

## EM-1R Relay Module

### SPECIFICATIONS

Normal Operating Voltage:	15 to 30 VDC
Standby Current:	580 µA max. average (continuous broadcasts)
Alarm Current:	2.0 mA (red LED on)
Short Circuit Current, Dry Control Input:	30 µA max. average (5VDC)
Maximum Resistance, Dry Contact Input:	100 Ω
Temperature Range:	32°F to 120°F (0°C to 49°C)
Humidity:	10% to 93% RH Non-condensing
Dimensions:	4.17" H × 4.26" W × 1.22" D; (106 mm H × 108 mm W × 31 mm D)
Accessories:	Wall cover plate (included); SMB500 Surface Mount Electrical Box; EA-CB Control Module Barrier

CURRENT RATING	MAXIMUM VOLTAGE	LOAD DESCRIPTION	APPLICATION
3 A	30 VDC	Resistive	Non-Coded
2 A	30 VDC	Resistive	Coded
.9 A	110 VDC	Resistive	Non-Coded
.9 A	125 VDC	Resistive	Non-Coded
.5 A	30 VDC	Inductive (L/R=5ms)	Coded
1 A	30 VDC	Inductive (L/R=2ms)	Coded
.3 A	125 VAC	Inductive (PF=.35)	Non-Coded
1.5 A	25 VAC	Inductive (PF = .35)	Non-Coded
.7 A	70.7 VAC	Inductive (PF=.35)	Non-Coded
2 A	25 VAC	Inductive (PF=.35)	Non-Coded

NOTE: This module is not approved for use in the European Union, at or above 50VAC or 70VDC.

### BEFORE INSTALLING

This information is included as a quick reference installation guide. Refer to the appropriate control panel installation manual for detailed system information. If the modules will be installed in an existing operational system, inform the operator and local authority that the system will be temporarily out of service.

NOTICE: This manual should be left with the owner/user of this equipment.

### GENERAL DESCRIPTION

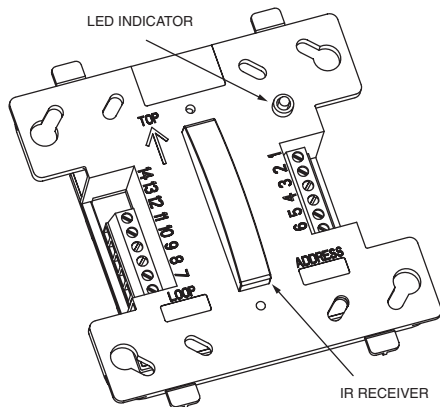
Relay Module, Model EM-1R, is to be designed for use in activation of the types of products that are generally connected to an intelligent fire alarm system. It provides two sets of form C contacts that switch together (one DPDT relay). There is also an input that is capable of monitoring a dry set of contacts for open or closed conditions.

### COMPATIBILITY REQUIREMENTS

To ensure proper operation, this module shall be connected to a listed compatible control panel.

### MOUNTING

The module mounts directly to 4-inch square electrical boxes. The box must have a minimum depth of 2 1/8 inches. Modules must be mounted with the arrow facing upward for proper operation of the IR programming tool. Surface mounted electrical boxes (SMB500) are available from System Sensor.



### WIRING

NOTE: All wiring must conform to applicable local codes, ordinances, and regulations.

1. Install module wiring in accordance with the job drawings and appropriate wiring diagrams.  
 NOTE: Separate cable entry openings must be used to maintain required spacing between power limited and non-power limited wiring. Optional EA-CB may be required to separate power limited and non power limited wiring in the electrical box.
2. Set the address on the module per job drawings using the IR configuration tool (model no. EA-CT).
3. Secure module to electrical box (supplied by installer).

