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Buyer's Guide

Roof Top Protection

Outdoor and Indoor Solutions

Issued : March 2017
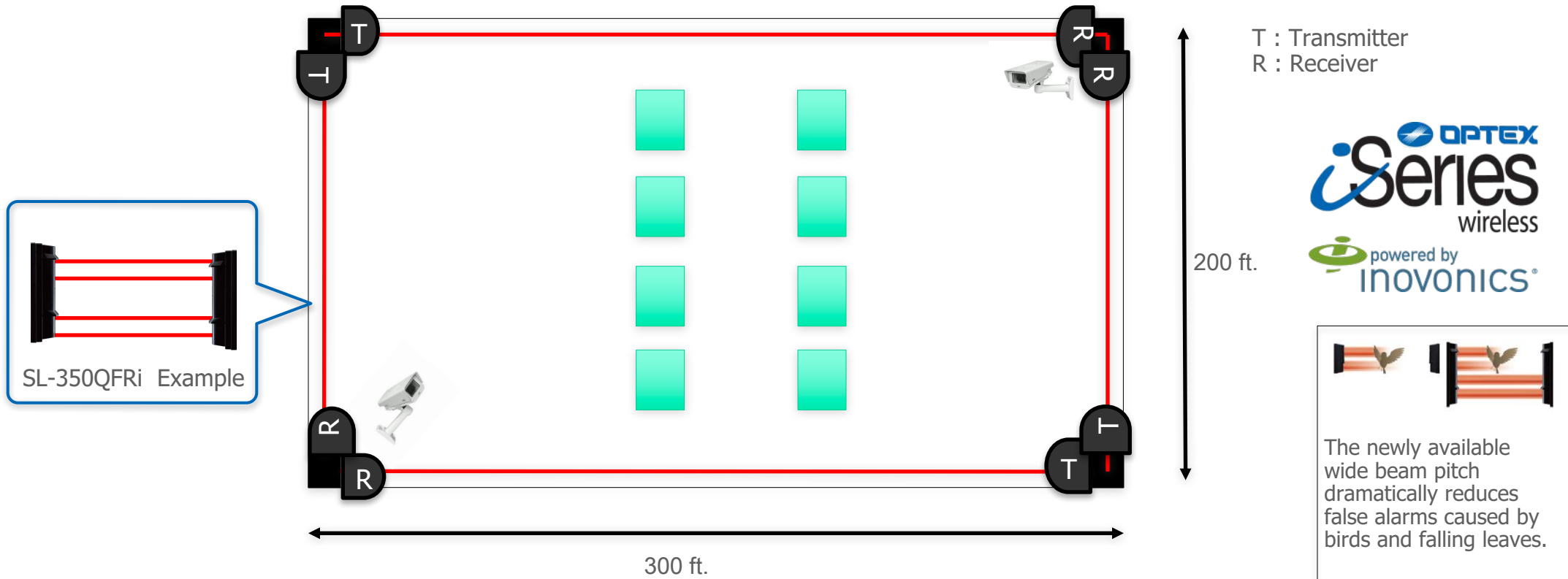Release Note : V1.0

What's On The Roof?

