

Insulating bases and surge counter instructions



Powering Business Worldwide

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Safety for life



Eaton meets or exceeds all applicable industry standards relating to product safety in its Cooper Power™ series products. We actively promote safe practices in the use and maintenance of our products through our service literature, instructional training programs, and the continuous efforts of all Eaton employees involved in product design, manufacture, marketing, and service.

We strongly urge that you always follow all locally approved safety procedures and safety instructions when working around high voltage lines and equipment, and support our “Safety For Life” mission.

Safety information

The instructions in this manual are not intended as a substitute for proper training or adequate experience in the safe operation of the equipment described. Only competent technicians who are familiar with this equipment should install, operate, and service it.

A competent technician has these qualifications:

- Is thoroughly familiar with these instructions.
- Is trained in industry-accepted high and low-voltage safe operating practices and procedures.
- Is trained and authorized to energize, de-energize, clear, and ground power distribution equipment.
- Is trained in the care and use of protective equipment such as arc flash clothing, safety glasses, face shield, hard hat, rubber gloves, clampstick, hotstick, etc.

Following is important safety information. For safe installation and operation of this equipment, be sure to read and understand all cautions and warnings.

Hazard Statement Definitions

This manual may contain four types of hazard statements:

DANGER

Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

WARNING

Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION

Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

CAUTION: Indicates a potentially hazardous situation which, if not avoided, may result in equipment damage only.

Safety instructions

Following are general caution and warning statements that apply to this equipment. Additional statements, related to specific tasks and procedures, are located throughout the manual.

DANGER

Hazardous voltage. Contact with hazardous voltage will cause death or severe personal injury. Follow all locally approved safety procedures when working around high- and low-voltage lines and equipment.

G103.3

WARNING

Before installing, operating, maintaining, or testing this equipment, carefully read and understand the contents of this manual. Improper operation, handling or maintenance can result in death, severe personal injury, and equipment damage.

G101.0

WARNING

This equipment is not intended to protect human life. Follow all locally approved procedures and safety practices when installing or operating this equipment. Failure to comply can result in death, severe personal injury and equipment damage.

G102.1

WARNING

Power distribution and transmission equipment must be properly selected for the intended application. It must be installed and serviced by competent personnel who have been trained and understand proper safety procedures. These instructions are written for such personnel and are not a substitute for adequate training and experience in safety procedures. Failure to properly select, install or maintain power distribution and transmission equipment can result in death, severe personal injury, and equipment damage.

G122.3



CAUTION

If at any time the discharge counter is to be removed from service, care must be exercised to assure that the arrester base is firmly and effectively connected to the station ground prior to removal of the counter or its electrical connection.



CAUTION

The vent port in the arrester base must be directed away from adjacent equipment to prevent ionized gases from damaging equipment in the unlikely event of arrester failure.

Product information

Introduction

Eaton offers Cooper Power™ series insulating bases and surge counters for use with its Cooper Power series surge arresters.

Read this manual first

Read and understand the contents of this manual and follow all locally approved procedures and safety practices before installing or operating this equipment

Additional information

These instructions cannot cover all details or variations in the equipment, procedures, or process described nor provide directions for meeting every possible contingency during installation, operation, or maintenance. When additional information is desired to satisfy a problem not covered sufficiently for the user's purpose, please contact your Eaton representative.

Acceptance and initial inspection

Each insulating base and surge counter is in good condition when accepted from the carrier for shipment. Upon receipt of an insulating base and surge counter, inspect thoroughly for damage and loss of parts incurred during shipment. If damage or loss is discovered, file a claim with the carrier immediately.

Handling and storage

If the insulating base and surge counter is to be stored for an extended length of time before installation, provide a clean, dry storage area.

Quality standards

ISO 9001 Certified Quality Management System

Catalog Number Description

AM22A1	Counter without Leakage Current Meter
AM22A2	Counter with Leakage Current Meter (0-30 mA)
AM22A3	Counter with Leakage Current Meter (0-50 mA)
AM22A12	AM22A2 with Auxiliary Contact

Catalog Number Description of Bases

AM26A1A	For all UXL (multi section), AZE and AZG arresters
AM23A1	For UI, US, UH, UX, U2, U3 and U4 arresters and AZE-AZG arresters rated 120 kV (single section) or below

CAUTION

If at any time an arrester equipped with an insulating base is placed in service without a discharge counter, care must be exercised to see that the insulating base is effectively shorted and the arrester base is grounded.

