GAI-TRONICS®
A HUBBELL COMPANY

379-003 IP MRM
(Monitored Relay Module) Station

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General Information

The Model 379-003 IP MRM (Monitored Relay Module) station operates in a GAI-Tronics IP paging and alarm system. The IP controller's software configuration controls its operation.

The MRM includes eight relay output circuits. Each relay contains two type C contacts rated for 5 amps. Relay outputs typically switch power to signaling devices such as beacons or strobes but are applicable to any switching application that does not exceed the relay's current rating. Relay circuits are programmable to activate during:

- system alarms
- pages
- trouble conditions

The MRM also includes eight input circuits (one for each output relay). Input circuits normally supervise the relay output circuit cable to the signaling device (as described above). Monitoring for open circuits, short circuits, and ground fault conditions occurs while the output circuit is inactive. The relay circuit will not activate while a cable fault is present, preventing a possible dangerous condition.

Use relay inputs not supervising an output circuit for other functions. A voltage-free contact (opening or closing) or the presence/absence of a 24 V dc input voltage activates each input. The IP MRM can supervise the cabling between the input terminal and the remote contact device when using voltage-free input contacts. The IP MRM can monitor the cable for open circuit, short circuit, and ground fault conditions and automatically reports fault conditions to the system controller.

Program each input circuit to initiate one of the following functions in the GAI-Tronics IP paging and alarm system:

- activate an alarm
- reset all alarms
- cancel the current alarm
- report a fault condition
- reset the system MCU

The Model 379-003 IP MRM station's housing is a NEMA 4X stainless steel enclosure measuring 13.00 W × 14.30 H × 6.23 D inches (330.2 × 363.2 × 158.2 mm) (see Figure 1). Internal components include:

- 24 V dc power supply

- No. 030-02-0099-008 Monitored Relay Module

The No. 030-02-0099-008 IP MRM has four components (see Figure 1):

- No. 999-02-1203-001 CPU PCBA

- No. 999-02-3011-002 Monitored-Input PCBA

- Two—No. 999-02-3002-001 Relay PCBAs.

The scope of this manual is mounting and wiring the Model 379-003 IP MRM station. Refer to Pub. 502-20-0672-001 ISS 4 for additional information on the No. 030-02-0099-008 IP MRM (see the Reference Documentation section).
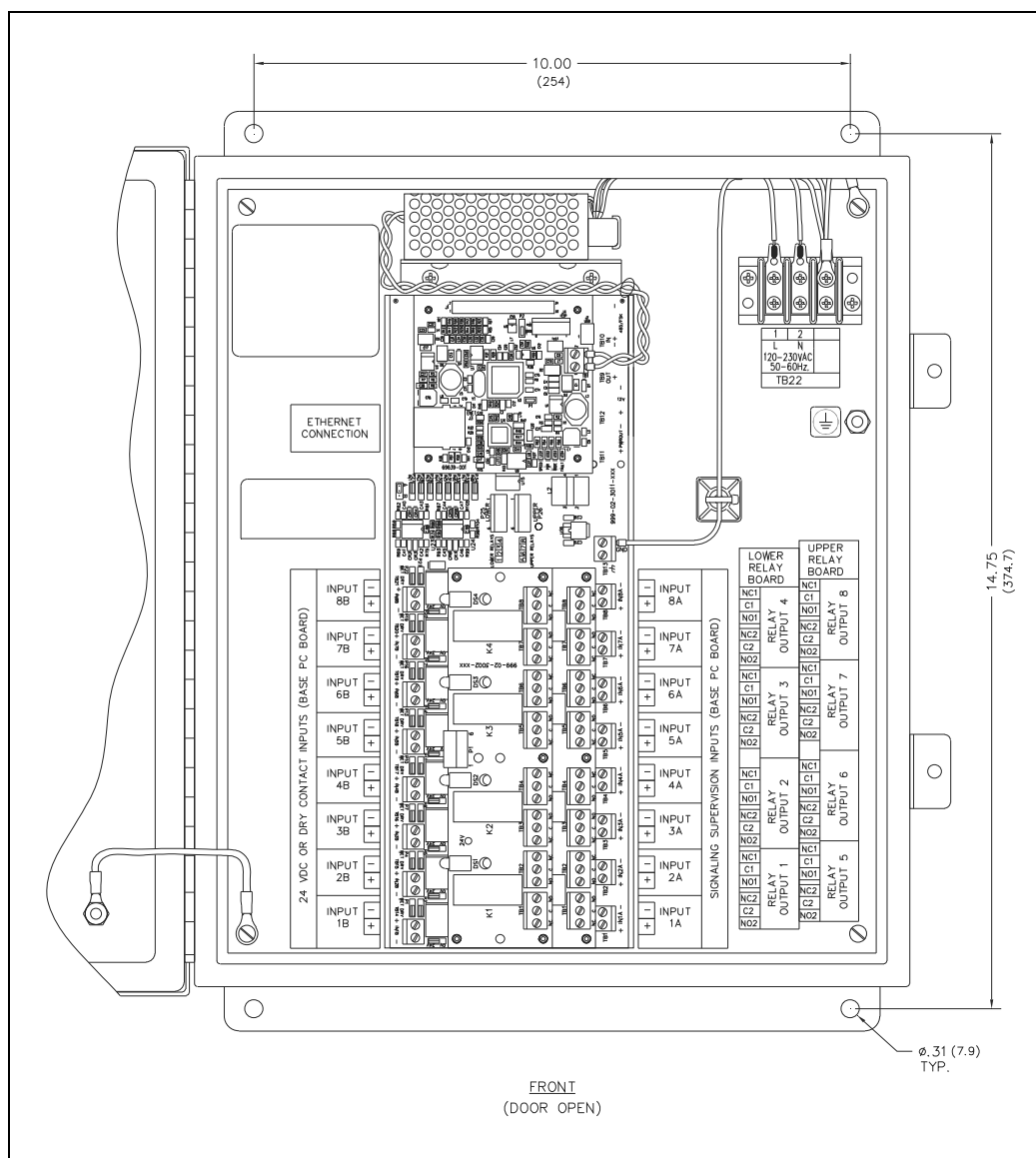

