BOSCH
Invented for life

ISC-PPR1-WA16x Professional Series PIR Detectors with Anti-mask

▸ **16 m x 21 m (50 ft x 70 ft) standard coverage; 8 m x 10 m (25 ft x 33 ft) selectable short range coverage**

▸ **EN50131-2-2 Grade 3 compliant**

▸ **Sensor data fusion technology**

▸ **Tri-focus optics technology**

▸ **MANTIS anti-mask**

▸ **Active white light suppression**

▸ **Dynamic temperature compensation**

▸ **Remote walk test**

▸ **Alarm memory**

▸ **Draft and insect immunity**

The ISC-PPR1-WA16x Professional Series PIR Detectors with Anti-mask are exceptionally suited for commercial indoor applications. MANTIS anti-mask technology makes obscuring the detector view nearly impossible for intruders. Sensor data fusion technology ensures that the detector sends alarm conditions based on precise information. Tri-focus optics eliminate coverage gaps and respond efficiently to intruders. The powerful combination of unique features in the Professional Series delivers superior catch performance and virtually eliminates false alarms.

The self-locking two-piece enclosure, built-in bubble level, flexible mounting height, and three optional mounting brackets simplify installation and reduce service time.

Functions

Sensor Data Fusion Technology

Sensor data fusion technology is a unique feature that uses a sophisticated software algorithm to gather signals from multiple sensors: two pyroelectric sensors, a microwave assist sensor, a room temperature sensor, and a white light level sensor. The microcontroller analyzes and compares the sensor data to make the most intelligent alarm decisions in the security industry.

Microwave Assist Technology

Microwave assist technology provides additional input into the sensor data fusion signal processing algorithm to improve alarm decisions when PIR signals are similar to false alarm sources.

Tri-focus Optics Technology

Tri-focus optics technology uses optics with three specific focal lengths: long-range coverage, middle-range coverage, and short-range coverage. The detector applies the three focal lengths to 86 detection zones, which combine to make 11 solid curtains of detection. Tri-focus optics technology also includes two pyroelectric sensors, which deliver twice the standard optical gain. The sensors process multiple signals to deliver precise performance virtually free of false alarms.

MANTIS Anti-mask Technology

MANTIS (**M**ulti-point **Ant**i-mask with **I**ntegrated **S**pray detection) uses patented prism lenses and active infrared detection to provide industry-leading protection against all known forms of attack. MANTIS complies with the latest worldwide regulatory standards for detecting objects covering or placed in front of the detector. MANTIS is sensitive to materials regardless of texture or color, including fabric, paper, metal, plastic, tape, and spray. When MANTIS identifies a masking material, the detector sends a supervision anti-mask signal to the control panel.

Active White Light Suppression

An internal light sensor measures the level of light intensity directed at the face of the detector. Sensor data fusion technology uses this information to eliminate false alarms from bright light sources.

Available Coverage

The standard coverage is 16 m x 21 m (50 ft x 70 ft). Installers can set a DIP switch at the detector to select short range coverage of 8 m x 10 m (25 ft x 33 ft).

Dynamic Temperature Compensation

The detector automatically adjusts PIR sensitivity to identify human intruders at critical temperatures. Dynamic temperature compensation detects human body heat accurately, avoids false alarms, and delivers consistent catch performance at all operating temperatures.

Cover and Wall Tamper Switch

When an intruder removes the cover or attempts to separate the detector from the wall, a normally-closed contact opens to alert the control panel.

Self-adjusting LED

The LED brightness adjusts automatically to the surrounding light level. A blue light-emitting diode (LED) indicates an alarm condition and activates during a walk test.

Remote Walk Test LED

Users can enter a command through a keypad, a control center, or programming software to remotely enable or disable the walk test LED.

Alarm Memory

Alarm memory flashes the alarm LED to indicate stored alarms for use in multiple unit applications. A switched voltage from the control panel controls the alarm memory.

Solid State Relays

Solid state relays send silent alarm output signals to provide a higher level of security and reliability. An external magnet does not activate the relay. The solid state relay uses less current than a mechanical relay, providing longer standby capacity during a power loss.