Stealing HVAC Is A Common Security Issue

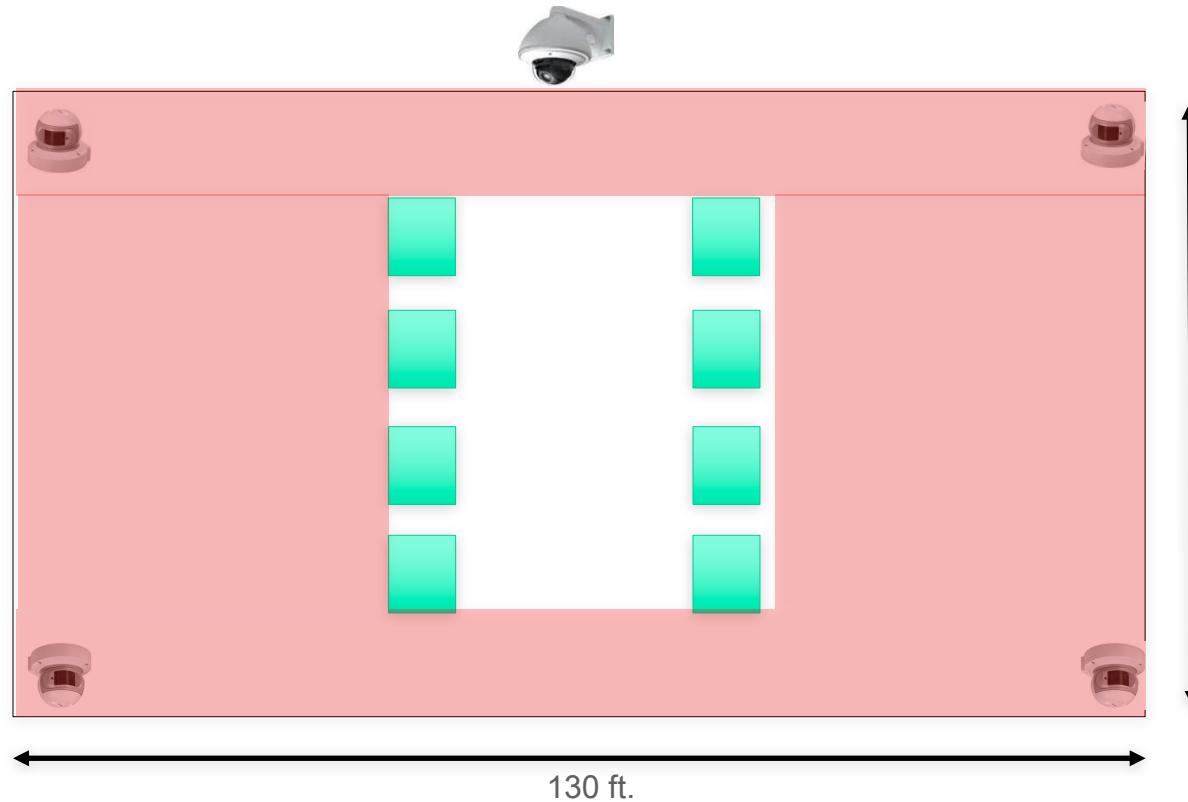# Prevent Entry Through Skylights and Unauthorized Roof Access

Roof Top Site Plan: Wireless Photoelectric Beam Detector

T : Transmitter
R : Receiver

SL-350QFRi Example

200 ft.

300 ft.

The newly available wide beam pitch dramatically reduces false alarms caused by birds and falling leaves.

• SL-350QFRi 350 ft. (Includes Inovonics EN1941 transmitter and batteries) Quad Beam Double stacking available

• AX-200TFRi 200 ft. (Includes Inovonics EN1941 transmitter and batteries) Twin Beam Double stacking available

• AX-100TFRi 100 ft. (Includes Inovonics EN1941 transmitter and batteries) Twin Beam Double stacking available

• No trenching and can be installed where power is not available

• Can easily be added on to support existing video or access systems

• 3.6 V 13.0Ah LSH20 Lithium battery power supply
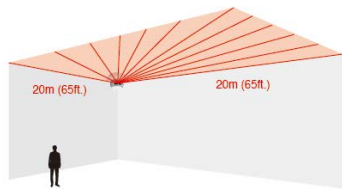
• -4 to 140 degrees Operating temperature

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Roof Top Site Plan (Small Roofs): Class 1 Laser Detector

Built-in On-board Laser Analytics

The RLS-2020 can detect a moving object's size, speed and distance, resulting in highly reliable detection while minimizing false alarms.

65ft.

130 ft.

20m x 20m (65ft. x 65ft.), 90 degree for horizontal detection area

20m (65ft.)   20m (65ft.)

• Base Model : RLS-2020S (12VDC, 6W Max PoE, IP66, -4 to 140℉)

4 alarm zone IP connection, 3 outputs N.O./N.C. selectable (master alarm, zone outputs, trouble, tamper)

• -40 to 140℉ (no heater required)

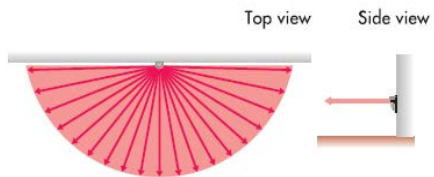• Can easily be added on to support existing video or access systems

