

Optical-Thermal Detector

FI750/OT



- **Loop technology with Labor Strauss protocol**
- **Combines optical smoke sensor and thermal rate-of-rise sensor**
- **Application-specific setting of the response behaviour**
- **Double dust trap and insect screen**
- **Up to 240 devices per loop**
- **Output for remote indicator**



Description

The addressable Optical-Thermal Detector FI750/OT uses both an optical sensing chamber based on the scattered light principle as well as a rate-of-rise temperature sensor according to EN 54-5 Class A1R. The modern design of both measurement systems and the analysis of the parameters through special algorithms allow reliable evaluation of the characteristics of fire and improvement of the false alarm immunity. The detector is therefore suitable for a wide range of fire detection applications.

In order to avoid false alarms, a fine-meshed protective grid effectively keeps dust, ambient light and insects from entering the detector. In addition, the special design of the case makes it more difficult for dust to settle inside the sensing chamber.

The influence of contamination of the optical measurement system is additionally compensated for by using an intelligent evaluation logic. As a result, the response sensitivity of the detector is kept constant for a long time – a further effective step to avoid false alarms.

The loop technology with Labor Strauss protocol establishes a permanent communication between the fire detection control panel and the detector. That ensures periodical function testing of the detector.

Up to 240 loop elements can be addressed on a Labor Strauss loop. In this way, extensive fire detection systems can be designed with a minimum expense in cabling.

By parameterising the control panel accordingly, the response behaviour of the detector can be set to one of four levels and, as a result, the detector can be specifically adapted for the respective application. A thermal-only mode is also possible.

The two multicoloured LED displays on the detector are visible from all directions, thus facilitating the identification of the activated detector. The alarm condition is indicated in red and the test condition in green. Furthermore, an output is available for the connection of an optional remote indicator. The output can be freely parameterised on a compatible fire detection control panel.

An integrated dual-isolator disconnects the loop in case of a short circuit. In this way, the undisturbed communication with the loop elements outside the faulty loop section is ensured.

The detector address is set by means of the hand-held Programming Unit FI750/PU within the range 1 to 240. In addition, the programming unit allows several parameters, such as the level of contamination of the optical chamber, the default analogue value or the production date to be read out. Alternatively, the detector can be addressed automatically if it is connected to a compatible fire detection control panel.

A detector function test can be conveniently conducted by using either a test magnet, an aerosol spray or a thermal detector test device.



2831-CPR-F4315

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Specifications

Operating voltage	Supply through loop voltage
Current consumption at 24V	typ. 160µA (normal communication)
Current consumption LEDs (alarm condition)	typ. 6mA
Sensitivity optical chamber	
Level 1	2.0%/m
Level 2	2.7%/m
Level 3	3.3%/m
Level 4	4.0%/m
Alarm temperature	+58°C (Class A1R)
Application temperature	max. +50°C
Ambient temperature	-30°C to +70°C (no icing)
Relative humidity	5 – 95% (no condensation)
Dimensions Ø × H (without base)	106 × 50 (mm)
Colour	white
Weight	86g
Approvals	VdS G213045 LPCB 928c/02 2831-CPR-F4315
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