CAUTION

The vent port in the arrester base must be directed away from adjacent equipment to prevent ionized gases from damaging equipment in the unlikely event of arrester failure.

AM26A1A insulating base mounting details

Table 1. Insulating Base AM26A1A Parts List (Complete Assembly)

Items	Description	Qty.
1	Base Supports	3
2	Ceramic Ring	6
3	Gasket	12
4	Slotted Washer	3
5	2.25" Dia. Washer	3
6	PVC Tube	3
7	.50-13 UNC-2A x 1.75 Hex Bolt	3
8	.50" Split Lock Washer	3
9	.53" Regular Flat Washer	3
10	Support Hanger (Flat)	1

AZE or AZG surge arrester base mounting details

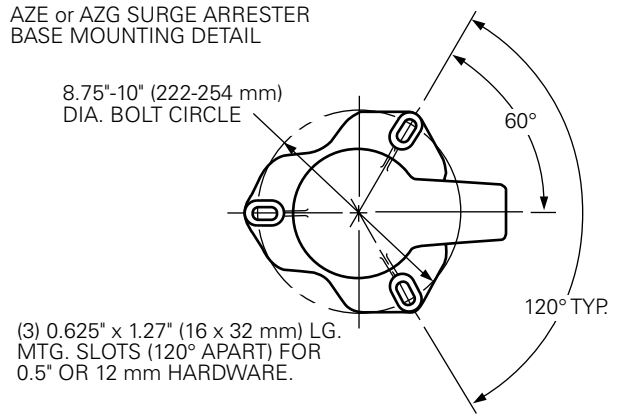


Figure 1. Base mounting details.

Note: To develop rated cantilever strength use 10 inch (254 mm) bolt circle mounting diameter and washers with hardened bolts.

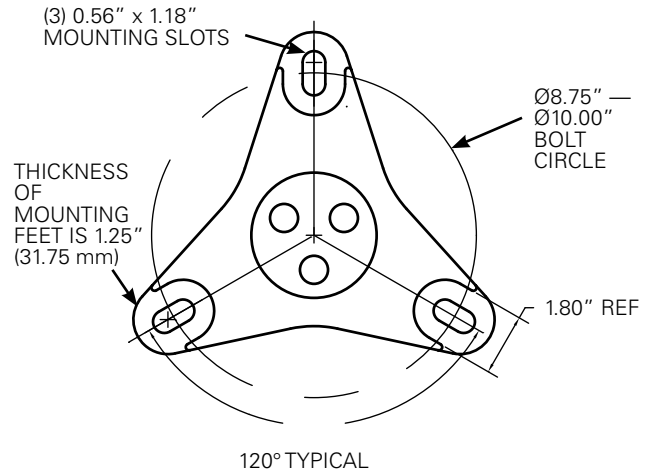


Figure 2. Mounting base details.

