MULTISENSOR SMOKE AND HEAT DETECTOR

DMP-100

OPTICAL SMOKE DETECTOR

DRP-100

FIXED TEMPERATURE / RATE-OF-RISE HEAT DETECTOR

DCP-100

Installation Manual

CE

dmp-100_en 06/15

SATEL sp. z o.o.
ul. Budowlanych 66
80-298 Gdańsk
POLAND
tel. + 48 58 320 94 00
www.satel.eu

1. Introduction

This manual covers the following detectors:

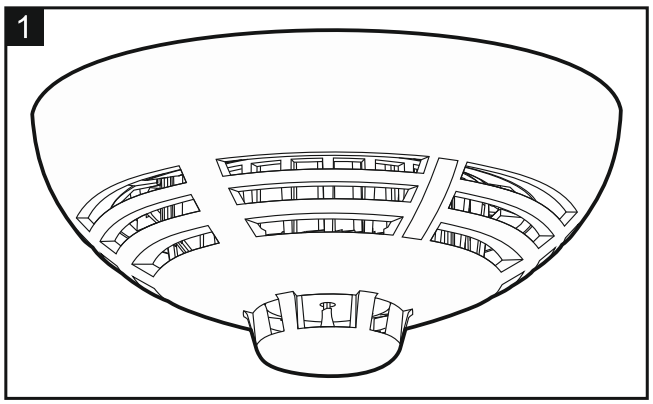
DMP-100 - conventional multisensor smoke and heat detector (Fig. 1);

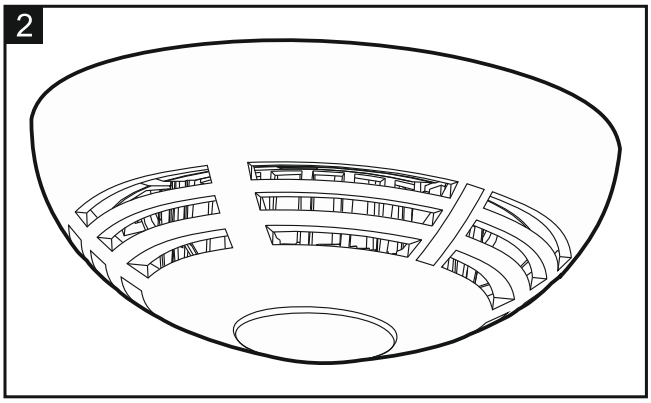
DRP-100 - conventional optical smoke detector (Fig. 2);

DCP-100 - conventional fixed temperature / rate-of-rise heat detector (Fig. 1 – a red ring is painted on the enclosure of detector to differentiate it from the DMP-100).

These detectors can detect the early stages of fire development when there is some visible smoke (DMP-100 and DRP-100) and/or temperature rise (DMP-100 and DCP-100). They are designed to be used in conjunction with the CSP-104, CSP-108, CSP-204 and CSP-208 fire alarm control panels.

Prior to installation, please read this manual carefully in order to avoid any mistakes and/or errors which might result in malfunctioning of or even damage to the equipment. The manual contains guidelines for installation of the detectors.





2. Features

- EN54-7 compliant visible smoke sensor (DMP-100 and DRP-100).
- EN54-5 compliant heat sensor (DMP-100 and DCP-100).
- Detection of optical chamber fouling (DMP-100 and DRP-100).
- Red LED indicator.
- Installation in DB-100 base.
- Optional connection of remote alarm indicator.

3. Functional description

3.1 Smoke detection (DMP-100 and DRP-100)

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 detector automatically compensates for gradual changes in the optical chamber caused by deposition of dust. In the case of DMP-100 multisensor detector, the smoke sensor operating parameters are adjusted according to the temperature changes recorded by the heat sensor (thermistor).

3.2 Heat detection (DMP-100 and DCP-100)

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).

Rate of rise of air temperature	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. Rate-of-rise response time limits for the heat sensor

3.3 Optical alarm signaling

The alarm is signaled by steady light of the red LED, thus making it easier to locate the detector which issued the alarm. If the detector is mounted in a hard-to-reach location and the LED is not visible, a remote alarm indicator installed in a visible place can be connected to the detector.

4. Installation

The detectors are designed for indoor installation. In the typical home or office applications, the detector should be installed on the ceiling, at a distance of at least 0.5 meters from the walls or other objects.

Do not install the detector in places with high concentration of dust, with formation and condensation of water steam and/or in the vicinity of air conditioning vents.

The detector should not be installed near heaters and cookers.

