

# INSTRUCTION MANUAL



**AM-ENC**  
**Analog Multiplexer Enclosure**

Revision: 12/91

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# AM-ENC ANALOG MULTIPLEXER ENCLOSURE

## 1. DESCRIPTION

The AM-ENC (Analog Multiplexer ENClosure) consists of a white fiberglass box, external mounting brackets with U-bolts, conduit attachments, and an internal plate for mounting the multiplexer (Figure 1). These components are shipped pre-assembled from Campbell Scientific. If the AM-ENC is ordered with an AM416 or AM32 Multiplexer, the multiplexer is mounted in the AM-ENC at the factory. If the AM-ENC and multiplexer are ordered separately, some user assembly is required (see Installation instructions).

The AM-ENC protects multiplexer from windblown dust, rain, and sleet.

The AM-ENC is not recommended for use with thermocouples. The recommended enclosure for multiplexing thermocouples is the AM-ENCT. For further information on sensor measurement or error analysis, please consult your datalogger manual and the AM416 Multiplexer manual.

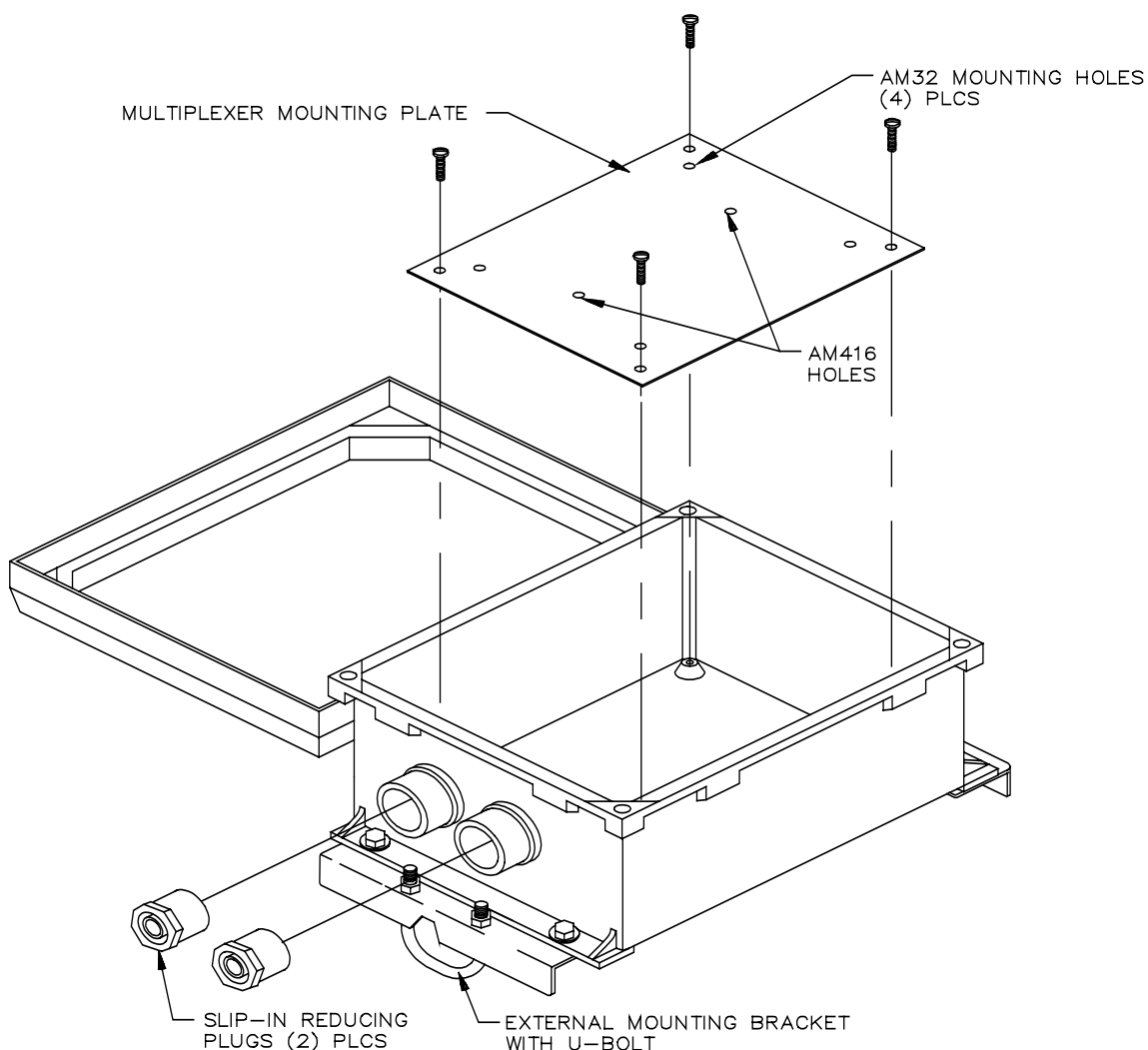


FIGURE 1. The AM-ENC Enclosure

## AM-ENC ANALOG MULTIPLEXER ENCLOSURE

### 2. SPECIFICATIONS

#### Dimensions:

External: 11.3" W x 13.5" L x 5.56" D

Internal: 10.0" W x 12.0" L x 5.25" D

**Weight:** approx. 10 lbs.

with AM416 installed: approx. 12 lbs.

with AM32 installed: approx. 12 lbs.

shipping: approx. 16 lbs.

**NEMA Rating:** Prior to modification--  
3,3R,3S,4,4X,6,6P,12,13

**Lid attachment:** Hinged; sealed with poured-in-place internal gasket. Un-hinged side secured with two captive screws.

#### Conduit diameter:

with reducing plug: 0.5"

without reducing plug: 1.25"

### 3. INSTALLATION

If the multiplexer was not installed at the factory, the enclosure will contain a small plastic bag with the following parts:

- (4) 3/8" screws
- (4) #6 washers
- (4) 3/8" spacers

#### 3.1 AM416

The AM416 requires two 3/8" screws to attach it to the mounting plate. The additional enclosed hardware is not required for AM416 installation.

Tools required: #1 Phillips screwdriver, flat-bladed screwdriver

1. Remove the four Phillips screws at the corners of the AM416 and remove the cover plate. Care must be taken when removing the upper plate of the multiplexer. It is generally easiest to lift the edge opposite the strain relief flange up first, then slide the plate out. Make sure to clear the terminal strips.
