

MADE TO PROTECT

Satel®

OUTDOOR DUAL-TECH MOTION DETECTORS
OPAL, OPAL Plus, OPAL Pro
AOD-210



www.satel.eu

Reliable detection

owing to advanced design

can be used in building automation systems, thanks to built-in dusk sensor



selectable mounting method, thanks to dedicated ball-type and angle-type brackets



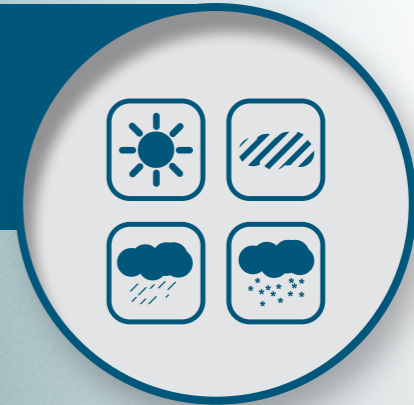
easy remote sensitivity configuration of all detection circuits and dusk sensor using OPT-1 keyfob (OPAL Plus/OPAL Pro)



OUTDOOR

PIR+MW DUAL-TECH MOTION DETECTORS

high resistance to adverse weather conditions



- reliable operation
- active IR anti-masking (OPAL Pro)
- immunity to pets
- tamper protection against removal from mounting surface and opening of enclosure

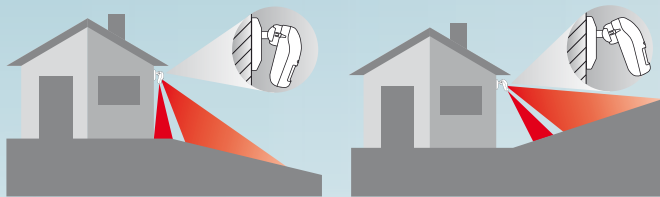


ADVANCED OUTDOOR DETECTORS

When planning an alarm system, one should not focus solely on detecting the presence of an intruder inside the protected premises. It is equally or perhaps even more important that he be detected before causing any damage to the building. Such an attempt to penetrate the outer zone of protected premises will be detected by the OPAL detectors.

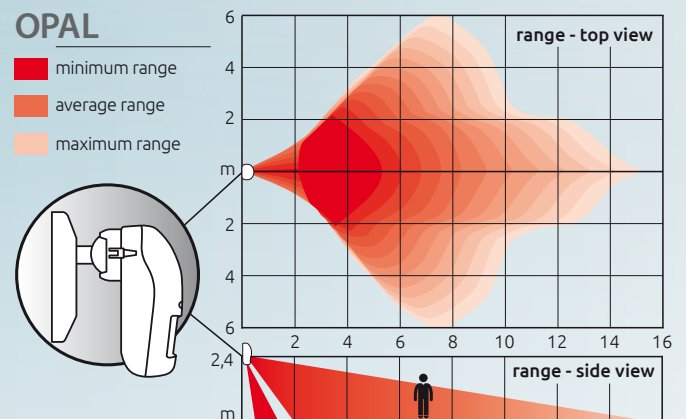
APPLICATION

OPAL, OPAL Plus and OPAL Pro provide excellent outdoor protection in buildings of various types and purpose. These devices will also perform very well as the indoor protection in industrial buildings where difficult or specific environmental conditions prevail (in halls, shelters, sheds etc.). The OPAL series detectors can also be used for the implementation of alarm systems with home automation. This is made possible by a dusk sensor with which OPAL Plus and OPAL Pro are fitted. You can directly control the relays located in electrical distribution board or the automation controllers. These detectors can also interface with the KNX system via an INTEGRA series control panel, which allows you to easily and conveniently control the roller shutters, exterior lighting of the building, garage door, entrance gate, etc. The moment of operation can be selected through fine sensitivity adjustment.



OPERATING RANGE

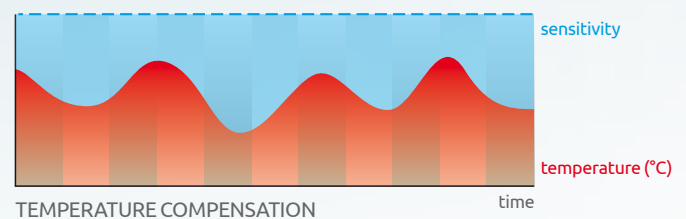
Detection angle of the OPAL detectors is as high as 100 degrees and their range exceeds 15 m. The look down zone is also protected, so any intruder's attempt to creep up on the device to damage it or tear off the wall will be detected. Additionally, the detector software is designed so as to prevent false alarms from being triggered by the movement of small pets.



