

Area protected by PSD-1 Optical Smoke Fire Detector

The protected area depends on the mounting height and on the fire hazard level

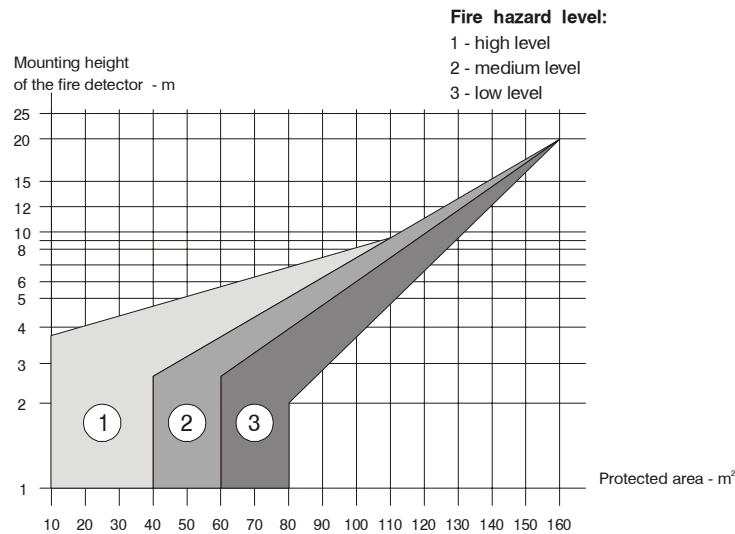


Fig. 3

TECHNICAL HELP LINE 0121 786 1881

OPTICAL SMOKE DETECTOR

PSD-1



1. INTRODUCTION

The PSD-1 Optical Smoke Detector is designed to provide early warning of a fire condition, by reacting upon a fixed smoke concentration level in the protected area.

2. TECHNICAL DATA

2.1. Supply voltage	- (22,5 ± 7.5)V DC
2.2. Average current consumption in quiescent state	- 60 μ A at 22.5 V DC
2.3. Alarm state current	- 16 (± 2) mA at 22,5V DC
2.4. Sensitivity	- complies with EN 54 / 7
2.5. Protected area	- see fig. 3
2.6. Permanent magnet test option	- available
2.7. Remote indicator option	- available
(connection is made through a built in 1 k resistor)	
2.8. Connection to fire control panel	- two wire
2.9. Level of protection	- IP40
2.10. Operational temperature range	- minus 10°C / plus 60°C
2.11. Relative humidity resistance	- (92 ⁺³ ₋₃) % at 40°C
2.12. Dimensions (with a DB-1 type base)	
- diameter	- Ø106 mm
- height	- 48 mm
2.13. Weight (incl. base)	- 0,160 kg

3. STRUCTURE AND FUNCTION

The fire detector consists of two main parts: a base and a detector head. The latter consists of a circuit board and an optimized smoke detection chamber. The detector head is fixed on the base by the means of bayonet joints. When the detector head is being located on the base, make sure the bench mark stands about 20 mm before the respective bench mark on the base; then rotate clockwise to rest. The bench marks should fully coincide. The contacting plates are fixed to the base. The connection between the incoming wires and the contact plates is made by the provided screws and washers. The circuit board is mounted within the detector head. The contact blades are placed on the detectors' underside. The electric connection with the circuit board is provided by retainer screws.

The electronic components are mounted on the circuit boards underside, the other side of the circuit board provides mounting for the smoke detection chamber.

A flat pivot point screw is provided on the detector head to prevent unauthorized removal. A 2 mm tip screwdriver is required for locking and unlocking .

