

ISC-PDL1-WA18G, ISC-PDL1-WA18H, and ISC-PDL1-WA18GB
Professional Series TriTech+ Detectors with Anti-Mask
ARCHITECTURAL AND ENGINEERING SPECIFICATION
Section 281600 - Intrusion Detection

PART 2 - PRODUCTS

2.01 Manufacturer

- A. Bosch Security Systems, Inc.
130 Perinton Parkway
Fairport, New York 14450
Phone: +1(585) 223 4060
Fax: +1 (585) 223 9180
www.boschsecurity.com
- B. The specified product shall be manufactured by a firm whose quality system is in compliance with the I.S. /ISO 9001/EN 29001, QUALITY SYSTEM.

2.02 Detector General Description

- A. The product specified is a TriTech+ detector incorporating PIR signals with range adaptive Doppler radar into an intelligent algorithm to provide accurate and reliable alarm decisions. The product is designed for commercial indoor applications and is built with a sealed optic chamber to provide immunity to drafts and insects. The unit consists of a self-locking two-piece enclosure with a built in two-way bubble level to help simplify the installation. The detector incorporates sensor data fusion technology that integrates the data from five different sensors to ensure alarm conditions are based on precise information and tri-focus optics technology that eliminates coverage gaps and false alarms. Multi-Point Anti-mask with Integrated Spray Detection protects the detector against masking attempts.

2.03 Detector Requirements

- A. The specified detector shall be a PIR/microwave detector unit incorporating range adaptive Doppler radar and PIR signals into an intelligent algorithm to provide accurate and reliable alarm decisions.
- B. The detector shall be available in 10.525 GHz and 10.588 GHz microwave models as required by the application.
- C. The detector shall consist of a self-locking two-piece enclosure with a built in two-way bubble level to help simplify the installation.
- D. The detector shall be built with a sealed optic chamber to provide immunity to drafts, insects, and small animals.
- E. The detector shall be designed to provide coverage in the event the microwave subsystem fails.
- F. A Multi-Point Anti-mask with Integrated Spray Detection system shall send a supervision trouble signal if a masking material is placed within 30 cm (1 ft) of the detector.



BOSCH

- G. The detector shall contain light emitting diodes (LEDs) that adjust automatically to the surrounding light level. A blue LED indicates dual alarms and activates during a remote walk test. The walk test LED may be enabled or disabled from the control panel or locally at the detector via a DIP switch. A yellow LED shall indicate microwave alarms, and a red LED indicates PIR alarms.
- H. The detector shall reduce false alarms by having a sealed optic chamber that provides immunity to drafts and insects.
- I. The detector shall provide a remote self test function that initiates when the walk test input switches to its active 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.
- J. The detector shall provide input power supervision that activates the trouble relay and causes the LED to flash when the power is lower than 8 volts.

2.04 Sensor Technology Requirements

- A. The detector shall incorporate **sensor data fusion technology** that uses an internal microprocessor to gather, analyze, and compare the data from five separate sensors to make the most intelligent alarm decisions. The data processed from the microprocessor shall be from two pyroelectric sensors, a Doppler microwave sensor, a room temperature sensor, and a light level sensor.
- B. The detector shall also incorporate **tri-focus technology** that uses three high-quality Fresnel lenses with three specific focal lengths to provide long-range, middle-range, and short-range coverage. The detector shall apply the three focal lengths to 86 detection zones which combine to produce 11 solid curtains of detection. The tri-focal optics technology shall include two pyroelectric sensors which deliver twice the standard optical gain.
- C. The detector shall provide **active white light suppression** capable of measuring the light intensity directed at the face of the unit, and use the data gathered by the sensors to eliminate false alarms caused by the bright light source. False alarms shall not be caused from bright light sources up to 10,000 lux.
- D. The detector shall provide **dynamic temperature compensation** that adjusts the PIR sensitivity to detect human body heat accurately to avoid false alarms and deliver consistent catch performance at all operating temperatures.
- E. The detector shall provide **multi-point anti-mask with integrated spray detection**, utilizing patented prism lenses and active infrared detection to provide industry-leading protection against all known forms of attack.

2.05 Outputs

- A. The detector shall provide a cover and wall tamper switch with a normally closed contact that opens to notify the control panel in the event the cover is removed or the detector is separated from the wall. The contacts shall be rated at 25 VDC, 125 mA maximum.
- B. The detector shall provide a solid state relay that is power supervised and uses less current and provides longer standby capacity than a mechanical relay. The solid state relay shall be used to send a silent alarm output signal. Rating of the relay shall be 3W, 125 mA, 25 VDC, with resistance less than 10 ohms.

- C. The detector shall provide a solid state relay with normally-closed (NC) contacts that shall be used as a trouble indicator.

2.06 Coverage and Mounting Brackets

- A. The detector shall provide the following DIP switch selectable fields of coverage:
 - 1) 18 m x 25 m (60 ft x 80 ft)
 - 2) 8.0 m x 10 m (25 ft x 33 ft)
- B. The detector shall be designed to be mounted at a height between 2m to 3m (7 ft to 10 ft) and require no adjustments.
- C. The manufacturer shall offer the following three optional mounting brackets
 - 1) A Gimbal-mount bracket [Bosch B328] that mounts on a single-gang box and allows rotation of the detector.
 - 2) A Low profile plastic wall swivel mount bracket [Bosch B335-3]. The mount allows a vertical pivot range of +10° to -20° and a horizontal pivot range of ±25°.
 - 3) A plastic universal swivel bracket for ceiling mounting [Bosch B338]. The mount allows a vertical pivot range of +7° to -16° and a horizontal pivot of ±45°.

2.07 CERTIFICATIONS and APPROVALS

- A. The specified detector is designed to comply with the following standards and approvals:
 - 1) UL639 and cULus
 - 2) CE
 - 3) C-Tick
 - 4) EN50131-2-4 Grade 3
 - 5) FCC
 - 6) IC
- B. The specified detector shall globally meet or exceed all relevant electrical, safety, and safety requirements.

2.08 MECHANICAL SPECIFICATIONS

- A. Dimensions: 136mm x 69 mm x 58mm (5.25 in. x 2.75 in. x 2.25 in.)
- B. Material: High impact ABS plastic.
- C. Color: white

2.09 ELECTRICAL SPECIFICATIONS

- A. Operating Voltage: 9 VDC to 15 VDC
- B. Current (maximum): less than 26 mA
- C. Current (Standby): 18 mA

2.10 ENVIRONMENTAL SPECIFICATIONS

- A. Temperature, Operating and Storage: -30°C to +55°C (-20°F to +130° F)
 - 1) For UL Certified Installations: 0°C to +49°C (+32°F TO +120°F).
- B. IP Rating: IP 41, IK02 (EN60529 and EN50102)
- C. Relative humidity: 0 to 95%, non-condensing

The products specified shall be the Bosch Professional Series TriTech+ Detectors with Anti-Mask models ISC-PDL1-WA18G, ISC-PDL1-WA18H, and ISC-PDL1-WA18GB.

