



NOTIFIER[®]
by Honeywell

990-133, Issue 1 October 2007

SMART³ - IRX-751TEM

Multi-Criteria Fire Sensor

Section: Intelligent/Addressable
Devices

FEATURES

- **Unique, true three sensor Multi-criteria detector**
- **Fully integrated Infra Red sensor to support the fire alarm decision**
- **Highest possible immunity to unwanted alarms**
- **Automatic drift compensation of smoke sensor**
- **Twin LED indicators providing 360° visibility**
- **Wide temperature range**
- **Built in test switch**
- **Stable communication with high noise immunity**

SMARTTM
Self-optimising
Multi-criteria
Alarm
Recognition
Technology



GENERAL

The SMART³ combines 3 separate sensing elements to act as a single unit. IR sensing for measuring ambient light levels and flame signatures, optical smoke detection and heat detection.

Improvement in speed and reliability of detecting actual fires and reduction of false alarm rates has been the primary driver for the smoke detector manufacturing industry for some years. While the optical smoke detector is acknowledged as the most effective technology, combining good all-round performance with realistic costs, it suffers from a number of well known and documented shortcomings that tend to result in unacceptable levels of false alarms if the device is installed in inappropriate environments.

Developments such as drift compensation that will automatically adjust the detectors sensitivity to counteract the effects of settling dust are now more or less provided by everyone and have improved the false alarm resilience, but the technology's major weakness is the relatively insensitivity to fast flaming fires that emit small combustion particles.

Without doubt, the ionisation detector is an extremely effective device for the rapid detection of fast developing flaming fires and, if it were not for the environmental



pressure and increasing legislation surrounding the use of radioactive material in smoke detectors, it would continue to occupy an important place in the fire detection portfolio.

The challenge, partially answered by the introduction of the optical-thermal detector, is therefore to produce a cost-effective alternative that will offer equivalent detection performance at the flaming end of the fire spectrum and will also match the ionisation detector's high false alarm immunity to common nuisance sources. The optical-thermal detector went some way towards achieving this objective; SMART³ takes another major step forward.

By utilising optical smoke sensing in conjunction with heat sensors, infra-red flame sensing technology and sophisticated alarm algorithms, SMART³ is capable of offering a fast response to a broad range of fires whilst simultaneously offering superior false alarm immunity. With a powerful on board processor,

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SMART³ is also capable of rejecting causes of false alarms due to activities such as welding and steel cutting.

With the infra-red sensor 'seeing' into the room, SMART³ does not need to rely on flames producing enough heat at the sensor to initiate an alarm. This reduces reaction time to a minimum, gaining vital minutes in preventing the spread of these flaming fires.

INSTALLATION

The IRX-751TEM plug-in Optical, Thermal, IR Multi sensor uses a common base to simplify installation, service, and maintenance.

A special tool allows maintenance personnel to plug-in and remove detectors without using a ladder.

Mounting hardware and installation instructions are provided with each device.

SPECIFICATIONS

- **Operating Voltage Range**

✓ 15 to 32 Vdc

- **Maximum Standby Current**

✓ 200µA @ 24 Vdc (no communications)

- **Maximum Alarm Current**

✓ 7mA @ 24 Vdc

- **Temperature Range**

✓ -20°C to 55°C

- **Humidity**

✓ 15 to 90% relative humidity (non-condensing)

- **Height**

✓ 66mm installed in B501 base

- **Diameter**

✓ 102mm installed in B501 base

- **Weight**

✓ 176g (inc base)

- **Max Wire Gauge for Terminals**

✓ 2.5mm²

- **Colour**

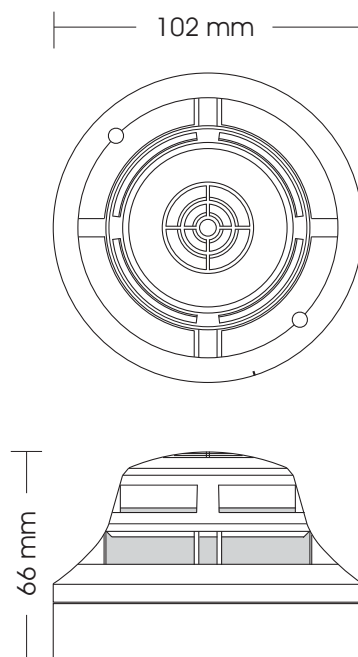
✓ Ivory

- **Material**

✓ Bayblend FR110

- **IR Limits**

✓ 0-450uW/cm²



ORDERING INFORMATION

| Part No. | Description |
|--------------|---|
| IRX-751TEM | Low Profile Multi Criteria Analogue Addressable Fire Sensor |
| Base: | |
| B501 | Standard Sensor Base. |
| B524IE | Isolator Base. |
| B524IEFT-1 | FET Isolator Base. |
| B524RE | Relay Base. |

A range of sounder bases also available.

Accessories:

| | |
|--------|---|
| SMK400 | Surface mounting kit provides for entry of surface wiring conduit. For use with B501 base only. |
| RMK400 | Recess mounting kit. For use with B501 base only. |