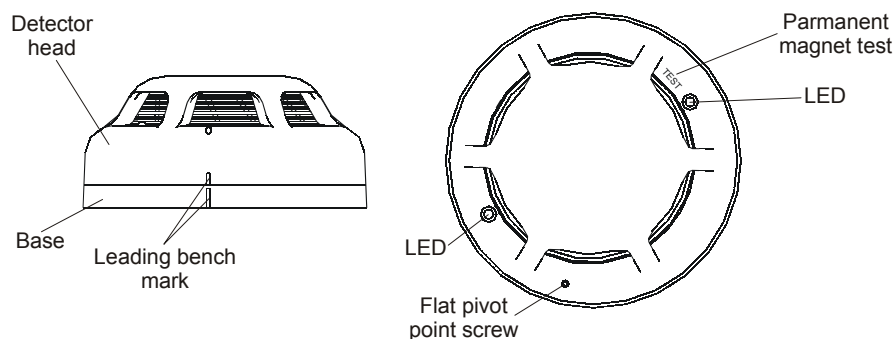


Fig. 1

The principle of functioning is based upon smoke particles entering the detector head's smoke chamber causing distraction of infrared rays within the chamber. The activation threshold of the detector is factory set at a specific smoke concentration level. Upon activation the two red LEDs , situated on the detector head illuminate (360° visibility). They are extinguished by momentary interruption of the detector's power supply .

Detector's type and sensitivity are marked.

4. PREPARING THE OPTICAL SMOKE FIRE DETECTOR FOR OPERATION

4.1. Mounting the fire detectors

Separate the base from the detector head by turning the detector head in an anti-clockwise direction.

Feed the connection cable through the cable entry in the center of the base. Fix the base on the ceiling using appropriate fixings. Complete the wiring as shown on fig. 2.1 or 2.2. Replace the detector head on the base by offering the detector head to the base ensuring bench marks are no more than 20 mm apart. Rotate the detector head in a clockwise direction to complete location.

Lock the detector head to the base by screwing the flat pivot point screw, using a 2 mm tip screwdriver, ensure not to over tighten.

4.2. Connecting the base.

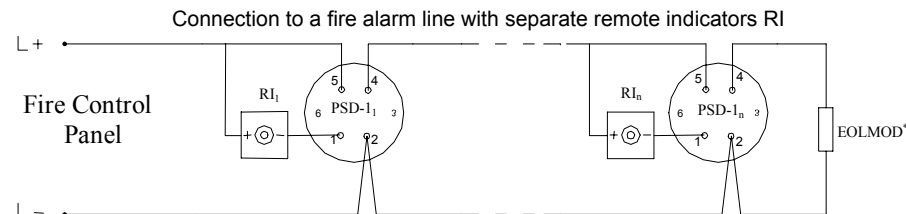


Fig. 2.1

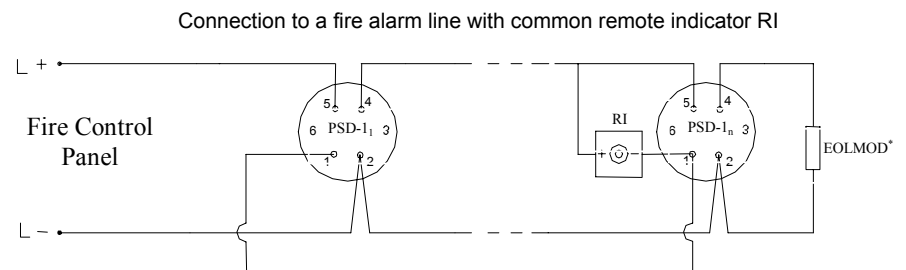


Fig. 2.2

* EOLMOD – End of line module

4.3. Testing the fire detectors

Apply power in the range of 15 - 30V DC. Place a permanent magnet on the detector heads surface at the point marked test periphery. The twin LEDs will illuminate after a few seconds. After removing the magnet the LEDs should remain lit until reset by momentary interruption of the power supply.

Testing can also be completed under simulated fire conditions using a smoke probe.

5. SERVICE SCHEDULE

	Task	Periodicity
1.	Inspection for visible physical damage	weekly
2.	Satisfactory operation test	monthly
*3.	Check and clean dust contamination	every 6 months
4.	Check and clean base and head contacts and connections	Annually

* Remove the chamber's upper part. Brush the optical system and the lenses. For the chamber's upper part can be detergent washed, rinsed and dried. When locating, fix the upper part so the bench marks coincide.

6. WARRANTY

The manufacturer guarantees product compliance with the EN 54-7:2001. The warrant period is 36 months from the date of manufacture, providing that requirements covered in section 5 have been observed.