Professional Series TriTech Motion Detectors

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BOSCH
Invented for life

- ▶ 18 m x 25 m (60 ft x 80 ft) coverage, field selectable to 8 m x 10 m (25 ft x 33 ft)
- ▶ EN50131-2-4 Grade 2 compliant
- ▶ Sensor data fusion technology
- ▶ Tri-focus optics technology
- ▶ Range adaptive radar

The ISC-PDL1-W18x Professional Series TriTech Detectors are exceptionally suited for commercial indoor applications. Sensor data fusion technology ensures that the detectors send 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 five sensors: two pyroelectric sensors, range adaptive radar, 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.

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.

Range Adaptive Radar
The microwave transceiver automatically adjusts its detection thresholds based on input from the PIR sensors. Integrating the target audience distance information from the PIR significantly reduces false alarms from the microwave Doppler radar.

Microwave Anti-mask
The detector sends a supervision-trouble signal if microwave reflective material is placed within 30.5 cm (1 ft) of the detector.

Supervised Microwave and PIR
The detector provides single technology coverage if the microwave subsystem fails.

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.

Field Selectable Coverage (18 m x 25 m or 8 m x 10 m)
Installers can use a DIP switch to select 18 m x 25 m or 8 m x 10 m (60 ft x 80 ft or 25 ft x 33 ft) coverage.

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 dual alarms and activates during a walk test. A yellow LED indicates microwave detection, and a red LED indicates PIR detection.

Remote Walk Test LED
Users can type a command through a keypad, a control center, or programming software to remotely enable or disable the walk test LED. Users can locally enable or disable the walk test LED through the DIP switch.

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, 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.
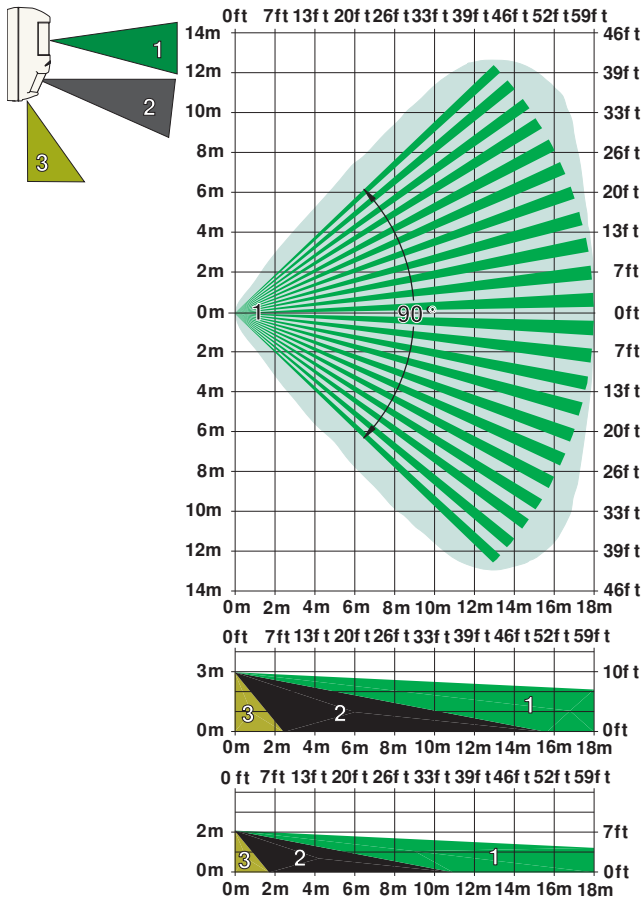
Certifications and approvals

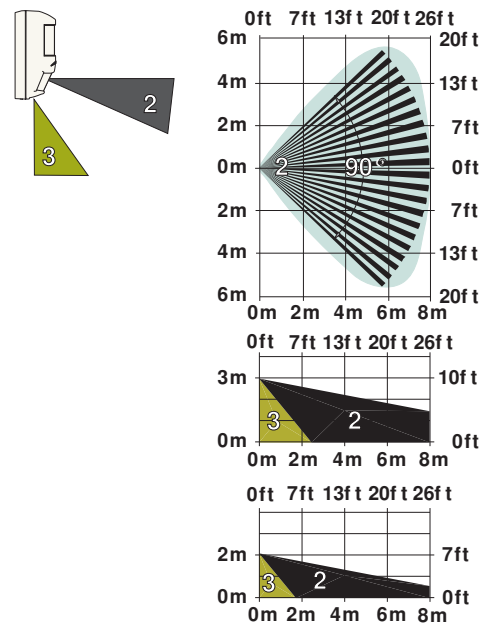The detectors are designed to also comply with the requirements of:

