



DUR-40 UNIVERSAL OPTICAL SMOKE DETECTOR

Overview

The DUR-40 universal optical smoke detector is designed for detection of a visible smoke at the start of a fire's flameless stage when material starts to smoulder, and therefore generally, a long time prior to the appearance of an open flame and a noticeable rise in temperature.

The detector is designed for operating indoors where, under normal conditions, smoke, dust and steam condensation are not present. Due to self-compensation for environmental changes, the DUR-40 optical smoke detector offers improved resistance to air pressure and temperature changes.

Principles of operation

The DUR-40 is a Tyndall effect optical detector. Its operation is based on measuring the infrared (IR) radiation scattered by smoke particles. The main element of the detector is an optical module, consisting of an electroluminescence diode emitting infrared (IR) radiation and a photodiode being the receiver of the radiation. The optical module is protected by a labyrinth, damping both an external light and direct light of the emitting diode. When smoke particles enter the area of the optical module, infrared (IR) radiation is scattered on them. Part of this scattered radiation reaches the photodiode that generates an alarm signal.

The DUR-40 detector contains self-compensation circuits, which maintain constant sensitivity during progressive dirt accumulation inside the measuring chamber. After exceeding a pre-set level of dirt build-up, the detector signals a fault denoting the necessity for servicing and cleaning works. The detector has a replaceable optical chamber, which can be cleaned or replaced by a new one.

An additional optical alarm signal for a detector or group of detectors can be obtained by connecting the WZ-31 alarm indicator.

The DUR-40 detectors meet the requirements of the PN-EN 54-7 European standard.

They are installed in the G-40 bases.

Technical specifications

Operation voltage	12 ÷ 28 V
Max. quiescent current	≤ 60 μA
Alarm current	20 mA
Detectable test fires	from TF1 to TF5 and TF8
Operation temperature range	from -25 °C up to +55 °C
Relative humidity	up to 95 % at 40 °C
Dimensions of detector:	
- with base	115 dia. x 54 mm
Mass	0.15 kg