Figure 1. Model 379-003 IP MRM Station (Interior View)

Installation

⚠ **CAUTION** ⚠ —**Do not install this equipment in hazardous areas. Disconnect power before installing or removing the MRM.**

Mounting

Mount the Model 379-003 IP MRM station vertically (see Figure 2). Select a mounting location that is flat, provides proper clearance, and is rigid and strong enough to support the enclosure. The IP MRM station weighs 19 pounds (8.6 kg)

1. Mount the enclosure using ¼-20 (M6) hardware, appropriate for the mounting surface, through the four 0.31-inch (7.9 mm) diameter holes, on the mounting flanges (see Figure 2).

   - Determine the mounting hardware length by the thickness of the mounting surface or by the anchoring method the customer selects.

     NOTE: Due to the various surface types the station mounts to, the customer must supply the mounting hardware.

   - The suggested height of the station is 48 inches (1219 mm) to the center of the enclosure's bottom mounting holes.

   - GAI-Tronics supplies the Model 379-003 IP MRM station enclosure with two 1-1/4-inch holes and one ¾-inch hole with sealing hole plugs (see Figure 3). Remove hole plugs and install (*customer supplied*) liquid tight conduit or cable glands when connecting field wiring.

   - Use entry hole **A** for ac input power wiring. Use entry holes **B** and **C** for signal/control and/or Ethernet connections (see Figure 3).

