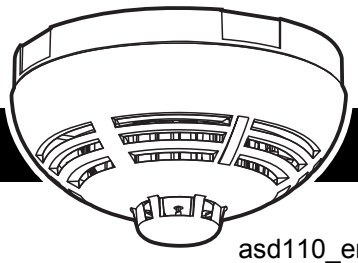
Satel® CE 1471

ASD-110



WIRELESS SMOKE AND HEAT DETECTOR

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The ASD-110 multisensor detector can detect the early stages of fire development when there is some visible smoke and/or temperature rise. It can operate as a stand-alone device or as part of the ABAX two-way wireless system. It is supported by the ACU-100 controller with firmware version 3.02 (or later) and by the INTEGRA 128-WRL control panel with firmware version 1.10 (or later).

1. Features

- EN54-7 compliant visible smoke sensor.
- EN54-5 compliant heat sensor.
- Red LED for optical signaling.
- Built-in sounder.
- Test feature.
- Tamper switch (supervised when working in the ABAX system).

2. Functional description

An optical method is used for the detection of visible smoke. When the concentration of smoke in the optical chamber exceeds a given threshold, an alarm is triggered. The smoke sensor operating parameters are modified depending on the temperature changes recorded by the heat sensor (thermistor).

The heat sensor operates according to the requirements of Class A1R (EN 54-5). The alarm will be triggered after exceeding a certain threshold temperature (54°C - 65°C) or in the event when the temperature rises too rapidly (see Table 1).

Air temperature rise velocity	Lower limit of response time	Upper limit of response time
1 °C/min	29 min	40 min 20 s
3 °C/min	7 min 13 s	13 min 40 s
5 °C/min	4 min 9 s	8 min 20 s
10 °C/min	1 min	4 min 20 s
20 °C/min	30 s	2 min 20 s
30 °C/min	20 s	1 min 40 s

Table 1. Response time limits for the heat sensor.

The alarm is indicated visually (LED steady light) and acoustically (intermittent sound) for 2 minutes. Pressing the test / reset button (designated with the letter A in Figure 1) during the alarm will clear the alarm condition. The alarm information is sent to the ACU-100 controller / INTEGRA 128-WRL control panel. After the alarm causes cease to exist, information about the alarm end will be sent.

After starting the test mode in the ABAX system, the LED indicates as follows:

- flashing quickly – the memory of alarm triggered by smoke sensor;
- flashing slowly – the memory of alarm triggered by heat sensor;
- a single short flash – the detector is being polled (there was no alarm).

Note: *The alarm memory is cleared after exiting the test mode.*

3. Installation

The detector is designed for indoor operation. It should be installed on the ceiling, at a minimum distance of 0.5 meters from the walls.

Do not install the detector in places with high concentration of dust and/or formation and condensation of water steam. The detector should not be mounted in the vicinity of heaters and cookers.

The detector enclosure can not be closed without the battery inserted.

Be particularly careful during installation and replacement of the battery. The manufacturer is not liable for the consequences of incorrect installation of the battery.

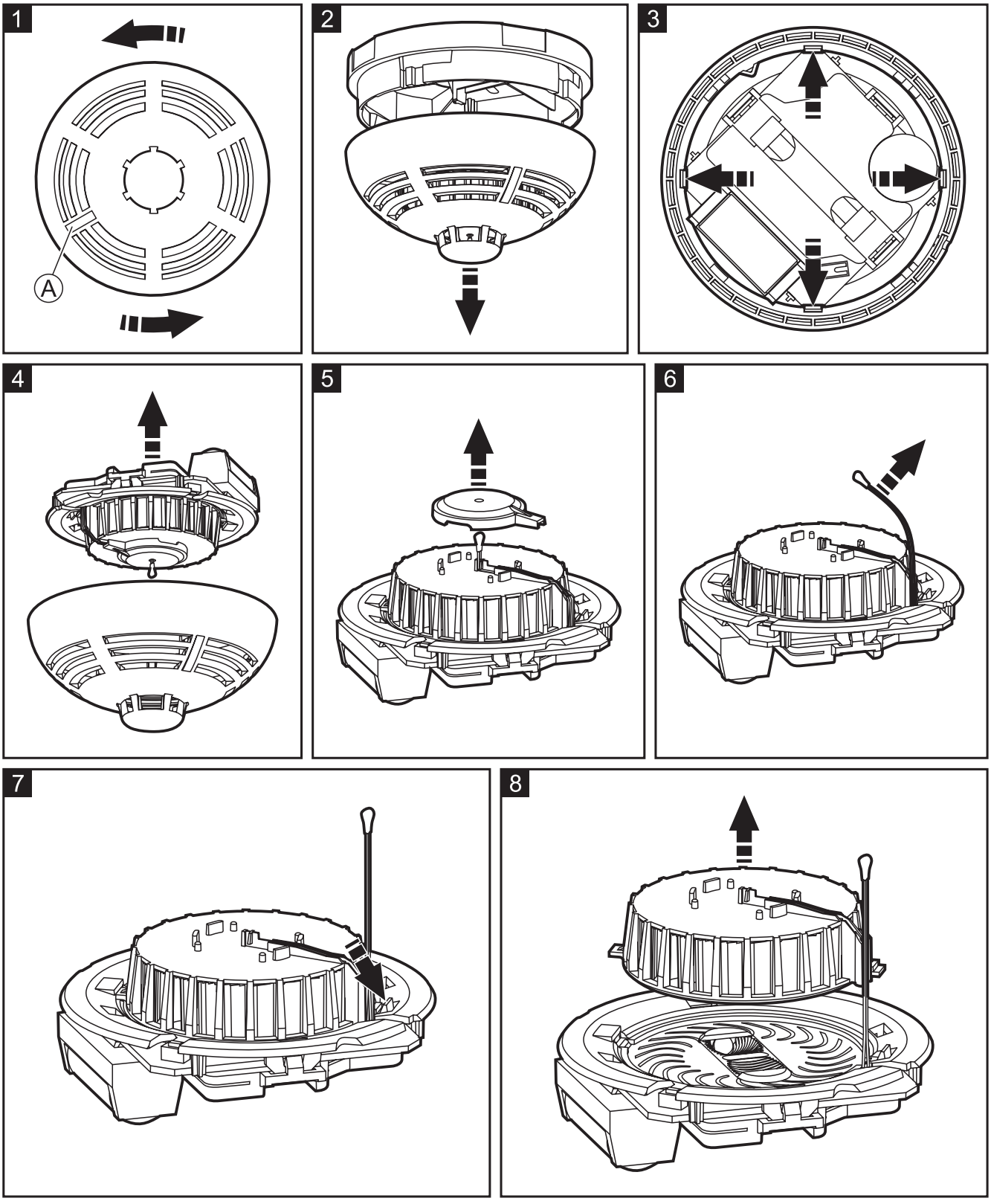
The following description applies to installation of the detector which is to work within the ABAX system. If the detector is to operate stand-alone, skip steps 5-8.

