

# Installation

## Table of Contents

<b>Introduction</b> .....	<b>2</b>	<b>Safety Precautions</b> .....	<b>5</b>
Qualified Persons .....	2	<b>Current-Limiting Fuses for S&amp;C</b>	
Read this Instruction Sheet .....	2	<b>Pad-Mounted Gear</b> .....	<b>6</b>
Retain this Instruction Sheet .....	2	Identifying Fuses Accommodated and	
Proper Application.....	2	Adapters Required .....	6
Warranty.....	3	<b>Installing Fuse Adapters and Fuses</b> .....	<b>7</b>
Warranty Qualifications .....	3	Before Starting .....	7
<b>Safety Information</b> .....	<b>4</b>	Installing Adapters on the Fuse .....	7
Understanding Safety-Alert Messages .....	4	Installing a Fuse In the Holder .....	8
Following Safety Instructions.....	4	<b>Replacing a Blown Fuse in the Holder</b> .....	<b>9</b>
Replacement Instructions and Labels .....	4		



# Introduction

---

## Qualified Persons

### **WARNING**

Only qualified persons who are knowledgeable in the installation, operation, and maintenance of overhead and underground electric distribution equipment, along with all associated hazards, may install, operate, and maintain the equipment covered by this publication. A qualified person is someone who is trained and competent in:

- The skills and techniques necessary to distinguish exposed live parts from nonlive parts of electrical equipment
- The skills and techniques necessary to determine the proper approach distances corresponding to the voltages to which the qualified person will be exposed
- The proper use of special precautionary techniques, personal protective equipment, insulated and shielding materials, and insulated tools for working on or near exposed energized parts of electrical equipment

These instructions are intended only for such qualified persons. They are not intended to be a substitute for adequate training and experience in safety procedures for this type of equipment.

## Read this Instruction Sheet

### **NOTICE**

Thoroughly and carefully read this instruction sheet and all materials included in the product's instruction handbook before installing or operating the S&C PME Pad Mounted Gear. Become familiar with the Safety Information and Safety Precautions on page 4 and page 5. The latest version of this publication is available online in PDF format at <https://www.sandc.com/en/contact-us/product-literature/>.

## Retain this Instruction Sheet

This instruction sheet is a permanent part of S&C PME Pad-Mounted Gear. Designate a location where users can easily retrieve and refer to this publication.

## Proper Application

### **WARNING**

The equipment in this publication is only intended for a specific application. The application must be within the ratings furnished for the equipment. Ratings for S&C PME Pad-Mounted Gear are listed in the ratings tables in S&C Specification Bulletin 665-31 for manually operated models and in S&C Specification Bulletin 666-31 for remote supervisory models. The ratings are also on the nameplate affixed to the product. Current-limiting fuses are not used in all models of S&C PME Pad-Mounted Gear. Consult the nameplate for fusing details.

S&C Holders for use with current-limiting fuses are designed for use with S&C PME Pad-Mounted Gear equipped with Fault Fiter<sup>®</sup> Electronic Power Fuse mountings. These holders will accommodate the single-barrel current-limiting fuses listed in Table 2 of S&C Information Bulletin 660-50. The following instructions cover installation of S&C Holders for use with current-limiting fuses rated 14.4 kV and 25 kV.