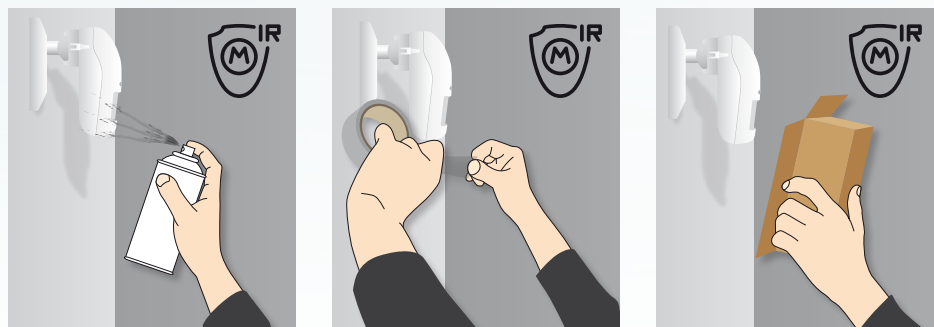
RESISTANCE TO WEATHER CONDITIONS

The SATEL outdoor detectors offer stable performance regardless of whether they work in rain, in bright sunlight, during strong gusts of wind or in very high or very low temperatures. This functionality is provided by a combination of dual technology of detection and an algorithm of auto-adaptation to environmental conditions with automatic compensation for changes in ambient temperature.

Resistance of the **OPAL series detectors** to severe weather conditions has been confirmed in comprehensive long-term tests.