Roof Top Site Plan (Large Roofs): Class 1 Laser Detector
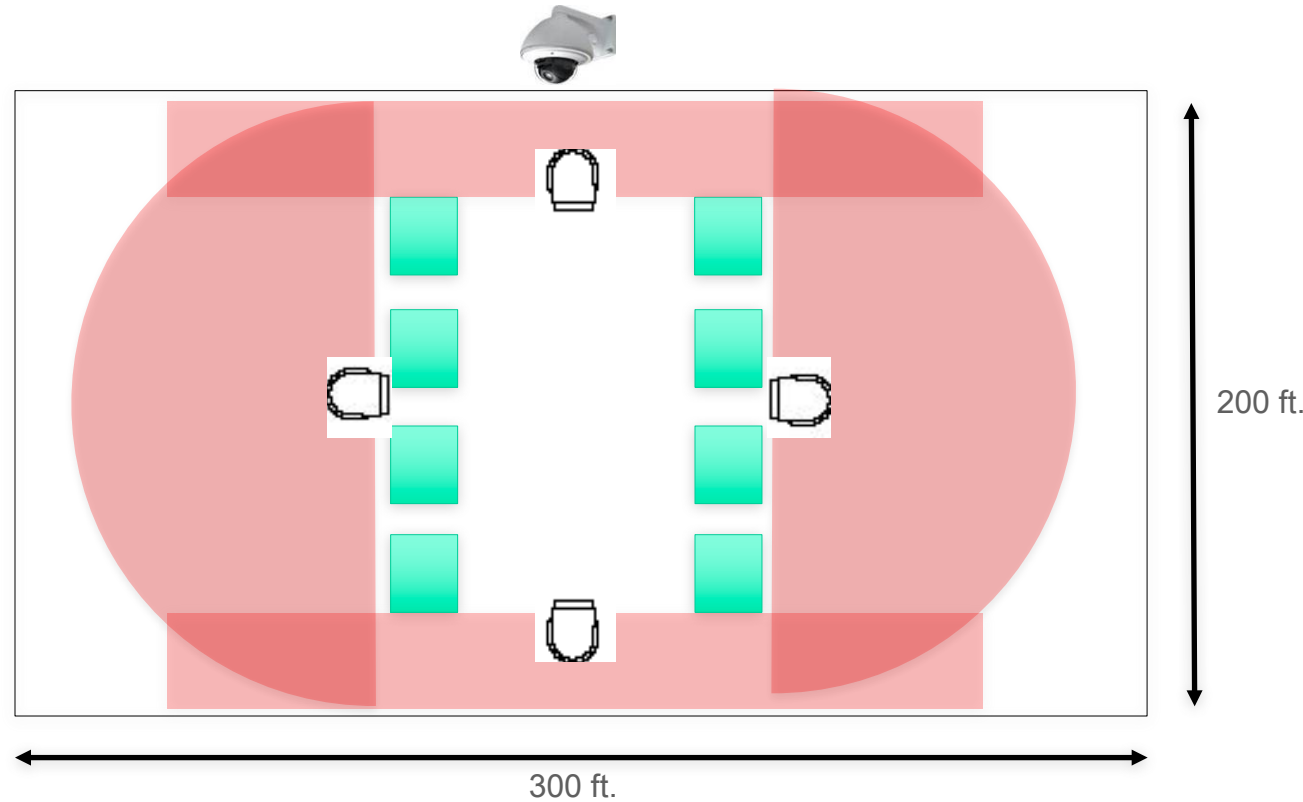
Built-in On-board
 Laser Analytics

The RLS-3060 can detect a moving object's size, speed and distance, resulting in highly reliable detection while minimizing false alarms.

200 ft.

300 ft.

■ Image of horizontal detection area

Top view   Side view

30m/100ft. radius, 190 degree
for horizontal detection area (H2 mode)

• Base Model : RLS-3060L (24 VAC/DC, IP66, -4 to 140℉)

4 alarm zone, Option PIE-1 (PoE plus)

• Advanced Model : RLS-3060SH (built-in heater: 24 VAC/DC, IP66, -40 to 140℉)

8 alarm zone, Additional intelligent feature,

Option PIE-1 (PoE plus for the unit and a built-in heater)

• Can easily be added on to support existing video or access systems

Indoor Roof Top Site: Class 1 Laser Detector
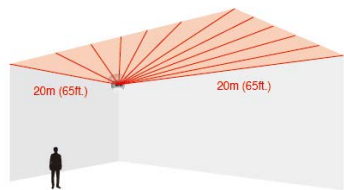

