Outdoor security

SmarterBeam™

Sophisticated intrusion detection

SmarterBeam is a motion detector designed for outdoor use that aids intrusion detection where it should start – at the perimeter. Two models offer reliable passive infrared technology, and each is configured to deliver sensing capabilities for a unique coverage area.

Benefits

More secure

- Detects intruders crawling, walking, or running at speeds from .7 to 16 ft/s
- Gap-free coverage
- 13-foot mounting height minimizes risk of vandalism
- Secondary PIR sensor protects creep zone and an area about 3-feet in diameter around detector
- Advanced tamper protection sends alarm if detector is moved or opened and during attempts to remove it from the mounting surface
- Blocking detector field of view with sprayed paint, a box or other materials sends alarm

Easy to install and own

- Supports flexible power supply - DC or AC
- Remote access through RS485 data bus simplifies configuration and alarm management
- Set-up and alignment are easy compared to other systems

Cost-effective

- Flexible, included bracket is ready to install on wall or pole
- Reliability from precision engineering and secondary sensor reduces units needed for area to be secured
- Low power consumption allows for solar applications

Operation

SmarterBeam detects intrusions using passive infrared (PIR) technology and telescope-like precision mirror glass optics. SmarterBeam detectors react to the slightest infrared radiation (temperature) change between a moving object and a stationary background. When an intruder moves into the field of view (detection zone), the variation is sensed and an alarm is triggered.

SmarterBeam detectors are engineered to provide unparalleled reliability and accuracy in the harshest environments. The detectors are single-ended, non-emitting devices – easy to install and undiscoverable by electronic means.

Technology

- Double optical filtering restricts infrared radiation to 8-14 micrometer band, the atmospheric window where snow, rain, humidity, and fog least affect its transmission
- The latest digital signal processing, adaptive threshold decoding (ATD), and signal shape analysis reduce the nuisance/alarm ratio to the lowest levels found in the industry
- Automatic temperature compensation ensures consistent sensitivity across the entire operating temperature range
- Advanced anti-vandal protection – SmarterBeam sends a tamper alarm when the detector's housing or mounting bracket is opened, when the horizontal, vertical or pitch alignment is altered, and if there are slow horizontal movements (measured by integrated digital compass).
- Heavy-duty front window and a heater enabling operation at -40°F

Integration options

SmarterBeam can be configured to:

- Conditionally trigger cameras to focus on intrusion area
- Notify central monitoring stations an intrusion is occurring and further attention is needed
- Turn on lights or play pre-recorded verbal messages

Models

SmarterBeam is available in two models featuring distinct coverage patterns.

- LR: Three-zone, continuous, "narrow-curtain" detection area with a range of 500' (150 m), a unique alarm for each zone
- WA: 100'-wide (30 m), "fan-out" detection area with a range of 90' (27 m)

SmarterBeam Wireless models are available for where power and communications cabling is challenging. See other datasheet.

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Accessories

The following accessories are available for both models:

Data bus:

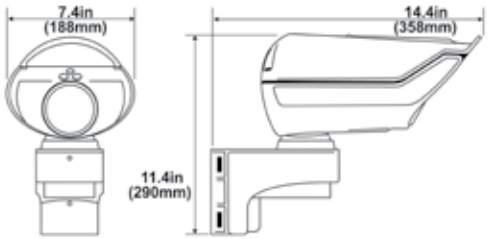
- RS485 data bus connectivity
- A USB / RS232 to RS485 interface
- Interface connects via screw terminals located inside the detector on the circuit board
- No external power supply required

Software:

- Designed to assist during the commissioning phase
- Windows-based SmarterBeam software application
- Easy-to-use Scope View allows real-time signal strength for accurate data analysis and characterization
- Users can optimize performance, adjust sensitivity, observe signal strength, configure five programmable alarms, and create alarm log files with event time-stamps for all detectors sharing an RS485 data bus

