



## UNIVERSAL SMOKE DETECTOR WITH ACOUSTIC SOUNDER DUO-6046AD

### Destiny

The DUO-6046AD universal addressable smoke detector with acoustic siren is designed to detect visible smoke, which is generated at the initial stage of fire development, when the material is still smoldering, i.e. long before the appearance of an open flame and noticeable a sharp rise in temperature. It is characterized by significant resistance to the influence of air movement and pressure changes. The detectors use a double smoke detection system in the UV and IR bands. The detector has a built-in acoustic siren.

The DUO-6046AD universal addressable smoke detectors with acoustic siren are intended for operation in addressable detection lines of POLON 4000 and POLON 6000 fire alarm control panels.

### Principle of operation

The basis of operation of the DUO-6046AD smoke detectors is the Tyndal principle - scattering of a light ray on smoke particles. Smoke particles penetrating the measuring chamber reflect the light emitted by two transmitting diodes in the UV and IR bands. Scattered light reaches the photodiode causing the creation of photocurrent, which, after amplification and processing into digital form, is analyzed by the detector's microprocessor, which assesses the degree of fire hazard.

Communication between the POLON 4000 or POLON 6000 system control panel and the DUO-6046AD detectors takes place via an addressable, two-wire detection line. The unique, fully digital communication protocol enables the transfer of any information from the control panel to the detectors and from the detectors to the control panel. In addition to transmitting to the control panel the assessment of the state of fire factors and trends in their changes in their surroundings, the detectors can send current analog values on the control panel's request.

The DUO-6046AD detectors are analog detectors with a digital self-adjustment mechanism, i.e. they maintain constant sensitivity when the measuring chamber is getting dirty. After exceeding the set threshold, the detectors send information to the control panel about the partial contamination of the measuring chamber in order to inform the service personnel about the need to take appropriate action.

The detectors are equipped with internal short-circuit isolators, which cut off the functional part of the detection line from the adjacent damaged part, which enables further uninterrupted operation of the detectors.

The detector's alarming state is signaled by a pulsed red light of two LEDs located on opposite sides of the detector housing. The states of fault, technical alarm and activation of the short-circuit isolator are signaled by yellow flashes of the LED.

The acoustic signaling device in the detector is activated on the command sent from the cooperating control panel.

The detectors have four basic operating modes that allow the user to optimally adjust them to work in a specific environment:

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

### Technical data

working voltage	16.5 ÷ 24.6V
Current consumption during actuation	≤ 1 mA
The number of basic operating modes	4
Detected test fires	from TF1 to TF5, from TF7 to TF9
Address programming	control panel
sound pattern	4kHz: 0.5s signal; 0.5s pause
Maximum acoustic signal level:	
	> 85 dB/m from one direction
	> 70 dB/m from other directions
Temperaturework	from -10°C to +55°C
Detector dimensions (with socket)ø	115x56mm
Weight	0.2kg

### Attention

The product has been issued by CNBOP-PIB, notified body No. 1438, a certificate of constancy of performance confirming the possession of technical features/parameters required by the standards EN 54-3:2001 + A1:2002 + A2:2006, EN 54-7:2000 + A1:2002 + A2:2006, EN 54-17:2005 + AC:2007.

The features/technical parameters that exceed the requirementsCompliance with the listed standards and other features/parameters of the product provided in this catalog card not specified in the listed standards are confirmed by the Manufacturer.

The product has a certificate of admission issued by CNBOP-PIB.

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