

HM Detectors Data Sheet

Delivering a modern fire detector platform, incorporating an advanced digital protocol

Honeywell Morley-IAS HMSeries detectors incorporate modern hardware and software technology driven developments. An advanced optical chamber design is proven in extensive testing to be more efficient, less liable to false alarm from 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 chamber and housing shape combination. Large-scale integration of the 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 detectors are environmentally friendly and meet the WEEE and RoHS legislative requirements, minimising end of life disposal costs.

PRODUCT RANGE

The family consists of four detection devices: two heat detectors (58° and a rate of rise), an optical smoke, and a photo-thermal multi-sensor. The detector base makes the installation process easy and quick.

These sensors are designed for open area protection and must only be connected to fire alarm panels that use a compatible proprietary communication protocol for monitoring and control (DXc panels R7, 8, 9).



Features & Benefits

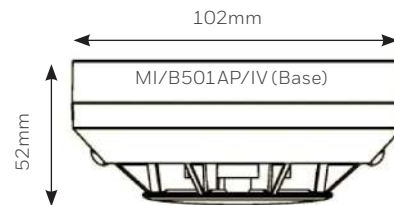
- Rotary decade address switches
- Aesthetic design to harmonise with the modern built environment
- Base complements the detector and is easy to install and wire
- Genuine and fast response
- Advanced protocol and smoothing filter to suppress false alarm
- Easy to maintain (washable filter)
- Analog addressable communication
- Enhanced smoke chamber design to reduce false alarms by dust or contamination
- Dual integrated LED for 360° visibility
- LPCB approved
- Conforms to EN54-7/ EN54-5 and EN54-29
- Environment friendly - meets RoHS legislative requirements
- For DXc fire alarm panels R7, 8, 9

SPECIFICATIONS

Optical Smoke Detector

The photoelectric smoke sensor delivers high responsiveness, reduced sensitivity to dust and 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 HM/PSE optical smoke detector has two integral red LEDs that provide 360° local visual indication of the device status.



MECHANICAL SPECIFICATION

HEIGHT	52 mm installed in B501AP base
DIAMETER	102 mm installed in B501AP base
WEIGHT	97 g (incl. base)
MAX WIRE GAUGE FOR TERMINALS	2.5 mm ²
COLOR	ivory
MATERIAL	PC/ABS

Note * When installed in a MI/B501AP/IV base

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

ELECTRICAL SPECIFICATIONS - NON-ISOLATED PRODUCT

OPERATING VOLTAGE RANGE	15 ... 32 V DC
MAXIMUM STANDBY CURRENT	200 µA @ 24 V DC (no communications) 300 µA @ 24 V DC (LED blink enabled, once every 5s)
LED CURRENT	3.5 mA @ 24 V DC
REMOTE OUTPUT VOLTAGE	22.5 V DC @ 24 V DC
REMOTE OUTPUT CURRENT	10.8 mA @ 24 V DC
ADDITIONAL LOOP RESISTANCE USING THE B501AP	typ 20 mohm (max 30 mohm)

ENVIRONMENTAL SPECIFICATIONS

TEMPERATURE RANGE	-30°C ... +70°C
HUMIDITY	10 ... 93% relative humidity (non-condensing)

APPROVALS

EN54-17 : 2005

EN54-7 : 2000+A1:2002+A2:2006

DETECTORS

HM/PSE Optical smoke detector

ASSESSORIES

MI/B501AP/IV Sensor and AV standard base

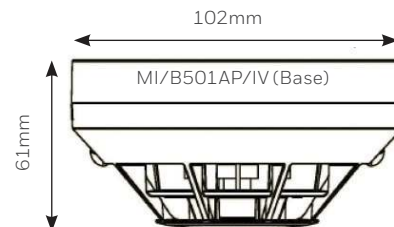
SMK400AP-IV Deep base for MI/B501AP/IV

781814 Remote indicator for HM Series detectors

SPECIFICATIONS

Optical Smoke / Thermal Multi-Criteria Fire Detectors

The optical-thermal sensor 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 optical-thermal detector 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 HM-PTSE optical-thermal detector are adjustable 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	61 mm installed in B501AP base
DIAMETER	102 mm installed in B501AP base
WEIGHT	99 g (incl. base)
MAX WIRE GAUGE FOR TERMINALS	2.5 mm ²
COLOR	ivory
MATERIAL	PC/ABS

