounded Wye Max Design
95 kV BIL



Front View
Door & Door Safety
Barrier Removed



Section AA

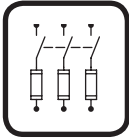


Section BB

600 Amp S&C #255243-S1
Mini-Rupter® Switch, with front
mounted non-removable handle,
padlockable in "Open" or "Close"
position, provisions for key
interlock are standard

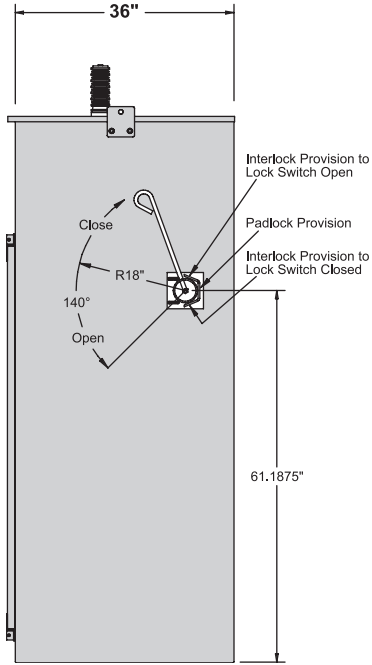
- Option G2: Ground studs at main contact of Switch
- Option G3: Ground studs at bottom terminal of Fuses
- Option K: Key interlock

| Catalog Number | Operating Handle | Fuse Mounting | Dim. "A" |
|---------------------------------|---------------------|--|----------|
| EMEHGL-15-311S-LT-MR-CM5 | Front (Shown Above) | 8.3 kV (Code 5) 1.5 to 140 Amp Clip Mounted Current-Limiting Fuse | 22.75" |
| EMEHGL-15-311S-LT-MR-CM6 | Front (Shown Above) | 15.5 kV (Code 6) 1.5 to 125 Amp Clip Mounted Current-Limiting Fuse | 19.9375" |

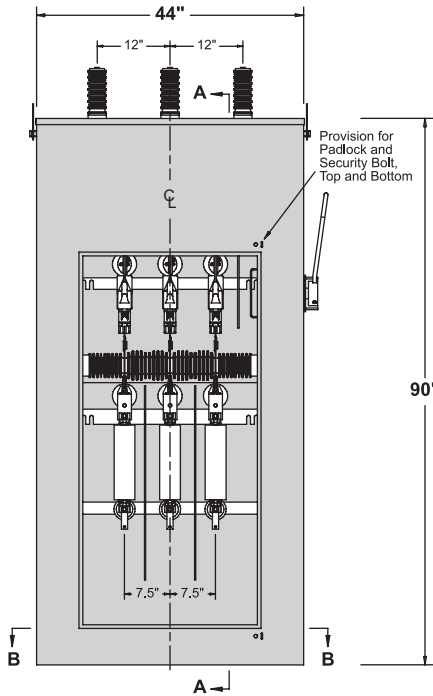


Three-Phase – Two Ways Per Phase

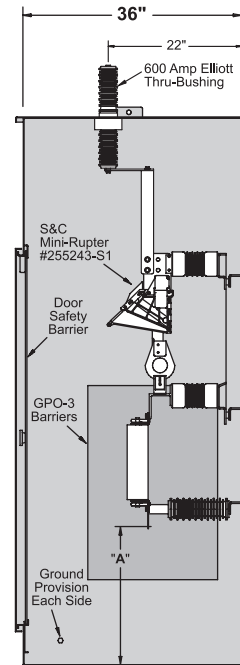
600 Amp S&C Mini-Rupter® Switch
 8.3/14.4 kV Grounded Wye Max Design
 95 kV BIL



Side View

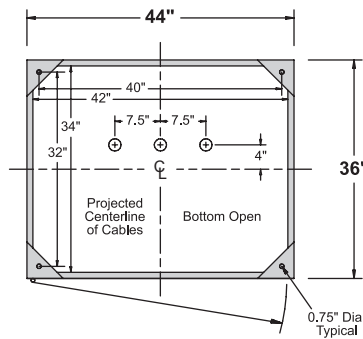


Front View
 Door & Door Safety Barrier Removed



Section AA

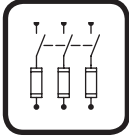
600 Amp S&C #255243-S1 Mini-Rupter® Switch, with side mounted non-removable handle, padlockable in "Open" or "Close" position, provisions for key interlock are standard