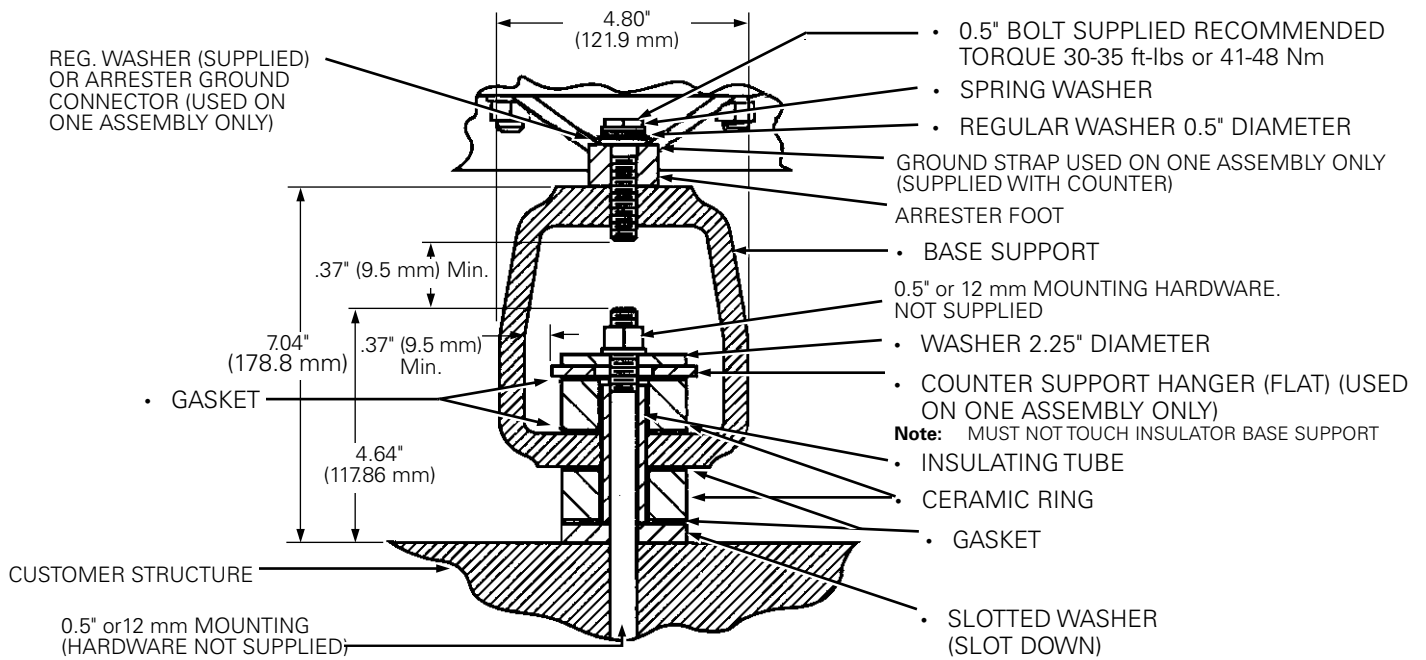
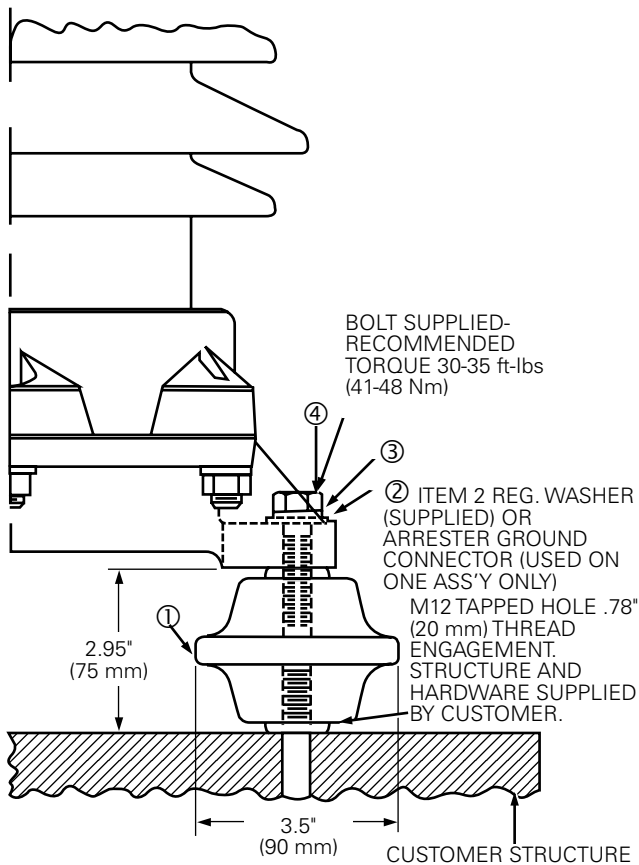


Figure 3. AM26A1A base mounting details.

AM23A1 mounting arrangement – AZE and AZG



Part List

Items	Qty.	Description
1	3	Polyfiber Molded Insulators
2	3	Flat Washer
3	3	Split Lock Washer
4	3	Std. Hex Head Bolt
5	1	Supporting Hanger ("Z") (Not Shown)

Figure 4. AM23A1 base mounting details for AZE and AZG.

Note: The longest AZE or AZG arrester recommended for use with the AM23A1 insulating base is a single section arrester through 120 kV.

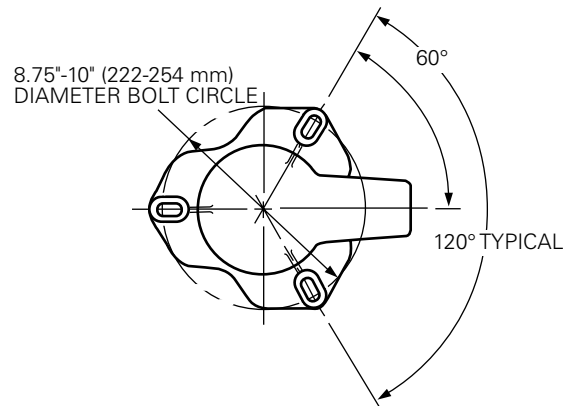
CAUTION

If at any time an arrester equipped with an insulating base is placed in service without a discharge counter, care must be exercised to see that the insulating base is effectively shorted and the arrester base is grounded.

