



GAI-TRONICS®
A HUBBELL COMPANY

Model 379-003 E3 IP MRM (Monitored Relay Module) Station

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General Information

The Model 379-003 E3 IP MRM (Monitored Relay Module) station operates in an *Elemec3* system. The E3 controller 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 E3 IP MRM can monitor the cable for open circuit, short circuit, and ground fault conditions and automatically reports fault conditions to the E3 controller.

Program each input circuit to initiate one of the following functions in the *Elemec3* system:

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

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The Model 379-003 E3 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). Internal components include:

- 24 V dc power supply
- No. 030-02-0099-008 Monitored Relay Module

The No. 030-02-0099-008 E3 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 E3 IP MRM (see the Reference Documentation section).

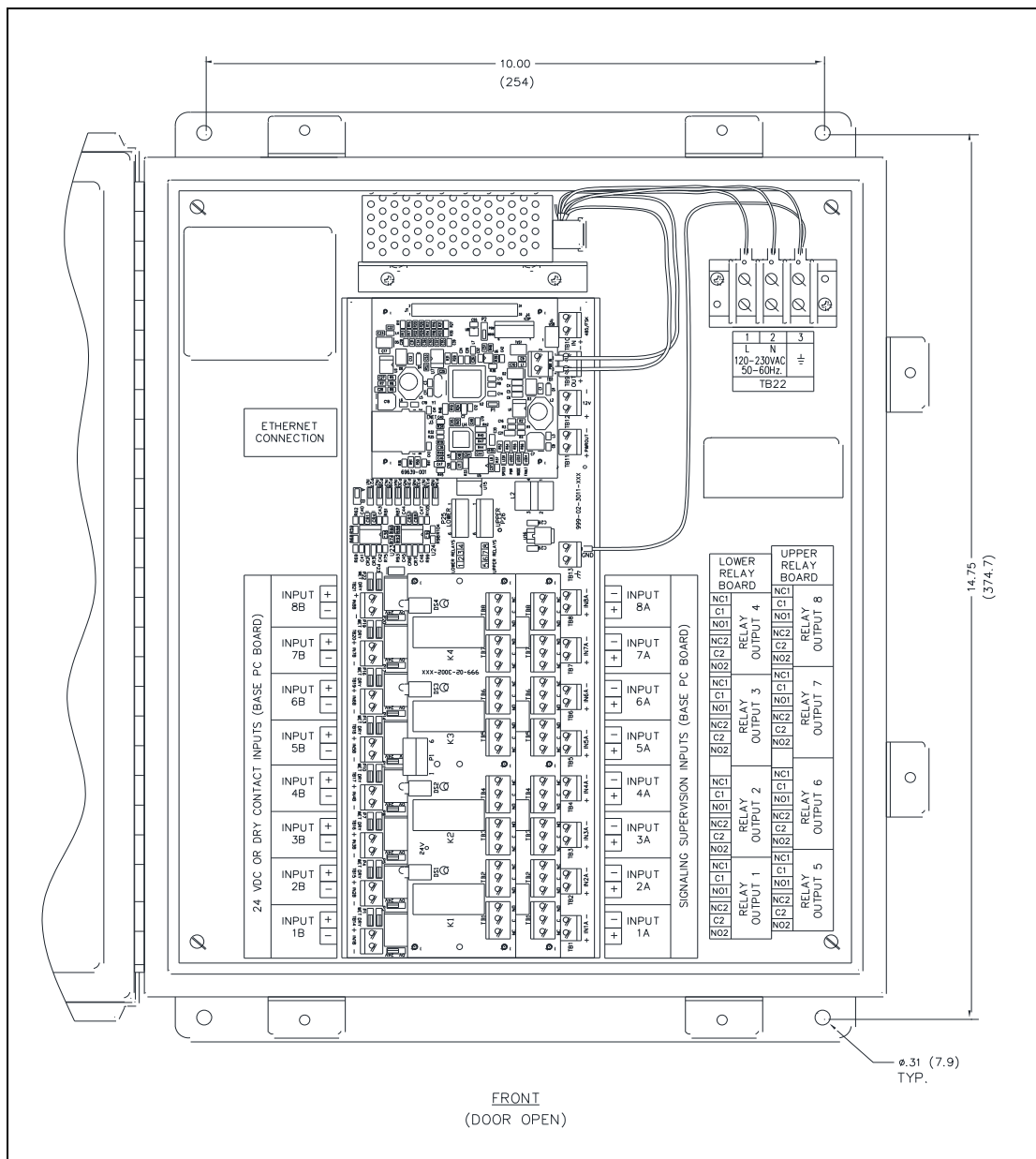


Figure 1. Model 379-003 E3 IP MRM Station (Interior View)

Installation

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

Mounting

The Model 379-003 E3 IP MRM station enclosure is not supplied with conduit or cable gland holes.