Draft, Insect, and Small Animal Immunity

The sealed optic chamber provides immunity to drafts and insects, reducing false alarms. Small animal immunity reduces false alarms caused by animals less than 4.5 kg (10 lb), such as rodents.

Remote Self Test

A remote self test initiates when the walk test input switches to its true state. The alarm relay and alarm LED activate for four seconds following a successful test. The trouble relay activates, and the alarm LED flashes following a failed test.

Input Power Supervision

When the power is lower than 8 V, a low input power trouble condition activates the trouble relay and causes the LED to flash. The trouble condition clears automatically when power reaches or exceeds 8 V.

Trouble Memory

When the walk test input switches to its true state for less than two seconds, the LED flashes to indicate the most recent trouble condition. If there is no trouble in memory, the LED does not flash. After twelve hours, or after the detector receives a second walk test pulse for two seconds or less, the LED stops flashing and the trouble memory clears.

DIP Switch Programming

The following functions are all programmed using DIP switch settings:

- Local Walk Test LED
- Remote Walk Test Input Polarity
- Alarm Memory Polarity
- Long and Short Range Select
- MANTIS Anti-mask On and Off

Certifications and Approvals

Region	Certification	
Europe	CE	(EMC and R&TTE) EN 55022, Class B; EN 50130-4; IEC 60950-1, EN 60950-1; EN 300 440-2
	EN50131	EN 50131-1; TS 50131-2-2/RT 50131-2-2, Grade 3; EN 50130-4; EN 50130-5, Class II
Belgium	INCERT	B-509-0051/a
Poland	TECHOM	WA16G model: 24/08 Klasy "S"
USA	UL	ANSR: Intrusion-detection Units (UL 639); ANSR7: Intrusion-detection Units Certified for Canada (ULC-S306)
Italy	IMQ	WA16G: CA12.00834
France	AFNOR	WA16H model: NF et a2p (2630000480A0, 000110P2), Type 3, Classe II
Sweden	INTYG	WA16G model: 08-234
the Netherlands	NCP	ITD08501-PI Klasse 3
Europe	RoHS	Restriction of Use of certain Hazardous Substances Directive
	WEEE	Waste Electrical and Electronic Equipment Directive
The detectors are designed to also comply with the requirements of:		
USA	FCC	Complies with Part 15

Installation/Configuration Notes
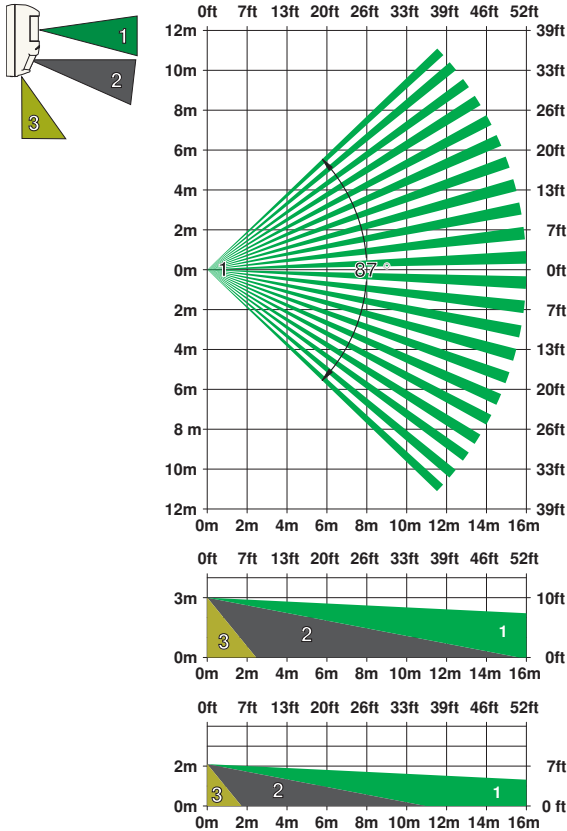
Long-range Coverage 16 m x 21 m (50 ft x 70 ft)
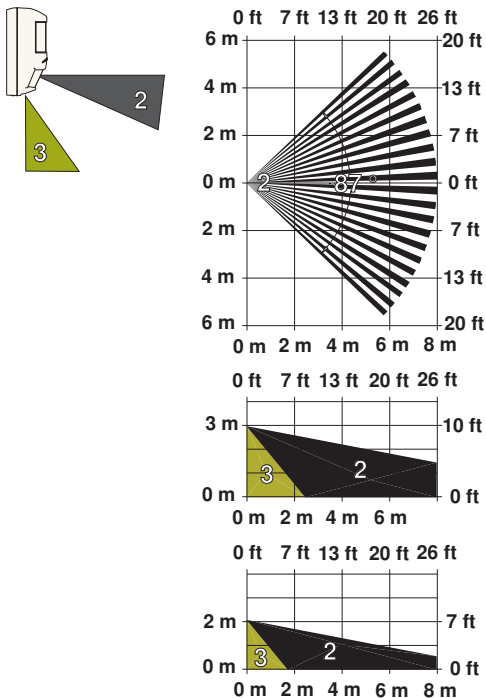
Selectable Short-range Coverage 8 m x 10 m (25 ft x 33 ft)

