



## DUO-3000 UNIVERSAL SMOKE DETECTOR

### Purpose

The universal addressable smoke detector DUO-3000 is designed to detect visible smoke generated in the initial stage of fire development when the material is still smoldering, i.e. generally long before open flame and a noticeable increase in temperature.

It is characterized by significant resistance to the influence of air movement and pressure changes. The detector use a double smoke detection system - in the UV and IR bands.

Universal addressable DUO-3000 smoke detectors operate in addressable detection lines of the POLON 3000 fire alarm system.

### Principles of operation

The basis of DUO-3000 operation smoke detectors is Tyndal's principle - scattering of a light on smoke particles. Penetrating into the measuring chamber smoke particles reflect the light emitted by two diodes transmitting in the UV and IR bands. Scattered light reaches photodiodes generating a photocurrent which - after being amplified and converted into a digital form - is analyzed by the detector's microprocessor that assesses the level of fire hazard.

Communication between the POLON 3000 system control panel and the DUO detectors is by addressable, two-wire detection line. Unique, fully digital communication protocol allows the transfer of any information from the control panel to the detectors and from the detectors to the control panel.

Detectors can transmit the state of fire factors and the tendency of changes with their current analog values. The microprocessor that controls detectors operation verifies its operation correctness and provides information to the control panel if any irregularities occur.

DUO-3000 detectors are analog detectors with a digital self-regulation mechanism, i.e. they maintain constant sensitivity as the measuring chamber becomes increasingly dirty. After crossing defined threshold detector sends information to the control panel about partial contamination of the measuring chamber in order to inform the service about the appropriate actions required.

The detectors are equipped with internal short-circuit isolators That cuts off the functional part of the detection line from the adjacent part damaged which enables continued uninter-

rupted operation of the detectors. The detector's alarm status is signaled by a pulse, red light from two diodes located on opposite sides of the detector housing. If the detector is poorly visible or installed in a hard-to-reach place, an additional optical WZ-31 activation indicator can be installed.

Fault, technical alarm and short-circuit isolator activation states are indicated by yellow flashes of the LED. The detectors have several basic operating modes that allow the user to optimally adjust in a specific environment:

- independent operation of two IR or UV smoke detectors,
- interdependent operation of two smoke detectors,
- coincidence of two UV and IR smoke detectors.

### Technical specifications

Addressable detector operating voltage	16.5 ÷ 24.6 V
Detector power consumption from addressable line	< 150 µA
Number of basic operating modes	3
Detected test fires	TF1 to TF 5, TF 7 to TF 9
Address programming	from the panel
Operating temperature range:	-25 °C to +55 °C
Dimensions (with the base)	ø 115 x 44 mm
Mass	0.2 kg

### Note

The product was issued by CNBOP-PIB, a notified body No. 1438, certificate of constancy of performance confirming having the required technical features/parameters standards EN 54-7:2018, EN 54-17:2005 + AC:2007.

Features/technical parameters exceeding the requirements mentioned standards and others given herein product features/parameters not specified on the catalog card the mentioned standards are confirmed by the Manufacturer.

The manufacturer has issued a declaration of performance for the product.

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