Delivering a totally new detector platform..

...incorporating an advanced digital protocol.

S200A incorporates major hardware and software technology driven developments. A completely new optical chamber design is proven in extensive testing to be more efficient, less liable to is proven in extensive testing to be more efficient, less liable to false alarm due to dust and insects and less susceptible to fault in high air velocities or back pressure. Extensive hydrodynamic modelling has confirmed the greater efficiency of the new chamber and housing shape combination. Large-scale integration of the all-new electronics, through the fully automated surface mount PCB assembly, coupled with in-line testing through the manufacturing process, laser PCB cutting along with a completely new compound of plastic offers improved quality and reliability

All S200A detectors are environmentally friendly and meet the WEEE and RoHS legislative requirements, minimising end of life disposal costs, and are mechanically and electrically backwards compatible with existing devices.

MORLEY IAS
FIRE SYSTEMS
by Honeywell

Honeywell Fire Safety MEA
Emaar Business Park, Building 2
2nd Floor, Ofifce No. 201 Sheikh Zayed Road
P.O.Box 232362, Dubai, U.A.E
T: +971 4 4505 800 F: +971 4 4505 900

Features

- **Available with or without short circuit isolation**
- **Isolator per device allows faster, more precise fault finding**
- **Rotary decade address switches**
- **Ivory colour to harmonise with the modern built environment**
- **100% mechanical and electrical backwards compatibility**
- **New base design to complement the detector and ease installation and wiring**

S200A
Detector range
Data Sheet

602_0410

Product Range

The family consists of six detection devices: three heat detectors (58° and 78° fixed temperature, and rate of rise), an optical smoke, a photo-thermal multi-sensor and a photo-thermal, infra-red multi-sensor. All six devices come with or without electrical short circuit isolation and the new Advanced Protocol. In addition to the new family of devices, a new installation base that makes the installation process far easier and quicker, replaces the previous versions.

Part Numbers

Description	Colour	PartNumber
Smoke Sensor	Ivory	MI-PSE-S2-IV
Smoke Sensor with Isolator	Ivory	MI-PSE-S2I-IV
Photo-Thermal Multi-Sensor	Ivory	MI-PTSE-S2-IV
Photo-Thermal Multi-Sensor with Isolator	Ivory	MI-PTSE-S2I-IV
Smoke/Thermal/IR Sensor	Ivory	MI-PTIR-S2-IV
Smoke/Thermal/IR Sensor with Isolator	Ivory	MI-PTIR-S2I-IV
58°C Thermal Sensor	Ivory	MI-FHSE-S2-IV
58°C Thermal Sensor with Isolator	Ivory	MI-FHSE-S2I-IV
78°C Thermal Sensor	Ivory	MI-HTSE-S2-IV
78°C Thermal Sensor with Isolator	Ivory	MI-HTSE-S2I-IV
Rate of Rise Thermal Sensor	Ivory	MI-RHSE-S2-IV
Rate of Rise Thermal Sensor with Isolator	Ivory	MI-RHSE-S2I-IV

FireSystemCompatibility

Morley-IAS is fully committed to offering practical solutions and supporting products that enhance your buildings control systems.

For further details on these or any other Morley-IAS product please contact your local distribution point, Morley-IAS business manager or via our contact details below.

Morley-IAS by Honeywell a real choice for fire solutions.

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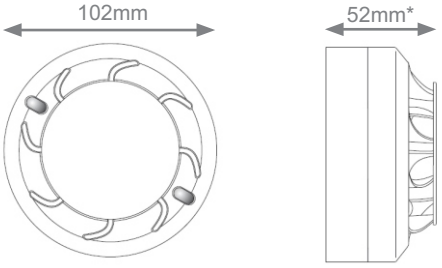
Specifications

MI-PSE-S2 & MI PSE-S2I - Photoelectric Smoke Detectors

The S200A photoelectric smoke detector has a completely new detection chamber design, the result of many years of research and development. This delivers improved responsiveness, reduced sensitivity changes caused by settling dust and reduced false alarms resulting from ingress of insect and other debris. The plug-in unit uses sophisticated processing circuitry that incorporates smoothing filters to help eliminate transient environmental noise conditions that can be the cause of unwanted alarms. The devices are managed by embedded software running complex algorithms that further improve resilience to false alarms and improve detection speed.