Section BB

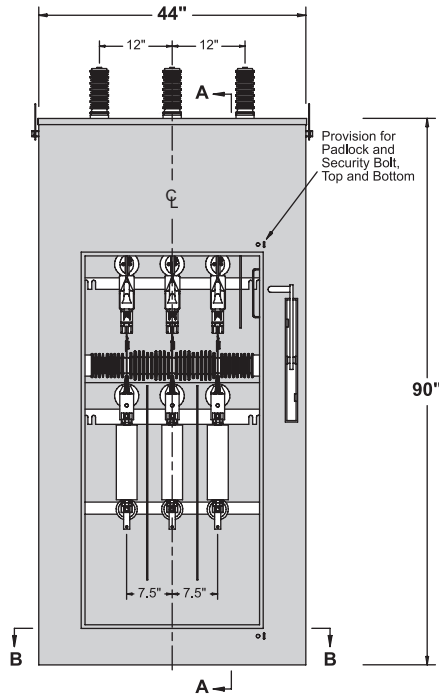
- Option G2: Ground studs at main contact of Switch
- Option G3: Ground studs at bottom terminal of Fuses
- Option K: Key interlock
- Option LBG: Impact resistant clear polycarbonate Bushing Guard

| Catalog Number | Operating Handle | Fuse Mounting | Dim. "A" |
|------------------------------------|---------------------------|--|----------|
| EMEHGL-15-311S-EL6-RHMR-CM5 | Right Side (Shown Above) | 8.3 kV (Code 5) 1.5 to 140 Amp Clip Mounted Current-Limiting Fuse | 22.75" |
| EMEHGL-15-311S-EL6-LHMR-CM5 | Left Side (Opposite Hand) | 8.3 kV (Code 5) 1.5 to 140 Amp Clip Mounted Current-Limiting Fuse | 22.75" |
| EMEHGL-15-311S-EL6-RHMR-CM6 | Right Side (Shown Above) | 15.5 kV (Code 6) 1.5 to 125 Amp Clip Mounted Current-Limiting Fuse | 19.9375" |
| EMEHGL-15-311S-EL6-LHMR-CM6 | Left Side (Opposite Hand) | 15.5 kV (Code 6) 1.5 to 125 Amp Clip Mounted Current-Limiting Fuse | 19.9375" |

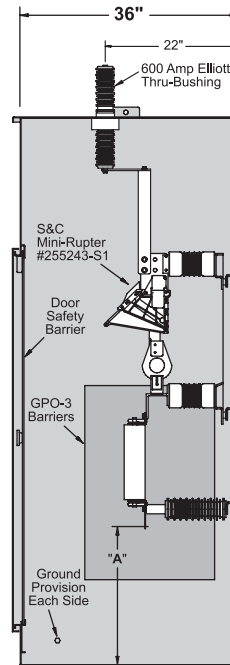


Three-Phase – Two Ways Per Phase

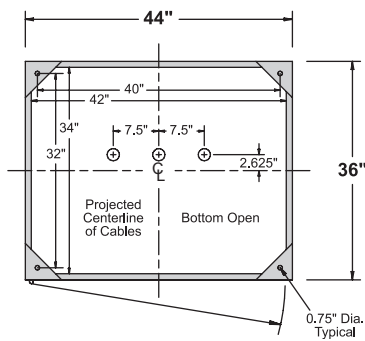
600 Amp S&C Mini-Rupter® Switch
8.3/14.4 kV Grounded Wye Max Design
95 kV BIL



Front View
Door & Door Safety
Barrier Removed



Section AA



Section BB

600 Amp S&C #255243-S1
Mini-Rupter® Switch, with front
mounted non-removable handle,
padlockable in “Open” or “Close”
position, provisions for key
interlock are standard

- Option G2: Ground studs at main contact of Switch
- Option G3: Ground studs at bottom terminal of Fuses
- Option K: Key interlock
- Option LBG: Impact resistant clear polycarbonate Bushing Guard

| Catalog Number | Operating Handle | Fuse Mounting | Dim. “A” |
|----------------------------------|---------------------|--|----------|
| EMEHGL-15-311S-EL6-MR-CM5 | Front (Shown Above) | 8.3 kV (Code 5) 1.5 to 140 Amp Clip Mounted Current-Limiting Fuse | 22.75” |
| EMEHGL-15-311S-EL6-MR-CM6 | Front (Shown Above) | 15.5 kV (Code 6) 1.5 to 125 Amp Clip Mounted Current-Limiting Fuse | 19.9375” |

