

B424RL, B412RL AND B412NL RELAY BASES

FEATURES - B424RL

- 12V / 24V Operation
- Control of external equipment from 2-wire conventional fire alarm systems
- Normally open or normally closed relay contacts
- Interfacing with 4-wire 24V Fire alarm Systems
- Interfacing with 4-wire 12V Security Systems
- Can be used as a stand-alone system with 24V PSU
- Base / detector latch into alarm
- Accepts standard plug-in detectors
- Detector locking capability
- Remote LED connection



B424RL RELAY BASE

FEATURES - B412NL

- 12V Operation
- Normally open or normally closed relay contacts
- Interfacing with 4-wire 12V Security Systems (with or without reset facility)
- Can be used as a stand-alone system with 12V PSU
- Self-resetting relay for standard security zone operation
- Accepts standard plug-in detectors
- Detector locking capability
- Remote LED connection

FEATURES - B412RL

- 12V Operation
- Normally open or normally closed relay contacts
- Control of external equipment from 2-wire conventional fire alarm systems
- Interfacing with 4-wire 12V Security Systems (with reset facility)
- Can be used as a stand-alone system with 12V PSU
- Base / detector latch into alarm
- Accepts standard plug-in detectors
- Detector locking capability
- Remote LED connection

DESCRIPTION:

System Sensor's range of conventional relay bases can be used to interface smoke detectors to 4-wire security panels or to provide a relay output suitable for the operation of door-closers etc. when used with 2 wire fire alarm panels. The bases are compatible both with 4 wire security type systems using a normally closed contact and 4 wire fire alarm panels using a normally open contact.

When used with System Sensor 1151E and 2151E detectors, these bases are designed to replace the 1400, 1412, 1424, 2400, 2412 and 2424 direct wire smoke detectors.

To maximise their flexibility several versions of the base are available to ensure compatibility with the maximum number of control panels:

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B412NL Non-latching relay base. This base is designed for use in 12V 4 wire security systems which do not provide a reset facility. The B412NL automatically resets the smoke detector when a fire condition no longer exists. Because of the self-reset feature, this base is ideal for the control of electrical apparatus such as air conditioning systems in systems using a 12V power supply instead of a control panel. Current limiting in the alarm state is provided by the circuit built into the base. The product is self resetting from alarm and this is achieved by periodically removing the supply voltage from the detector and checking afterwards that the detector is still in alarm. While the detector is in alarm the LED will be on, although it will flash when the alarm check is performed.

B412RL Latching relay base. This base does not automatically reset the detector, allowing for easy identification of the detector which caused an alarm. This base can be used in 4 wire security systems with a reset facility. It can also be used to provide a relay output from a detector installed on a 24V 2 wire fire system using a series resistance greater than 470Ω .

B424RL latching relay base. This base is primarily intended for use to provide a relay output when used with a 24V fire alarm system, but can also be used with US-style 24V 4 wire fire alarm systems. It is fitted with a break off tab to allow it to be used with a wide range of control panels, or even to be powered directly from a 24V supply and used for localised equipment shut down. The break off tab should be broken when there is no limiting resistor in series with the 24V power supply to the base or when the value of the limiting resistor is less than 160Ω . System Sensor B424RL bases are designed for use with all System Sensor 100 and 400 series conventional smoke detectors and heat detectors. 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 too will be the base. The alarm condition can only be reset by interruption of the supply to the detector and base.

Start-up Time:	36s Maximum
Remote LED output Voltage:	3.0V
Remote LED output Current:	5mA
Relay Contact Type:	Form C (changeover contacts)
Relay Contact Ratings:	1.0A @ 30VDC resistive

MECHANICAL SPECIFICATIONS (ALL MODELS):

Base Diameter:	127mm
Base Height:	29mm
Weight:	96g
Base terminal cable size:	2.5mm ² Maximum
Terminal block cable size:	1.5mm ² Maximum (solid) 1mm ² Maximum (stranded)
Operating Temperature Range:	-20°C to +70°C
Operating Humidity Range:	0% to 93% Relative Humidity Non-condensing

