Manual PME Pad-Mounted Gear

Air-Insulated, Dead-Front, Outdoor Distribution at 14.4 kV and 25 kV
S&C Manual PME Pad-Mounted Gear brings in-air insulation, in-air switching, and quick, convenient, fuse handling to elbow-connected, dead-front gear. Switch and fuse components are protected and isolated within an inner air-insulated, grounded, steel-enclosed component compartment that provides excellent resistance to entry of foliage, wildlife, and contaminants and reduces exposure of the public and operating personnel to energized live parts. Switch terminals are equipped with 600-ampere bushings, and fuse terminals are equipped with 200-ampere bushing wells that have interfaces designed in accordance with IEEE Standard 386 to accept all standard elbows and accessories. Bushings and bushing wells are mounted a minimum of 25 inches (635 mm) above the base of the gear, and all elbows may be readily operated at a convenient angle from a standing position.

The termination compartments are accessible through doors equipped with a Penta-Latch® Mechanism—S&C’s automatic door-latching system.

Three-phase in-air switching of source circuits is accomplished with externally operable Mini-Rupter® Switches. Large viewing windows in switch-termination compartments allow visual verification of switch-blade position—there’s no need to move the 600-ampere elbows to establish working clearances. Fuse access is provided by a TransFuser™ Mounting. This mounting incorporates a unique fuse-handling mechanism that allows easy movement of fuses to the open, de-energized position for ready access. These mountings accommodate a choice of Type SME-20 and SME-4Z Power Fuses, Fault Fiter® Electronic Power Fuses, or a variety of current-limiting fuses.

| A | Fault indicator viewing window and mounting provisions provided as options. |
| B | Hinged roof sections over the cable compartments as part of a three-piece roof design to pull cables up through the roof opening for streamlined installation. |
| C | Wrap-around edge design protects against corrosion and provides additional enclosure security from poke and pry intrusion. |
| D | Protective hood shields padlock shackle from vandals. |
| E | Precision recessed pentahead actuator discourages tampering. |
| F | Ergonomically located switch-operating mechanism with a two-piece, spring-loaded operating handle used to positively lock the handle in the unfolded operating position. |
| G | Ultradur® II Outdoor Finish paint system provides superior protection from environmental elements without using volatile organic compounds (VOCs). The paint finish withstands a minimum of 4,000 hours of salt-spray testing compared to an industry standard of 1,500 hours. |
| H | Encased medium-voltage compartment (inside enclosure) provides isolation of live components, limiting exposure to operating personnel. |
| I | Non-ferrous door hinges and hinge pins are corrosion-resistant. |
The three-piece roof design features hinged sections over the cable compartments. The hinged roof allows cables to be pulled up through the roof opening, rather than the door openings, making installation easier and quicker.

A mechanical interlock prevents full engagement of the Penta-Latch Mechanism unless the hinged roof section is closed and latched.
**Switch Compartments**

- **A** Wide-view, unbreakable, mar-resistant windows let you verify switch position and check for visible break.
- **B** 600-ampere Cyposy™ bushings have interfaces in accordance with IEEE Standard 386.
- **C** Penta-Latch Mechanism provides vandal-resistant, automatic, three-point door latching. Uncommonly rugged and fully coordinated with padlocking provisions.
- **D** Ground rod extends full width of each switch compartment—doors may be closed with grounding clamps in place.
- **E** Segregated compartments—Steel barriers isolate side-by-side cable compartments.
- **F** Deep, spacious termination compartments accommodate a wide range of elbows and accessories with the doors closed.

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**Mini-Rupter Switches**

The Mini-Rupter Switch is a three-phase, gang-operated switch rated at 600 amperes continuous at 14.4 kV and 25 kV. It provides controlled loop-splitting/load-dropping circuit interruption by deionizing action within its unique arc compressors—there is no external arc or flame.

The 14.4-kV Mini-Rupter Switch features a 25,000-ampere short-circuit rating in addition to having a 25,000-ampere three-time duty-cycle fault-closing rating. The 25-kV Mini-Rupter Switch is rated at 12,500 amperes and carries a 12,500-ampere three-time duty-cycle fault-closing rating.
Fuse Compartments

Viewing windows allow easy checking of blown-fuse indicators.

Generous spacing of bushing wells and parking stands accommodates a full spectrum of elbows, portable feedthrus, and accessories.

200-ampere Cypoxy Insulator bushing wells have interfaces in accordance with IEEE Standard 386.

Fuse-storage feature accommodates spare fuse assemblies.

Ground rings are readily accessible in up-front location. Enclosure doors may be closed with grounding clamps in place.

Safer and easier fuse handling with the TransFuser Mounting. With an almost effortless pull, the TransFuser Mounting unlatches and pivots to its Open position, making the de-energized and isolated fuse accessible for easy replacement.