The detector is designed for installation in the DB-100 base, to which cables are connected. Having installed the detector into its base, protect it temporarily with the plastic dust cover included in the detector delivery set, if any work which might cause fouling of the detector is being carried out in the building.

Note: *It is advisable to keep the dust cover in case repair work is conducted in the future.*

5. Maintenance

The detectors should be subject to regular checks to ensure they are working correctly. Periodic checks should be conducted at least every six months.

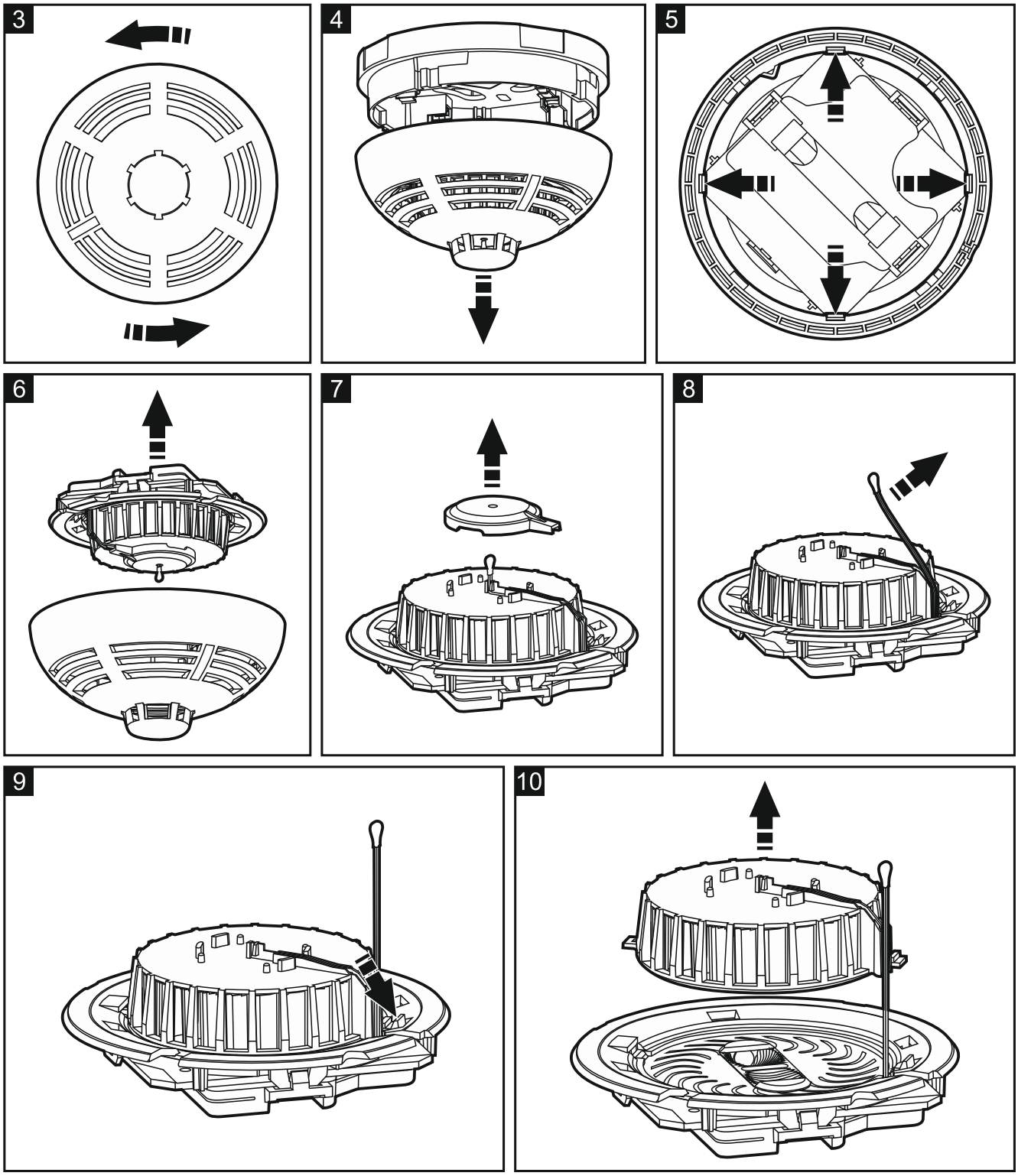
5.1 Cleaning the optical chamber

The DMP-100 and DRP-100 detectors are monitoring the state of the optical chamber. Deposition of dust in it may lead to malfunctioning of the device. It is recommended that you have the optical chamber cleaned at least once a year. Cleaning the chamber is necessary when the LED indicates fouling of the chamber (one flash every 30 seconds).

