

SECTION 5: INSTALLATION, STARTUP AND TESTING

5-1 INTRODUCTION

This section describes mounting, wiring, startup and miscellaneous testing details associated with the Breaker Interface Module. Earlier sections, especially Sections 1 and 2, should be reviewed prior to installing the Breaker Interface Module.



WARNING

INSURE THAT ANY INCOMING AC POWER SOURCES ARE TURNED OFF AND LOCKED OUT BEFORE PERFORMING ANY WORK ON THE BREAKER INTERFACE MODULE OR ITS ASSOCIATED EQUIPMENT. FAILURE TO OBSERVE THIS PRACTICE COULD RESULT IN SERIOUS INJURY, DEATH OR EQUIPMENT DAMAGE.

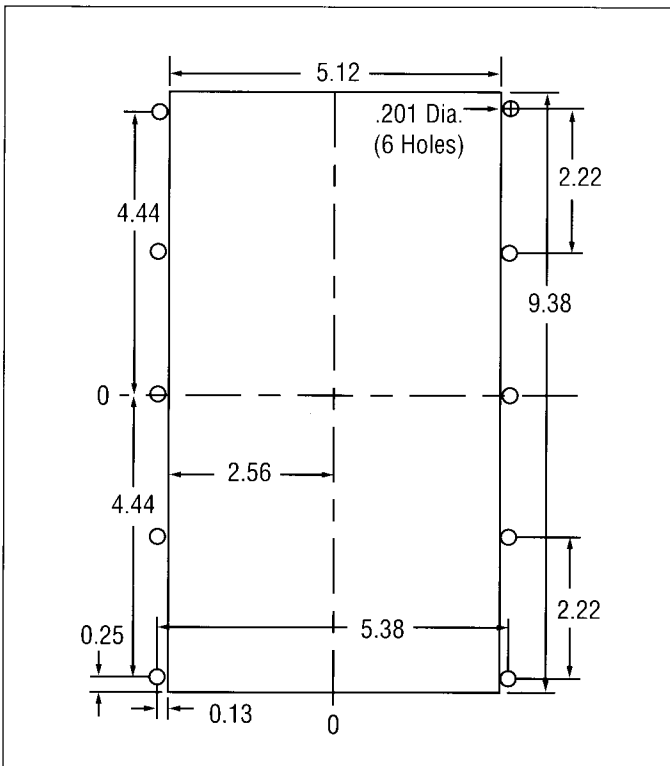


Figure 5-1 Cutout Dimensions and Drilling Pattern (inches)

5-2 PANEL PREPARATION

Panel preparation and mounting of the Breaker Interface Module is described for a standard flush mounted installation.

5-2.1 CUTOUT

Since the Breaker Interface Module is typically mounted on an enclosure door, it is necessary to prepare a cutout in which it will be placed. The dimensions for this cutout along with mounting hole locations are shown in Figure 5-1. Note that the Breaker Interface Module has ten mounting holes. Normally the top, bottom and center holes are used for a standard installation. If the installation is to be in a NEMA 3R or 4 enclosure, additional mounting holes are provided so that uniform pressure can be maintained on a gasket all the way around the unit.

Before actually cutting the panel, be sure that the required 3-dimensional clearances for the device's chassis allow mounting in the desired location. Breaker Interface Module dimensions with and without a Communication Module (PONI) are shown in Figure 5-2.

It is necessary to hold the tolerance shown when making the cutouts and placing the holes for the mounting screws. In particular, the horizontal dimensions between the center of the mounting holes and the vertical edge of the cutout must be within 0 and +0.050 inch (0.13 cm).

5-2.2 MOUNTING

Do not use a tap on the face of the Breaker Interface Module since this will remove excessive plastic from the holes. This will result in less threaded material to secure the unit to its mounting panel.

Place the Breaker Interface Module through the cutout in the panel. Be sure the Operator Panel faces outward. Use the #10 x 0.375 inch Hilo Pan Head screws included with the unit to mount it on a single-thickness panel. Be sure to start the screws from **INSIDE THE PANEL**, so they go through the metal first.