Skylight at Public facility/Warehouse

Ceiling at Data Center

Airport

The RLS-2020 can detect a moving object's size, speed and distance, resulting in highly reliable detection while minimizing false alarms.
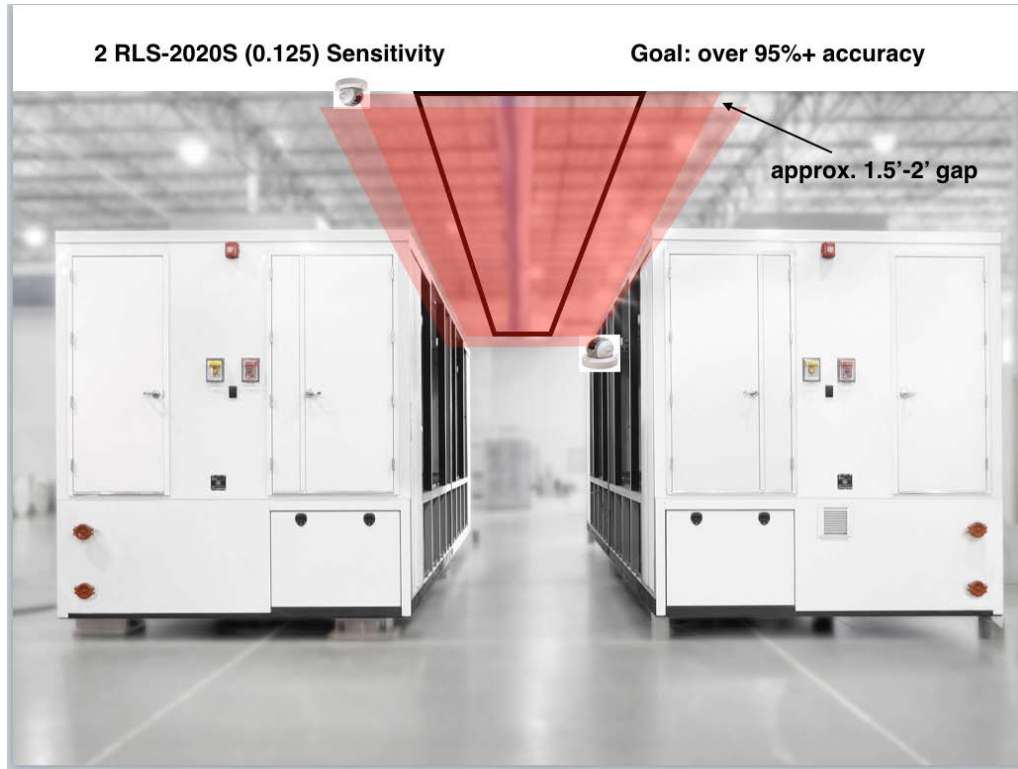

20m (65ft.)   20m (65ft.)

20m x 20m (65ft. x 65ft.), 90 degree
for horizontal detection area

• Base Model : RLS-2020i (12VDC, 6W Max PoE, IP66, -4 to 140℉)

  4 alarm zone IP connection, 3 outputs N.O./N.C. selectable (master alarm, zone outputs, trouble, tamper)

  -40 to 140℉ (no heater required)

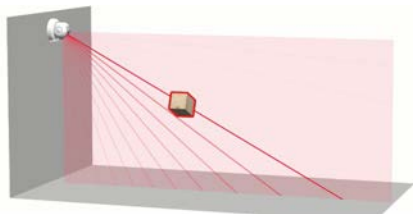• Can easily be added on to support existing video or access systems

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Indoor Small Object Throwing Detection- Class 1 Laser Detector

2 RLS-2020S (0.125) Sensitivity
Goal: over 95%+ accuracy
approx. 1.5'-2' gap

Preventing small object thrown to cat walk in data center

**Preventing small object thrown at international airport**

- Base Model : RLS-2020S (12VDC, 6W Max PoE, IP66, -4 to 140℉)

   4 alarm zone IP connection, 3 outputs N.O./N.C. selectable (master alarm, zone outputs, trouble, tamper)

   -40 to 140℉ (no heater required)

- Indoor object throwing mode selection with 0.25 degrees resolution. Sensitivity response time is 25 msec