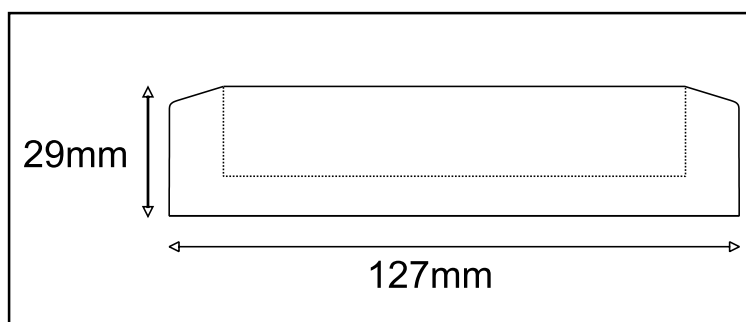


FIGURE 2.
DIMENSIONS

Base Compatibility Table

Nominal Panel Voltage	System Type	Panel Reset Facility	Panel Resistance	Suitable Base
12V	4 wire	No reset	N/A	B412NL
12V	4 wire	Reset	N/A	B412RL
24V	4 wire	Reset	N/A	B424RL (tab broken)
24V	2 wire	Reset	>470Ω	B412RL
24V	2 wire	Reset	<470Ω	B424RL
24V	2 wire	Reset	<160Ω	B424RL (tab broken)

ELECTRICAL SPECIFICATIONS (B424RL):

Input Voltage: 8.5V to 31.0V
 Maximum Ripple Voltage: 4V peak to peak
 Input Capacitance: 2 nF Maximum
 Standby Current: 1μA Maximum
 (detector not included)
 Alarm Rating: 25mA @ 12V
 Relay Contact Resistance: 100mΩ

ELECTRICAL SPECIFICATIONS (B412RL):

Input Voltage: 8.5V to 32.0V
 Maximum Ripple Voltage: 4V peak to peak
 Input Capacitance: 20 pF Maximum
 Standby Current: 1μA Maximum
 (detector not included)
 Alarm Rating: 45mA @ 12V
 Relay Contact Resistance: 100mΩ

ELECTRICAL SPECIFICATIONS (B412NL):

Input Voltage: 8.5V to 15.0V
 Maximum Ripple Voltage: 4V peak to peak
 Input Capacitance: 2 nF Maximum
 Standby Current: 20μA Maximum
 (detector not included)
 Alarm Rating: 45mA @ 12V
 Relay Contact Resistance: 100mΩ

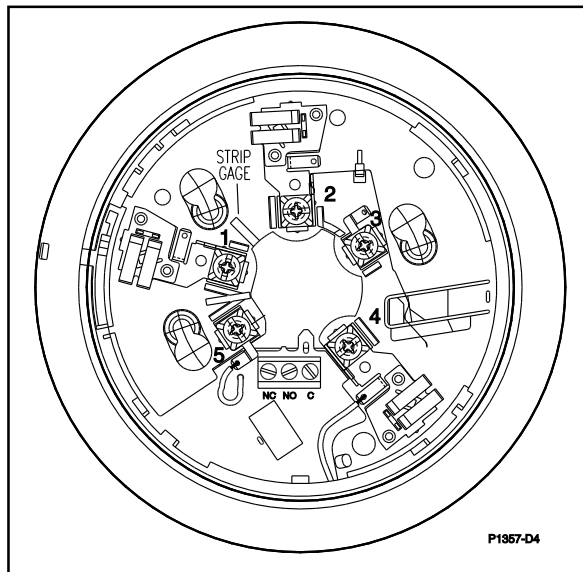
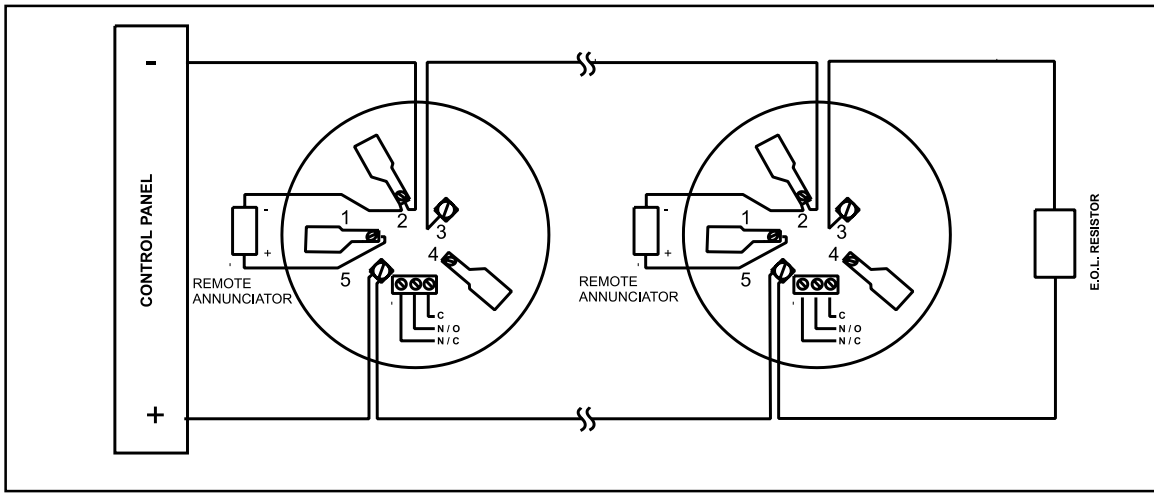
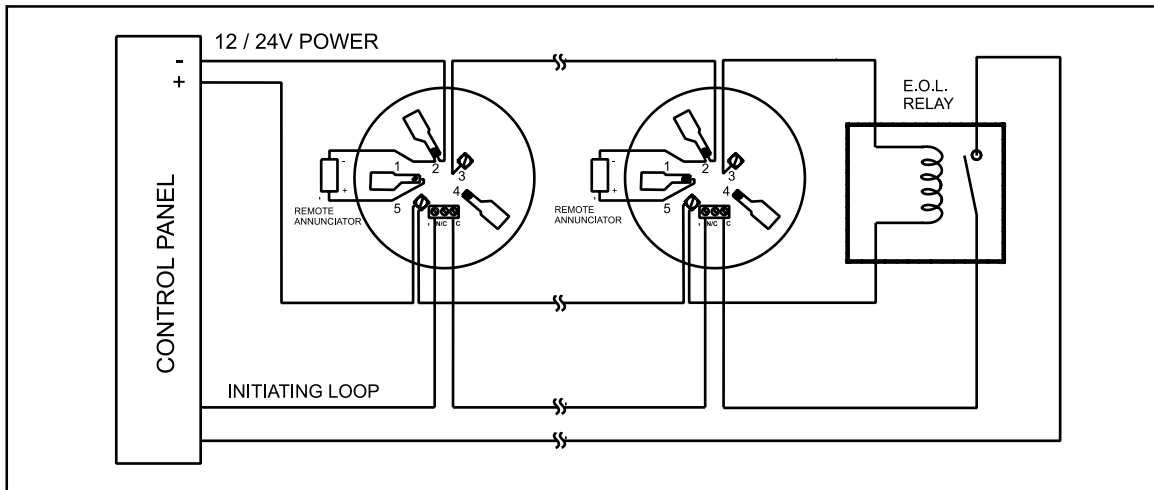