**Warranty**

The warranty and/or obligations described in S&C's Price Sheet 150, "Standard Conditions of Sale—Immediate Purchasers in the United States," (or Price Sheet 153, "Standard Conditions of Sale—Immediate Purchasers Outside the United States"), plus any special warranty provisions, as set forth in the applicable product-line specification bulletin, are exclusive. The remedies provided in the former for breach of these warranties shall constitute the immediate purchaser's or end user's exclusive remedy and a fulfillment of the seller's entire liability. In no event shall the seller's liability to the immediate purchaser or end user exceed the price of the specific product that gives rise to the immediate purchaser's or end user's claim. All other warranties, whether express or implied or arising by operation of law, course of dealing, usage of trade or otherwise, are excluded. The only warranties are those stated in Price Sheet 150 (or Price Sheet 153), and THERE ARE NO EXPRESS OR IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. ANY EXPRESS WARRANTY OR OTHER OBLIGATION PROVIDED IN PRICE SHEET 150 (OR PRICE SHEET 153) IS GRANTED ONLY TO THE IMMEDIATE PURCHASER AND END USER, AS DEFINED THEREIN. OTHER THAN AN END USER, NO REMOTE PURCHASER MAY RELY ON ANY AFFIRMATION OF FACT OR PROMISE THAT RELATES TO THE GOODS DESCRIBED HEREIN, ANY DESCRIPTION THAT RELATES TO THE GOODS, OR ANY REMEDIAL PROMISE INCLUDED IN PRICE SHEET 150 (OR PRICE SHEET 153)

**Warranty  
Qualifications**

The standard warranty contained in the seller's standard conditions of sale (as set forth in Price Sheet 150) does not apply to S&C PME Pad-Mounted Gear where fuse units, fuse unit end-fittings, holders, refill units, or switch blades of other than S&C manufacture are used in conjunction with S&C SML Mountings. Nor does it apply to S&C PME Pad-Mounted Gear where other than Fault Fiter® Electronic Power Fuses, S&C Switch Blades, or the current-limiting fuses listed in Table 2 of S&C Information Bulletin 660-50 are used in conjunction with Fault Fiter Electronic Power Fuse mountings and S&C Holders designed therefore, or when current-limiting fuses are applied other than as set forth under the "Recommended Voltage Ratings" section of S&C Information Bulletin 660-50.

# Safety Information

---

## Understanding Safety-Alert Messages

Several types of safety-alert messages may appear throughout this instruction sheet and on labels and tags attached to the product. Familiarize yourself with these types of messages and the importance of these various signal words:

### **DANGER**

“DANGER” identifies the most serious and immediate hazards that will likely result in serious personal injury or death if instructions, including recommended precautions, are not followed.

### **WARNING**

“WARNING” identifies hazards or unsafe practices that can result in serious personal injury or death if instructions, including recommended precautions, are not followed.

### **CAUTION**

“CAUTION” identifies hazards or unsafe practices that can result in minor personal injury if instructions, including recommended precautions, are not followed.

### **NOTICE**

“NOTICE” identifies important procedures or requirements that can result in product or property damage if instructions are not followed.

## Following Safety Instructions

If any portion of this instruction sheet is unclear and assistance is needed, contact the nearest S&C Sales Office or S&C Authorized Distributor. Their telephone numbers are listed on S&C’s website [sandc.com](http://sandc.com), or call the S&C Global Support and Monitoring Center at 1-888-762-1100.

### **NOTICE**

Read this instruction sheet thoroughly and carefully before installing S&C PME Pad-Mounted Gear.



## Replacement Instructions and Labels

If additional copies of this instruction sheet are required, contact the nearest S&C Sales Office, S&C Authorized Distributor, S&C Headquarters, or S&C Electric Canada Ltd.

It is important that any missing, damaged, or faded labels on the equipment be replaced immediately. Replacement labels are available by contacting the nearest S&C Sales Office, S&C Authorized Distributor, S&C Headquarters, or S&C Electric Canada Ltd.

**⚠ DANGER**



**S&C Holders for use with current-limiting fuses operate at high voltage. Failure to observe the precautions below will result in serious personal injury or death.**

Some of these precautions may differ from your company's operating procedures and rules. Where a discrepancy exists, follow your company's operating procedures and rules.

