



## ADDRESSABLE MULTI-STATE, MULTI SENSOR DETECTOR DOT-6000 in variants DOT-6046 and DOT-6043

### Purpose

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Addressable multi-sensor smoke and heat detector DOT-6000 in variants DOT-6046 and DOT-6043 is designed for detection of visible smoke or/and rise of temperature at the very early stage of fire. They are resistant to air movement and air pressure changes. Using of doubled smoke sensor (IR and UV range) and doubled heat sensors guarantees high resistance to false alarms caused by water vapors or dust, while maintaining small dimensions and high aesthetics of detectors.

DOT-6046 and DOT-6043 are dedicated for operation on addressable detection loops:

- DOT-6046 - for POLON 4000 and POLON 6000 (all control panels)
- DOT-6043 - for POLON 4100 and POLON 4200 control panels only.

DOT-6043 smoke detectors do not support interactive alarm variants. All other parameters of the DOT-6046 and DOT-6043 detectors are identical.

### Principle of operation

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The principle of operation of smoke detection in DOT-6046/DOT-6043 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 photoelement and causing change of the photocurrent. Rise of temperature in the vicinity of detector causes resistance change of thermistors. Fire factors information from these four sensors are subjected to the advanced analysis by the detector's microprocessor which evaluates the level of fire threat.

Two-wire, addressable fire detection loop is used for the communication between the DOT-6046/DOT-6043 detector and the POLON 4000/POLON 6000 control panel. Unique and di-

gital communication protocol enables to exchange any information between detector and control panel, e.g. evaluation of the environment (smoke, temperature) and it's trend, current analogue temperature value and smoke density.

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

DOT-6043/DOT-6046 are analogue detectors with the self-adjustment feature which guarantees 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 functioning one.

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

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

Detectors have six basic operating modes that enable the user to optimally adapt it to work in a given environment:

- Mode 1 – cooperation of two smoke sensors and two heat sensors,
- Mode 2 – cooperation of two smoke sensors,
- Mode 3 – operation as heat detector,
- Mode 4 – independent operation of smoke sensors and heat sensors,
- Mode 5 – sensors in coincidence (AND function),
- Mode 6 – sensors in coincidence or heat detector with rate of rise temperature threshold.

## Technical specifications

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Operating voltage	16,5 ÷ 24,6 V
Max. current consumption in a quiescent state	< 150 µA
Class of detector by EN 54-5	A1R, A2R, BR, A2S, BS
Number of programmable modes of operation	6
Detected test fires	from TF1 to TF9
Programming the addresses	by the control panel
Operational temperature range	
- modes with heat sensor	from -25°C to +50°C
- other modes	from -25°C to +55°C
Detector dimensions	∅ 115 x 54 mm
Mass	< 0,18 kg

## Note

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The CNBOP-PIB, Notified Body No. 1438 has been issued for the product the national certificate of constancy of performance confirming the possession of technical features/parameters required by EN 54-5:2017 + A1:2018, EN 54-7:2018, EN 54-17:2005 + AC:2007.

The CNBOP-PIB, Notified Body No. 1438 has been issued for the product the national certificate of constancy of performance confirming the possession of technical features/parameters required by EN 54-29:2015.

The features/technical parameters above that exceeds the requirements of the afore mentioned standards and other features/parameters specified in this datasheet that are not specified in the mentioned standards are confirmed by the Manufacturer.

For the product the manufacturer has issued a declaration of performance.