The MI-PSE-S2 has two integral red LEDs that provide 360° local visual indication of the device status.

Mechanical Specification



Height	52mm installed in B501AP base
Diameter	102mm installed in B501AP base
Weight	97g (inc base)
Max Wire Gauge for Terminals	2.5mm^2
Colour	White
Material	PC/ABS

*Note * When installed in a B501AP base*

† Do not install detectors in locations where normal ambient temperature exceeds 50°C

Electrical Specifications - Non-Isolated Product (MI-PSE-S2)

Operating Voltage Range	15 to 32Vdc
Maximum Standby Current	200µA at 24Vdc (no communications) / 300µA at 24Vdc (LED blink enabled, once every 5s)
Led Current	3.5mA at 24Vdc
Remote Out put Voltage	22.5Vdc @ 24Vdc
Remote Output Current	10.8mA @ 24Vdc
Additional loop resistance using the B501AP	typ 20mohm (max 30 mohm)

Electrical Specifications - Isolator Version (only found in MI-PSE-S2I)

Operating Voltage Range	15 to 28.5Vdc
Isolation Current	15mA at 24Vdc
Maximum Continuous Current	1A (Switch Closed)
Additional Loop Resistance	typ 80 mohm @24V (max 170mohm @ 15V)

Environmental Specifications

Temperature Range	-30°C to +70°C †
Humidity	10 to 93% relative humidity (non-condensing)

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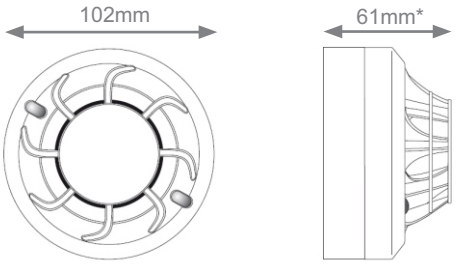
Specifications

MI-PTSE-S2 & MI-PTSE-S2I - Photoelectric Smoke / Thermal Multi-Criteria Fire Detectors

The S200A multi-criteria, multi-sensor, photo, thermal detector uses thermal assistance to the core photoelectric smoke detector to give enhanced false alarm immunity and faster response to a wide range of incipient fires. The plug-in unit combines two separate sensing elements that are managed by embedded software to act as a single unit. The MI-PTSE-S2 conforms to EN54-7, a 58°C fixed temperature and rate of rise thermal assistance conforming to EN54-5. The thermal detection function combines thermistor technology with a software corrected linear temperature response. In areas where the normal daytime activities may potentially create unwanted alarms, the detector can be programmed to operate in a “heat only” mode, automatically reverting to full photo-thermal operation during unoccupied periods.

The sensing elements of the MI-PTSE-S2 are panel controllable so the sensitivity thresholds of each element can be changed by the panel offering the ability to customise the device for the changing use of the area it is protecting. The detector has two integral red LEDs that provide 360° local visual indication of the device status.

Mechanical Specification



Height	61mm installed in B501AP base
Diameter	102mm installed in B501AP base
Weight	99g (inc base)
Max Wire Gauge for Terminals	2.5mm^2
Colour	White
Material	PC/ABS

*Note * When installed in a B501AP base*

† Do not install detectors in locations where normal ambient temperature exceeds 50°C

Electrical Specifications - Non-Isolated Product (MI-PTSE-S2)

Operating Voltage Range	15 to 32Vdc
Maximum Standby Current	200µA at 24Vdc (no communications) / 300µA at 24Vdc (LED blink enabled, once every 5s)
LED Current	3.5mA at 24Vdc
Remote Output Voltage	22.5Vdc @ 24Vdc
Remote Output Current	10.8mA @ 24Vdc
Additional Loop Resistance Using The B501AP	typ 20mohm (max 30 mohm)

