

Morley-IAS HM Detectors Data Sheet

Delivering a totally new detector platform, incorporating an advanced digital protocol

Morley-IAS HM intelligent detectors incorporate 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 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 HM 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. All devices come with or without electrical short circuit isolation. 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.

FEATURES

- Rotary decade address switches
- Aesthetic design to harmonise with the modern built environment
- New base to complement the detector and ease installation and wiring

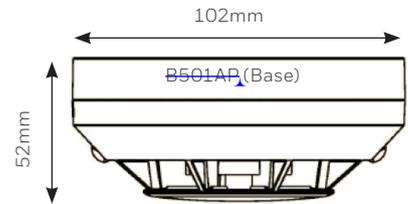


SPECIFICATIONS

Photoelectric Smoke Detectors

The HM-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 ~~HM-PSE-S2~~ 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	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

OPERATING VOLTAGE RANGE	15 ... 32 V DC
MAXIMUM STANDBY CURRENT	260 μ A @ 24 V DC (no communications) 310 μ A @ 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

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

ENVIRONMENTAL SPECIFICATIONS

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

DETECTORS

~~HM-PSE-S2-IV~~ Optical smoke detector

ASSESSORIES

~~B501AP-IV~~ Sensor and AV standard base

~~B501AP-IV~~ Deep base for ~~B501AP-IV~~

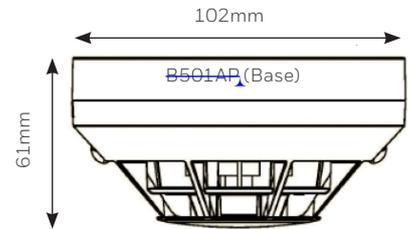
SPECIFICATIONS

Photoelectric Smoke / Thermal Multi-Criteria Fire Detectors

The HM multi-criteria, 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 HM-PTSE 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 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	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	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

OPERATING VOLTAGE RANGE	15 ... 32 V DC
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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	

APPROVALS

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

DETECTORS

HM-PTSE-S2-IV Optical-therman smoke detector

ASSESSORIES

B501AP-IV Sensor and AV standard base

B501AP-IV Deep base for B501AP-IV

SPECIFICATIONS

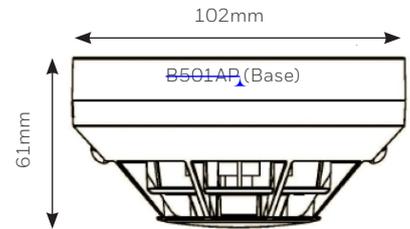
Thermal Sensors

The HM intelligent thermal sensors are plug-in type fire sensors that use a single thermistor sensing circuit to provide early warning of developing fires, together with addressable communication with the fire panel.

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

The [HM-FHSE](#) provides fixed 58°C temperature sensing (Class A1S).

These sensors are designed for open area protection and must only be connected to fire panels that use a compatible proprietary communication protocol for monitoring and control. 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	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

OPERATING VOLTAGE RANGE	15 ... 32 V DC
MAXIMUM STANDBY CURRENT	260 μ A @ 24 V DC (no communications) 310 μ A @ 24 V DC (LED blink enabled, once every 5s)
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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

[HM-RHSE](#): EN54-5: 2000 CLASS A1R

[HM-FHSE](#): EN54-5: 2000 CLASS A1S

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-S2-IV](#) Fixed 58° therman detector

[HM-RHSE-S2-IV](#) Rate of Rise therman detector

ASSESSORIES

[B501AP-IV](#) Sensor and AV standard base

[B501AP-IV](#) Deep base for [B501AP-IV](#)



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