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. 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 54-5 and 7. The warranty period is 36 months from the date of manufacture, providing that requirements covered in section 5 have been observed.

Area protected by CSD-1

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

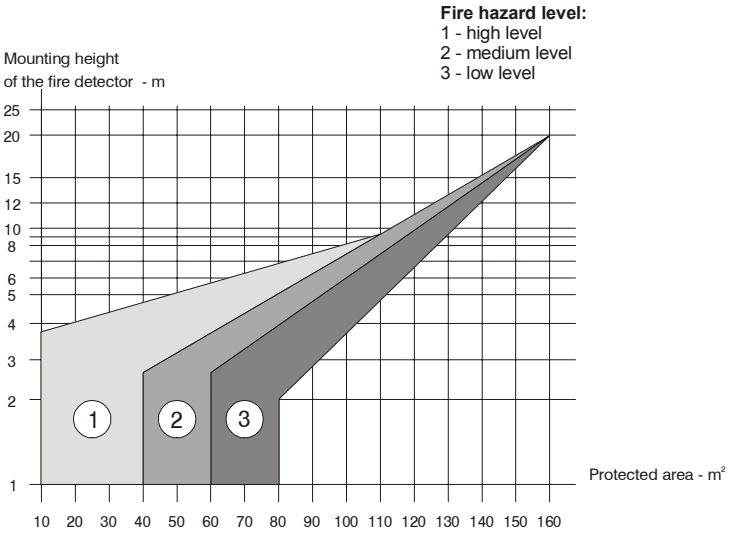

Fig. 3

TECHNICAL HELP LINE 0121 7861881

COMBINED OPTICAL SMOKE AND FIXED TEMPERATURE HEAT DETECTOR

CSD-1

1. INTRODUCTION

The CSD-1 combined optical smoke and fixed temperature detector is designed to provide early warning of a fire condition, reacting upon a fixed smoke concentration level and at a fixed temperature 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	**- 80 µ A at 22,5 V DC**
2.3. Alarm state current	**- 16 (± 2) mA at 22.5V DC**
2.4. Sensitivity	**- in accordance with the EN 54 Part 7 and 54 Part 5 -Class A1S**
2.5. Protected area	**- see fig. 3**
2.6. Permanent magnet test option	**- available**
2.7. Type of the line to the fire control panel	**- two wire**
2.8. Remote indicator option (connection is made through a build in 1 k resistor)	**- available**
2.9. Level of protection	**- IP40**
2.10. Operational temperature range	**- minus 10°C / plus 60°C**
2.11. Relative humidity	**- 92 ($^{+3}_{-2}$)% at 40°C**
2.12. Dimensions (with a DB-1base):	
- diameter	**- ∅106 mm**
- height	**- 48 mm**
2.13. Weight (incl. base)	**- 0,160 kg**

3. STRUCTURE AND FUNCTIONING

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 placed on the base, make sure that the bench mark stands about 20 mm before the respective bench mark on the base; then rotate clockwise to fix. 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 located on the underside of the detector's head. The electric connection with the circuit board is provided by retainer screws. On the detector's underside the heat sensitive elements of the fixed temperature part are located and on the circuit board's opposite side the optimized smoke detection chamber as well as another heat sensitive element are mounted.

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

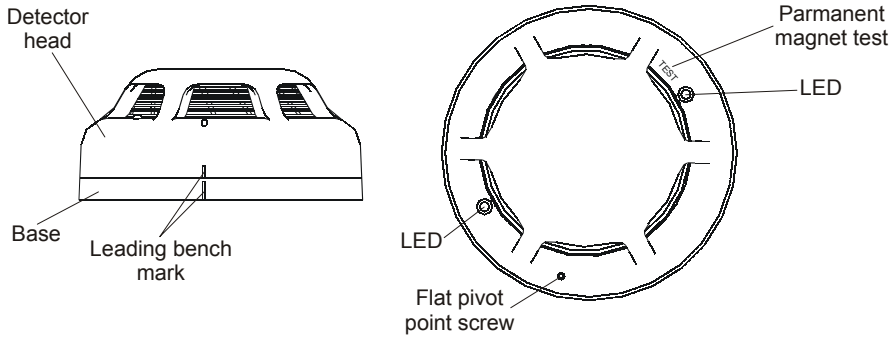

Fig. 1

The CSD-1 is a combined detector, comprising an optical smoke multisensor part and fixed temperature heat part. The output signal is a result of the activity of either of the two stand alone unit. The principle function of the optical smoke multisensor part is based upon smoke particles entering the smoke chamber causing distraction of infrared rays within the chamber. This activates the photoreceiver and CSD-1 enters a fire condition. The activation threshold of the optical smoke multisensor part is factory set at a specific smoke concentration level. It is temperature dependent and lowers at rise of the ambient temperature, which increases its sensitivity to the fire parameters.
In identical fire conditions the CSD-1 fire detector reacts upon a smoke concentration at least 15% lower than that of a regular point optical fire detector with the same sensitivity at normal temperature.
The principle of function of the fixed temperature heat part is based on the ohmic resistance alteration in the thermistor as a result of the ambient temperature change. At rise of the ambient temperature above a specified threshold the fixed temperature heat part is activated. Upon activation the CSD-1 illuminates two red LEDs, situated on the detector head (360° visibility). The LEDs can be reset and extinguished by momentarily removing the power source.

Detector's type and sensitivity are marked.

4. PREPARING THE CSD – 1 FIRE DETECTOR FOR OPERATION

4.1. Electrical connection

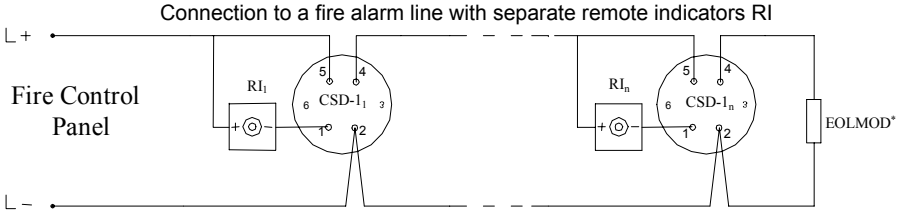

Fig. 2.1

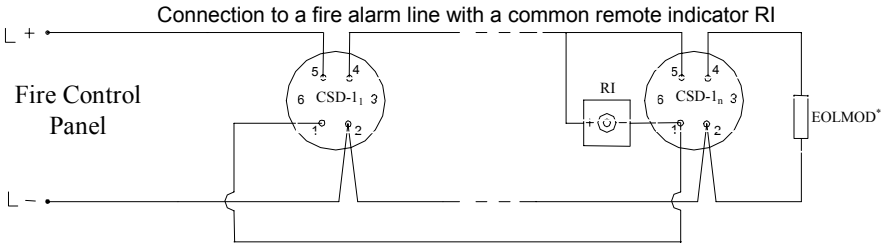

Fig. 2.2

* EOLMOD – End of line module

4.2. Mounting
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 screw-driver.

4.3. Testing
Apply power in the range of 15 - 30 V DC. Place a permanent magnet on the detector head's surface at the point marked "TEST". After a few seconds the LEDs should be illuminated. Remove the magnet and the LEDs should remain illuminated. Reset the detector and extinguish the LEDs by interrupting the power supply. Testing can also be completed under simulated fire conditions using a smoke probe.
In addition a simulation test of the fixed heat part should be completed in a laboratory heat tunnel.