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EBR Relay Base

Specifications

Base Diameter:	6.0 inches (15.2 cm)
Base Height (less sensor):	1.38 inches from ceiling (no sensor); 2.56 inches with sensor
Weight:	0.4 lb. (181 gm)
Operating Temperature Range:	32° to 120°F (0° to 49°C)
Operating Humidity Range:	10% to 93% Relative Humidity

Electrical Ratings

Operating Voltage:	15 to 30 VDC
Time Averaged Standby Ratings:	< 750 µA @ 24 VDC

Relay Characteristics

Coil:	2 coil latching
Contact Type:	1 Form C
Contact Relay	
Resistive:	2 A @ 30 VDC .5 A @ 125 VAC
Inductive:	1 A @ 30 VDC .25 A @ 125 VDC
Set/Reset Time:	4.7 seconds maximum

Before Installing

Please read the *System Smoke Detector Application Guide*, A05-1003-XX, which provides detailed information on sensor spacing, placement, zoning, wiring, and special applications. Copies of this manual are available from System Sensor. NFPA 72 and NEMA guidelines should be observed.

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

IMPORTANT: The detector used with this base must be tested and maintained regularly following NFPA 72 requirements. The detector should be cleaned at least once a year.

General Description

The EBR Relay Base is used with System Sensor sensor heads. Refer to the listed compatible control panel manual for more information on sensors.

The relay base is intended for use with intelligent systems. Refer to the panel manual for maximum allowable number of units per loop.

Form C latching relay contacts are included for control of an auxiliary function. The relay operates 3.7 seconds (nominally) after activation of the sensor head remote annunciator output.

EBR Terminals

No. Function

- 1 Normally Open
- 2 Normally Closed
- 3 Relay Common
- 4 Positive (+) Comm. Line In/Out
- 5 Positive (+) Comm. Line Out/In
- 6 Negative (-) Comm. Line In and Out

Terminals 4, 5 and 6 are used for the communication circuit.

Mounting

Mount the EBR directly to an electrical box, using the mounting kit, supplied (see Figure 2).

The sounder base is 1.1-inches deep. Electrical boxes must be 4-inches square by at least 1½ inches deep - 2⅛ inches is recommended.

NOTE: A maximum space of ⅛ inch from the outside edge of the electrical box to the inside edge of the drywall or ceiling tile is allowable.

Wiring Guidelines

All wiring must be installed in compliance with the National Electrical Code and the local codes having jurisdiction and must not be of such length or wire size which would cause the base to operate outside of its published specifications. The conductors used to connect smoke sensors to control panels and accessory devices should be color coded to reduce the likelihood of wiring errors. Improper connections can prevent a system from responding properly in the event of a fire.

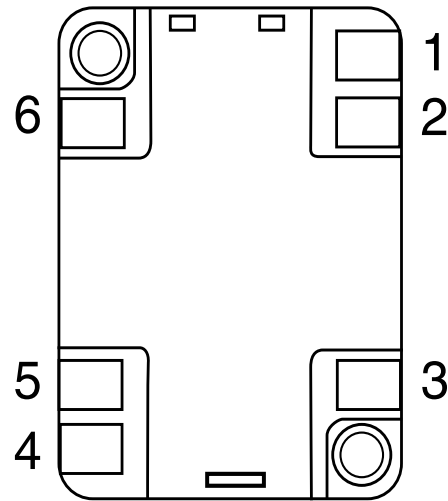
For signal wiring (the wiring between interconnected sensors or modules), it is recommended that the wire be no smaller than 18 gauge (1.0 square mm). Wire sizes up to 12 gauge (2.5 square mm) may be used with the base. For best system performance, relay wires and the communication circuit wires should be twisted pair or shielded cable installed in separate grounded conduit to protect the communication loop from electrical interference.

Make wire connections by stripping about ⅜” of insulation from the end of the wire. Then, slide the bare end of the wire under the clamping plate, and tighten the clamping plate screw. Do NOT loop the wire under the clamping plate (See Figure 3).

The zone wiring of the sensor base should be checked before the sensor heads are installed. Check the wiring for continuity and polarity in the base.

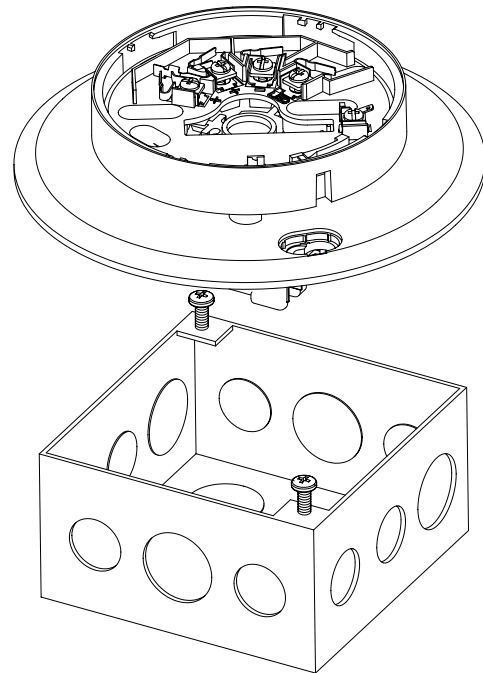
See the individual sensor manual for the maximum sensor installation temperature.