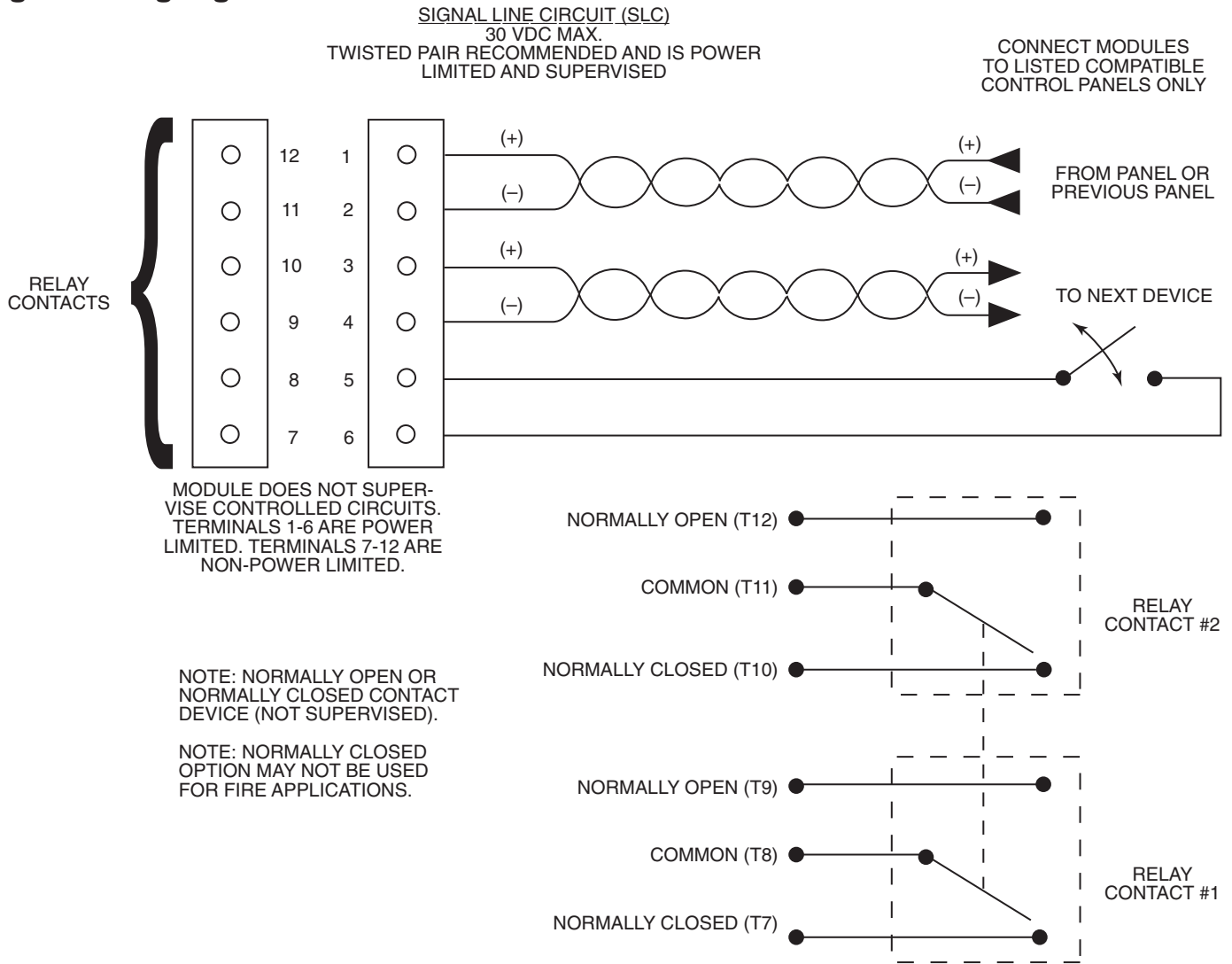
### TERMINAL DEFINITIONS

T1	(+) SLC in/out	T7	Normally Closed #1
T2	(-) SLC in/out	T8	Common #1
T3	(+) SLC in/out	T9	Normally Open #1
T4	(-) SLC in/out	T10	Normally Closed #2
T5	(+) Dry Contact Input	T11	Common #2
T6	(-) Dry Contact Input	T12	Normally Open #2

### WARNING

All relay switch contacts are shipped in the standby state (open) state, but may have transferred to the activated (closed) state during shipping. To ensure that the switch contacts are in their correct state, modules must be made to communicate with the panel before connecting circuits controlled by the module.

**Figure 2. Wiring Diagram:**



C0110-02

**THREE-YEAR LIMITED WARRANTY**

System Sensor warrants its enclosed module to be free from defects in materials and workmanship under normal use and service for a period of three years from date of manufacture. System Sensor makes no other express warranty for this module. No agent, representative, dealer, or employee of the Company has the authority to increase or alter the obligations or limitations of this Warranty. The Company's obligation of this Warranty shall be limited to the repair or replacement of any part of the module which is found to be defective in materials or workmanship under normal use and service during the three year period commencing with the date of manufacture. After phoning System Sensor's toll free number 800-SENSOR2 (736-7672) for a Return Authorization number, send defective units postage prepaid to: System Sensor, Returns Department, RA

# \_\_\_\_\_, 3825 Ohio Avenue, St. Charles, IL 60174. Please include a note describing the malfunction and suspected cause of failure. The Company shall not be obligated to repair or replace units which are found to be defective because of damage, unreasonable use, modifications, or alterations occurring after the date of manufacture. In no case shall the Company be liable for any consequential or incidental damages for breach of this or any other Warranty, expressed or implied whatsoever, even if the loss or damage is caused by the Company's negligence or fault. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This Warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

**FCC STATEMENT**

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.