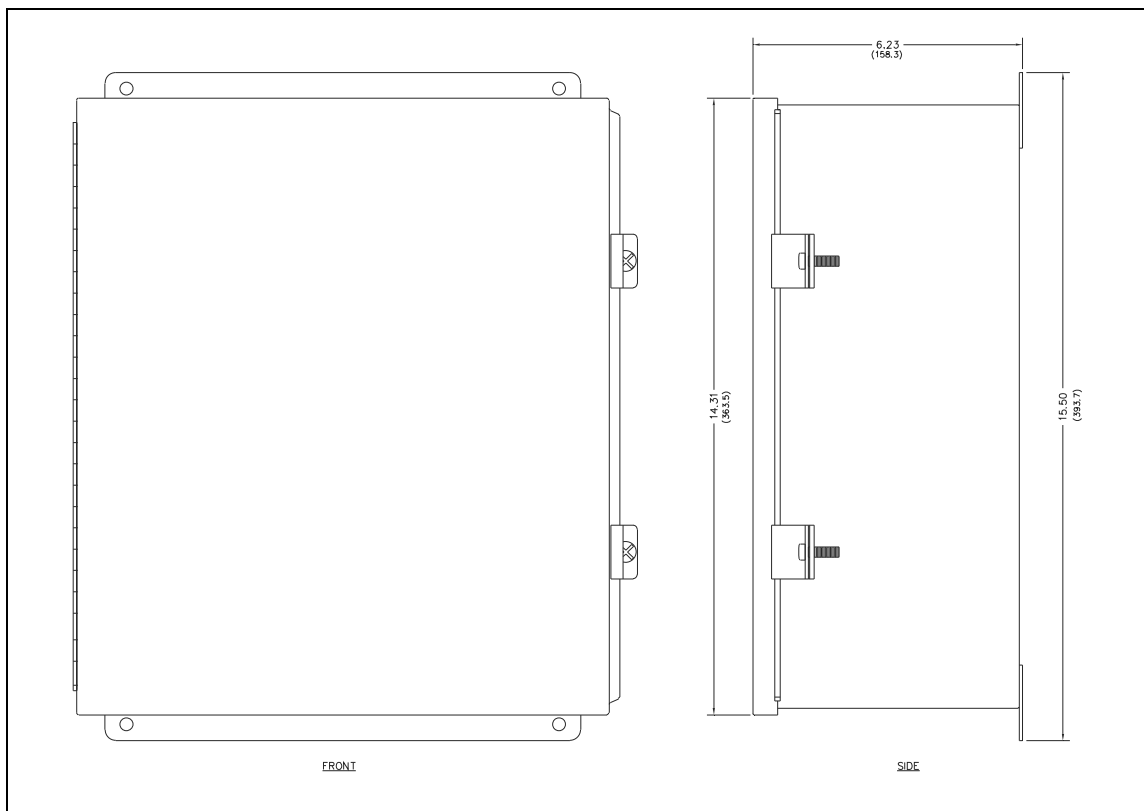2. Remove the shipping tie-wrap securing the PCBA to the mounting Snaptrack.

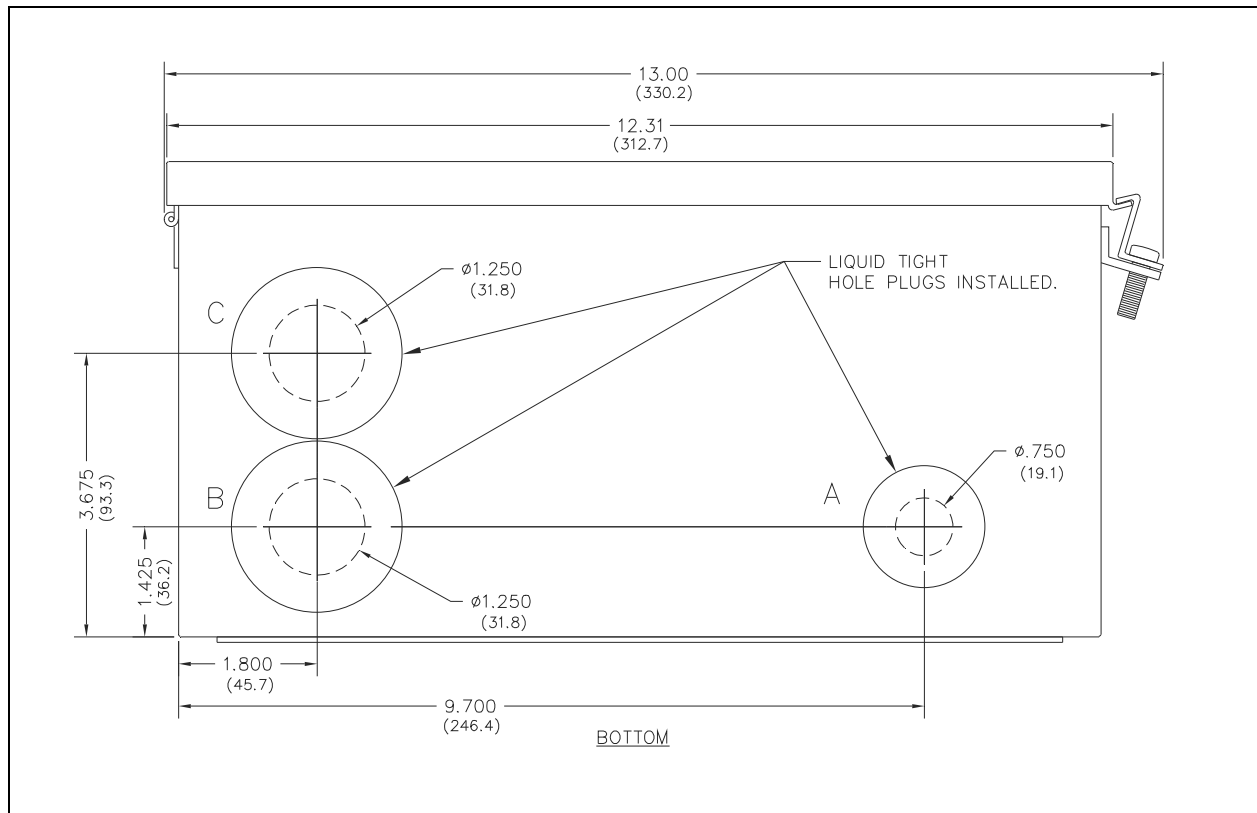Figure 2. Model 379-003 IP MRM Station Enclosure