Australia	C-Tick

Region	Certification	
Australia	SCEC	[ISC-PDL1-W18G, ISC-PDL1-WA18G]
Europe	CE	EMC, LVD, R&TTE, RoHS [ISC-PDL1-W18G, ISC-PDL1-W18H]
	EN50131	[ISC-PDL1-W18G]
Belgium	INCERT	B-509-0052 ISC-PDL1-W18G, ISC-PDL1-WA18G, ISC-PDL1-WA18H, ISC-BDL2-WP12G, ISC-BDL2-W12G, ISC-BDL2-WP6G, ISC-PDL1-WC30G, ISC-PDL1-WAC30G
USA	UL	[ISC-PDL1-W18G]
	UL	UL 639 - Standard for Intrusion Detection Units
	FCC	[ISC-PDL1-W18G]
Italy	IMQ	[ISC-PPR1-W16, ISC-PDL1-W18G]
Canada	IC	[ISC-PDL1-W18G]
France	AFNOR	[ISC-PDL1-W18G]
	AFNOR	[ISC-PDL1-W18H]
China	CCC	2009031901000559 [ISC-PDL1-W18G-CHI]
Sweden	INTYG	[ISC-PDL1-W18G]
Brazil	ANATEL	[ISC-PDL1-W18G]
the Netherlands	REQ	[ISC-PDL1-W18G]

Installation/configuration notes

Long-range Coverage 18 m x 25 m (60 ft x 80 ft)

Selectable Short-range Coverage 8 m x 10 m
(25 ft x 33 ft)

Mounting

The recommended mounting height is 2 m to 3 m
(7 ft to 10 ft) with no adjustments required.
Mount the motion detector level, both horizontally and
vertically.
Mounting options:
- On a flat wall (surface, semi-flush), with the optional
  B335-3 Swiveling low-profile mount, or with the
  optional B328 Gimbal-mount Bracket
- In a corner (the junction of two perpendicular walls)
- On the ceiling with the optional B338 Universal
  Ceiling-mount Bracket

Wiring Considerations

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

Technical specifications

Electrical

Power Requirements

Voltage (Operating):	9 VDC to 15 VDC
Current (Maximum):	< 25 mA
Current (Standby):	13 mA

Outputs

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:	136 mm x 69 mm x 58 mm (5.25 in. x 2.75 in. x 2.25 in.)
Material:	High-impact ABS plastic

Indicators

Alarm Indicator:	• Blue LED for TriTech alarms
	• Yellow LED for microwave detection
	• Red LED for PIR detection

Zones

Zones:	86

Frequency Information

Radio Frequency Interference (RFI) immunity:	No alarm or setup on critical frequencies in the range from 26 MHz to 1 GHz at 50 V/m.

Environmental

Relative Humidity:	0 to 95%, non-condensing
Temperature (Operating and Storage):	-29℃ to +55℃ (-20℉ to +130℉) *For UL Certificated installations, 0℃ to +49℃ (+32℉ to +120℉)*
Environmental Class II	EN 50130-5
Protection Rating:	IP41, IK04 (EN 60529, EN 50102)

Ordering information

ISC-PDL1-W18G Professional Series TriTech+ Motion Detector
Provides PIR and microwave, 18 m x 25 m (60 ft x 80 ft) coverage. 10.525 GHz frequency.
Order number **ISC-PDL1-W18G**

ISC-PDL1-W18H Professional Series TriTech+ Motion Detector
Provides PIR and microwave, 18 m x 25 m (60 ft x 80 ft) coverage. 10.588 GHz frequency. For use in France and United Kingdom.
Order number **ISC-PDL1-W18H**

Accessories

B328 Gimbal-mount Bracket
Mounts on a single-gang box and allows rotation of a detector. Wires are hidden inside.
Order number **B328**

B335-3 Swiveling low-profile mount
Swiveling, low-profile, universal bracket for wall mounting. The vertical swivel range is +10° to -20°, while the horizontal swivel range is ±25°.
Order number **B335-3**

B338 Universal Ceiling-mount Bracket
Swiveling universal bracket for ceiling mounting. The vertical swivel range is +7° to -16°, while the horizontal swivel range is ±45°.
Order number **B338**