CAUTION

The vent port in the arrester base must be directed away from adjacent equipment to prevent ionized gases from damaging equipment in the unlikely event of arrester failure.

AZE and AZG SURGE ARRESTER BASE MOUNTING DETAIL



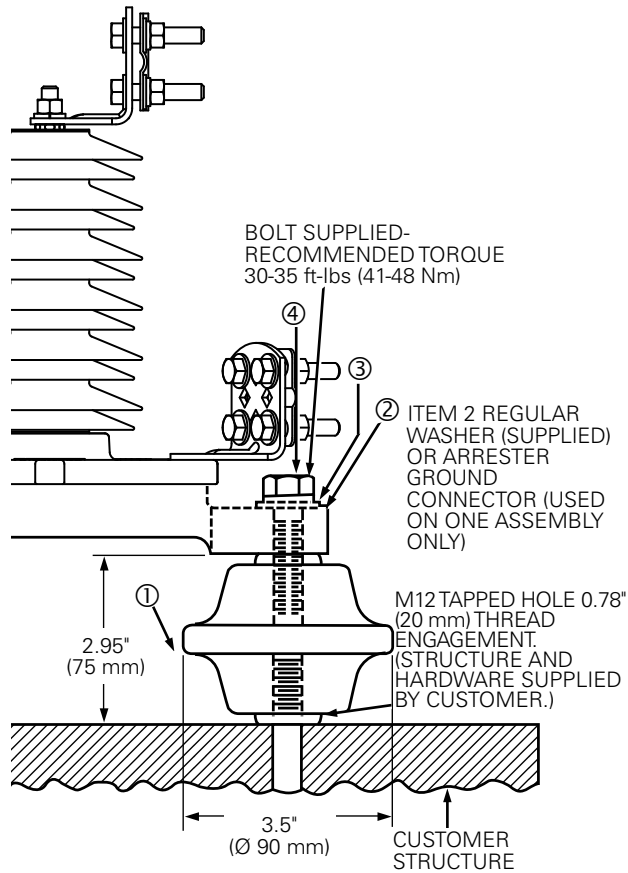
(3) 0.625" x 1.27" (16 x 32 mm) LARGE
MOUNTING SLOTS (120° APART) FOR
0.5" or 12 mm HARDWARE

Figure 5. Base mounting details – AZE and AZG.

Note: To develop rated cantilever strength, use 10" (254 mm) bolt circle mounting diameter and washers with hardened bolts.

Note: Use of this AM23A1 insulating base limits the rated cantilever strength of the surge arrester/insulating base combination to 7795 Nm or 5749 ft-lbs.

AM23A1 mounting arrangement – US, UI, UH, UX, U2, U3, and U4



Part List

Items	Qty.	Description
1	3	Polyfiber Molded Insulators
2	3	Flat Washer
3	3	Split Lock Washer
4	3	M12 Hex Head Bolt
5	1	Supporting Hanger ("Z") (Not Shown)

Figure 6. AM23A1 base mounting details for polymer arresters.

