

## INSTALLATION FUSED AND FUSELESS STATION PROTECTORS

### 1. GENERAL

- 1.01 This practice contains instructions for selecting a location and installing fused and fuseless station protectors.
- 1.02 Fused protectors (Figure 1) consist of a molded body; binding posts for drop, station and ground wires; two fuse holders; two nominal 0.004 inch discharge blocks (color code white); and two plain carbon blocks. They are approved by the Underwriters Laboratories.
- 1.03 The fuses are 7 ampere power rated (blow at 10.5 ampere), non-repairable, and are UL approved (Figure 2).
- 1.04 Fuseless protectors (see Figure 3) are Underwriters Laboratories approved and consist of a molded plastic base, two binding posts for terminating line and station wires, a binding post for the ground wire, and two protector units. Covers are neoprene or plastic.
- 1.05 The protector units to be used with fuseless station protectors are identified by a white mark on the metal cap. No protector unit marked with a color other than white is to be used for station protection.

NOTE: Protected terminals are equipped with the above protector units when used for station protection.

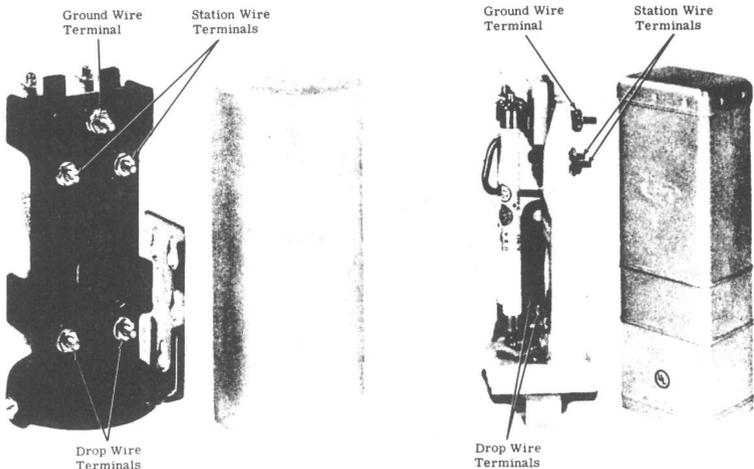


Figure 1 Fused Protectors

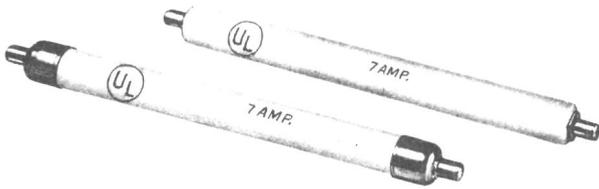


Figure 2 Fuses for Fused Protectors

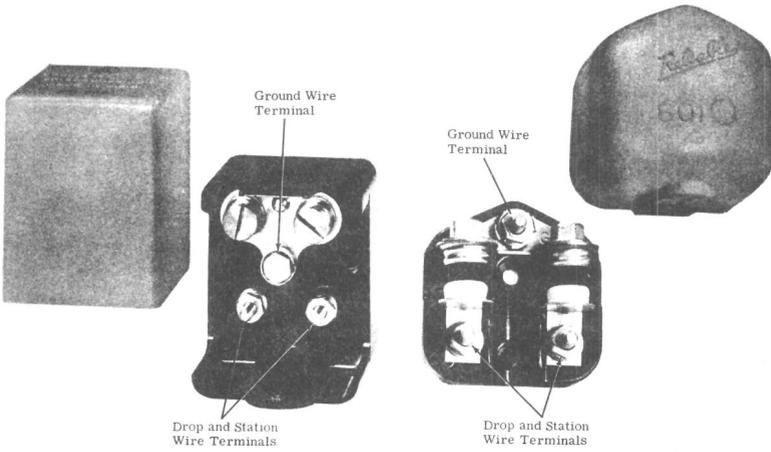


Figure 3 Fuseless Protectors

## 2. SELECTION OF PROTECTOR LOCATION

- 2.01 The selection of a location (indoor or outdoor) for fused or fuseless protectors depends on the location of entrance points for drop wires, location of an approved ground, telephone location, and the mounting surface available. Ground wire runs should not exceed 50 feet of No. 14 AWG or 75 feet of No. 6 AWG wire; indoor drop wire runs should not exceed 5 feet from point of entrance to the protector.
- 2.02 In addition to wire length restrictions, the protector location should be in accordance with the following:
- a. Locate where the protector will be accessible for inspection and maintenance and where it will not expose an inspector to contact with power wires, moving machinery, etc.
  - b. Avoid flammable materials and areas where the atmosphere may be combustible.
  - c. Locate six inches or more away from window curtains.
  - d. Avoid excessively damp locations.
  - e. Avoid locations where the protector would be subject to tampering and where material might be piled against it.
  - f. Locate at least one foot from electric light or power lines, meters, accessories; water and gas meters except as described in g.
  - g. Telephone protectors, apparatus, and wiring may be located in a common cabinet with power apparatus and wiring if the telephone and power compartments are separated by a rigid mechanical divider.
  - h. Avoid locations where the appearance of the protector would be objectionable to the customer.
- 2.03 Outside protector location is restricted to building attachment. Station protectors should never be pole mounted. For exceptions see paragraph 2.04.
- 2.04 Telephones installed in boats, for plug-in dockside service, or on docks may have their protectors located at the nearest land or any nearer location where a proper ground is available. If power service is being furnished, install the protector and telephone ground at the power service ground location—where requirements for station grounding can be met.