Fuses

Type SME-20 Power Fuses, featuring the SMU-20® Fuse Unit, and Type SME-4Z Power Fuses, featuring the SM-4® Refill Unit—are widely applied on utility systems. They offer a broad selection of ampere ratings and time-current characteristics (TCCs), permitting close fusing of loads for full-fault-spectrum protection and optimum coordination.

Fault Fiter Electronic Power Fuses, with their unprecedented variety of unique TCCs, provide superior protection and precise coordination in a wide range of applications. Fault Fiter Electronic Power Fuse Mountings also accommodate a variety of non-S&C-manufactured single-barrel current-limiting fuses.
The unique TransFuser Mounting is an ergonomically designed fuse-handling system that takes the work out of fuse replacement. During re-fusing, operators can disconnect/connect the cable, rotate the Transfuser Mounting panel, and remove/replace the fuse without being directly exposed to energized live parts.

1 Moving the loadbreak elbow to a feedthru or standoff insulator on the parking stand interrupts any fuse load.

2 This allows the mechanical interlock to be raised, unlocking the Transfuser Mounting.

3 An almost effortless pull unlatches the TransFuser Mounting.

4 The superbly balanced mounting virtually self-pivots to its Open position and latches in place. It is a swift, controlled action that guards against exposure to energized live parts.

5 In the Open position, the de-energized and isolated fuse is accessible to the operator for replacement. The panel seals out contaminants from entering the medium-voltage compartment while the fuses are being changed.
Enclosure Security

The Penta-Latch Mechanism provides vandal-resistant, automatic, three-point door latching. Uncommonly rugged and fully coordinated with padlocking provisions.

Two-Step Controlled Opening of Doors

1. Unlock the padlock and remove it from the door-locking tab.
2. A single motion of a pentahead wrench unlatches the Penta-Latch Mechanism for opening and simultaneously recharges it in preparation for closing.

Double Security for Extra Vandal Resistance

1. Closing the door releases the charged Penta-Latch Mechanism, automatically latching the door at three points and securing the pentahead actuator.
2. The pentahead actuator is secured after the door is latched at all three points. Only after the actuator is secured can the padlock be installed—completing the full two-step security system.
**Steel Construction**

The enclosure is fabricated from rugged 11-gauge steel sheet. All structural joints are welded—there are no externally bolted panels to invite removal. Available in mild and stainless steel.

**S&C’s Ultradur® II Outdoor Finish**

The Ultradur II Outdoor Finish provides the ultimate paint finish for today’s environment, where the exposure to atmospheric contaminants, the vulnerability to vandalism, and the achievement of a maintenance-free service life demand outstanding performance. And it does it with no volatile organic compounds (VOCs), reducing environmental impact.
14.4-kV Manual PME Circuit Configurations and Footprint Dimensions

The height of all units is 45½ inches (116 cm) without base spacers.

25-kV Manual PME Circuit Configurations and Footprint Dimensions

The height of all units is 51-1/2 (131 cm) in without base spacers.
<table>
<thead>
<tr>
<th>Voltage, kV</th>
<th>Nom.</th>
<th>Max</th>
<th>BIL</th>
<th>Fuse Type</th>
<th>Current, Amperes</th>
<th>Short-Circuit</th>
<th>MVA</th>
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<tbody>
<tr>
<td></td>
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<td></td>
<td>Nom. Max BIL</td>
<td>Fuse</td>
<td>Mini-Rupter Switch</td>
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<td>Max</td>
<td>Cont.</td>
<td>Load Dropping</td>
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<td>17.5</td>
<td>95</td>
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<td>None</td>
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<td>600</td>
<td>600</td>
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<td>17.0</td>
<td>17.0</td>
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<td></td>
<td>SME-20</td>
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<td>—</td>
<td>600</td>
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<tr>
<td>17.0</td>
<td>17.0</td>
<td>95</td>
<td></td>
<td>SME-4Z</td>
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<td>27</td>
<td>125</td>
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<td>Fault Fiter</td>
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<td>600</td>
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</table>

● When furnished with current-limiting fuses having a rated maximum interrupting current of at least 25,000 amperes, RMS, symmetrical, and limiting the instantaneous peak let-through current to less than 36,000 amperes, this gear has the following short-circuit ratings:
- 25,000 amperes, RMS, symmetrical, one-second short-time withstand current
- 65,000 amperes, peak, peak withstand current
- 620 MVA, three-phase symmetrical, at rated nominal voltage

■ 29 kV when furnished with Fault Fiter Electronic Power Fuses.

▲ Applicable to solidly grounded-neutral systems only, with fuses connected by single-conductor, concentric-neutral-type cable to a transformer(s). For all other applications this gear has the following short-circuit ratings:
- 9,400 amperes, RMS, symmetrical, one-second short-time withstand current
- 25,000 amperes, peak, peak withstand current
- 405 MVA, three-phase symmetrical, at rated nominal voltage