

International Safety Technology Limited



FIRE RAY

F2000 Series Conventional Infrared Optical Beam Smoke Detectors

Features

- Range 10-100 metres
- 11.5-28V D.C. Operating Voltage
- Low current consumption
- Automatic self check drift compensation
- Selectable sensitivity/threshold levels
- Ground level control unit
- Small, unobtrusive transmitter and receiver heads
- Complies with BS5839 part 5
- World-Wide approvals including VdS and UL

General Descriptions

The F2000 series conventional infrared optical beam smoke detectors are very economical and effective for the protection of large, open plan spaces with high ceilings, particularly if access to 'point type' smoke detectors, for routine maintenance purposes, presents practical difficulties.

Optical beam smoke detectors are ideally suited for protecting warehouses, factories, atria, shopping malls, leisure centres, churches, museums, power stations and industrial plants. The F2000 optical beam smoke detectors, together with a battery backed power supply, can be connected to a zone of a conventional fire alarm control panel or interfaced to an analogue-addressable system via an addressable input module or a zone monitor module.

The F2000 optical beam smoke detectors have three selectable 'Alarm Thresholds' settings of 25%, 35% and 50% which can be selected to suit the environment; if the received infrared signal reduces to below the selected threshold and is present for approximately 10 seconds, the fire relay is activated.

There are two modes to the operation of the fire

relay. 'Auto Reset Mode' will reset the fire relay approximately 5 seconds after the received infrared signal has recovered to a level above the alarm threshold.

'Latching Mode' holds the fire relay active indefinitely after an alarm condition has occurred. If the infrared beam is obscured rapidly to a level of 93% or greater for approximately 10 seconds the fault relay is activated. This condition can be achieved in a number of ways, for example, an object being placed in the beam path, transmitter failure or sudden misalignment of the detector. The fault relay will reset within approximately 4 seconds of the condition being rectified.

The F2000 optical beam smoke detectors monitor long term degradation of signal beam strength caused by the build up of dirt on its optical surfaces; this operates by comparing the received infrared signal against a voltage reference every 1.5 hours.

An optional Electronic Alignment Aid is available for use with the FireRay 2000 optical beam smoke detectors. The Alignment Aid 'assists' the installer to correctly align the F2000 optical beam smoke detector.

data

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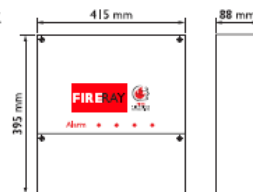
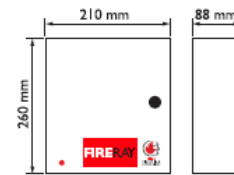
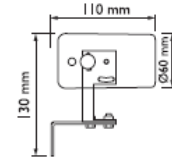
Installation Recommendations

The installation of the FIRERAY infrared optical beam smoke detector should be undertaken in accordance with recognised national or international standards and codes of practice. Please refer to our installation guide number/reference 22318. We also recommend simulated tests are conducted to ensure the desired response time, for a given installation, are met.

Technical Specification

Operating Range:	10 to 100 Metres.
Operating Voltage Range:	11.5V DC to 28V DC.
Transmitter Current:	<1.6 to 5.6mA.
Quiescent Current (Controller includes receiver):	<8mA @24V DC.
Alarm Current (Controller includes receiver):	<16.5mA @24V DC.
Fault Current (Controller includes receiver):	<16.5mA @24V DC.
Power Down Reset Time:	>5 seconds.
Fire Relay Contacts:	Normally Open,VFCO 2A @ 30 Volts DC, resistive.
Fault Relay Contacts:	Normally Closed,VFCO 2A @ 30 Volts DC, resistive.
Operating Temperature:	-20°C. to +55°C. (non-condensing).
Receiver Tolerance to Beam Misalignment at 35%:	±4°.
Transmitter Tolerance to Beam Misalignment at 35%:	±1°.
Fire Alarm Thresholds:	1.25dB (25%), 1.87dB (35%), 3dB (50%).
Optical Wavelength:	880nm.
Control Unit Dimensions (Single Channel):	Width 210mm, Height 265mm, Depth 88mm.
Control Unit Dimensions (3/4 Channel):	Width 415mm, Height 395mm, Depth 88mm.
Transmitter & Receiver Dimensions (inc. brackets):	Width 83mm, Height 95mm, Depth 101mm.
Weight (Control Unit, Single Channel):	1.8Kgs.
Weight (Control Unit, 3 Channel):	8Kgs.
Weight (Control Unit, 4 Channel):	8.1Kgs.
Weight (Transmitter & Receiver inc. brackets):	650 gms.
LED Indications (Control Unit):	<p>Red LED (Located on the door): Indicates FIRE.</p> <p>Continuous Yellow (Located inside unit): Indicates FAULT.</p> <p>Alarm Condition: Indicated by fire relay operating. Alarm may be latching or non-latching (default).</p> <p>LED 1 Green and LED 2 Green.</p>
Signal High/Signal Low Alignment LEDs:	LED 1 Green and LED 2 Green.
Fuse Protection:	100mA per channel.
IP Rating:	IP50.
Relative Humidity:	RH 0% to 90%, (non-condensing).
Approvals/Certification:	<p>Designed, manufactured and certified to BS5839 Part 5, Use 25% and 35% (default) thresholds. The threshold of 50% is recommended for hostile and extreme environments.</p> <p>F2000 Vds: Vds Certificate No:Vds G297058.</p> <p>F2000 UL: UL Listed.S3417Vol. 1.</p> <p>F2000 CPD: CPD Certificate No: 0786-CPD-20196.</p>
Parts List: (Single channel):	1 x Transmitter (clear lens), 1 x Receiver (dark lens), 1 x Control Unit, 2 x Right Angle Bracket, 4 x Bolts & Washers and 1 x Test Filter.
(Three channel):	3 x Transmitters (clear lens), 3 x Receivers (dark lens), 1 x Three Channel Control Unit, 6 x Right Angle Bracket, 12 x Bolts & Washers and 1 x Test Filter.
(Four channel):	4 x Transmitters (clear lens), 4 x Receivers (dark lens), 1 x Four Channel Control Unit, 8 x Right Angle Bracket, 16 x Bolts & Washers and 1 x Test Filter.
Housing Construction (Controller):	Double pressed sheet steel, colour white RAL9010.
Housing Construction (Transmitter/Receiver):	Zinc Alloy, colour white RAL9010.

Dimensions



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