



## DTC-6046 ADDRESSABLE MULTI-SENSOR DETECTOR

### Overview

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Analogue multi-sensor heat, smoke and carbon monoxide detector DTC-6046 is designed for detection of combination of visible smoke, rise of temperature and presence of carbon monoxide at the very early stage of fire. The detector is resistant to air movement and air pressure changes. Using of doubled smoke sensor (IR and UV range) and doubled heat sensors guarantee high resistance to false alarms caused by water vapors or dust.

DTC-6046 detector is dedicated to operation on addressable detection loops of POLON 4000 and POLON 6000 systems fire alarm control panels.

### Principle of operation

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The principle of operation of smoke detection is based on Tyndall effect – light is reflected from the smoke particles which get into the measurement chamber. The light emitted by transmitting photodiode, after is reflected from the particles of smoke, is received by the receiving photo element and causing change of the photocurrent. Rise of temperature in the vicinity of detector causes resistance change of one or two thermistors. Carbon monoxide presence is detected by appropriate sensor. Information from these sensors are subjected to the advanced analysis by the detector's microprocessor which evaluate the level of fire threat.

Two-wire, addressable fire detection loop is used for the communication between the detector and the control panel. Unique and digital communication protocol enables to exchange following information between detector and control panel: amount of smoke, temperature level with its trend and carbon monoxide presence.

The microprocessor that control the detector supervises the operation of basic detector's circuits and sends appropriate information to the panel in case of fault.

The DTC-6046 is an analogue detector with the self-adjustment feature which guarantee constant sensitivity level during the detector operation time even if any dirtiness appears inside measurement chamber. When the certain dirtiness level is exceeded the detector sends to the control panel information about the maintenance necessity.

The detector is equipped with internal short circuit insulator which in case of short circuit insulates the damaged part of the loop from the functional.

Fire alarm condition is indicated with red blinking of two LED diodes located on the two opposite sides of the detector. The indicator enables personnel to fast location of alarming detector it is helpful during periodical maintenance. When the detector is not well seen or it is installed in place without easy access an external optical indicator WZ-31 can be connected to the detector and enable the detector's identification.

Any fault, technical alarm and activation of internal short circuit insulator is indicated by the yellow blinks of LED indicators.

The detector can be loosely programmed what offers a very high flexibility. The possible settings are: interdependent operation of two smoke sensors and heat sensors, independent operation of all sensors, coincidence between at least two sensors, logical AND between two chosen sensors etc.

Addressing of the detector can be made automatically by the control panel – the address is stored in detector's non-volatile memory.

The detector is installed in G-40 base.

### Technical specifications

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Operation voltage	16,5 ÷ 24,6 V
Max. quiescent current	< 150 µA
Number of operating variants	255
Detectable test fires:	from TF1 up to TF9
Programming detector address	from the control panel level
Operation temperature range	from -10 °C to +50 °C
Dimensions (with base)	ø 115 x 61 mm
Mass	0,2 kg