Typical Specification - Page 1 of 2

General

The switchgear shall be 15 kV Class, 95 kV BIL, 600 ampere continuous current, suitable for use on 8.3/14.4 kV grounded wye max design systems. The switchgear shall be constructed for connection to the utility system with bolt-on cable terminals and stress-relief devices (Elastimold® modular terminators, Joslyn PS terminators or equal to be supplied by the user). The switchgear shall be designed for and contain three-pole, group-operated, load-interrupter switches and/or fuse mountings that accept current-limiting fuses as described below. A door safety barrier shall be provided inside the door(s) as recommended in IEEE Standard C2 (National Electrical Safety Code) Rule 381G. Tamper resistance shall meet the Enclosure Security requirements of IEEE Standard C57.12.28 (Pad-Mounted Equipment—Enclosure Integrity). Together, the tamper resistance and the door safety barrier(s) shall resist unauthorized entry, protect authorized and unauthorized persons, and provide positive safety features when installed in areas accessible to the general public. The switchgear 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 kinked to provide watershed and rigidity. The enclosure shall be open bottom with a 1-inch flange inside, all around. The door(s) shall be furnished with a stainless steel door holder that will latch the door open 100 degrees and 140 degrees and resist accidental closing. Door(s) 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.

Interrupter Switch

The three-pole, group-operated interrupter switch shall be S&C 25 kV class, 95 kV BIL, 600 amp Mini-Rupter® that includes an external nonremovable side-mounted (or front-mounted) operating handle. The interrupter switch shall include a quick-make quick-break mechanism that will quickly and positively open and close the switch blades independent of the switch-operating hub speed. An arc-chute shall be provided for each switched pole and circuit interruption shall take place within the arc-chute. Any exhaust from the arc-chute shall be vented in a controlled manner. The interrupter switch and other electrical components shall be “air-insulated” and positioned to allow visual inspection of the switch position and all internal connections and components *without removing the clear-polycarbonate door safety barrier*, de-energizing or removing the equipment from service. The operating handle shall be padlockable in the open or the close position. *When Option G2 is specified*, ground studs shall be provided for each terminal at the main contact end of the interrupter switch. *When Option K is specified*, key interlocks shall be provided that require operations in a given sequence.

Key Interlock

When specified, a key-interlock system shall be provided that will require the operator to lock the interrupter switch open to obtain the key that is required to open the access door to the fuses.

Bushings and Terminals

Bushings shall be 600 ampere Elliott #1351-615TB, 15 kV class (8.3 kV to ground) Air-Insulated Live-Terminal Thru-Bushings, 95 kV BIL, *for use with 8.3/14.4 kV systems*. 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-inch deep on both ends to provide for connection of the bus and/or live parts. Integral shielding shall be provided to eliminate partial discharge caused by off-center mounting and mounting holes that may have sharp edges or burrs. 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 500 pounds for five minutes without damage. Each bushing shall be tested in free air, mounted in a grounded steel plate not less than 10 inches x 10 inches and shall meet the requirements for 15 kV devices in accordance with the test values of IEEE Standard 386 (latest revision), including 100 percent production testing.

Bushing Guard

When Option LBG is specified for switchgear with roof mounted Elliott #1351-615TB Thru-Bushings, a Bushing Guard will be provided to prevent inadvertent contact with bushing

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NX® and X-Limiter™ are either registered trademarks or trademarks of Eaton in the U.S. and other countries.

Mini-Rupter® is a registered trademark of S&C Electric Company.

Typical Specification - Page 2 of 2

terminals. The Bushing Guard will be constructed with 0.25-inch clear polycarbonate (Lexan or equal) that extends 18-inches above the top of the enclosure and shall enclose the bushings.