1. **QUALIFIED PERSONS.** Access to S&C Holders for use with current-limiting fuses must be restricted only to qualified persons. See the "Qualified Persons" section on page 2.
2. **SAFETY PROCEDURES.** "Always follow safe operating procedures and rules.
3. **PERSONAL PROTECTIVE EQUIPMENT.** Always use suitable protective equipment, such as rubber gloves, rubber mats, hard hats, safety glasses, and flash clothing, in accordance with safe operating procedures and rules.
4. **TEST FOR VOLTAGE.** Test for voltage using proper high-voltage test equipment before touching any device to be inspected, serviced, or repaired in the high-voltage compartments.
5. **ENERGIZED COMPONENTS.** Always consider all parts live until de-energized, tested, and grounded. Voltage levels can be as high as the peak line-to-ground voltage last applied to the unit. Units that have been energized or installed near energized lines should be considered live until tested and grounded.
6. **MAINTAINING PROPER CLEARANCE.** Always maintain proper clearance from energized components.
7. **GROUNDING Equipment.** Install suitable grounding equipment before touching any device that is to be inspected, serviced, or repaired in the high-voltage compartments.

### Identifying Fuses Accommodated and Adapters Required

S&C Holders for use in PME Pad-Mounted Gear will accommodate the single-barrel current-limiting fuses listed in Table 2 of S&C Information Bulletin 660-50 when the fuses are equipped with  $\frac{5}{8}$ -inch (16-mm) diameter mounting studs at both ends. Depending on the length of the current limiting fuse to be used, an adapter may be required to fit the fuse in the holder.

The latch-end adapter, when required, is furnished with the S&C Holder and is signified by an “-A1” suffix to the holder catalog number. See Figure 2 on page 8.

When the holder catalog number does not include a suffix, no adapter is required or provided.

## Before Starting

If the catalog number of the S&C Holder includes a suffix (“-A1,”) install the adapters furnished with the holder as instructed in the “Installing Adapters on the Fuse” section. If the catalog number of the holder does not include a suffix, no adapters are required to install the fuse in the holder. See “Figure 1. Installing a fuse requiring no adapter in S&C Holders, catalog number 3122” on page 6. In that case, proceed directly to the “Installing a Fuse in the Holder” section on page 8.

## Installing Adapters on the Fuse

If the catalog number of the S&C Holder includes the “-A1” suffix, follow these steps to install the adapter on the fuse:

**STEP 1.** Loosen the  $\frac{3}{8}$ -inch stainless steel hex-head bolts of the adapter and slip the adapter over the  $\frac{5}{8}$ -inch (16-mm) diameter stud at one end of the current-limiting fuse. See Figure 2 on

page 8. For fuses with blown-fuse indicators, install the adapter on the stud opposite the indicator and tighten the bolts securely.

Depending on the length of the fuse, the adapter may have to be shortened to fit the fuse and adapter assembly in the S&C Holder. The length from the bottom of the fuse barrel to the top of the adapter should be  $18\frac{5}{16}$ -inches (465 mm) for the 14.4-kV holder and  $24\frac{7}{8}$ -inches (613 mm) for the 25-kV holder. See Figure 2. If necessary, shorten the adapter by cutting off any excess length with a hacksaw. Remove any burrs from the sawed edge of the adapter.

**STEP 2.** Install the fuse and adapter assembly in the holder as instructed in the “Installing a Fuse in the Holder” section on page 8.

