INSTALLATION INSTRUCTIONS FOR RELAY DETECTOR BASES

ECO1000BREL12L ECO1000BREL12NL ECO1000BREL24L

Before installing detectors, please thoroughly read the System Sensor Guide to Conventional Fire Systems, which provides detailed information on detector spacing, placement, zoning, wiring, and special applications. Copies of this manual are available at no charge from System Sensor.

GENERAL DESCRIPTION

The plug-in detector base ECO1000BREL is used with System Sensor models ECO1000 series detector heads. The capability of plugging these detectors into a variety of special bases makes them more versatile than equivalent direct-wired models. Refer to the System Sensor catalogue for other available plug-in detector bases.

This ECO1000BREL base is intended for use in both 2-wire or 4-wire systems, with screw terminals provided for power and remote annunciator; relay contacts are available on the terminal block. Current limiting in the alarm state is provided by the circuit built into the base. The relay is controlled directly from the detector and therefore as the detector is latched in alarm, so will be the base. The alarm condition can only be terminated by removal of the supply to the detector and base.

SPECIFICATIONS

Base Diameter:	102.5 mm
Base Height:	33 mm
Weight:	70 g
Base fixing centres	50.8 - 60 mm
Cable entry area	616 mm^2
Operating Temperature Range:	-30°C to + 70°C
Operating Humidity Range:	5% to 95% Relative Humidity Non-condensing

Note: In order to prevent possible nuisance alarms due to shock or vibration, any devices connected to the ECO1000BREL12L base must not signal an alarm until the relay base contacts have switched for a period greater than 500mS.

ELECTRICAL RATINGS -	**ECO1000BREL24L**	**ECO1000BREL12NL**	**ECO1000BREL12L**
Supply Voltage DC	10 V - 15.0 V (Tab unbroken)	10 V - 15.0 V	9.5 - 15.0 V
Supply Voltage DC	15 V - 31.0 V (Tab broken)		
Standbycurrent	1µA	20µA	1µA
Remote output current	4.5mA	4.5mA	4.5mA
Contact activation time after Detector	100ms	100ms	100ms
Contact reset time after Detector unlatch	100ms	100ms	100ms
Contact resistance	100mΩ	100mΩ	100mΩ
Contact rating DC	1A	1A	1A

MOUNTING

These detector bases mount to typical junction boxes. Install the base to the box using the screws supplied with the junction box.

Visual Sighting of Detector Head LED

Mount Detector Base, using the Diode symbol to indicate position of Detector Head LED when secured to the Base see Figure 1

Note: The tab should be broken if the base is directly connected to a 24 V power supply. If the base is used on a fire alarm control panel, the tab will probably not need to be broken. Refer to the control panel manufacturer if in doubt. Once broken the tab cannot be reset !

WIRING INSTRUCTION GUIDELINES

All wiring must be installed in compliance with National regulations and proper wire gauges should be used. The conductors used to connect smoke detectors to control panels and accessory devices should be color-coded to prevent wiring mistakes. Improper connections can prevent a system from responding properly in the event of a fire.

For best system performance, alarm loop conductors should be installed in separate grounded conduit or shielded cable to protect the alarm loop from extraneous electrical interference.

Smoke detectors and alarm system control panels have specifications for allowable loop resistance. Consult the control panel manufacturer's specifications for the total wire resistance allowed for the particular model of control panel being used before wiring the detection zones.

WIRING INSTRUCTIONS

Wire connections are made by stripping about 1 cm of insulation from the end of the wire (use strip gauge moulded in base), sliding the bare end of the wire under the clamping plate, and tightening the clamping plate screw. For the wires to be connected to the relay contacts, the wires should be pushed into the terminal hole and held there whilst the clamping screw is tightened.