Bus and Fuse Mountings

Bus shall be copper with all burrs and sharp corners removed prior to installation. Fuse clips shall be keyed to prevent rotation and to maintain alignment. Positive pressure shall be assured by use of stainless steel fasteners and lock washers or compression washers at all connection points. All connections shall provide direct contact of current-carrying parts and shall not depend on current transfer through fastener thread-to-thread contact. The bus shall be arranged to allow inspection and tightening of all connections (with standard hand tools) without the necessity of removing phase barriers, ground barriers, parts of the switch or fuse mountings. Fuses and their blown-fuse indicators shall be visible (*when the fuse compartment door is open without removal of the clear-polycarbonate door safety barrier*) to allow easy identification of blown fuses without de-energizing or removing the fuse from service. Electrical components shall be "air-insulated" and positioned to allow visual inspection of all internal connections and components *without removing the clear-polycarbonate door safety barrier*, de-energizing or removing the equipment from service. *When Option G3 is specified*, ground studs shall be provided for each terminal at the bottom of the fuse mounting.

Alternate 1: Fuse mountings shall be Mounting Code 5 to accept 1.5 amp to 100 amp (max), 8.3 kV Eaton's Cooper Power Systems NX® and 6 amp to 140 amp (max), 8.3 kV Eaton's Cooper Power Systems X-Limiter™ clip-mounted current-limiting fuses. *When 1.5 amp to 40 amp 8.3 kV Code 4 fuses are supplied, one Elliott Industries #3901-CM4-5 fuse extender per fuse shall be supplied to extend the Code 4 fuse length to fit Mounting Code 5 fuse mountings.* A Danger Sign, Elliott #7203-D2003-313, shall be provided in a prominent location near the fuse clips to warn the operator "Do not remove fuse under load."

Alternate 2: Fuse mountings shall be Mounting Code 6 to accept 1.5 amp to 100 amp (max), 15.5 kV Eaton's Cooper Power Systems NX® and 6 amp to 125 amp (max), 15.5 kV Eaton's Cooper Power Systems X-Limiter™ clip-mounted current-limiting fuses. *When 1.5 amp to 40 amp 15.5 kV Code 5 fuses are supplied, one Elliott Industries #3901-CM5-6 fuse extender per fuse shall be supplied to extend the Code 5 fuse length to fit Mounting Code 6 fuse mountings.* A Danger Sign, Elliott #7203-D2003-313, shall be provided in a prominent location near the fuse clips to warn the operator "Do not remove fuse under load."

Insulators

The switch and bus insulators shall be nontracking, self-scouring, nonweathering pressure-molded cycloaliphatic epoxy with cast-in-place inserts. Surface damage to insulators shall expose material of the same composition and characteristics so insulators with minor surface damage will not require replacement. The insulators shall provide adequate thermal cycle withstand to assure trouble-free field service in the most severe climatic

conditions established by in-house testing and field-operating experience. The insulators shall be 15 kV class, 95 kV BIL and produced by a manufacturer with ten or more years experience with cycloaliphatic epoxy.

Barriers

Phase and ground barriers shall be provided to assure correct phase-to-phase and phase-to-ground clearances for proper operation at rated voltage. These barriers shall be glass-reinforced polyester (NEMA GPO-3 class material) not less than 0.1875-inch thick.

A removable insulating barrier with a "DANGER – Keep Out! – Hazardous voltage" sign, Elliott #7203-D2003-309, shall be located inside the door(s) as recommended in Rule 381G of IEEE Standard C2 (National Electrical Safety Code). The door safety barriers shall be constructed of 0.25-inch clear-polycarbonate (Lexan or equal) and *shall completely close the door opening* and be provided with a non-conductive safety latch requiring a positive action to remove the barrier. Handles and other hardware extending through this door safety barrier shall be nonconductive material. Handles shall be keyed to prevent rotation for secure handling. *Complete visual inspection of the internal components shall be possible without removing the door safety barrier.*

Grounding Provisions

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

Accessory Equipment

A corrosion proof nameplate with permanent thermal transfer printing shall be installed inside the compartment door. It shall be located at the top corner farthest from the enclosure 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.

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

Packaging

Each switchgear 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 switchgear that include:

- 1) enclosure dimensions and location of components.
- 2) proposed pad dimensions and location of anchor bolts.