1. Remove the plastic dust cap.
2. Turn the cover counter-clockwise (Fig. 1) and remove it (Fig. 2).
3. Remove the battery and remove the protective film from it.
4. Re-install the battery.
5. Add the detector to the wireless system (see the ACU-100 controller manual, installer manuals for INTEGRA 128-WRL or VERSA control panels).
6. Close the enclosure and temporarily fasten the detector at the future installation place.
7. Check the level of signal received from the detector by the ACU-100 controller or by the INTEGRA 128-WRL control panel. If necessary, select another place for installation, to ensure adequate communication quality.
8. Open the enclosure.
9. With the use of pins and screws, secure the enclosure base to the ceiling.
10. Close the detector enclosure.
11. Press and hold down the test / reset button (designated with the letter A in Figure 1) to make sure that the detector works. Alarm should be triggered after a few seconds.
12. If any other operations which may cause contamination of the optical chamber are being carried in the facility where the detector is installed, the detector must be temporarily covered with a plastic dust cap.

4. Cleaning the optical chamber

The detector monitors the state of the optical chamber. Deposition of dust in the interior of the chamber can in time lead to false alarms. Contamination of the chamber is indicated by LED (2 flashes every 40 seconds). You should then:

1. If the detector is used in the ABAX system, start the service mode in the control panel.
2. Turn the cover counter-clockwise (Fig. 1) and remove it (Fig. 2).
3. Remove the battery.
4. Pull aside the mounting catches (Fig. 3) and remove the electronics board with the optical chamber (Fig. 4).
5. Remove the cover from the thermistor (Fig. 5).
6. Pull aside the thermistor and its leads (Fig. 6).
7. Pull aside the mounting catch of the optical chamber (Fig. 7) and remove it (Fig. 8).



8. Using a soft brush or compressed air, clean the labyrinth in the cover and the base of the optical chamber, paying attention to the recesses where the LEDs are installed.
9. Replace the cover of the optical chamber.
10. Place the thermistor leads in the respective grooves.
11. Replace the thermistor cover.
12. Secure the electronics board with the optical chamber in the cover mounting catches. The board must be mounted so that the LED coincides with the light guide/button.
13. Re-install the battery.

14. Close the detector enclosure.

5. Battery replacement

The detector power supply battery (CR123A 3 V) ensures operation for about 2 years. A low battery status (voltage drop to 2.6 V) is audibly indicated (by a beep every 40 seconds). The information on low battery is sent to the ACU-100 controller / INTEGRA 128-WRL control panel. To replace the battery:

1. If the detector is used in the ABAX system, start the service mode in the control panel.
2. Turn the cover counter-clockwise (Fig. 1) and remove it (Fig. 2).
3. Remove the discharged battery and dispose of in accordance with applicable environmental regulations.
4. Install a new CR123A 3 V lithium battery.
5. Close the detector enclosure.
6. Press and hold down the test / reset button (designated with the letter A in Figure 1) to make sure that the detector works. Alarm should be triggered after a few seconds.

6. Specifications

Operating frequency band ..... 868.0 MHz ÷ 868.6 MHz
Radio communication range ..... up to 500 m (in open area)
Power supply ..... lithium battery CR123A 3 V
Battery life expectancy ..... approx. 2 years
Standby current consumption ..... 85 µA
Class according to EN 54-5 (thermal sensor) A1R
Minimum static response temperature ..... 54 °C
Maximum static response temperature ..... 65 °C
Operating temperature range ..... 0 °C – 55 °C
Enclosure dimensions ..... ø108 x 61 mm
Weight ..... 170 g

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