- 2.05 The number of protectors that can be connected to various size copper insulated ground wires is as follows:

Wire	Number of Protectors
No. 14 AWG	1
No. 6 AWG	any number

## 3. INSTALLATION

- 3.01 At the time of installation or replacement, all protectors and associated wiring should be inspected and any component or wire that appears to be defective should be replaced.

3.02 Protectors mounted side by side shall be placed on not less than five-inch centers. Maintain enough vertical separation or stagger the protectors horizontally so that covers can be removed. If the protector location is a stucco or masonry surface and two or more protectors are required, mount the protectors on a locally fabricated backboard. Where protection for multiple services is required, it is recommended that a protected building terminal (see Figure 4) be installed in place of station protectors.

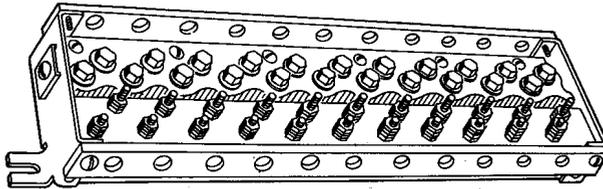


Figure 4 Protected Building Terminal

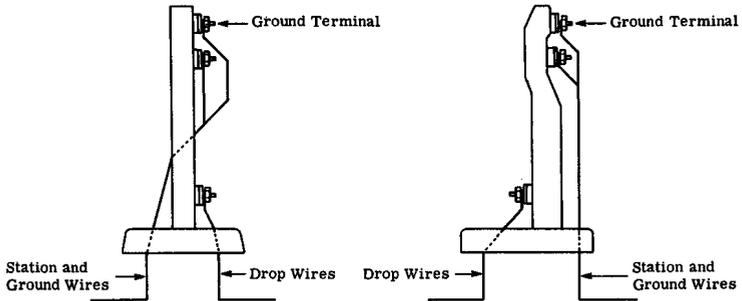


Figure 5 Wiring for Fused Protectors

NOTE: Do not cross station wires and drop wires. Where station and drop wires do not approach protector from the directions shown in these illustrations, rotate the protector 180° on its base.

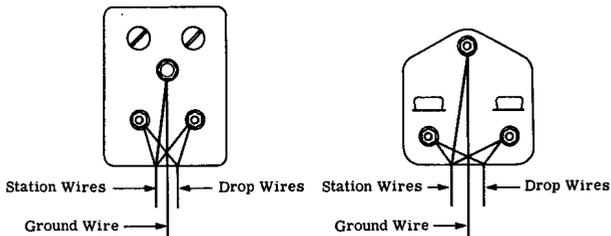


Figure 6 Wiring for Fuseless Protectors

3.03 For mounting, attach the protector to the mounting surface with the proper fastening device. A fused protector must be mounted so that drop and station wires do not cross at the point of entry to the protector (see Figures 5 and 6). Note the direction from which drop and station wires approach the protector location, and mount the protector accordingly. When the protector is mounted on a vertical surface it must be in a vertical position (base at the bottom).

3.04 Wire termination instructions are as follows (see Figures 5 and 6):

- a. Make the last drop wire attachment within four inches of the protector.
- b. Thread the ground, drop, and station wires through the entrance in the base of the protector.

NOTE: For the fuseless protector with a neoprene cover, the wire entrance is in the bottom of the cover. Approximately six inches of slack must be allowed in the wires and the wires threaded through the cover before termination.

- c. Terminate the drop wires on the "L" binding posts.
- d. Terminate the station wires on the "I" binding posts.

NOTE: Steps (3) and (4) apply to fused protectors. On fuseless protectors the drop and station wires are terminated on common binding posts.

- e. Terminate the ground wire on the "G" binding post.
- f. Extend the ground wire to an appropriate ground.
- g. If a fused protector has been installed, check the fuses by attaching the leads of a hand test telephone to the station terminals of the protector. When the operator answers (manual exchange line) or dial tone is heard, tap each fuse with a screwdriver blade. If the fuse contains a loose fuse wire, you will hear line cutout in the receiver and the fuse must be replaced.