Figure 1. Terminal layout:



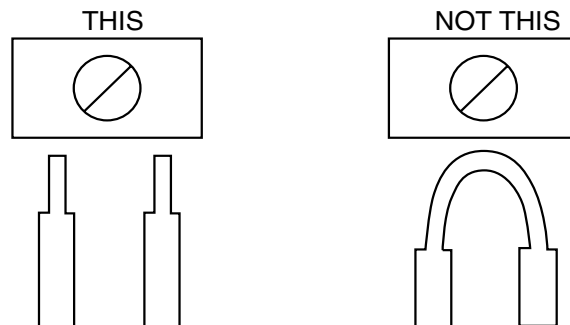
C0827-00

Figure 2. Mounting:



C0782-00

Figure 3:



C0737-00

Wiring Instructions



The base uses a latching relay that can change states if it is subjected to mechanical shocks or jarring. As a result, even though relay contacts are in the open state when the base is shipped from the factory, the contacts may have closed during shipping.

Connecting an auxiliary control circuit to closed relay contacts can cause unexpected, and possibly dangerous, activation of that circuit. Therefore, do NOT connect an auxiliary control circuit to the relay contacts (terminals 1, 2, and 3) before ensuring that the relay contacts are in their open state. Ensure that the contacts are open by applying power to the bases WITHOUT the sensor heads installed.

Wire the normally open (NO) line to terminal 1. Wire the normally closed (NC) line to terminal 2. Wire the relay common line to terminal 3. Wire the communication line (+) in/out to terminal 4. Wire the communication line (+) out/in to terminal 5. Wire the communication (-) in and out to terminal 6. See figure 4.

Check the zone wiring of all bases in the system before installing detector heads. This includes checking the wiring for continuity, correct polarity, ground fault testing, and performing a dielectric test.

A label is affixed to the base for recording the zone, address, and type of detector being installed at the base location. This information is useful for setting the detector head address and for verification of the sensor type required for that location.

Once all detector bases have been wired and mounted, and the loop wiring has been checked, the detector heads may be installed in the bases.

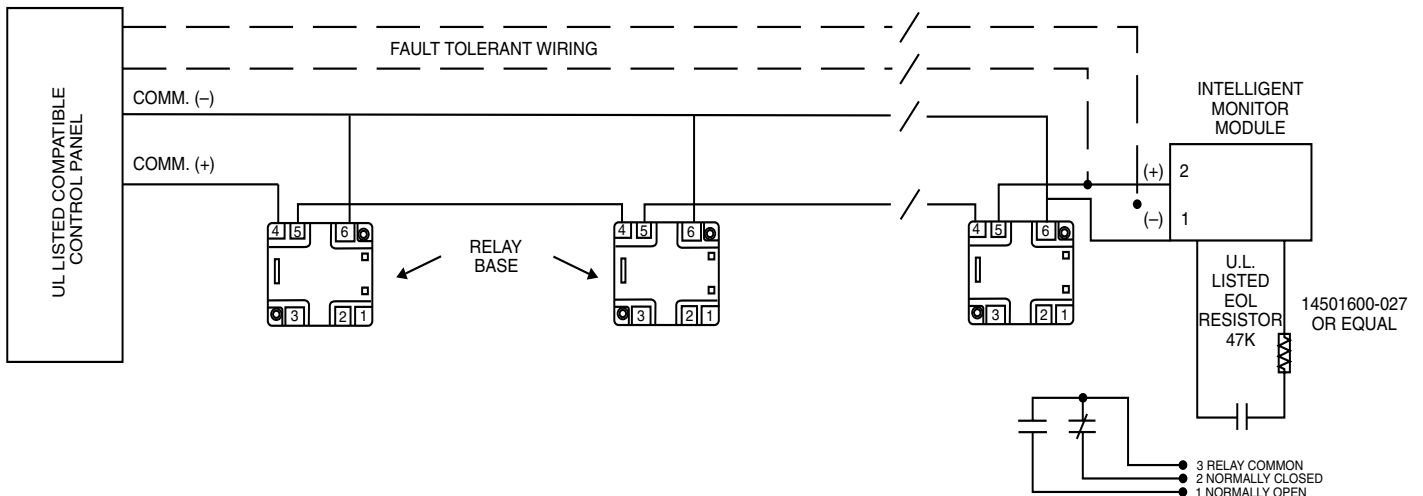
NOTE: A branch marker resistor should NOT be attached to the remote annunciator terminal of the EBR Relay Base.

Testing

NOTE: Before testing, notify the proper authorities that the smoke sensor system is undergoing maintenance and, therefore, will be temporarily out of service. Disable the system undergoing maintenance to prevent unwanted alarms.

Sensors and bases must be tested after installation and as an integral part of periodic maintenance.

Figure 4. Wiring Diagram:



C0828-00

Please refer to insert for the Limitations of Fire Alarm Systems

Three-Year Limited Warranty

System Sensor warrants its enclosed product 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 the enclosed product. 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 replacement of any part of the product 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 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.