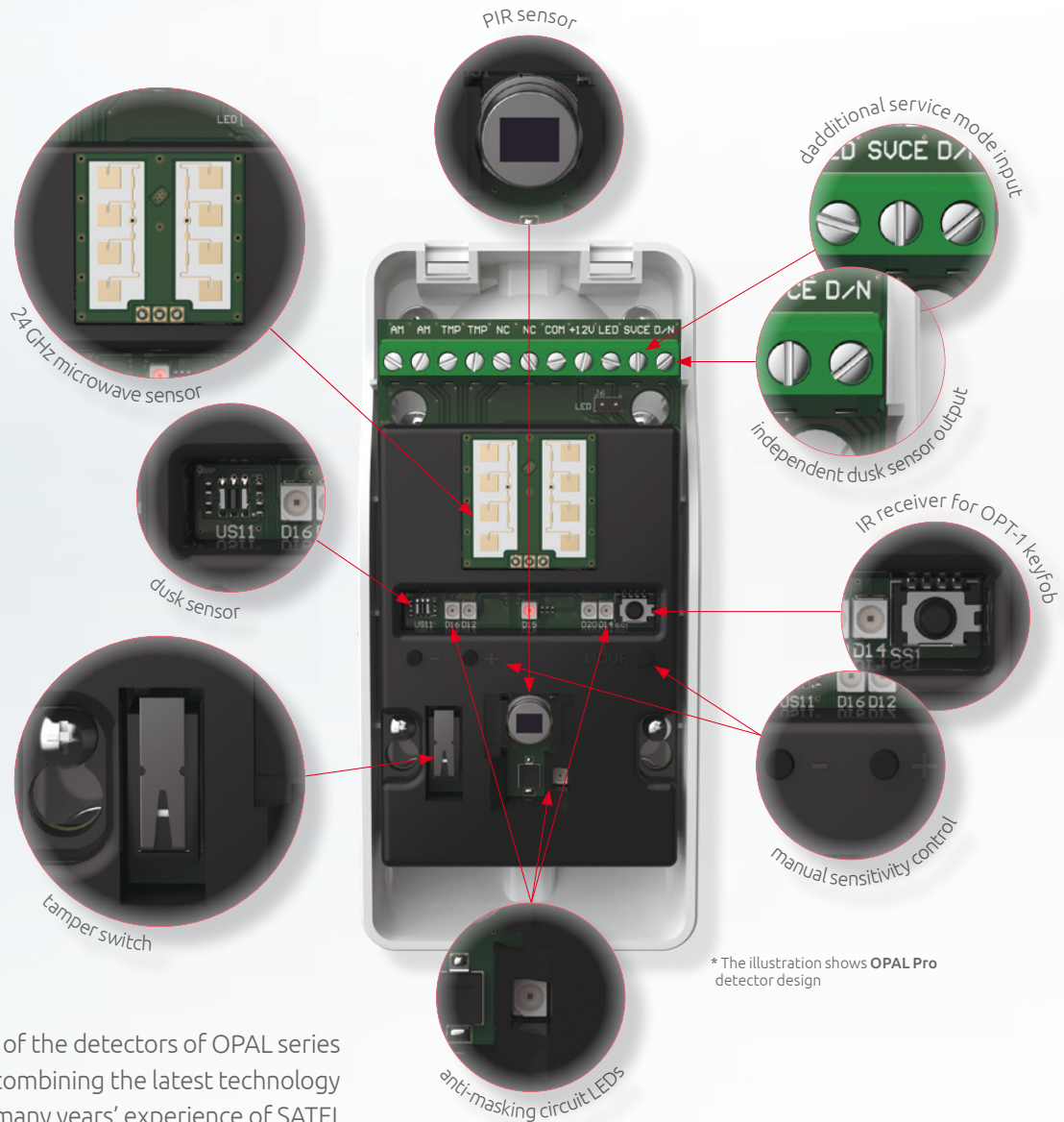
ANTI-MASKING PROTECTION



OPAL Pro is provided with an active IR anti-masking function, so it will detect any attempt to cover the detector lens with paint or lacquer, or with materials of different thickness, color and texture.

In OPAL and OPAL Plus, the anti-masking function is implemented in the microwave circuit, which enables detection of objects moving around in close proximity to the detectors.

DETECTOR DESIGN

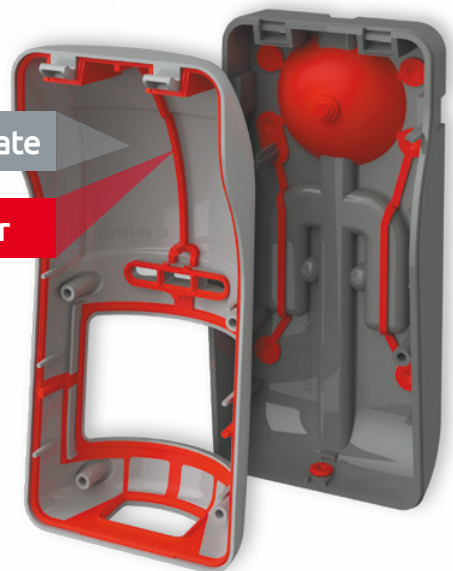


* The illustration shows OPAL Pro detector design

High quality of the detectors of OPAL series results from combining the latest technology and many years' experience of SATEL specialists in the design and production of devices for intrusion and hold-up alarm systems. This is evidenced by the design of detectors, both their electronics and the enclosure itself.

polycarbonate

elastomer

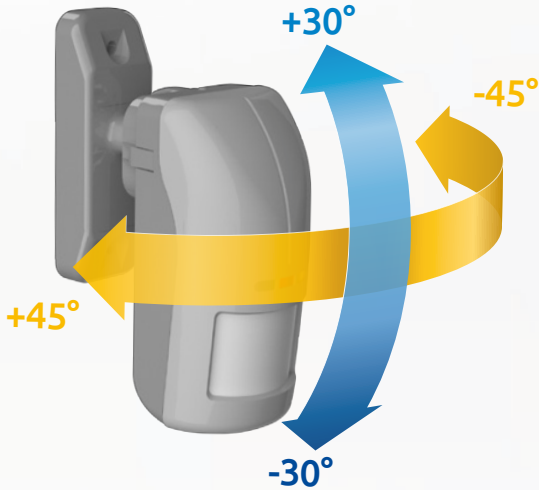


Enclosures of the detectors are made of a combination of polycarbonate and thermoplastic elastomer using **two-component injection** technology. The thus obtained design is **IP54 rated**, which makes the detectors splash-proof and suitable for outdoor applications as well. The enclosure protects electronic circuits of the device against potentially harmful phenomena, such as rain, snow, fog or moisture. Moreover, the detectors are characterized by a high mechanical strength and resistance to UV radiation, so their appearance remains unchanged for many years.

USEFUL FEATURES AND EXTRA COMPONENTS

REMOTE CONFIGURATION OF SENSITIVITY

A big help for the installer is the ability to remotely change the sensitivity of all detection circuits and dusk sensor in OPAL Plus and OPAL Pro detectors by using the OPT-1 IR keyfob. This feature makes the control easy, as you do not need any more to frequently open the device enclosure to do the job. The CR2032 battery powered keyfob ensures several thousand adjustments.