Dimensions

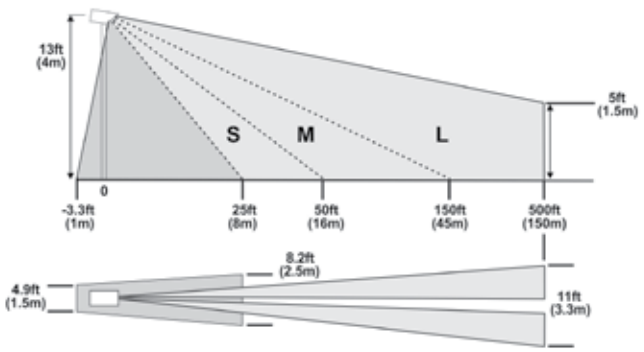
(Front view, side view)



Coverage patterns

(Side view, top view)

LR



Technical specifications

Nominal optical range

- LR: 500′ (150 m)
- WA: 90′ (27 m)

Width at nominal range

- LR: 11′ (3.3 m)
- WA: 100′ (30 m)

Secondary beam nominal range

- -3′ to 26′ (-1 m to 8 m)

Materials

- Case material: heavy duty plastic
- Color: white

Mounting bracket

- Included, wall- or pole-mount, with tamper protection

Optics

- Sensor: pyroelectric differential triple channel (single channel for WA)
- Spectral response: 8 to 14μ, double filtered
- Optics: precision mirror glass
- Window: silicon wafer
- Detection speed: 0.7 to 16 ft/s (0.2 to 5 m/s)
- Zone sensitivity adjustment through software:
  LR: 50% - 150%
  WA: 20% - 140%

Electrical

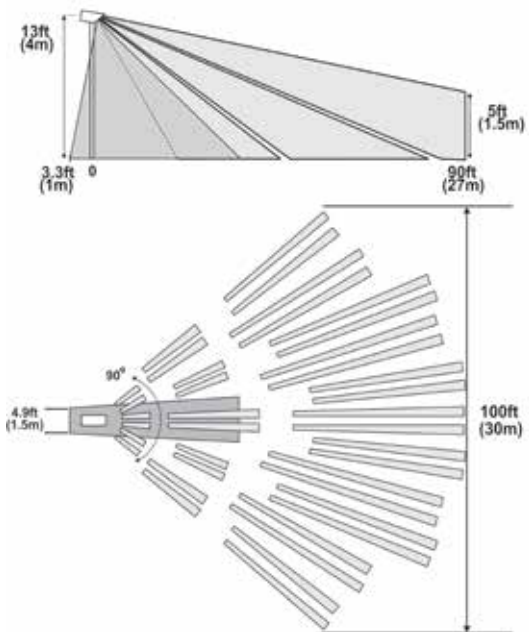
- Supply voltage: 10.5 to 30 V DC and 24 V AC (+/-15%)
- Operating current:
  18 mA (at 12 V DC),
  12 mA (at 24 V DC)
  30 mA (at 24 V AC)
- Alarm relay output:
  5 programmable SPST 60 V DC, 75 mA max
- Heating power: approx. 0.5 W / 41 mA at 12 V DC at -40°F (-40°C)
- Turn-on time: typical 60 seconds from power on
- Communication: bidirectional RS485 at 9,600 baud
- LED alarm indicator: included

Dimensions

- Height: 11.4″ (290 mm)
- Length: 14.4″ (358 mm)
- Width: 7.4″ (188 mm)
- Weight: 2.1 lbs (980 g) including cable managed bracket
- Cable diameter: 0.16″ to 0.27″ (4 to 7 mm)
- Cable termination: screw terminals 0.34 mm^2 to 1.5 mm^2 (AWG 28-16)
- Mounting Height: 8′ to 13′ (2.5 to 4 m)

Environmental

- Operating temperature: -40° to 140°F (-40° to 60°C)
- Humidity: 95% RH max
- Sealing: IP 65 dust and water jet proof

Due to continuous improvements, specifications are subject to change without prior notice.

WA