# **OSD23** OPTICAL SMOKE DETECTOR

090730

APPLICATION – OSD23/03 optical smoke detector works in a fire watch line of a fire signalisation system and is designed to detect the presence of smoke in the air, which is a product of glowing or burning down typical materials that are structural components or elements of furniture in the room.
OSD23/03 detector is designed to be used in closed areas in which, under normal conditions, dust and smoke are not found.

OSD23/03 detector works with GNW12, GNP18 and GNA42 bases.

**CONSTRUCTION** - OSD 23 smoke detector consist of two basic parts:
electronic one (so-called detector's body)
optical-smoky one (so-called optical chamber – cage)

**THE PRINCIPLE OF OPERATION** - The measure of smoke density consists in detecting light reflected from smoke particles. Smoke penetrates into the inner part of the measuring chamber through slits in a detector's cage and then through slits in a labyrinth, which is installed inside the cage.
The aim of the described construction is to make the detector immune to outer light, bugs, and incidental, negligible plumes of smoke e.g. from cigarettes.
The interior of the chamber is lightened up at three-second intervals with a strong flash of infrared light, which is emitted by the special laser LED diode and positioned at such an angle to a detector (PIN diode), that its light does not illuminate this detector directly .
Constant exposure to smoke changes the smokiness threshold of the measuring chamber and makes the detector's logical configuration go into the snapped still alarm state.
The detector will not go into the alarm state, if the smokiness threshold exceeding is a single event. Turning the detector off the alarm state is possible after thorough blowing through the detector and decreasing power supply below 2V for minimum one second.

The detector can be delivered in the following optional form:
1. OSD23 – standard detector, the double state with an alarm state lock
2. OSD23-M – detector signals the stand-by state with LED's short flashes appearing about every three seconds, while it signals the alarm state with constant LED's light.
3. OSD23-R – detector automatically goes from the alarm state into the stand-by state after the smoke subsides.
4. OSD23-MR – combination of the two options presented above.

**SPECIFICATIONS**

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|---|---|
| Stand-by voltage | 20V (12V ÷ 28V) |
| Average stand-by current | 35µA |
| Max. stand-by current during starting (60 sec.) | 110µA |
| Current during alarm conditions | 18mA (at stand-by voltage 20V) |
| Stand-by temperature range | -25 C to +55 C |
| Relative humidity | 95% at 40 C |
| Weight | 140g |
| Dimentions | Height – 63mm<br>Diameter – 107 mm |

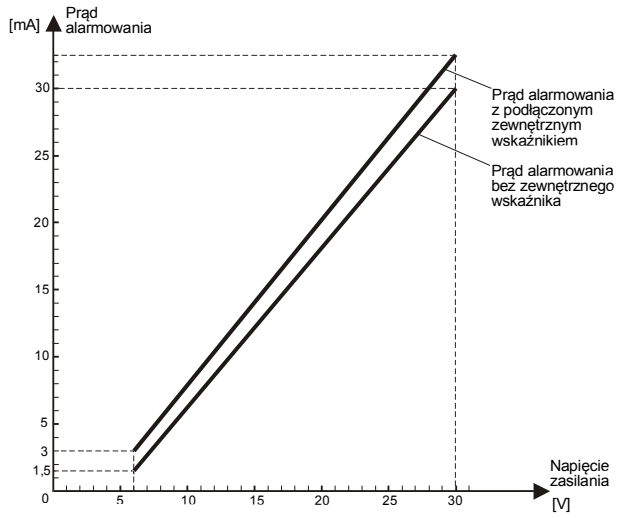


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Diagram showing current in OSD23 reader alarm state

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