MOUNTING METHODS

Design of the OPAL series detector makes it possible to mount it directly on a flat surface, e.g. where the small pet immunity option is to be used. If, however, for the optimum coverage of the protected area, it is necessary that the detector be mounted at a different angle, you can use the dedicated BRACKET C set of brackets.

The ball-type bracket allows you to control the detector tilt angle in two planes: up to 60° vertically and up to 90° horizontally. This makes it easier to find the optimum position relative to the protected area. If the premises require that the detector be set permanently at an angle of 45° to the wall, you can use the angle-type bracket.

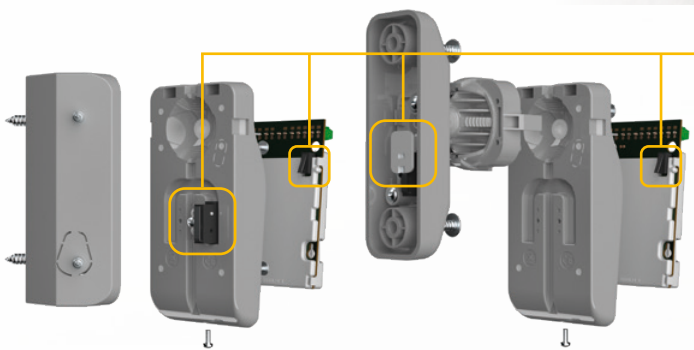
WIRING

In the case of devices installed outdoors, it is extremely important to guarantee the security and reliability of their operation. For this reason, the above mentioned brackets are designed so that the cable which connects the detector to the control panel is running inside them. This makes the whole system both secure and aesthetic.



PROTECTIVE HOOD

If additional protection against atmospheric precipitation and pollution is required, the HOOD C can be used. Installation of this product is extremely easy – the hood should be mounted directly on the detector enclosure by means of two snap catches, without using any tools.

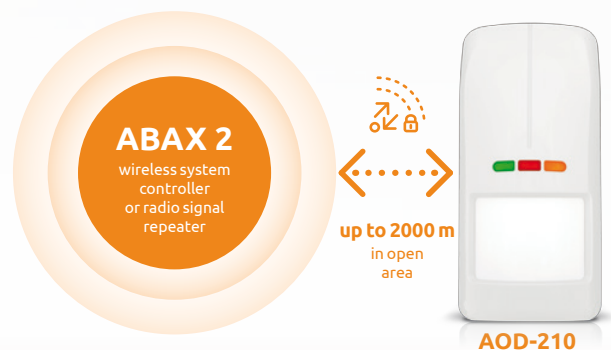


TAMPER PROTECTION

Regardless of which type of bracket is used, the detectors of OPAL series will always be protected against opening and removing them from the mounting surface. This protection is provided by two tamper switches located on the PCB and a specially designed contact that can be mounted in the ball bracket or at the back panel of the detector (if the angle bracket is used).

AOD-210 – WIRELESS OUTDOOR PROTECTION

Protection can also be provided outside of the building which is to be secured, even where using wired devices is not possible. The AOD-210 outdoor wireless detector, which is designed to work as part of the ABAX 2 two-way system, is ideally suited for such applications.



SUMMARY OF FEATURES AND CHARACTERISTICS

	OPAL	OPAL Plus	OPAL Pro	AOD-210
Two detection circuits: PIR+MW	+	+	+	+
Active IR anti-masking according to EN 50131-2-4 for Grade 3	-	-	+*	-
Anti-masking in microwave circuit	+	+	-	-
Built-in dusk sensor enabling the detector to be used in automation systems	-	+	+	+
Built-in receiver of IR OPT-1 keyfob signal	-	+	+	-
Remote sensitivity configuration of detection circuits and dusk sensor with OPT-1 keyfob without having to open detector enclosure	-	+	+	-
Sensitivity configuration of dusk sensor by using PCB located buttons	-	+	+	-
Sensitivity configuration of detection circuits by using PCB buttons	+	+	+	-
Remote sensitivity configuration of detection circuits and dusk sensor from DLOADX or ABAX 2 Soft	-	-	-	+
Reinforced polycarbonate enclosure	+	+	+	+
Splash-proof enclosure, IP54 rated	+	+	+	+
Digital temperature compensation	+	+	+	+
Auto-tuning algorithm for high immunity to false alarms	+	+	+	+
Ability to work in adverse weather conditions (rain, snow, fog, strong wind)	+	+	+	+
Tamper protection (against opening and removal)	+	+	+	+
Low current consumption	+	+	+	+
Dedicated angle-type bracket (45°)	+	+	+	+
Dedicated ball-type bracket (tilting up to 60° vertically and up to 90° horizontally)	+	+	+	+
Dedicated protective hood	+	+	+	+
Wires running inside the bracket for better protection	+	+	+	+
Optional installation without any additional bracket	+	+	+	+
White enclosure <input type="button" value="front"/> <input type="button" value="back"/>	+	+	+	+
Gray enclosure <input type="button" value="front"/> <input type="button" value="back"/>	+	+	+	+

