



DUT-6046 ADDRESSABLE MULTI-STATE MULTI-SENSOR DETECTOR

Overview

Analogue multi-sensor heat and smoke detector DUT-6046 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.

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

Principles 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-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 operate with one out of four basic modes of operation:

Mode 1 – Interdependent operation of two smoke sensors and two heat sensors

Mode 2 – Interdependent operation of two smoke sensors

Mode 3 – operation as heat detector in class A1R

Mode 4 – independent operation of two smoke sensors and heat sensors.

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 | 4 |
| Programming detector address | from the control panel level |
| Detectable test fires: | from TF1 up to TF9 |
| Operation temperature | from -25 °C to +50 °C |
| Dimensions (with base) | ø 115 x 61 mm |
| Mass | 0.2 kg |