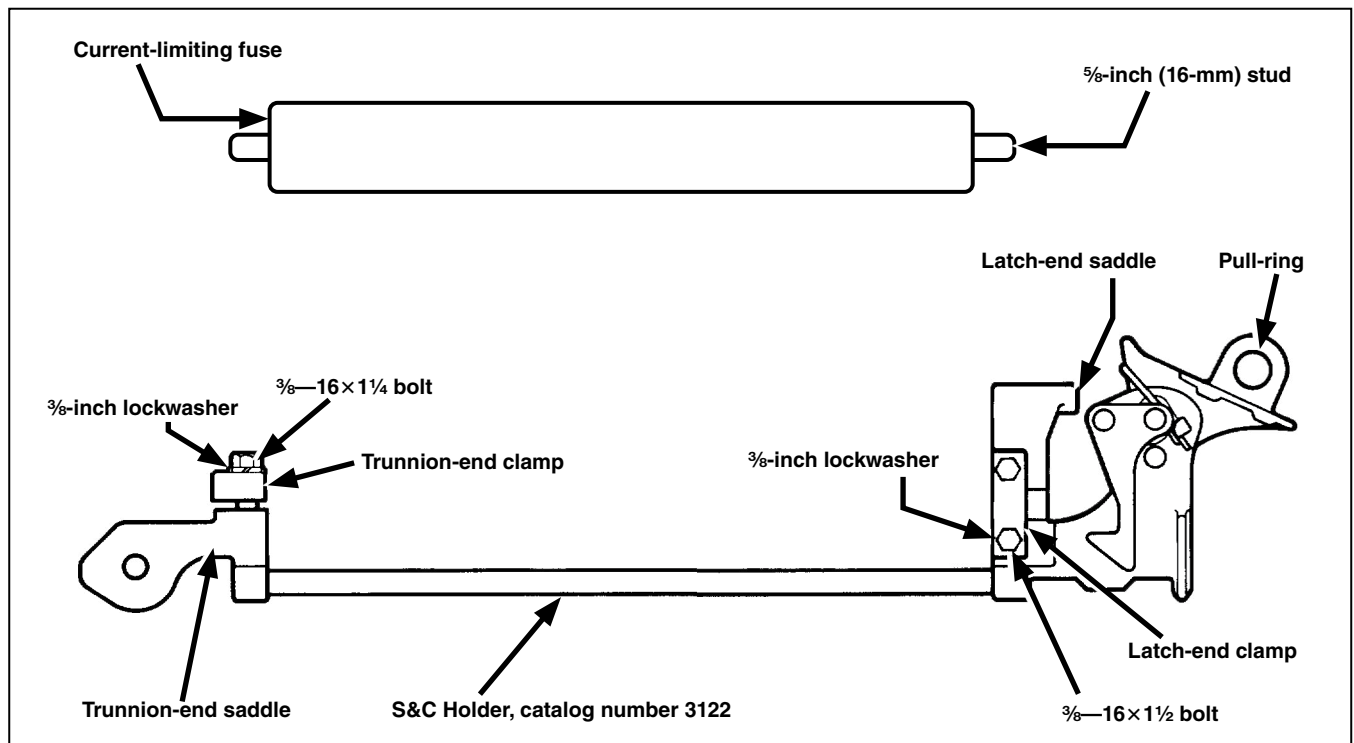


Figure 1. Installing a fuse requiring no adapter in S&C Holders, catalog number 3122.

# Installing Fuse Adapters and Fuses

## Installing a Fuse In the Holder

Refer to Figure 1 on page 7 or Figure 2 and follow these steps to install the current-limiting fuse in the S&C Holder:

**STEP 1.** If an adapter was installed on the fuse, make sure the adapter bolts have been tightened enough to flatten the  $\frac{3}{8}$ -inch stainless steel lockwashers under the bolt heads.

### NOTICE

When installing a Cooper (Eaton) Kearney™ Q fuse equipped with Kearney  $\frac{5}{8}$ -inch (16-mm) mounting-stud adapters with screw-type clamps, make sure the clamps do not strike the edges of the opening when the TransFuser™ Mounting of the pad-mounted gear is operated. Therefore, position the screw-type clamps of the Kearney  $\frac{5}{8}$ -inch mounting-stud adapters between the insulating rods of the holder.

**STEP 2.** Unbolt the  $\frac{3}{8}$ -inch stainless-steel hex-head bolts of the holder's trunnion-end and latch-end clamps and remove the clamps. Then, set the fuse (with adapter, if used) in the holder's trunnion-end and latch-end saddles and replace the clamps. For current-limiting fuses with blown-fuse indicators, make sure the indicator is positioned at the trunnion-end clamp.

