

## Professional Series TriTech AM Motion Detectors with Anti-mask, LSN



- ▶ 12 m x 12 m (40 ft x 40 ft) standard coverage; 8 m x 10 m (25 ft x 33 ft) selectable short range coverage
- ▶ TriTech. Passive infrared and microwave Doppler radar detection with First Step Processing for superior catch performance and best-in-class false alarm immunity
- ▶ Microwave Noise Adaptive processing – reduce false alarms from repetitive sources
- ▶ Multi-point Anti-mask with Integrated Spray Detection - Detects attempts to obscure detector's field of view
- ▶ C<sup>2</sup>DT - Cloak and Camouflage Detection Technology maximizes catch performance against intruders attempting to cover their infrared signal

Professional Series TriTech AM Detectors with Anti-mask, LSN are two-wire bus units for commercial and high security indoor applications with the Bosch Local Security Network (LSN). Each 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
- Selectable coverage range
- 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.

### 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 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 an 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.

### Available Coverage

The standard coverage is 12 m x 12 m (40 ft x 40 ft). Installers can select short range coverage of 8 m x 10 m (25 ft x 33 ft) at the control panel (serial communication from control panel to detector over the LSN bus).

### 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 causing the detector to send a tamper message to the control panel.

### Remote Walk Test LED

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

### 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

When the control panel sends a remote self test message to the detector, the detector tests its detection systems. If any system fails, the detector sends a self test fail message to the control panel. If all systems pass, the detector sends a self test pass message to the control panel. If the system is configured for local LED control, the alarm LED activates for four seconds following a successful test or flashes after a failed test.

### Flexible Topologies

Each detector can be added to flexible LSN structures such as loops, stubs, T-tap, tee-offs, and mixed. Short circuit isolators in each detector increase system integrity and cost savings. If a short occurs in the loop, all the devices continue to function.

### Flexible Addressing and Programming Options

Installers can use rotary switches to set addresses or program-specific options on the detectors. Using the control panel, installers can centrally program all device configurations. Additionally, all the detectors on the loop are automatically identified and shown on the control panel.

### Cloak and Camouflage Detection Technology

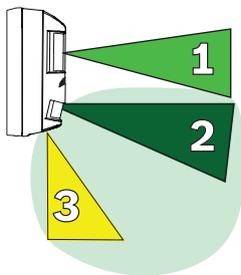
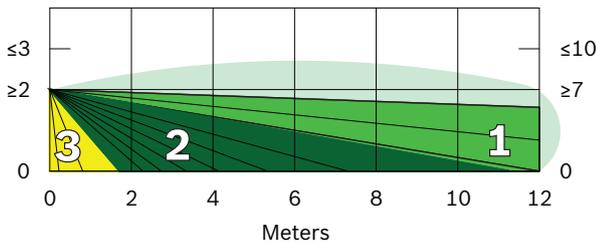
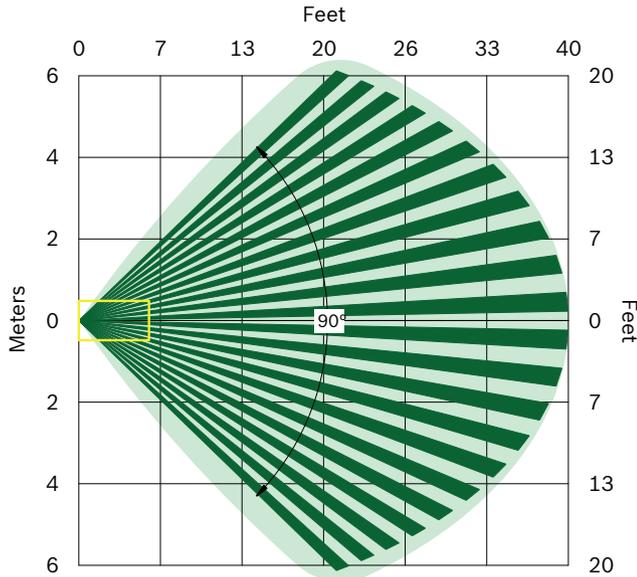
Cloak and Camouflage Detection Technology (C<sup>2</sup>DT) maximizes catch performance against intruders attempting to cover their infrared signal.

