

ISC-CDL1-WA15G, ISC-CDL1-WA15H, ISC-CDL1-WA15K  
Commercial Series TriTech+ Detectors with Anti-mask

ARCHITECTURAL AND ENGINEERING SPECIFICATION

**Manufacturer**

Bosch Security Systems, Inc.  
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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.

**Detector General Description**

The product specified is a TriTech+ detector incorporating PIR signals with microwave 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 removable lift gate terminal block and a bi-axial bubble level to help simplify the installation. The detector incorporates advanced algorithms that integrate the data from four different sensors to ensure alarm conditions are based on precise information. Active infrared Anti-mask detects masking attempts.

**Detector Requirements**

- The specified detector shall intelligently combine microwave Doppler radar technology with PIR first step processing algorithm to provide accurate and reliable alarm decisions.
- The detector shall incorporate microwave noise adaptive processing to reduce false alarms from background disturbances.
- The detector shall be available in 10.525 GHz, 10.588 GHz and 9.350 GHz microwave models as required by the application.
- The detector shall consist of a self-locking two-piece enclosure with a removable lift gate terminal block and a built in bi-axial bubble level to help simplify the installation.
- The detector shall be built with a sealed optic chamber to provide false alarm immunity to drafts, and insects.
- The detector shall be designed to provide PIR coverage in the event the microwave subsystem fails.
- An active infrared Anti-mask system with bounce back through-the-lens detection technologies shall send a supervision trouble signal if a masking material is placed within 30 cm (1 ft) of the detector. The Anti-mask system may be enabled locally at the detector via a DIP switch.
- The detector shall contain a light emitting diode (LED) that adjusts automatically to the surrounding light level. The LED shall indicate dual alarms. The LED may be enabled or disabled locally at the detector via DIP switch.
- The detector shall provide a cyclic automatic self test every 7 hours. The detector shall have the ability to announce a self-test fail condition by the trouble relay activation and flash the LED.
- The detector shall provide input power supervision that activates the trouble relay and causes the LED to flash when the power is lower than 6.5 Volts.
- The detector shall incorporate different selectable resistor values to help simplifying the installation by eliminating the need to place external end-of-line resistors into the terminal blocks.
- The detector shall be designed to provide Radio Frequency Interference (RFI) immunity by causing no alarm on critical frequencies in the range from 150 kHz to 2.7 GHz at field strengths less than 10 V/m.

**Sensor Technology Requirements**

- The detector shall incorporate specific technology that uses an internal microprocessor to gather, analyze, and compare the data from four separate sensors to make the most intelligent alarm decisions. The data processed from the microprocessor shall be from a pyroelectric sensor, a Doppler microwave sensor, a room temperature sensor, and a light level sensor.
- The detector shall also incorporate optical technology that uses high-quality Fresnel lens with two specific focal lengths to provide rated range and look down coverage. The detector applies the two focal lengths to 29 detection zones.
- 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 sensor 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.
- 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.

**Outputs**

- 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 2.5W, 25 VDC, 100 mA maximum.
- 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 2.5W, 100 mA, 25 VDC, with resistance less than 10 ohms.
- The detector shall provide a solid state relay with normally-closed (NC) contacts that shall be used as a trouble indicator. Rating of the relay shall be 2.5W, 100 mA, 25 VDC, with resistance less than 10 ohms.

#### **Coverage and Installation**

- The detector shall provide 15 m x 15 m (50 ft x 50 ft) field of coverage:
- The detector shall incorporate flexible mounting height, allowing it to be mounted at a height between 2.3 m to 2.7 m (7.5 ft to 9 ft) and require no adjustments.
- The detector shall utilize a self locking enclosure, with removable terminal strip, bi-axial bubble level and protective cover over the electronics and optics to ensure fast and reliable installation.
- The manufacturer shall offer the following three optional mounting brackets
  - A Gimbal-mount bracket [Bosch B328] that mounts on a single-gang box and allows rotation of the detector.
  - 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°.
  - 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°.

#### **Certifications and Approvals**

The specified detector is designed to comply with the following standards and approvals:

- UL and ULC
- CE
- RCM
- EN50131-2-4 Grade 3
- FCC
- IC
- AFNOR NF&A2P Grade 3
- INCERT
- IMQ
- SBSC
- VdS Class C

The specified detector shall globally meet or exceed all relevant electrical, safety, and safety requirements.

#### **2.08 MECHANICAL SPECIFICATIONS**

- Dimensions: 120 mm x 69 mm x 55 mm (4.7 in. x 2.7 in. x 2.15 in.)
- Material: High impact ABS plastic
- Color: white

#### **2.09 ELECTRICAL SPECIFICATIONS**

- Operating Voltage: 9 VDC to 15 VDC
- Current (maximum): less than 35 mA
- Current (Standby): less than 20 mA

#### **2.10 ENVIRONMENTAL SPECIFICATIONS**

- Temperature, Operating and Storage: -30°C to +55°C (-20°F to +130° F)
  - For UL Certified Installations: 0°C to +49°C (+32°F TO +120°F)
- IP Rating: IP41 / IK04 (EN60529, EN62262)
- Relative humidity: 0 to 95%, non-condensing
  - For UL Certified Installations: 0 to 93%, non-condensing

The products specified shall be the Bosch Commercial Series TriTech+ Detectors with Anti-mask models ISC-CDL1-WA15G, ISC-CDL1-WA15H and ISC-CDL1-WA15K

Specifications Subject to Change without Notice