Below, the procedure of cleaning the DMP-100 optical detector is described. For the DRP-100 detector, in which no thermistor is installed, proceed in the same way, skipping the steps 3, 4, 8 and 9.

1. Turn the detector counter-clockwise (Fig. 3) and remove it from the DB-100 base (Fig. 4).
2. Push outward the catches (Fig. 5) and take out the electronics board with the optical chamber (Fig. 6).
3. Remove the thermistor cover (Fig. 7).

4. Push aside the thermistor and its wires (Fig. 8).
5. Push outward the catch securing the optical chamber cover (Fig. 9) and remove it (Fig. 10).



6. Using a soft brush or compressed air, clean the labyrinth in the cover, as well as the base of the optical chamber, paying attention to the recesses where LEDs are installed.
7. Replace the cover of the optical chamber.
8. Place the thermistor leads in their grooves.
9. Replace the thermistor cover.

10. 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.
11. Insert the detector into the DB-100 base and turn it clockwise.

6. Specifications

Supply voltage		10.5...26 V DC
Quiescent current	DMP-100	0.04 mA
	DRP-100	0.03 mA
	DCP-100	0.022 mA
Alarm current	DMP-100	23 mA
	DRP-100	23 mA
	DCP-100	23 mA
Class according to EN 54-5 (heat sensor)		A1R
Minimum static response temperature		54 °C
Maximum static response temperature		65 °C
Operating temperature range		-25...+50 °C
Maximum humidity		93±3%
Enclosure dimensions	DMP-100 / DCP-100	ø108 x 49 mm
	DRP-100	ø108 x 42 mm
Weight	DMP-100	94 g
	DRP-100	94 g
	DCP-100	94 g

The DCP-100 heat detector meets essential requirements of the European Union Directives:

CPD 89/106/EEC Construction Products Directive;

EMC 2004/108/EC Electromagnetic Compatibility Directive;

An EC Certificate of Conformity No. 1438/CPD/0316 was issued by the CNBOP-PIB Jozefow Certification Body for the DCP-100 heat detector to confirm its compliance with the requirements of PN-EN 54-5:2003 standard.

The Certificate of Conformity can be downloaded from the **www.satel.eu** website.

CE

1438

SATEL Sp. z o.o. • ul. Franciszka Schuberta 79 • 80-172 Gdańsk • POLAND

13

1438/CPD/0316

EN 54-5

DCP-100 conventional, detachable, spot type heat detector for fire alarm systems used in buildings.

Class A1R

Application – fire safety.

Technical specifications – please refer to this manual.

The DRP-100 smoke detector meets essential requirements of the European Union Directives:

CPD 89/106/EEC Construction Products Directive;

EMC 2004/108/EC Electromagnetic Compatibility Directive;

An EC Certificate of Conformity No. 1438/CPD/0340 was issued by the CNBOP-PIB Jozefow Certification Body for the DRP-100 smoke detector to confirm its compliance with the requirements of PN-EN 54-7:2004 + PN-EN 54-7:2004/A2:2009 standards.

The Certificate of Conformity can be downloaded from the **www.satel.eu** website.

CE

1438

SATEL Sp. z o.o. • ul. Franciszka Schuberta 79 • 80-172 Gdańsk • POLAND

13

1438/CPD/0340

EN 54-7

DRP-100 conventional spot type optical smoke detector, operating on light scattering principle, for fire alarm systems used in buildings.

Application – fire safety.

Technical specifications – please refer to this manual.

The DMP-100 smoke and heat detector meets essential requirements of the European Union Directives:

CPD 89/106/EEC Construction Products Directive;

EMC 2004/108/EC Electromagnetic Compatibility Directive;

An EC Certificate of Conformity No. 1438/CPD/0341 was issued by the CNBOP-PIB Jozefow Certification Body for the DMP-100 smoke and heat detector to confirm its compliance with the requirements of PN-EN 54-5:2003 and PN-EN 54-7:2004 + PN-EN 54-7:2004/A2:2009 standards.

The Certificate of Conformity can be downloaded from the **www.satel.eu** website.

CE

1438

SATEL Sp. z o.o. • ul. Franciszka Schuberta 79 • 80-172 Gdańsk • POLAND

13

1438/CPD/0341

EN 54-5

EN 54-7

DMP-100 conventional spot type multisensor heat and smoke detector, operating on light scattering principle, fixed temperature / rate-of-rise, for fire alarm systems used in buildings.

Class A1R

Application – fire safety.

Technical specifications – please refer to this manual.