5-2.3 MISCELLANEOUS MOUNTING DETAILS

When field installing a Communications Module (PONI), carefully follow all the installation instructions supplied with the PONI. In addition, be certain that **DIP Switch 6** is set as specified in Table 5.1.

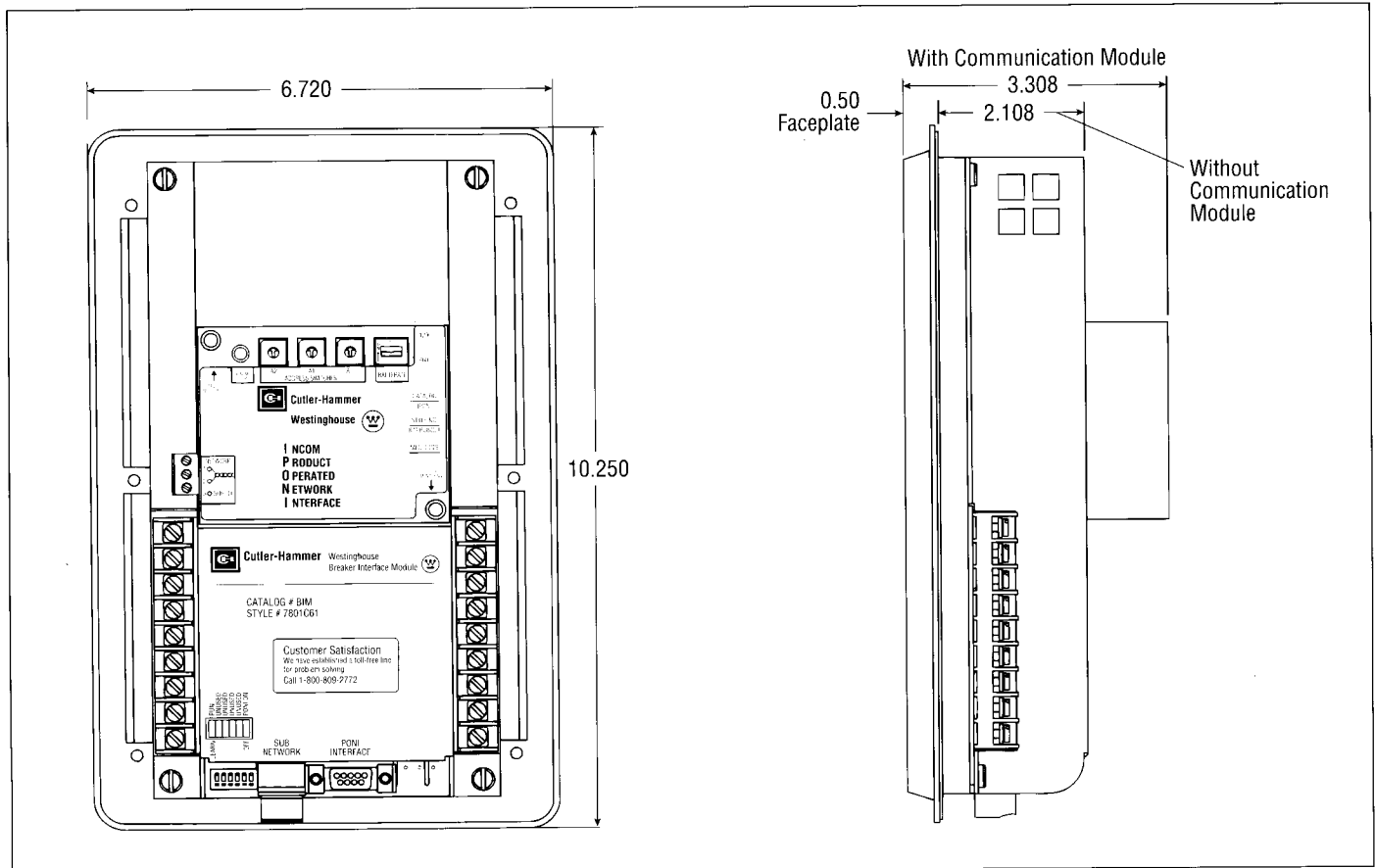


Figure 5-2 Breaker Interface Module Dimensions (inches)