* for indoor applications

TECHNICAL PARAMETERS

	OPAL	OPAL Plus	OPAL Pro	AOD-210
Environmental class	III A	III A	III A	III A
Security rating	acc. to Grade 2	acc. to Grade 2	acc. to Grade 3*	acc. to Grade 2
Enclosure dimensions	65 x 138 x 58 mm	65 x 138 x 58 mm	65 x 138 x 58 mm	65 x 138 x 58 mm
Operating temperature range	from -40°C to +55°C	from -40°C to +55°C	from -40°C to +55°C	from -40°C to +55°C
Recommended installation height	2,4 m	2,4 m	2,4 m	2,4 m
Standby current consumption	12 mA	15 mA	17 mA	75 µA
Maximum current consumption	20 mA	20 mA	30 mA	25 mA
Operating range	15 m	15 m	15 m	16 m

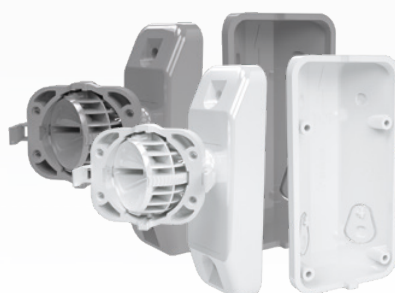
* for indoor applications

The offer includes products and accessories in two color versions: white and gray (GY).



OPAL / OPAL GY
OPAL Plus / OPAL Plus GY
OPAL Pro / OPAL Pro GY
AOD-210 / AOD-210 GY

Outdoor PIR+MW dual-tech motion detector



BRACKET C / BRACKET C GY

Set of wall brackets for mounting outdoor detectors



HOOD C / HOOD C GY

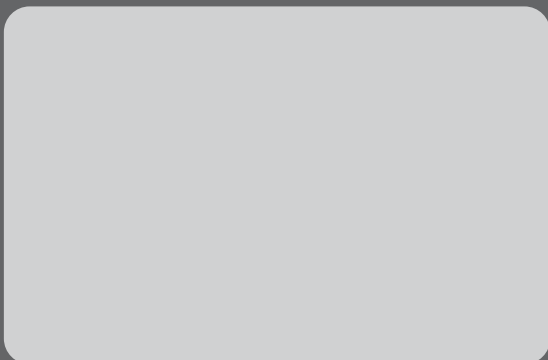
Dedicated protective hood



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MADE TO PROTECT



The manufacturer reserves the right to change the specification and technical data of devices.
Images shown are for general information only and may differ from actual products.
U-OPAL-EN0120

30 YEARS OF EXPERIENCE

Professional protection of each type of premises, as well as people staying therein, through advanced, yet functional and cost-effective solutions – these few words may serve as the shortest description of the mission of SATEL, a manufacturer of security systems with involvement of 100% Polish capital. Due to integrity in business and a special emphasis on high quality and a wide range of products offered, the SATEL brand has been highly appreciated in the industry for 30 years.

This philosophy of management and hard work of more than 300 SATEL's employees produce tangible results. The wide range of over 400 offered products provides countless opportunities to create security, home automation, fire alarm, access control and monitoring systems, tailored to the individual needs of each user. At the same time, these systems meet all requirements prescribed by Polish and international regulations and industry standards.

Bringing the functionality of devices into line with current requirements and expectations of the market with the use of the latest technologies is one of the main objectives of SATEL. For this reason the design and production departments of the Company are continuously being modernized and expanded. A natural consequence of all actions aimed at the production of top-quality devices was the introduction of the quality management system conforming to ISO 9001 in 2002. Regardless of this certification, SATEL also carries out a full functional test of all products leaving the production line, thus ensuring reliability of the manufactured devices. Focusing on modern design and attaching importance to the highest levels of quality and functionality of its products, SATEL has gained many satisfied customers not only in Poland but also in more than 50 markets worldwide.