ONEDETECTOR
Optical Thermal Sensor with Digital Communication Protocol

ONEDETECTOR1
Optical Sensor with Digital Communication Protocol

ONEDETECTOR2
Thermal Sensor with Digital Communication Protocol

Features

- DEDAL approved in compliance with EN54-7 EN54-5 and EN54-17 standards
- ONEPROTOCOLL communication protocol
- Isolator integrated in each device
- Manual addressing via the ONEPROGRAMMER programmer
- Auto addressing for devices on loops even with "T" connections
- Auto mapping function
- Reading of the voltage value at the terminals of the devices addressed
- Log of the 5 minutes preceding the fire alarm
- Log of the total number of fire alarms
- 2 TX channels and one RX channel
- 240 devices per loop
- Integrated hardware and diagnostic software with drift compensation
- Three-colour LED (red / green / yellow) controlled by the control unit visible at 360°
- Independent remote output
- **ONEDETECTOR**   Certificate n°1922-CPR-1121
- **ONEDETECTOR1**   Certificate n°1922-CPR-1123
- **ONEDETECTOR2**   Certificate n°1922-CPR-1122

Description

The new series of analogue sensors of the **ONEDETECTOR** line constantly monitor the fire alarm condition.

The advanced design of the optical chamber ensures excellent resistance to dust entry, which means that the sensor's performance is not compromised.

Each sensor is equipped with drift compensation, it communicates its parameters to the control unit such as operating conditions, smoke darkening levels, dirt levels and temperature levels.

Each sensor can be addressed manually, by ONEPROGRAMMER programmer or by fire detection control unit with ONEPROTOCOLL protocol or with auto addressing by fire detection control unit with ONEPROTOCOLL protocol.

Guaranteed communication

The **ONEDETECTOR** series sensors are equipped with an integrated short-circuit isolator.

This means that in the event of a failure on a loop or on a single device, communication with the devices themselves is not interrupted.
Thus greater system reliability is guaranteed.

Drift compensation

The sophisticated drift compensation algorithm allows the sensor to compensate for the darkening due to the entry of dust and other contaminated substances into the optical chamber entrance.

This technology maintains the detection threshold range uniform at the sensitivity established without any change in the detection threshold.

Simplified installation

The installation of the sensor is very simple, the programming of the addresses takes place via the ONEPROGRAMMER programmer or through auto addressing, no DIP switches or rotary switches are used.

Auto addressing for devices on loops also operates with "T" connections.

In addition, the bases are equipped with an identification label and a short circuit spring which ensures continuity of the loop when the sensor is removed.

The sensor also offers the possibility to be locked once inserted into the base to avoid unwanted disassembly.

Detection technologies

The **ONEDETECTOR** range offers OPTICAL, THERMAL OPTIC, THERMAL detection.

OPTICAL, The optical smoke detection exploits the TYNDALL effect, in the optical chamber there are two transmitters and a receiver not aligned with each other. The smoke creates a slight diffraction of the brightness inside the chamber that, if detected, generates an alarm.

THERMOVELOCIMETRIC OPTICAL, two thermistors have been introduced that measure temperature in degrees, offer optical and thermo-speed detection, a sophisticated algorithm uses both detection technologies to guarantee a high level of reliability and immunity to false alarms in Multisensor operation mode, the fire alarm intervenes through an algorithm that analyses the optical threshold in relation to the temperature increase (prEn 54 29).

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The sensor can also be programmed in **AND** mode, i.e. it is alarmed when both sections (optical and thermal) give alarm.

The sensor can also be programmed in **OR** mode, i.e. it is alarmed when at least one section (optical or thermal) gives alarm.

**THERMAL,** the detection is carried out in two programmable ways: thermal at fixed temperature or thermovelocimetric.
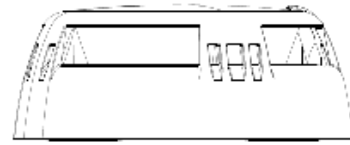
Side View

Construction

The **ONEDETECTOR** range has been designed to be simply disassembled to allow normal maintenance operations.

The external plastics are made of white ABS V0 with a glossy finish, while the optical chamber is made of black POM and is equipped with protection against the intrusion of dust or small insects.
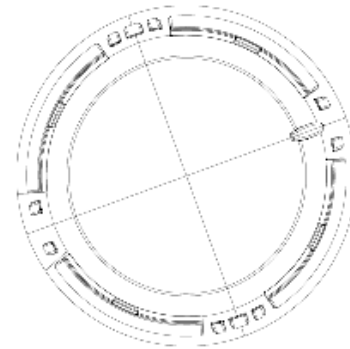
Top Side View

Approvals and compliance

The entire **ONEDETECTOR** sensor range is DEDAL certified according to the EN54 standard parts 7,5 and 17.

Code Description

ONEDETECTOR	Optical and thermovelocimetric detector
ONEDETECTOR1	Optical detector
ONEDETECTOR2	Thermal and thermovelocimetric detector

Technical specifications

Device	ONEDETECTOR	ONEDETECTOR1	ONEDETECTOR2
Type	Thermovelocimetric optic	Optic	Thermal
Compliance	EN54-5,EN54-7,EN54-17	EN54-7,EN54-17	EN54-5,EN54-17
Certification body	DEDAL		
Protocol	ONEPROTOCOLL		
Loop	Up to 240 devices along 2Km of cable *		
Supply voltage	27V		
Stand by consumption	90uA@27V		
Max remote output current	15ma		
Operation temperature	-30°C/+70°C		
Humidity	95% RH (without condensation)		
Height with standard base	48mm		
Diameter	92mm		
Weight with standard base	120g		

* note: subject to load calculations and use of appropriate cables