2. Remove the two screws at the center of the printed circuit board and then remove the printed circuit board. Place the board on a clean, dry surface.

3. Remove and dispose of the four rubber feet from the back panel of the AM416.
4. Align the two holes through the back panel of the multiplexer with the holes on the mounting plate. Attach the back plate of the AM416 to the mounting plate with two 3/8" screws from the enclosed plastic bag.
5. Reassemble the multiplexer.

#### 3.2 AM32

The AM32 requires four 3/8" screws, four spacers, and four washers to attach it to the internal mounting plate.

Tools required: flat-bladed screwdriver

1. Install the four 3/8" spacers in enclosure base mounting plate.
2. Attach the AM32 to the base mounting plate with the four 3/8" screws and washers.

#### 3.3 MOUNTING ENCLOSURE TO EXTERNAL WALL OR PIPE

Two 1.25" x 5/16" U-bolts (provided) attach the enclosure to a 1.25" schedule 40 pipe. The U-bolts and brackets can be removed to mount the enclosure against a flat surface. Four user-supplied 5/16" diameter screws or bolts can be used for this purpose. The type and length of the screws or bolts depends on the composition of the supporting surface. To prevent damage to the fiberglass enclosure, use the washers from the U-bolt bracket and do not over-tighten the mounting screws (bolts).

### 4. CABLE ROUTING AND DESICCANT USE

All sensor and datalogger connection cables should be routed through the conduits on the lower surface of the enclosure (Figure 1). Each conduit port includes a two-piece bushing set and a slip-in reducing plug which seats inside the external female bushing. The internal diameter of the bushings is 1.25 inches and the internal diameter of the reducing plugs is 0.5 inches. Sensor, datalogger, and battery cables that enter the AM-ENC should be attached to a strain-relief device. The AM416 has a flange to tie wires to for strain relief.

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The slip-in reducing plug has a smaller external orifice that restricts air movement. The reducing plugs may be removed to accommodate large diameter cables.

Desiccant should be used inside the AM-ENC to help reduce water vapor. Desiccant should be regularly replaced when necessary. Desiccant life is prolonged by plugging the cable entry port with electrician's putty, or foam.

**NOTE:** Because lead-acid batteries may emit explosive hydrogen gas, DO NOT seal an enclosure containing lead-acid batteries.





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