## Regulatory information

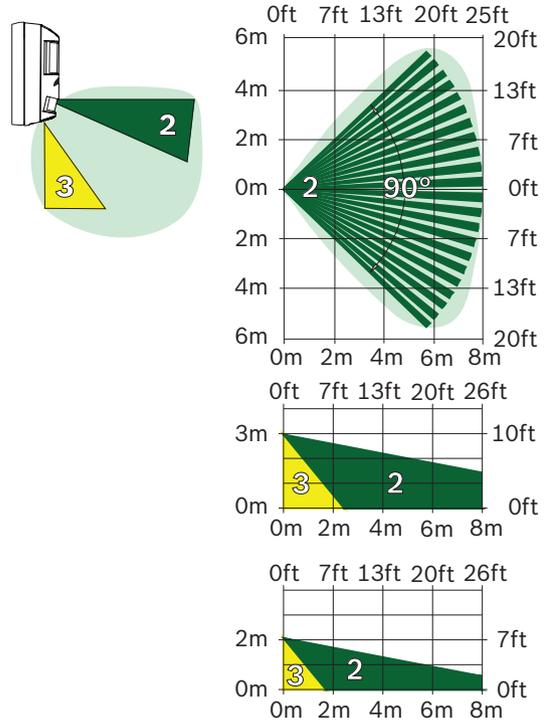
Region	Regulatory compliance/quality marks	
Germany	VdS	VdS Class C

Region	Regulatory compliance/quality marks	
	VdS	G118052 PDL2-A12GL_HL
	VdS	G120508 VdS, Class B & EN, grade 2
Europe	EN50131	EN50131-2-4 Grade 3

**Installation/configuration notes**



**Long-range Coverage 12 m x 12 m (40 ft x 40 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<sup>2</sup> to 1 mm<sup>2</sup> (26 AWG to 16 AWG).

**Technical specifications**

**Electrical**

**Power Requirements**

LSN Voltage Range	9 VDC to 29 VDC
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 Doppler Radar alarms</li> <li>• Red LED for PIR alarms</li> </ul>
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#### Zones

Zones	86
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#### Environmental

Relative Humidity	0 to 95%, non-condensing
Temperature (Operating and Storage)	-10°C to +55°C
Protection Rating	IK04 (EN 50102) IP41

#### Ordering information

##### **PDL2-A12GL Motion detector, anti-mask, 12m, LSN**

Provides PIR and microwave Doppler radar, 12 m x 12 m (40 ft x 40 ft) coverage with anti-mask, LSN bus interface and 10.525 GHz frequency.

Order number **PDL2-A12GL | F.01U.307.927**

##### **PDL2-A12HL Motion Detector Anti-mask, 12m, LSN**

Provides PIR and microwave Doppler radar, 12 m x 12 m (40 ft x 40 ft) coverage with anti-mask, LSN bus interface and 10.588 GHz frequency.

Order number **PDL2-A12HL | F.01U.307.926**

#### Accessories

##### **B328 Mounting bracket, gimbal**

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

Order number **B328 | 4.998.800.277**

##### **B335-3 Mounting bracket, swivel, low profile**

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 | 4.998.800.014**

##### **B338 Mounting bracket, ceiling, universal**

Swiveling universal bracket for ceiling mounting. The vertical swivel range is +7° to -16°, while the horizontal swivel range is ±45°.

Order number **B338 | 4.998.800.282**

#### Represented by:

**Europe, Middle East, Africa:**  
Bosch Security Systems B.V.  
P.O. Box 80002  
5600 JB Eindhoven, The Netherlands  
Phone: +31 40 2577 284  
[www.boschsecurity.com/xc/en/contact/](http://www.boschsecurity.com/xc/en/contact/)  
[www.boschsecurity.com](http://www.boschsecurity.com)

**Germany:**  
Bosch Sicherheitssysteme GmbH  
Robert-Bosch-Ring 5  
85630 Grasbrunn  
Tel.: +49 (0)89 6290 0  
Fax: +49 (0)89 6290 1020  
[de.securitysystems@bosch.com](mailto:de.securitysystems@bosch.com)  
[www.boschsecurity.com](http://www.boschsecurity.com)

**North America:**  
Bosch Security Systems, LLC  
130 Perinton Parkway  
Fairport, New York, 14450, USA  
Phone: +1 800 289 0096  
Fax: +1 585 223 9180  
[onlinehelp@us.bosch.com](mailto:onlinehelp@us.bosch.com)  
[www.boschsecurity.com](http://www.boschsecurity.com)

**Asia-Pacific:**  
Robert Bosch (SEA) Pte Ltd, Security Systems  
11 Bishan Street 21  
Singapore 573943  
Phone: +65 6571 2808  
Fax: +65 6571 2699  
[www.boschsecurity.com/xc/en/contact/](http://www.boschsecurity.com/xc/en/contact/)  
[www.boschsecurity.com](http://www.boschsecurity.com)