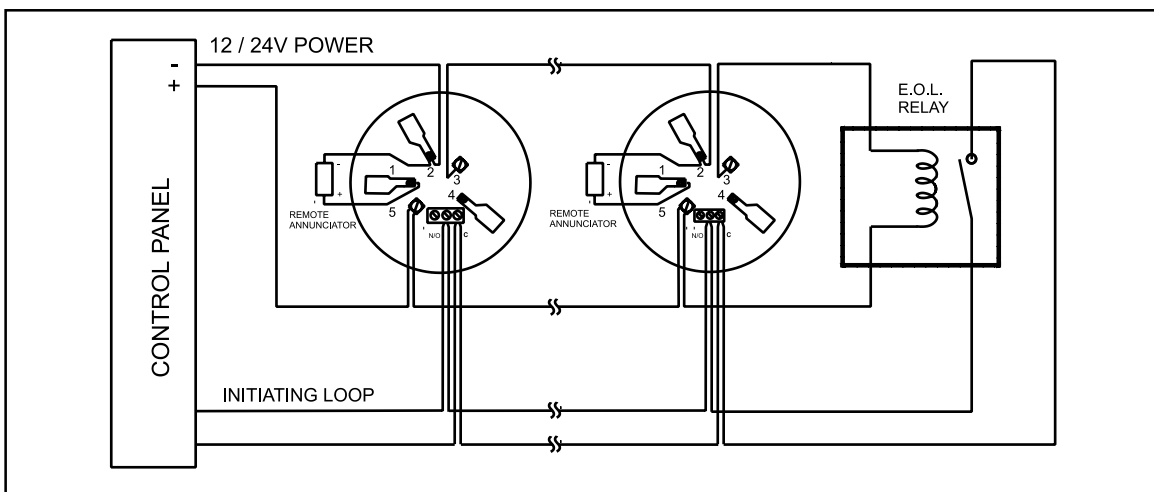
FIGURE 1.
 TERMINAL LAYOUT



Typical 2-wire system using B412RL / B424RL Relay Base



Typical 4-wire Security System with normally closed contacts using B412NL / B412RL Relay Base



Typical 4-wire Fire System with normally open contacts using B412RL / B424RL Relay Base