Fuse Selection Information

NX® Current-Limiting Fuses
Clip Mounted Style

| 50,000 amps Symmetrical Interrupting Rating | | | |
|--|--------------------------------|--|-------------------|
| Rating | | Mounting ^① Code Number* | Catalog Number |
| Voltage (kV) | Continuous Current (amp) | | |
| For Single and Parallel Unit Clip Style Mountings | | | |
| 8.3 | 1.5 | 4 | FA3H1 |
| | 3 | 4 | FA3H3 |
| | 4.5 | 4 | FA3H4 |
| | 6 | 4 | FA3H6 |
| | 8 | 4 | FA3H8 |
| | 10 | 4 | FA3H10 |
| | 12 | 4 | FA3H12 |
| | 18 | 4 | FA3H18 |
| | 20 | 4 | FA3H20 |
| | 25 | 4 | FA3H25 |
| | 30 | 4 | FA3H30 |
| | 40 | 4 | FA3H40 |
| | 50 | 5 | FA3H50 |
| | 65 | 5 | FA3H65 |
| | 80 | 5 | FA3H80 |
| 100 | 5 | FA3H100 | |
| 15.5 | 1.5 | 5 | FA4H1 |
| | 3 | 5 | FA4H3 |
| | 4.5 | 5 | FA4H4 |
| | 6 | 5 | FA4H6 |
| | 8 | 5 | FA4H8 |
| | 10 | 5 | FA4H10 |
| | 12 | 5 | FA4H12 |
| | 18 | 5 | FA4H18 |
| | 20 | 5 | FA4H20 |
| | 25 | 5 | FA4H25 |
| | 30 | 5 | FA4H30 |
| | 40 | 5 | FA4H40 |
| | 50 | 6 | FA4H50 |
| | 65 | 6 | FA4H65 |
| | 80 | 6 | FA4H80 |
| 100 | 6 | FA4H100 ^② | |

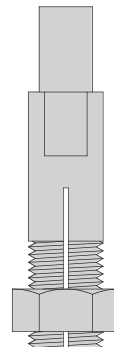
*Code number of mounting must match code number of fuse or switchblade.

②At present, 100 amp, 15.5 kV fuse is suitable for systems up to 13.5 kV maximum voltage rating.

X-Limiter™ Full Range Current-Limiting Fuses
Clip Mounted Style

| 50,000 amps Symmetrical Interrupting Rating | | | |
|--|--------------------------------|--|-------------------|
| Rating | | Mounting ^① Code Number* | Catalog Number |
| Voltage (kV) | Continuous Current (amp) | | |
| For Single and Parallel Unit Clip Style Mountings | | | |
| 8.3 | 06 | 4 | 83F06-I/I |
| | 08 | 4 | 83F08-I/I |
| | 10 | 4 | 83F10-I/I |
| | 12 | 4 | 83F12-I/I |
| | 18 | 4 | 83F18-I/I |
| | 20 | 4 | 83F20-I/I |
| | 25 | 4 | 83F25-I/I |
| | 30 | 4 | 83F30-I/I |
| | 40 | 4 | 83F40-I/I |
| | 50 | 5 | 83F50-I/I |
| | 65 | 5 | 83F65-I/I |
| | 80 | 5 | 83F80-I/I |
| | 100 | 5 | 83F100-I/I |
| | 125 | 5 | 83F125-I/I |
| | 140 | 5 | 83F140-I/I |
| 15.5 | 06 | 5 | 155F06-I/I |
| | 08 | 5 | 155F08-I/I |
| | 10 | 5 | 155F10-I/I |
| | 12 | 5 | 155F12-I/I |
| | 18 | 5 | 155F18-I/I |
| | 20 | 5 | 155F20-I/I |
| | 25 | 5 | 155F25-I/I |
| | 30 | 5 | 155F30-I/I |
| | 40 | 5 | 155F40-I/I |
| | 50 | 6 | 155F50-I/I |
| | 65 | 6 | 155F65-I/I |
| | 80 | 6 | 155F80-I/I |
| | 100 | 6 | 155F100-I/I |
| | 125 | 6 | 155F125-I/I |

① Fuse extenders must be used to extend 1.5 to 40 amp fuses so they fit the 140 amp or 125 amp fuse mountings in Elliott Metal Enclosed Switchgear.



| Catalog No. 3901- | Extends Fuse Code | To Fit Mtg. Code |
|----------------------|----------------------|---------------------|
| CM4-5 | 4 | 5 |
| CM5-6 | 5 | 6 |
| CM4-6 | 4 | 6 |

For other combinations see Bulletin 3901

Installation is easy using two adjustable wrenches. The fuse extender is pushed onto the top contact of the fuse and the compression nut is tightened. To remove the extender, loosen the compression nut and pull the extender off.