Electrical Specifications - Isolator Version (only found in MI-PTSE-S2I)

Isolator Operating Voltage Range	15 to 28.5Vdc
Isolation Current	15mA at 24Vdc
Maximum Continuous Current	1A (switch closed)
Additional Loop Resistance	typ 80 mohm @ 24V (max 170mohm @ 15V)

Environmental Specifications

Temperature Range	-30°C to +70°C †
Humidity	10 to 93% relative humidity (non-condensing)

Sensitivity Settings

Alarm Level 1	1%/ft smoke
Alarm Level 2	2%/ft smoke
Alarm Level 3	3%/ft smoke
Alarm Level 4	3%/ft smoke
Alarm Level 5	3%/ft smoke
Alarm Level 6	ClassA1R

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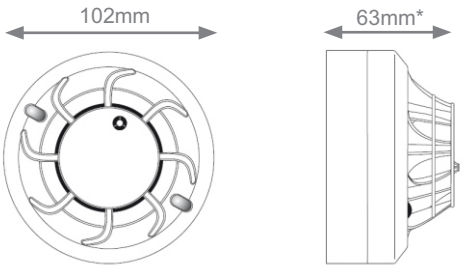
Specifications

MI-PTIR-S2 & MI-PTIR-S2I Photoelectric, Thermal & Infra-red Multi-Criteria Fire Detectors

The S200A multi-criteria, multi-sensor, photo, thermal and infra-red detector is the environmentally friendly alternative to the ionisation detector, a technology that is now over sixty years old. The MI-PTIR-S2 offers comparable speed of response to the ionisation technology for a fast flaming fire and is less susceptible to false alarms. It can be deployed with confidence in locations where the main risk is from fast-developing flaming fires. MI-PTIR-S2 moves the goal posts in the fight against false alarms by delivering enhanced false alarm immunity. In addition to being an effective alternative to ionisation units, MI-PTIR-S2 offers better performance over the alternative technologies of dual angle or dual wavelength optical detectors and photo-thermal detectors.

The integration of continual monitoring for all three major elements of a fire enables the MI-PTIR-S2 to respond far more quickly to an actual fire and has the highest immunity to nuisances. Based upon the sensor signals, the program dynamically changes sensor thresholds, sensor gain, time delays, combination, sampling rates, averaging rates and, if any sensor fails, changing sensitivity of the remaining sensors as well as indicating a fault condition. The detector has two integral red LEDs that provide 360° local visual indication of the device status.

Mechanical Specification



Height	63mm installed in B501AP base
Diameter	102mm installed in B501AP base
Weight	102g (inc base)
Max Wire Gauge for Terminals	2.5mm^2
Colour	White
Material	PC/ABS

*Note * When installed in a B501AP base*

† Do not install detectors in locations where normal ambient temperature exceeds 50°C

Electrical Specifications - Non-Isolated Product (MI-PTIR-S2)

Operating Voltage Range	15 to 32Vdc
Maximum Standby Current	200µA at 24Vdc (no communications) / 300µA at 24Vdc (LED blink enabled, once every 5s)
LED Current	3.5mA at 24Vdc
Remote Output Voltage	22.5Vdc @ 24Vdc
Remote Output Current	10.8mA @ 24Vdc
Additional Loop Resistance Using The B501AP	typ 20 mohm (max 30 mohm)

Electrical Specifications - Isolator Version (only found in MI-PTIR-S2I)

Isolator Operating Voltage Range	15 to 28.5Vdc
Isolation Current	15mA at 24Vdc
Maximum Continuous Current	1A (Switch Closed)
Additional Loop Resistance	typ 80 mohm @ 24V (max 170mohm @ 15V)

Environmental Specifications

Temperature Range	-30°C to +70°C †
Humidity	10 to 93% relative humidity (non-condensing)