**STEP 3.** Tighten the clamps' bolts so the  $\frac{3}{8}$ -inch stainless steel lockwashers under the bolt heads are flat.

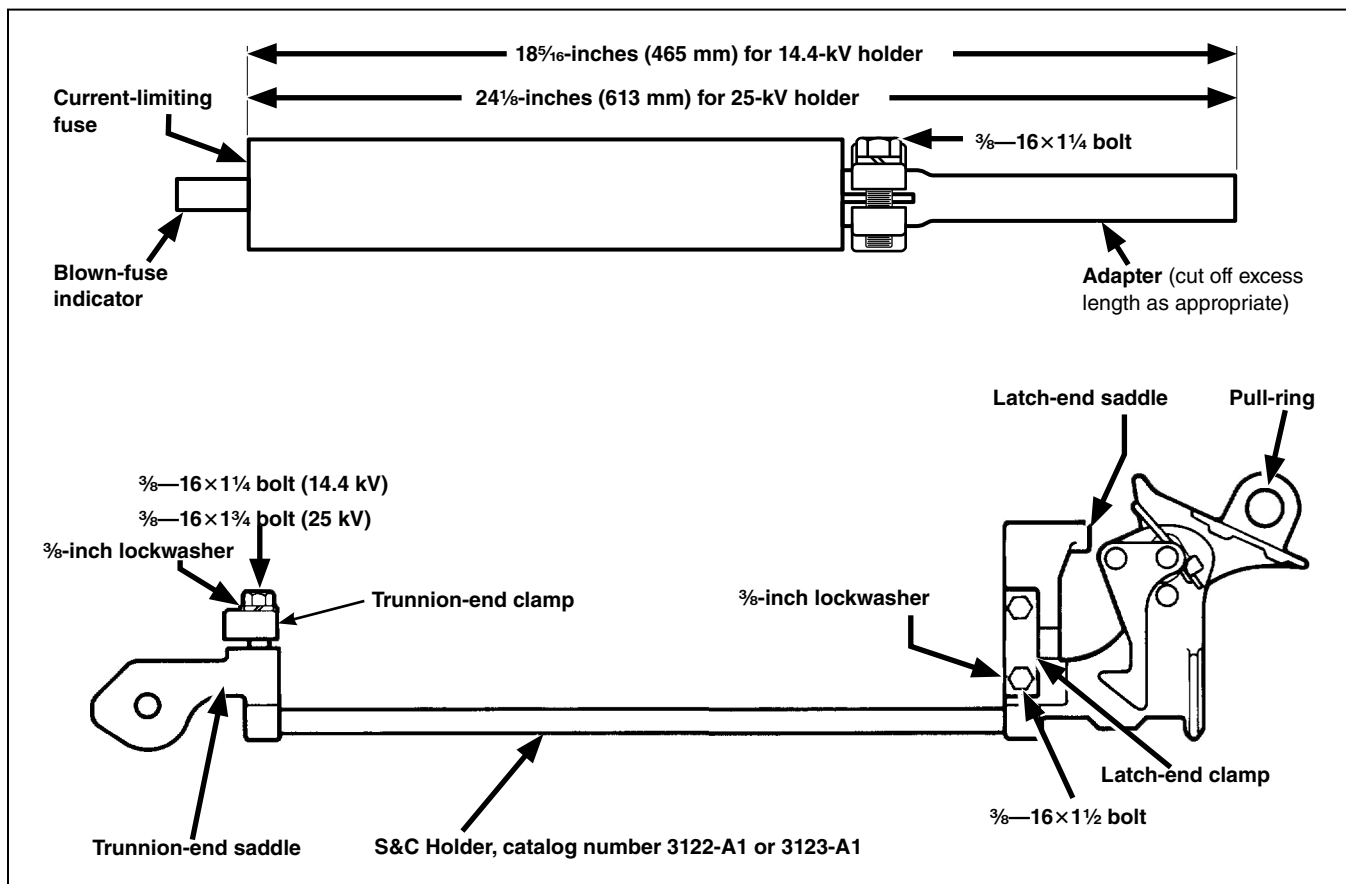


Figure 2. installing a fuse requiring an adapter in S&C Holders, catalog numbers 3122-A1 and 3123-A1.