Mounting Considerations

The recommended mounting height is 2 m to 3 m (7 ft to 10 ft).

Use an optional B328 Gimbal-mount Bracket or B335-3 Low-profile Swivel-mount Bracket to surface-mount the detector on a flat wall or in a corner.

Use an optional B338 Universal Ceiling Bracket to mount the detector on the ceiling.

Wiring Considerations

Recommended wire size is 0.2 mm^2 to 1 mm^2 (26 AWG to 16 AWG).

Parts Included

Quantity	Component
1	Detector
2	Flat-head screws
2	Screw anchors
1	Nylon cable tie
1	Pattern Mask
1	Installation Guide

Technical Specifications

Electrical

Power Requirements

Voltage (Operating):	9 VDC to 15 VDC
Current (Maximum):	< 26 mA with alarm, trouble, and LEDs active.
Current (Standby):	18 mA at 12 VDC
Relay:	Solid state relay, normally-closed (NC) contacts, power supervised. 3 W, 125 mA, 25 VDC, resistance < 10 Ω.
Tamper:	Normally-closed (NC) contacts (with cover on) rated at 25 VDC, 125 mA maximum. Connect tamper circuit to 24-hour protection circuit.
Trouble:	Solid state relay normally-closed (NC) contacts.

Mechanical

Enclosure Design

Color:	White
Dimensions:	127 mm x 69 mm x 58 mm (5 in. x 2.75 in. x 2.25 in.)
Material:	High-impact ABS plastic

Indicators

Alarm Indicator:	Blue alarm LED

Zones

Zones:	86

Environmental

Relative Humidity:	0 to 95%, non-condensing
Temperature (Operating and Storage):	-30℃ to +55℃ (-22℉ to +130℉) *For AFNOR certified installations, -10℃ to +55℃ (+14℉ to +130℉) For UL Certified installations, 0℃ to +49℃ (+32℉ to +120℉)*
Environmental Rating (EN 50130-5):	Class II
Protection Rating (EN 60529, EN 50102):	IP 41, IK04

Ordering Information

ISC-PPR1-WA16G PIR Detector with Anti-mask 10.525 GHz frequency.	**ISC-PPR1-WA16G**
ISC-PPR1-WA16H PIR Detector with Anti-mask 10.588 GHz frequency used in France and the United Kingdom.	**ISC-PPR1-WA16H**
Accessories	
B328 Gimbal-mount Bracket Mounts on a single-gang box and allows rotation of a detector. Wires are hidden inside.	**B328**
Swiveling B335-3 low-profile mount Swiveling, low-profile, plastic mount for wall mounting. The vertical swivel range is +10° to -20°, while the horizontal swivel range is ±25°. Available in triple packs.	**B335-3**
B338 Universal Ceiling-mount Bracket Swiveling plastic mount for ceiling mounting. The vertical swivel range is +7° to -16°, while the horizontal swivel range is ±45°.	**B338**