Figure 3. IP MRM Cable Entries

Wiring

The IP MRM station requires 120 to 230 V ac, 50/60 Hz power and an Ethernet connection to an IP system controller. Connect the eight relay outputs and input contact circuits as needed. Refer to Pub. 502-20-0672-001 ISS 4 for detailed information on I/O circuits, I/O circuit connections, and I/O configuration (see the Reference Documentation section).

Power

Connect 120 to 230 V ac power to terminal block TB22, at the top of the panel (see Figure 1). Use 14 AWG (2.5 mm^2) minimum power conductors and an all-pole main switch (circuit breaker).

⚠**WARNING**⚠ —Ensure proper grounding to protective earthing.

The grounding stud, next to terminal block TB22 (see Figure 1) provides the earth ground termination. Minimum wire gauge is 14 AWG.

Table 1.. AC Power Termination

Function	Terminal Block	Wire Color
AC Line (hot/live)	TB22-1	Black
Neutral	TB22-2	White
Ground	EARTH GROUND STUD	Green

Ethernet Connection

Plug a Category 5 or better Ethernet cable with RJ45 plug from the network into the RJ45 jack, on the CPU PCBA (see Figure 1).

Replacement Parts

Table 2. Replacement Parts

Part Number	Description
999-02-1203-001	PCBA, Ethernet/CPU Module
999-02-3011-002	PCBA, IN8
999-02-3002-001	PCBA, Relay Module
40404-011	Power Supply, 24 V dc, 25 W

Reference Documentation

For additional information, please refer to the standard publication below. GAI-Tronics' publications are on the GAI-Tronics website (under resources), at www.hubbell.com/gai-tronics/en.

Elemec3 MIM and MRM Modules ....502-20-0672-001 ISS 4

Specifications

Electrical

Power requirements .... 120–230 V ac, 50/60 Hz, 300 mA maximum

NOTE: Power requirements do **NOT** include power switched to external devices such as beacons or strobes.

Maximum current draw and switching voltage (per output) .... 5 A @ 30 V dc or 132 V ac

Mechanical

Dimensions .... 13.00 W $\times$ 14.30 H $\times$ 6.23 D in (330.2 $\times$ 363.2 $\times$ 158.2 mm)

Weight .... 19 lb (8.6 kg)

Environmental

Humidity .... 95% non-condensing relative humidity

Temperature range .... −22 ºF to 158 ºF (−30 ºC to 70 ºC)

Environmental rating .... NEMA 4X

Approvals

CE Mark

UL .... 62368-1, 2nd Ed, 2014-12-01

CAN/CSA .... C22.2 No. 62368-1-14, 2nd Ed, Issued: 2014-12-01

FCC .... CFR47, Part 15 Class A Compliant