1. Drill or punch openings, at the required locations, before mounting the enclosure.
 - Separate cable entries for power, Ethernet, and input wiring are typically required (see the [Wiring](#) section).
 - Use caution when drilling or punching the enclosure to avoid damaging internal components.
 - GAI-Tronics recommends bottom cable entry to prevent moisture from entering the enclosure and dripping onto the terminals or circuit boards.
2. Mount the enclosure to a suitable surface using appropriate (customer-supplied) hardware (see [Figure 1](#) for mounting hole dimensions).
3. Remove the shipping tie-wrap securing the PCBA to the mounting Snaptrack.

Wiring

The IP MRM station requires 120 to 230 V ac, 50/60 Hz power and an Ethernet connection to the *Elemec3* IP 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](#)).

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

Terminal TB22-3 provides earth ground termination.

Table 1.. AC Power Termination

Function	Terminal Block	Wire Color
AC Line (hot)	TB22-1	Black
Neutral	TB22-2	White
Ground	TB22-3	Green/yellow

Ethernet Connection

Plug the Category 5 or better Ethernet cable with RJ45 plug from the E3 network into the RJ45 jack, located on the CPU PCBA (see [Figure 1](#)).

Replacement Parts

Table 2. Replacement Parts

Part Number	Description
999-02-1203-001	PCBA, E3 IP CPU
999-02-3011-002	PCBA, E3 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 listed below. GAI-Tronics' publications are located on the GAI-Tronics website at <https://www.gai-tronics.com>.

E3 MIM (Monitored Input Module) and MRM (Monitored Relay Module).....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 × 14.30 H × 6.23 D in (330.2 × 363.2 × 158.2 mm)

Weight..... 19 lb

Environmental

Humidity 95% non-condensing relative humidity

Temperature range –22 °F to 158 °F (–30 °C to 70 °C)

Environmental ratingNEMA 4X

NOTE:—This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his expense.

Warranty

Equipment. GAI-Tronics warrants for a period of one (1) year from the date of shipment, that any GAI-Tronics equipment supplied hereunder shall be free of defects in material and workmanship, shall comply with the then-current product specifications and product literature, and if applicable, shall be fit for the purpose specified in the agreed-upon quotation or proposal document. If (a) Seller's goods prove to be defective in workmanship and/or material under normal and proper usage, or unfit for the purpose specified and agreed upon, and (b) Buyer's claim is made within the warranty period set forth above, Buyer may return such goods to GAI-Tronics' nearest depot repair facility, freight prepaid, at which time they will be repaired or replaced, at Seller's option, without charge to Buyer. Repair or replacement shall be Buyer's sole and exclusive remedy. The warranty period on any repaired or replacement equipment shall be the greater of the ninety (90) day repair warranty or one (1) year from the date the original equipment was shipped. In no event shall GAI-Tronics warranty obligations with respect to equipment exceed 100% of the total cost of the equipment supplied hereunder. Buyer may also be entitled to the manufacturer's warranty on any third-party goods supplied by GAI-Tronics hereunder. The applicability of any such third-party warranty will be determined by GAI-Tronics.

Services. Any services GAI-Tronics provides hereunder, whether directly or through subcontractors, shall be performed in accordance with the standard of care with which such services are normally provided in the industry. If the services fail to meet the applicable industry standard, GAI-Tronics will re-perform such services at no cost to buyer to correct said deficiency to Company's satisfaction provided any and all issues are identified prior to the demobilization of the Contractor's personnel from the work site. Re-performance of services shall be Buyer's sole and exclusive remedy, and in no event shall GAI-Tronics warranty obligations with respect to services exceed 100% of the total cost of the services provided hereunder.

Warranty Periods. Every claim by Buyer alleging a defect in the goods and/or services provided hereunder shall be deemed waived unless such claim is made in writing within the applicable warranty periods as set forth above. Provided, however, that if the defect complained of is latent and not discoverable within the above warranty periods, every claim arising on account of such latent defect shall be deemed waived unless it is made in writing within a reasonable time after such latent defect is or should have been discovered by Buyer.

Limitations / Exclusions. The warranties herein shall not apply to, and GAI-Tronics shall not be responsible for, any damage to the goods or failure of the services supplied hereunder, to the extent caused by Buyer's neglect, failure to follow operational and maintenance procedures provided with the equipment, or the use of technicians not specifically authorized by GAI-Tronics to maintain or service the equipment. **THE WARRANTIES AND REMEDIES CONTAINED HEREIN ARE IN LIEU OF AND EXCLUDE ALL OTHER WARRANTIES AND REMEDIES, WHETHER EXPRESS OR IMPLIED BY OPERATION OF LAW OR OTHERWISE, INCLUDING ANY WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.**

Return Policy

If the equipment requires service, contact your Regional Service Center for a return authorization number (RA#). Equipment should be shipped prepaid to GAI-Tronics with a return authorization number and a purchase order number. If the equipment is under warranty, repairs or a replacement will be made in accordance with the warranty policy set forth above. Please include a written explanation of all defects to assist our technicians in their troubleshooting efforts.

Call 800-492-1212 (inside the USA) or 610-777-1374 (outside the USA) for help identifying the Regional Service Center closest to you.