Note * When installed in a MI/B501AP/IV base

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

ELECTRICAL SPECIFICATIONS - NON-ISOLATED PRODUCT

OPERATING VOLTAGE RANGE	15 ... 32 V DC
MAXIMUM STANDBY CURRENT	200 µA @ 24 V DC (no communications) 300 µA @ 24 V DC (LED blink enabled, once every 5s)
LED CURRENT	3.5 mA @ 24 V DC
REMOTE OUTPUT VOLTAGE	22.5 V DC @ 24 V DC
REMOTE OUTPUT CURRENT	10.8 mA @ 24 V DC
ADDITIONAL LOOP RESISTANCE USING THE B501AP	typ 20 mohm (max 30 mohm)

ENVIRONMENTAL SPECIFICATIONS

TEMPERATURE RANGE	-30°C ... +70°C
HUMIDITY	10 ... 93% relative humidity (non-condensing)

6,1 TO 9,4% VARIABLE OBS./M + CLASS A1R

ALARM LEVEL 1	3% Obs./m + Class A1R
ALARM LEVEL 2	3% ... 6.1% variable Obs./m + Class A1R
ALARM LEVEL 3	6.1% Obs./m + Class A1R
ALARM LEVEL 4	6.1 ... 9.4% variable Obs./m + Class A1R
ALARM LEVEL 5	9.4% Obs./m + Class A1R
ALARM LEVEL 6	Class A1R

APPROVALS

EN54-5:2000+A1:2002	EN54-17 : 2005	CEA 4021:2003
EN54-7 : 2000+A1:2002+A2:2006	EN54-29:2015	

DETECTORS

HM/PTSE Optical-thermal smoke detector

ASSESSORIES

MI/B501AP/IV Sensor and AV standard base
SMK400AP-IV Deep base for MI/B501AP/IV
781814 Remote indicator for HM Series detectors

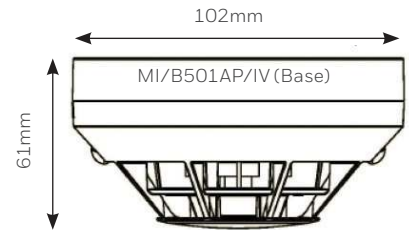
SPECIFICATIONS

Thermal Detector

The intelligent thermal sensors are point type fire sensors that use an accurate thermistor sensing circuit to provide early warning of developing fires, together with addressable communication with the fire alarm panel.

The HM/RHSE thermal detector provides fixed 58°C and rate-of-rise (10°C/minute) temperature sensing (Class A1R).

The HM/FHSE thermal detector provides fixed 58°C temperature sensing (Class A1S). The detectors have two integral red LEDs that provide 360° local visual indication of the device status.



MECHANICAL SPECIFICATION

HEIGHT	61 mm installed in B501AP base
DIAMETER	102 mm installed in B501AP base
WEIGHT	88 g (incl. base)
MAX WIRE GAUGE FOR TERMINALS	2.5 mm ²
COLOR	ivory
MATERIAL	PC/ABS

Note * When installed in a MI/B501AP/IV base

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

ELECTRICAL SPECIFICATIONS - NON-ISOLATED PRODUCT

OPERATING VOLTAGE RANGE	15 ... 32 V DC
MAXIMUM STANDBY CURRENT	200 µA @ 24 V DC (no communications) 300 µA @ 24 V DC (LED blink enabled, once every 5s)
LED CURRENT	3.5 mA @ 24 V DC
REMOTE OUTPUT VOLTAGE	22.5 V DC @ 24 V DC
REMOTE OUTPUT CURRENT	10.8 mA @ 24 V DC
ADDITIONAL LOOP RESISTANCE USING THE B501AP	typ 20 mohm (max 30 mohm)

ENVIRONMENTAL SPECIFICATIONS

TEMPERATURE RANGE	-30°C ... +70°C
HUMIDITY	10 ... 93% relative humidity (non-condensing)

APPROVALS

M-RHSE: EN54-5: 2000 CLASS A1R (AND EN54-17: 2005 FOR -I)

HM-FHSE: EN54-5: 2000 CLASS A1S (AND EN54-17: 2005 FOR -I)

EN54-5 STATES THAT CLASS A1 HAS A MAXIMUM APPLICATION TEMPERATURE OF 50°C, CLASS B HAS A MAXIMUM APPLICATION TEMPERATURE OF 65°C.

DETECTORS

HM/FHSE Fixed 58° thermal detector
HM/RHSE Rate of Rise thermal detector

ASSESSORIES

MI/B501AP/IV Sensor and AV standard base
SMK400AP-IV Deep base for MI/B501AP/IV
781814 Remote indicator for HM Series detectors

Honeywell Life Safety Austria GmbH

Technologiestr. 5, Building F, 3rd floor
A-1120 Vienna

T: +43 (0)1 600 60 30
F: +43 (0)1 600 60 30-900
E: hls-austria@honeywell.com

For more information

www.hls-austria.com

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Honeywell
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