5-3 WIRING

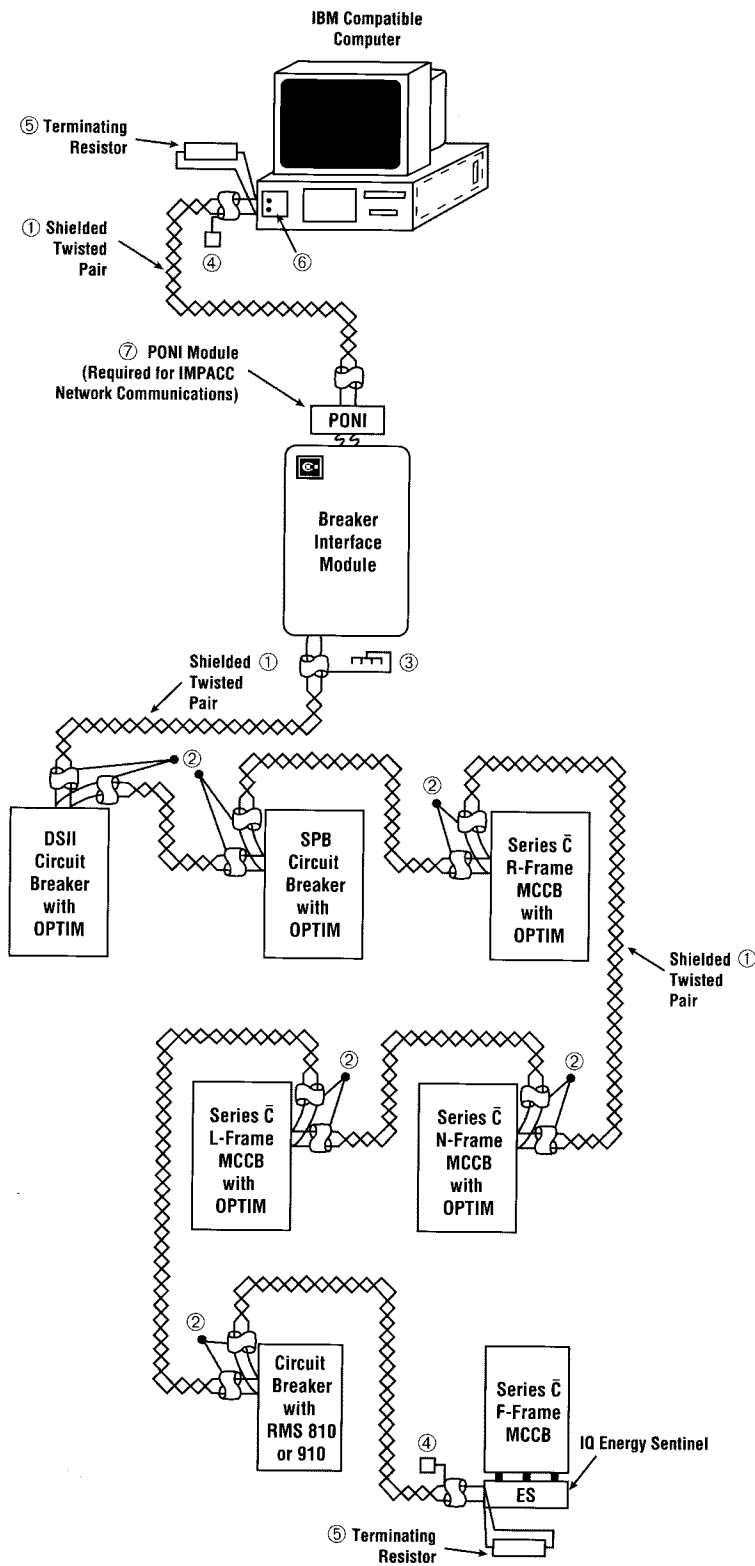
Wiring of the Breaker Interface Module should follow a suitable wiring plan drawing. The phrase "wiring plan drawing" refers to the drawing or drawings made for the specific application. It describes all electrical connections between the Breaker Interface Module and external equipment. This drawing is the responsibility of the user or OEM. A network wiring diagram can also be helpful for sub-network and network systems (Figure 5-3). The Breaker Interface Module rear connections/DIP switch diagram (Figure 5-4) will assist with the creation of a wiring plan drawing.

