

# Professional Series LSN TriTech+ Curtain Motion Detector with Anti-mask

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- ▶ 25 m (82 ft) x 2.2 m (7.2 ft) beam width at 25 m (82 ft) curtain coverage
- ▶ 2.1 m to 3 m (7 ft to 10 ft) mounting height, no adjustments required, optional lookdown masking
- ▶ EN 50131-2-4 Grade 3 and VDS Class C compliant
- ▶ Local Security Network (LSN) technology supports flexible structures and programming, high current, and up to 254 devices
- ▶ Sensor data fusion technology

The ISP-PDL1-WAC25K Professional Series LSN TriTech+ Curtain Detector with Anti-mask is a two-wire bus unit for commercial indoor applications with the Bosch Local Security Network (LSN). The detector sends alarm, trouble, tamper, or anti-mask signals through serial communication on the LSN bus. With LSN, there can be a short or open at any point in the loop and all devices still function. The LSN technology supports flexible structures, efficient programming, and high current levels.

MANTIS anti-mask technology makes obscuring the detector view nearly impossible for intruders. Sensor data fusion technology ensures that alarm conditions are based on precise information. 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.

## System overview

### LSN Technology

This detector is a two-wire unit for use with the Bosch Local Security Network system (LSN and LSN Improved). It communicates alarm, trouble or tamper conditions through serial communication on the LSN bus.

The detectors send the following condition signals through LSN serial communication:

- Alarm, anti-mask, tamper, or trouble
- Remote self test response

The control panel sends the following condition and status commands through LSN serial communication to the detector:

- Device reset
- Armed/disarmed status
- Alarm, anti-mask, tamper, and trouble signals\*
- LED controls for alarm, anti-mask, and trouble
- Anti-mask on/off
- Remote self test

\*The control panel can put the signal into latch or real time mode.

## 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, a range adaptive radar 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.

### Range Adaptive Radar

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

### MANTIS Anti-mask Technology

MANTIS (Multi-point Anti-mask with Integrated Spray 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 world-wide 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 through serial communication on the LSN bus. Installers can disable or enable the anti-mask feature. This task is performed at 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.

### 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 LEDs

The LED brightness adjusts automatically to the surrounding light level. A blue light-emitting diode (LED) indicates TriTech+ alarms and activates during a walk test. A yellow LED indicates microwave alarms, and a red LED indicates PIR alarms.

### 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
- MANTIS Anti-mask On and Off

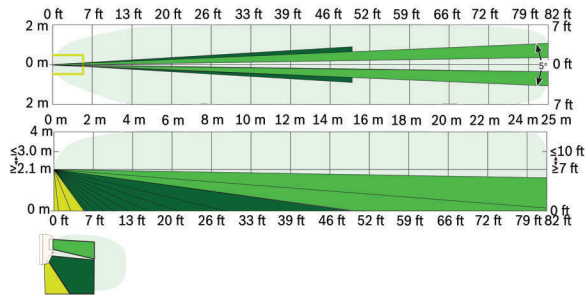
## Certifications and approvals

Region	Certification	
Austria	VSOE	W 160215/68 E, VSOE Class WS
Germany	VdS	G111068 [ISP-PDL1-WAC25K]

Region	Certification	
Europe	EN50131	EN-ST-000038 [ISP-PDL1-WAC25K]
Poland	TE-CHOM	10-19-o [ISP-PDL1-WAC25K]

### Installation/configuration notes

#### Coverage Patterns



Standard Curtain Coverage 25 m x 2.2 m (82 ft x 7.2 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<sup>2</sup> to 1 mm<sup>2</sup> (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

LSN Voltage Range:	9 VDC to 28 VDC
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LSN Current Consumption:	< 5 mA (MAP power index 27)
Outputs:	Serial communications over LSN bus

#### 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:	<ul style="list-style-type: none"> <li>• Blue LED for TriTech+ alarms</li> <li>• Yellow LED for microwave alarms</li> <li>• Red LED for PIR alarms</li> </ul>
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##### Zones

Zones:	28
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##### Environmental

Relative Humidity:	0 to 95%, non-condensing
Temperature (Operating and Storage):	-25°C to +55°C (-13°F to +130°F) <i>For AFNOR certificated installations, -10°C to +55°C (+14°F to +130°F)</i> <i>For UL Certificated installations, 0°C to +49°C (+32°F to +120°F)</i>
Environmental Rating (EN 50130-5):	Class II
Protection Rating: (EN60529, EN 50102)	IK04

### Ordering information

#### Professional Series LSN TriTech+ Curtain Motion Detector with Anti-mask

Provides PIR and microwave, 25 m x 2 m (80 ft x 6 ft) coverage with anti-mask and LSN bus interface. Order number **ISP-PDL1-WAC25K**

#### Accessories

##### B328 Gimbal-mount Bracket

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

##### B334 Swivel-mount Bracket

A heavy-duty wall or ceiling swivel bracket for DS794 and DS720 detectors. Suitable for mounting a detector to a standard electrical single-gang switch or outlet box. Order number **B334**

### **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**

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