Sensitivity Settings

Alarm level 1	Low false alarm resistance, high photoelectric only sensitivity. 1%/ft smoke
Alarm level 2	Medium false alarm resistance, medium photoelectric only sensitivity. 2%/ft smoke
Alarm level 3	Standard false alarm resistance, low photoelectric only sensitivity. 3%/ft smoke
Alarm level 4	High false alarm resistance, low photoelectric only sensitivity. 3%/ft smoke
Alarm level 5	Very high false alarm resistance, low photoelectric only sensitivity. 3%/ft smoke
Alarm level 6	Heat sensor - Class A1R

Note: The panel threshold should be chosen according to the specific environment.
The following would be Morley-IAS's recommendations: Ultra-clean applications use Level 1 for pre alarm or alarm. Clean Applications use Level 1 for pre alarm and Levels 2 & 3 for alarm. Moderate environments use Level 1,2 or 3 for pre alarm and Level 4 for alarm. Harsh environments use Level 2 or 3 for pre alarm and Levels 5-6 for alarm

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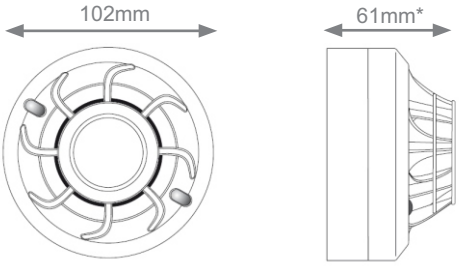
Specifications

MI-RHSE-S2, MI-FHSE-S2, MI-HTSE-S2 - Thermal Sensors

The MI-FHSE-S2 and MI-HTSE-S2 are fixed temperature analogue addressable sensors employing low mass thermistors and microprocessor technology for fast response and linear temperature sensing. Their linear response allows these sensors to be used to signal temperatures over the range of 58°C (Class A1S) to 78°C (Class BS). The MI-RHSE-S2 uses the same thermistor and microprocessor technology to provide an alarm when the rate of rise in temperature exceeds 10°C/minute (typical) or if the temperature exceeds a threshold of 58°C (Response Class A1R). With the implementation of the advanced protocol, any model can be software configured to be either a fixed 58°C, a fixed 78°C unit or a 58°C with rate of rise device. For backwards compatibility and approval continuity, three separate versions continue to be available as separate part numbers. The detectors have two integral red LEDs that provide 360° local visual indication of the device status.

Mechanical Specification



Height	61mm installed in B501AP base
Diameter	102mm installed in B501AP base
Weight	88g (inc base)
Max Wire Gauge for Terminals	2.5mm^2
Colour	White
Material	PC/ABS

*Note * When installed in a B501AP base*

† Do not install detectors in locations where normal ambient temperature exceeds 50°C

Electrical Specifications - Non-Isolated Product (MI-RHSE-S2, MI-FHSE-S2, MI-HTSE-S2)

Operating Voltage Range	15 to 32Vdc
Maximum Standby Current	200µA at 24Vdc (no communications) / 300µA at 24Vdc (LED blink enabled, once every 5s)
LED Current	3.5mA at 24Vdc
Remote Output Voltage	22.5Vdc @ 24Vdc
Remote Output Current	10.8mA @ 24Vdc
Additional Loop Resistance Using The B501AP	typ 20 mohm (max 30 mohm)

Electrical Specifications - Isolator Version (only found in MI-RHSE-S2I, MI-FHSE-S2I, MI-HTSE-S2I)

Isolator Operating Voltage Range	15 to 28.5Vdc
Isolation Current	15mA at 24Vdc
Maximum Continuous Current	1A (Switch Closed)
Additional Loop Resistance	typ 80 mohm @24V (max 170mohm @ 15V)

Environmental Specifications

Temperature Range	-30°C to +70°C †
Humidity	10 to 93% relative humidity (non-condensing)

Heat Detector Performance

MI-RHSE-S2	Class A1R: 58°C fixed temperature and rate of rise
MI-FHSE-S2	Class A1S: 58°C fixed temperature
MI-HTSE-S2	Class BS: 78°C fixed temperature

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