### NOTICE

When installing a Cooper (Eaton) Kearney™ Q fuse equipped with Kearney 5/8-inch mounting-stud adapters with screw-type clamps, make sure the clamps do not strike the edges of the opening when the TransFuser Mounting of the pad-mounted gear is operated. Therefore, position the screw-type clamps of the Kearney 5/8-inch (16-mm) mounting-stud adapters between the insulating rods of the holder.

***If no adapter was used to install the fuse in the S&C Holder and the replacement fuse is the same length as the blown fuse, replace the blown fuse as follows:***

- STEP 1.** Unbolt the 3/8-inch stainless steel hex-head bolts of the holder's trunnion-end and latch-end clamps and remove the clamps. See Figure 1 on page 7. Then, remove the blown fuse from the holder and discard the fuse.
- STEP 2.** Set the replacement fuse in the holder's trunnion-end and latch-end saddles and replace the clamps. For current-limiting fuses with blown-fuse indicators, make sure the indicator is positioned at the trunnion-end clamp.
- STEP 3.** Tighten the clamps' bolts so the 3/8-inch stainless steel lockwashers under the bolt heads are flat.

***If an adapter was used to install the fuse in the S&C Holder and the replacement fuse is the same length as or longer than the blown fuse, replace the blown fuse as follows:***

- STEP 1.** Unbolt the 3/8-inch stainless steel hex-head bolts of the holder's trunnion-end and latch-end clamps and remove the clamps. See Figure 2 on page 8. Then, remove the fuse and adapter assembly from the holder. Loosen the adapter's 3/8-inch stainless steel hexhead bolts and remove the adapter from the fuse. Discard the blown fuse.
- STEP 2.** If the replacement fuse is an Eaton CXN fuse rated 8.3 kV (60C-200C amperes) or 15.5 kV

(45C-100C amperes) for installation in 14.4-kV PME Pad-Mounted Gear, no adapter is required. Otherwise, slip the adapter over the 5/8-inch (16-mm) diameter stud at one end of the replacement current-limiting fuse.

***For fuses with blown-fuse indicators:*** Install the adapter on the stud opposite the indicator and tighten the bolts securely. Depending on the fuse length, the adapter may have to be shortened to fit the fuse and adapter assembly in the S&C Holder. The length from the bottom of the fuse barrel to the top of the adapter should be 18<sup>5</sup>/<sub>16</sub> inches (465 mm) for the 14.4-kV holder and 24<sup>1</sup>/<sub>8</sub> inches (613 mm) for the 25-kV holder. See Figure 2 on page 8. If necessary, shorten the adapter by cutting off any excess length with a hacksaw. Remove any burrs from the sawed edge of the adapter.

- STEP 3.** ***If an adapter was installed on the fuse:*** Make certain that the adapter bolts have been tightened enough to flatten the 3/8-inch stainless steel lockwashers under the bolt heads.
- STEP 4.** Set the replacement fuse (with adapter, if used) in the holder's trunnion-end and latch-end saddles and replace the clamps.

***For current-limiting fuses with blown-fuse indicators:*** Make sure the indicator is positioned at the trunnion-end clamp.

- STEP 5.** Tighten the clamps' bolts so the 3/8-inch stainless steel lockwashers under the bolt heads are flat.

If the replacement fuse is shorter than the blown fuse, a new adapter is required. (The length of the current-limiting fuse may be different if a higher- or lower-ampere rated fuse is used.) Refer to the nearest S&C Sales Office for assistance.

### NOTICE

Following a two- or three-phase fault at a three-phase installation, any unblown companion current-limiting fuses that carried the fault current should also be replaced.