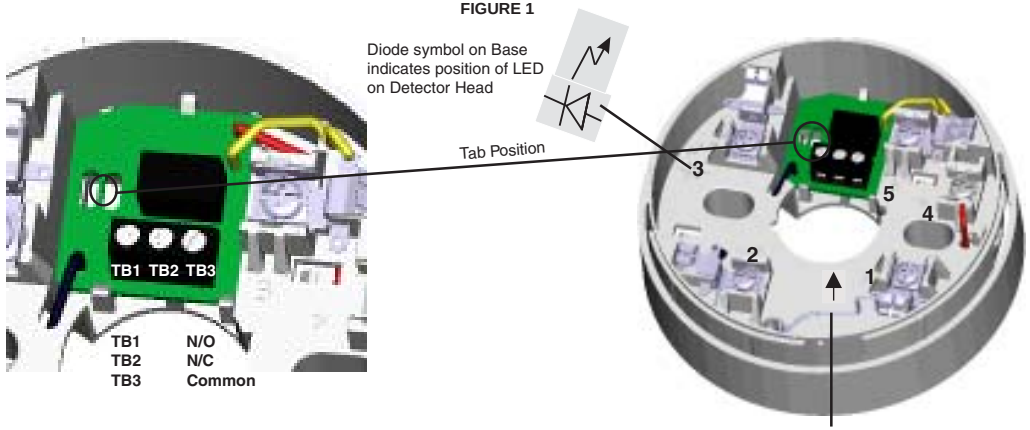
The zone wiring of the detector bases should be checked before the detector heads are installed. To make this possible, this base contains a special spring-type shorting jumper (shown in Figure 1). After a detector base is properly wired and mounted to an electrical box, make sure that the shorting spring is in contact with terminal 3. This temporary connection permits the wiring of the loop to be checked for continuity. The shorting spring shorts the negative-in and negative-out leads and will automatically disengage when a detector head has been inserted into the base and then removed. Once all the detector bases have been wired and mounted, and the loop wiring has been checked, the detector heads may be installed in the bases.

Breakout Tab Option

See Figure 1

When power to the ECO1000BREL24L is provided by a nominal 24V, or greater, power supply without current limiting (25mA or less) the tab should be broken using a suitable tool like a screwdriver or thin nose pliers to remove the narrow strip of circuit board, shown in the diagram. **Note: When power is provided by the Conventional circuit of a Fire Control Panel, the Tab should be left intact.**

FIGURE 1



BASE TERMINAL POSITIONING

See Figure 1

Note: For 4 - wire systems, use the relevant relay contacts TB1 - 3 to provide the alarm conditions

Base Wiring terminals are of the screw - clamp type and capable of accomodating wire sizes from 0.4mm^2 to 2.0mm^2

CAUTION: Do not loop wire under terminals. Break run to provide supervision of connections.

1) -VE IN, and Remote Output - VE

2) -VE OUT

3) Remote Output +VE

4) +VE IN, and +VE OUT

5) Not Used

FIGURE 2

TAMPER RESIST SHOWING SNAP OFF TAB

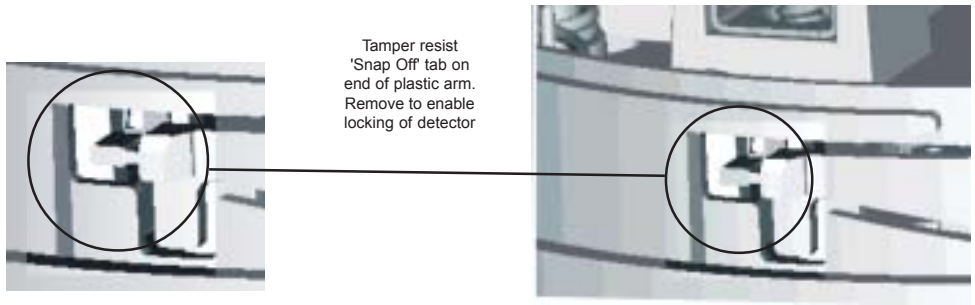


FIGURE 3

SECURING AND REMOVING DETECTOR HEAD FROM BASE

