



## ADR-20N SELF-CONTAINED HOME OPTICAL SMOKE DETECTOR

### Overview

The residential ADR-20N smoke detector is designed to detect visible smoke at a start of a fire's flameless stage when material starts to smoulder, and therefore, a long time prior to the appearance of an open flame and a noticeable rise in temperature. It enables early detection of a fire in small residential facilities such as apartments, houses (in cellars, garages, attics, etc.). The detector is suitable for independent operation as well as operation in a network of several interconnected detectors.

The detector is intended to be installed in premises, in which, under normal conditions, smoke, dust or steam condensation are not present.

### Principles of operation

The ADR-20N is a Tyndall effect based optical smoke detector. Its operation is based on measuring infrared (IR) light scattered by smoke particles (aerosol) entering the measuring chamber which is inaccessible to external light.

A photodiode, a radiation receiver located inside the measuring chamber, does not detect infrared light emitted by a transmitter – an electroluminescent diode – up to the moment when smoke particles enter the measuring chamber scattering the said infrared radiation and directing it at the receiver.

After exceeding the preset threshold value, the electronic system of the detector activates an audio and optical alarm.

### Function

The ADR-20N detector is battery-operated using a replaceable 9 V 6F22 battery (best if alkaline), which in a monitoring mode should last for a minimum of 1 (one) year. The detector is equipped with a test button used for testing the detector's proper operation. It is possible to interconnect the detectors with a two-core cable creating a detector network in the protected facility. Detection of a fire hazard discovered by one detector activates an audio alarm signal in other detectors in the detector network. The detector can be in one of the following modes:

- a monitoring mode – the LED diode flashes every 40 seconds confirming its proper operation;
- an alarm mode – signalled by a flashing LED diode and a modulated audio signal;
- a repeated alarm by another detector – modulated audio signal;
- a fault mode – brief audio signal emitted every 40 seconds without a flashing of the LED diode;

- a battery indicator mode – brief audio signal emitted every 40 seconds and a flashing LED diode.

Pressing the test button activates the optical and audio signal, the same as in a case of an actual fire alarm.

In case of dirt accumulation in the measuring chamber, which may be a result of a long-term usage under adverse conditions, the chamber can be easily cleaned or replaced with a new one.

### Installation

The ADR-20N detectors may be installed in all rooms endangered by a fire hazard, particularly in kitchens, hallways, staircases, garages, etc. An area protected by one detector covers approximately 60 m<sup>2</sup>. The detectors should be installed on ceilings, above the centre of the room, and if it is not possible then at a minimum 20 cm of unobstructed space from the detector should be allowed to enable free air flow. Installation of the product should also not be made in a vicinity of vents, air conditioning units, heaters, cookers, and areas where water vapour condensation occurs.

### Technical specifications

|  |                                 |
|--|---------------------------------|
| Power supply                           | 9 V 6F22 battery (not included) |
| Min. operating voltage                 | 7 V                             |
| Monitoring current                     | 10 µA                           |
| Audio alarm volume                     | > 85 dB                         |
| Colour                                 | white                           |
| Operation temperature range            | from -10 °C up to +55 °C        |
| Relative humidity                      | up to 95 % at 40 °C             |
| Dimensions of the detector (with base) | Ø112 x 57 mm                    |
| Spacing of the installation holes      | 72 mm                           |

### IMPORTANT

This type of detector is intended for residential use ONLY.

The efficiency of the detector's alarm is ensured if its signal can be heard by members of the household.

The detector is delivered without 9 V battery – is should be ordered separately.