



Model FB-2601G Smoke & Heat Detectors Conventional FB-CD Series® Product Family Overview

Overview

FireBus Conventional Detection Series (CDS) incorporates well-proven sensing technologies, together with advances in materials and electronics technology, including some of the same advanced circuits found in our FireBus-AP™ analog addressable detectors.

Having a wide operating voltage range of 9-33V the CDS products can be easily integrated into a wide range of applications when used with a relay base.

Ionization Smoke Detector

The sensing part of the detector consists of two chambers - an open, outer chamber and a semi-sealed reference chamber within. Mounted in the reference chamber is a low activity radioactive 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 an increase in the voltage measured at the junction between the two chambers. The voltage increase is monitored by the electronic circuitry which triggers the detector in to the alarm state at a preset threshold. An externally visible red LED lights up when the detector changes to alarm state.

Optical Smoke Detector

Optical smoke detectors incorporate a pulsing 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 registered by the photo-diode. If the photo-diode “sees” smoke on the two following pulses, 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 a red light when in alarm.



Heat Detector

These “Rate Of Rise” (ROR) 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. ROR 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.

FB-CD Series® Detector Bases

These bases have been designed to enable detectors to be plugged in without any need for force - particularly useful when fitting into suspended ceilings.



Figure 1 - Standard Base

The base contains no electronic parts which could be damaged during installation.

Relay bases are available to provide dry contact interfaces where required.

| FireBus Conventional Detection Series Specification Summary | Ionization Smoke Detector 7254-FBD-5226 | Optical Smoke Detector 7254-FBD-5326 | Heat Detector 7254-FBD-51XX |
|---|---|---|---|
| SUPPLY VOLTAGE | 9 a 33V | 9 to 33V | 9 to 33V |
| AVG. NORMAL CURRENT AT 24 VDC | 45µA | 45µA | 55µA |
| AVG. NORMAL CURRENT AT 9 VDC | 21µA | 40µA | 50µA |
| ALARM CURRENT AT 24 VDC | 52mA | 52mA | 52mA |
| ALARM CURRENT AT 9 VDC | 17mA | 17mA | 17mA |
| ALARM VOLTAGE | 6 to 33V | 6 to 28V | 6 to 28V |
| RIPPLE VOLTAGE | 2V peak to peak maximum at 0.1Hz to 100kHz | 2V peak to peak maximum at 0.1Hz to 100kHz | 2V peak to peak maximum at 0.1Hz to 100kHz |
| ALARM INDICATION | Red Alarm LED | Clear LED, Red in Alarm | Red Alarm LED |
| NORMAL OPERATING TEMPERATURE | -4 ° F (-20 ° C) to 140 ° F (+60 ° C) | -4°F (-20°C) to 140°F (+60°C) | -4 ° F (-20 ° C) a 140 ° F (+60 ° C) |
| MAXIMUM WIND - CONTINUOUS | 1920 ft / min (10 m / seg) | Not affected | Not affected |
| IP RATING | 23D in accordance with BS EN 60529 | 23D in accordance with BS EN 60529 | 23D in accordance with BS EN 60529 |
| DIMENSIONS | Detector: 100x42mm Detector in Base: 100x50mm | Detector: 100x42mm Detector in Base: 100x50mm | Detector: 100x42mm Detector in Base: 100x50mm |
| WEIGHTS | Detector: 102g Detector in Base: 153g | Detector: 99g Detector in Base: 150g | Detector: 80g Detector in Base: 131g |
| MATERIALS | Detector housing: White polycarbonate rated V-0 in accordance with UL 94. Terminals: Nickel plated stainless steel | Detector housing: White polycarbonate rated V-0 in accordance with UL 94. Terminals: Nickel plated stainless steel | Detector housing: White polycarbonate rated V-0 in accordance with UL 94. Terminals: Nickel plated stainless steel |
| HUMIDITY | 0% to 95% relative humidity | 0% to 95% relative humidity | 0% to 95% relative humidity |
| ATMOSPHERIC PRESSURE | Automatic compensation by dual chambers to maintain sensitivity up to a height of 2000m | Unaffected | Unaffected |
| WIND SPEED | 10m/s maximum Nominal threshold Y value of 0.7 to EN 54-7: 2000 | Insensitive to wind Nominal alarm threshold of 0.15dB/m obscuration, measured in accordance with EN 54-7: 2000 | Insensitive to wind N/A |

Ordering information:

7254-FBD-5226 & 5227 Ionization Smoke Detector
7254-FBD-5326 & 5327 Optical Smoke Detector
7254-FBD-5139 & 5140 Heat Detector (135°F)
7254-FBD-5142 & 5143 Heat Detector (170°F)
7254-FBD-5145 & 5146 Heat Detector (200°F)

7254-FBD-4255

4 inch Relay Base Standard

Note: Each detector type has two versions, the ones ending with an even number have the flashing LED option.