The following general considerations should be complied with during the wiring process:

1. All wiring must conform to applicable Federal, State and Local codes.
2. Wires to the terminal blocks must not be larger than AWG No. 14. Larger wire will not connect properly to the terminal blocks.
3. Terminal blocks have No. 6-32 sems pressure saddle screws.
4. Wiring diagram relay contacts are shown in their de-energized position.
5. The Breaker Interface Module chassis must be connected to ground. A good low impedance chassis ground is essential for proper functioning.

5-4 INITIAL STARTUP

This information is intended to be used when first applying control power to the Breaker Interface Module.



- ① For network interconnection cable, use Belden 9463 or Cutler-Hammer IMPCABLE.
- ② When interconnecting devices, tie shield drain wires together for shield path continuity.
- ③ Connect the shield path to a solid earth ground at one point only.
- ④ On last device in network, tape shield drain wire back upon cable.
- ⑤ Use a 1/2 watt carbon or metal film resistor at each end of the network as an end of line termination resistor (EOLTR). EOLTR should be 100 ohms for 9600 baud communication rate networks or 150 ohms for 1200 baud communication rate networks.
- ⑥ Network interconnection to computer requires use of an IMPACC master (CONI or MINT).
- ⑦ Devices without built-in communications require network interface module (PONI).

For detailed network wiring specifications, call the automatic fax retrieval system (FRED) at 412/494-3745 and request document 17513 or contact the Advanced Products Support Center. Refer to the paragraph entitled "Technical Assistance" in this document.

