



ADDRESSABLE MULTI-STATE MULTI-SENSOR DETECTOR WITH SOUNDER DUT-6046AD

Design

Universal analogue multi-sensor heat and smoke detector DUT-6046ADAD is designed for detection of visible smoke or/and rise of temperature 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. Detector is equipped with a built-in sounder.

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

Principle of operation

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. Information from these four 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 and it's trend.

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 DUT-6046ADAD 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.

Siren function can be activated by the order from the panel. It can be triggered by any detector reporting fire (programmable).

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

The detector can operate with one out of seven modes of operation:

Mode 1 – co-operation of two smoke sensors and two heat sensors;

Mode 2 – co-operation of two smoke sensors;

Mode 3 – operation as heat detector in class A1R;

Mode 4 – independent operation of smoke sensors and heat sensors;

Mode 5 – smoke detector (UV sensor) only;

Mode 6 – smoke detector (IR sensor) only;

Mode 7 – smoke and heat sensors coincidence.

Technical specifications

Operating voltage	from 16,5 ÷ 24,6 V
Max. current consumption in the quiescent state	< 150 µA
Max. alarm current	≤ 1 mA
Number of programmable modes of operation	7
Detected test fires	from TF1 to TF9
Programming the address	by control panel
Sound pattern	4 kHz tone: 0,5 sec. signal; 0,5 sec. pause
Maximum sound level	> 85 dB/m from one direction > 70 dB/m from other directions
Operational temperature range	od -10°C do +55°C
Detector dimensions (with G-40 base)	Ø 115 x 61 mm
Mass	0,2 kg