FireSpy®

HARRINGTON SIGNAL INC
FIRE ALARM

C-Spy

C-Spy Smoke Detectors and Bases

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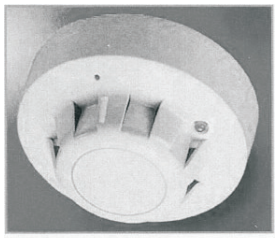
CS822 Photoelectric Smoke Detector

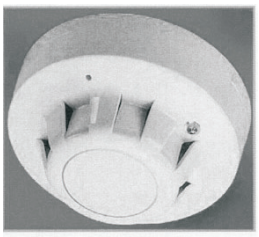
Photoelectric smoke detectors incorporate a LED located in a chamber within the housing of the detector. The chamber is designed to exclude light from any external source. At an angle to the LED is a photo-diode which normally does not register the column of light emitted by the LED. In the event of smoke from a fire entering the chamber, the light pulse from the LED will be scattered and hence registered by the photo-diode. If the photo-diode "sees" smoke on the two following pulses, the detector changes Into the alarm state and the indicator LED lights up. The detector housing is identical to that of the ionization detector but has an indicator LED which is clear in quiescent state but produces red light in alarm.



CS822

CS823 Ionization Smoke Detector

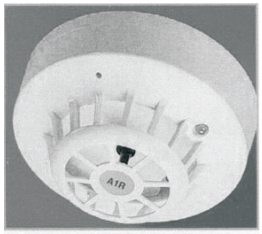
The sensing part of the detector consists of two chambers - an open, outer chamber and semi-sealed reference chamber within. Mounted in the reference chamber is a low activity radio-active foil of Americium 241 which enables current to flow between the inner and outer chambers when the detector is powered up. As smoke enters the detector, it causes a reduction of the current flow in the outer chamber and hence an increase in voltage measured at the junction between the two chambers. The voltage Increase Is monitored by the electronic circuitry which triggers the detector into the alarm state at a preset threshold. An externally visible red LED lights up when the detector changes to alarm state.



CS823

C-Spy Heat Detectors

The CS824, 825, and 826 heat detectors operate by using a matched pair of thermistors to sense heat. One thermistor is exposed to the ambient temperature, the other is sealed. In normal conditions the two thermistors register similar temperatures, but, on the development of a fire, the temperature recorded by the exposed thermistor will increase rapidly resulting in an imbalance, causing the detector to change into the alarm state, Rate-of-rise detectors are designed to detect a fire as the temperature Increases, but they also have a fixed upper limit at which the detector will go into alarm if the rate of temperature increase has been too slow to trigger the detector earlier. Externally, the heat detectors are distinguishable from the smoke detectors by having wide openings to the surrounding atmosphere to allow good movement of air around the external thermistor.



CS824, CS825, CS826

Ordering Information

Model Number	Part Number	Description
CS822	CS822	Photoelectric smoke detector
CS823	CS823	Ionization smoke detector
CS824	CS824	135F ROR and FIX Heat
CS825	CS825	170F ROR and FIX Heat
CS826	CS826	200F FIX Heat
CS827	CS827	4" Conventional - Standard relay
CS828	CS828	4" Conventional - Auxiliary contacts
CS829	CS829	4" Conventional - Relay - 12V EOL
CS830	CS830	4" Conventional - Relay - 24V EOL
CS831	CS831	4" Mounting base
CS832	CS832	6" Conventional E-Z Fit mounting base

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C-Spy Bases

The bases have been designed to enable detectors to be plugged in without any need for force - particularly useful when fitting to suspended ceilings. All C-Spy bases are lock-able. The standard conventional base 4' is CS831 6' is CS832.

Relay Bases

Application:
The C-Spy relay bases are primarily Intended for use with control units using 4-Wire detector supply and alarm initiating circuits. Where local codes allow, they may also be used in 2- and 4-Wire circuits to provide volt-free control signals to an auxiliary system such as an automatic door close. They are not suitable for use in systems where it is specified or required that operation of the auxiliary system shall be fail-safe.

Descripton

The C-Spy relay bases are designed for use with Harrington C-Spy fire detectors and compatible control equipment. They must not be used with any other type of detector.

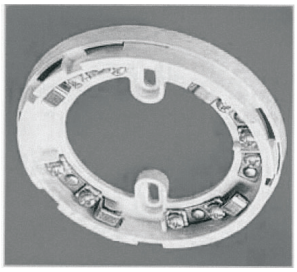
The standard relay base, CS827, provides one set of volt-free, changeover (form C) contacts that change state when the detector signals an alarm.

Auxiliary relay base, CS828 , provides two sets of volt-free changeover contacts to facilitate the switching of a remote LED or other auxiliary device,

EOL (end-of-line) relay bases are Intended for use with 4-Wre circuits and feature two sets of changeover contacts and a power supervision relay. The end-of-line device specified by the control unit manufacture should be connected across the terminals marked EOL - the EOL device will be connected across the initiating circuit when power is supplied to the detector. Part numbers: CS829, for circuits having a supply voltage between 9 and 18 volt DC and CS830 for circuits having a supply voltage between 16 and 33 volts DC.

Installation

Full installation, commissioning and maintenance instructions are included with C-Spy relay Bases.



Features of CS822

- Photoelectric
- Flashing LED
- Working Voltage: 9 to 33V
- Max. Alarm Current: 17mA at 9V, 52mA at 24V
- Surge Current: 0mA
- Supervisory Current: 40 – 50μA at 9V 45 – 55μA at 24V
- Test Method: Magnet or Gemini 501
- Installation Temp: Min. 32°F (0°C) Max. 140°F (60°C)

Features of CS823

- Ionization
- Flashing LED
- Working Voltage: 9 to 33V
- Max. Alarm Current: 17mA at 9V, 52mA at 24V
- Surge Current: 0mA
- Supervisory Current: 40 – 50μA at 9V 45 – 55μA at 24V
- Test Method: Magnet or Gemini 501
- Installation Temp: Min. 32°F (0°C) Max. 158°F (70°C)

Features of CS824-CS826

- Heat Rate-of-Rise/Fixed Temperature
- Flashing LED
- Working Voltage: 9 to 33V
- Max. Alarm Current: 17mA at 9V, 52mA at 24V
- Surge Current: 0mA
- Supervisory Current: 40 – 50μA at 9V 45 – 55μA at 24V
- Test Method: Magnet or hair dryer
- Installation Temp: Min. 32°F (0°C) Max. at least 20°F (11°C) below rating

Note:
When using a remote indicator, current limiting series resistor may be required.

NOTICE: The information contained in this document is intended only as a summary and is subject to change without notice. The devices described in this document have specific instruction sheets which cover various technical, limitation and liability information. Copies of these instruction sheets and the General Product Warning and Limitations Document, which also contains important information are provided with the product and are available from Harrington Signal Inc. Fire Alarm. Information contained in these documents should be consulted before specifying or using the product. For further information or assistance concerning particular problems contact Harrington Signal Inc. Harrington Signal Inc. Fire Alarm reserves the right to change specifications without notice.