Figure 5-3 Typical Network Wiring Diagram

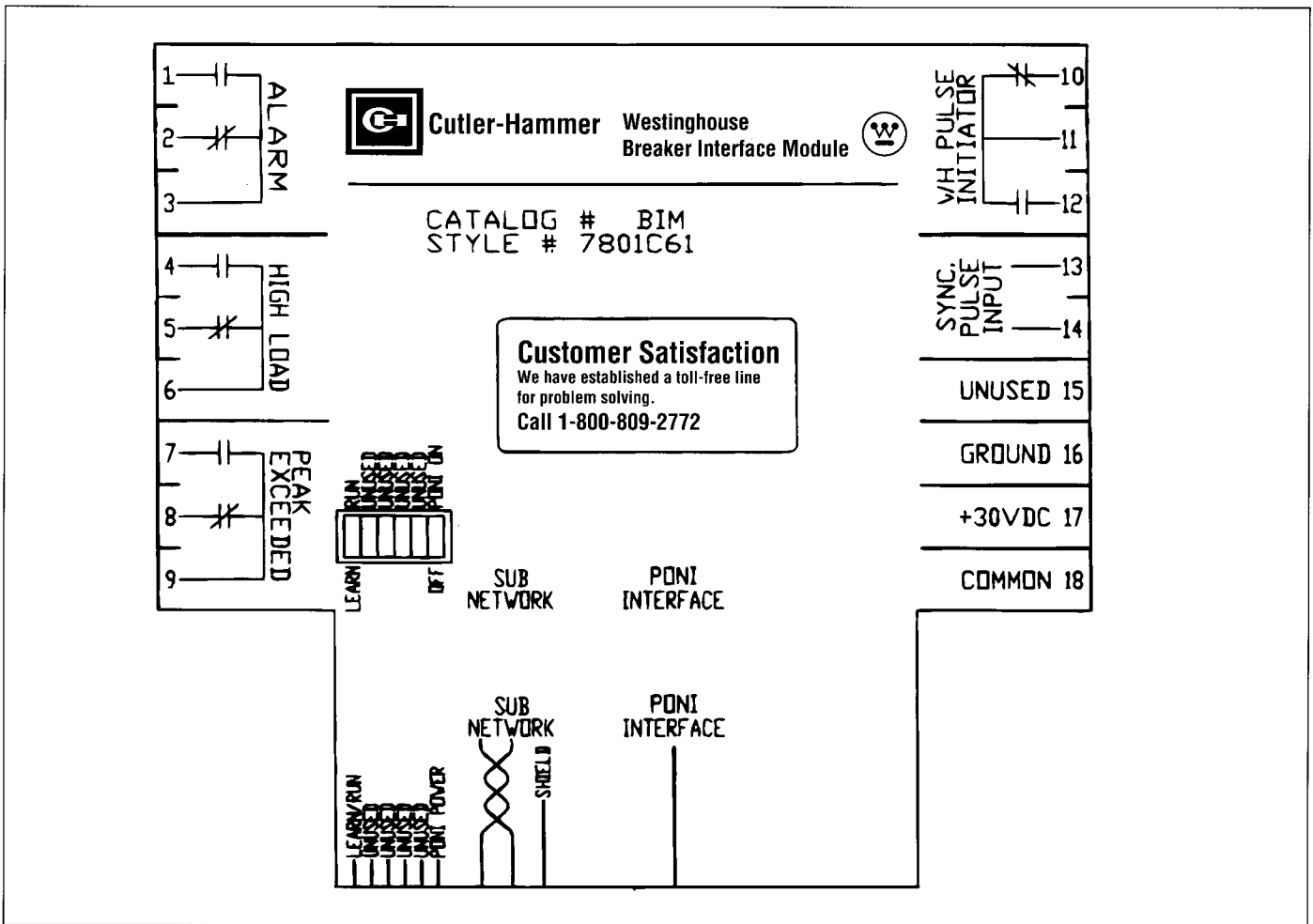


Figure 5-4 Connections and DIP Switch Rear Label Diagram

5-4.1 BEFORE POWER APPLICATION



STARTUP PROCEDURES MUST BE PERFORMED BY QUALIFIED PERSONNEL WHO ARE FAMILIAR WITH THE IQ ANALYZER AND ITS ASSOCIATED ELECTRICAL AND/OR MECHANICAL EQUIPMENT. FAILURE TO OBSERVE THIS WARNING COULD RESULT IN PERSONAL INJURY, DEATH AND/OR EQUIPMENT DAMAGE.

After all installation wiring is complete and before power is applied to the Breaker Interface Module, perform the following:

- Verify that all wiring is correct as shown on the wiring plan drawing and in keeping with the rear connections and DIP switch diagram (Figure 5-4).
- If a field installed PONI Communications Module is to be used, connect it to the Breaker Interface Module with DIP switch 6 in the "Off" (down) position.
- Always check to be certain that all DIP switches on the back of the unit are set in keeping with Table 5.1.

5-4.2 INITIAL POWER APPLICATION

- Apply control power to the Breaker Interface Module using a compatible 30 Vdc, 400 ma assembly mounted power supply or a Breaker Interface Module

Table 5.1 Operational DIP Switch Settings

Switch	UP Position	Down Position
1	Run Mode - Normal switch position once the Breaker Interface Module has learned the identity of connected devices.	Learn Mode - Switch position during initial power application to the Breaker Interface Module or during the use of the Update feature of the System display menu.
2, 3, 4 and 5	Unused	Unused
6	Switch position when a PONI is used to communicate over an IMPACC network. ("On" position)	Switch position when PONI is not being used for communications, or when PONI is being installed or removed from the Breaker Interface Module. ("Off" position)
Note: Refer to Paragraph 2-3.1 for additional information.		

mounted power supply. Refer to Table 2.1 for exact power supply information and requirements.

- b. The **Operational** LED will blink green indicating a good operational status and Cutler-Hammer will be briefly displayed. If the **Operational** LED is not lit or is on continuously, a problem is indicated. Remove power from the Breaker Interface Module and refer to the Troubleshooting Guide (Table 6.1).
- c. To proceed beyond this point, refer to operational instructions presented in Section 4 to configure and setup particular devices.