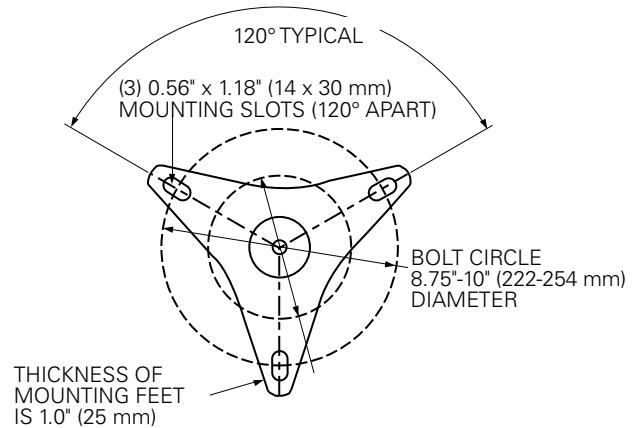
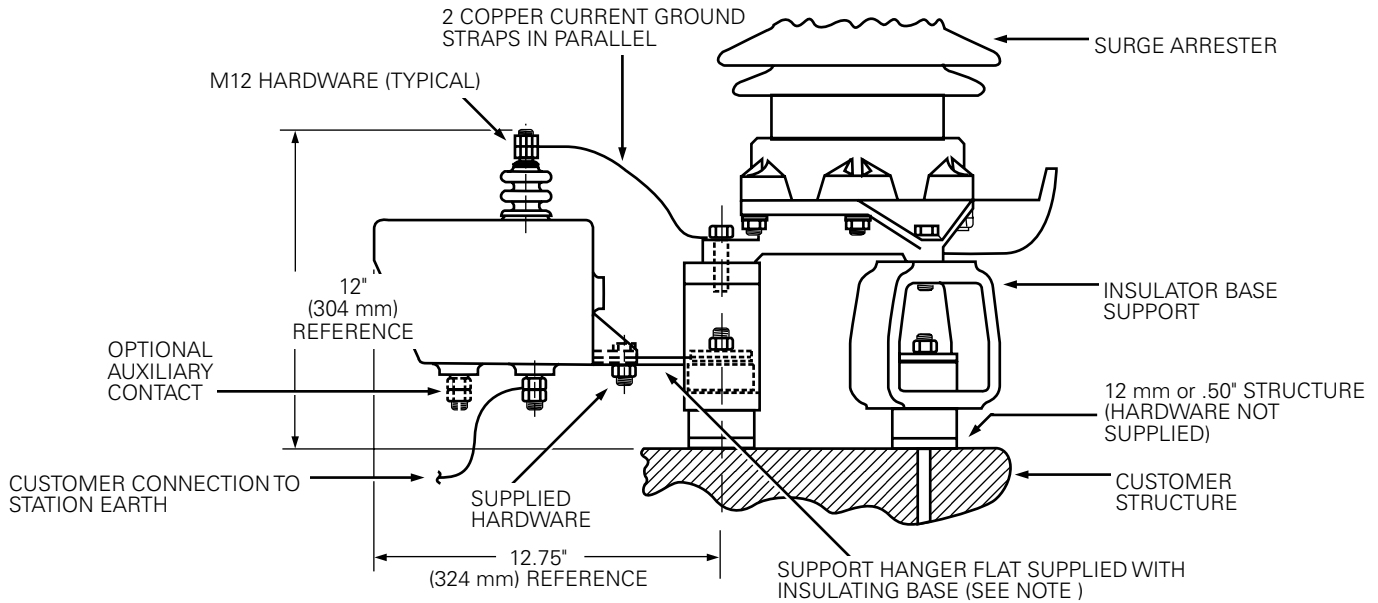


Figure 7. Mounting base – US, UI, UH, UX, U2, U3, and U4.

Discharge counter mounting arrangement with AM26A1A base

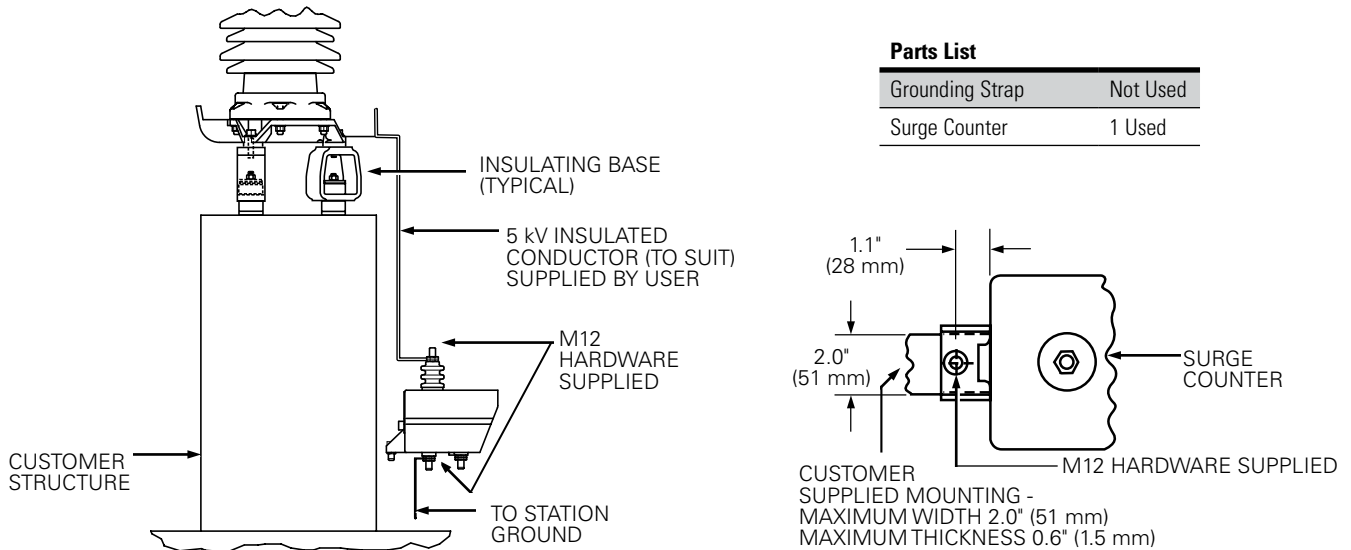


Parts List

Grounding Strap	2 Used
Surge Counter	1 Used

Figure 8. Mounting arrangement w/AM22A1 discharge counter.

Note: Support hanger must not contact insulator base support.



Parts List

Grounding Strap	Not Used
Surge Counter	1 Used

Figure 9. Structure mounting arrangement w/AM22A1 discharge counter.

Notes: 1. Dimension may vary, unit can be mounted at any height to permit easy reading of numbers.
 2. Support hanger not used.
 3. AM26A1A base shown.

Discharge counter mounting arrangement with AM23A1 base

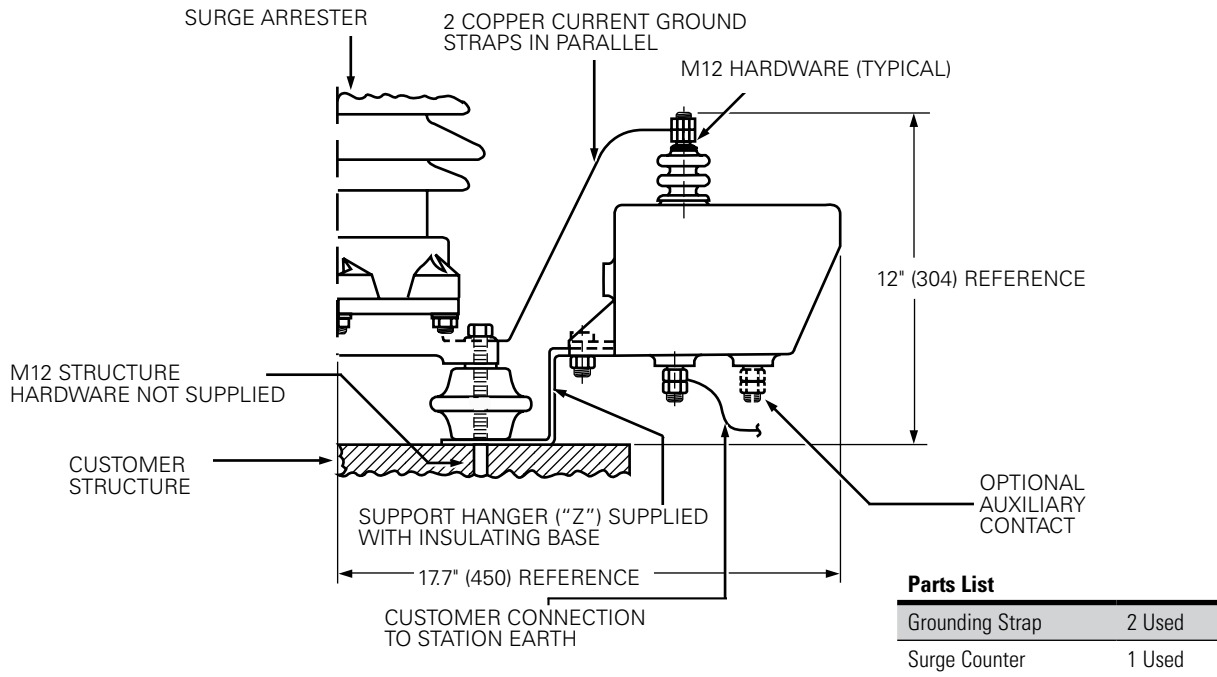


Figure 10. Mounting arrangement w/AM22A1 discharge counter.



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