IP Integration Benefits For Perimeter Detectors

POE Options

• PIE-1 powers Redscan detector with PoE+

• Use PIE-1 with SIP and Redbeam for PoE and for Redwall Event Command IP encoding back
 to the network.
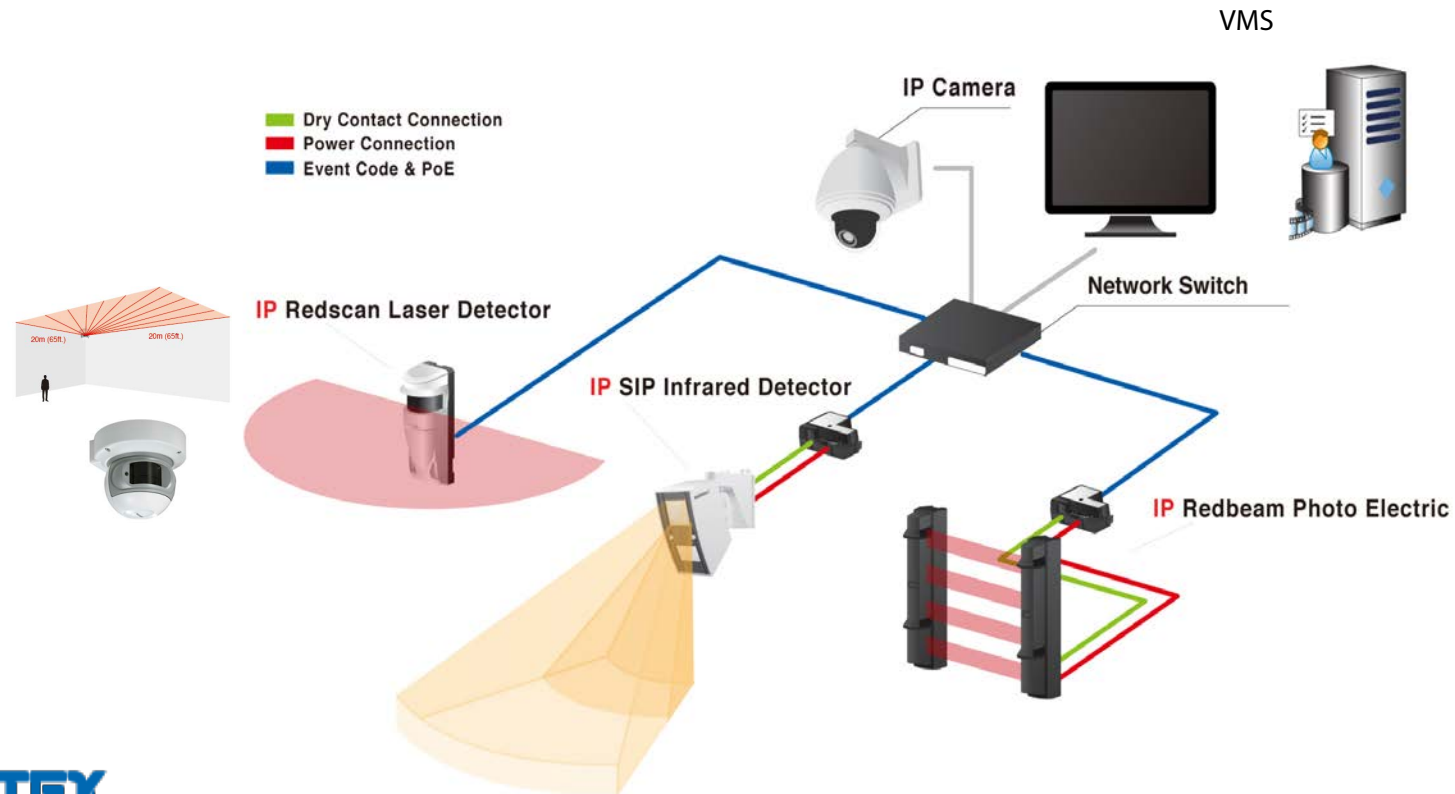
AXIS Camera Integration (ACAP)

The OPTEX ACAP (AXIS Camera Application Platform) plug-in module allows OPTEX's IP based detection sensors to send commands directly to an Axis PTZ. The main feature makes it easy for a camera to actively move and zoom based on alarm outputs from the sensor. Other commands are supported, like triggering the camera to record, or trip output contacts that turn on lights, alarms, or send alerts.

Faster Event Response

ACAP plugin provides direct integration to Axis PTZ cameras. Instead of relying on a (supported) VMS to merge sensor and camera movements, the sensor is able to directly communicate with the PTZ. This can simplify the integration challenge of getting three separate entities all working together, to a single integrated communication.
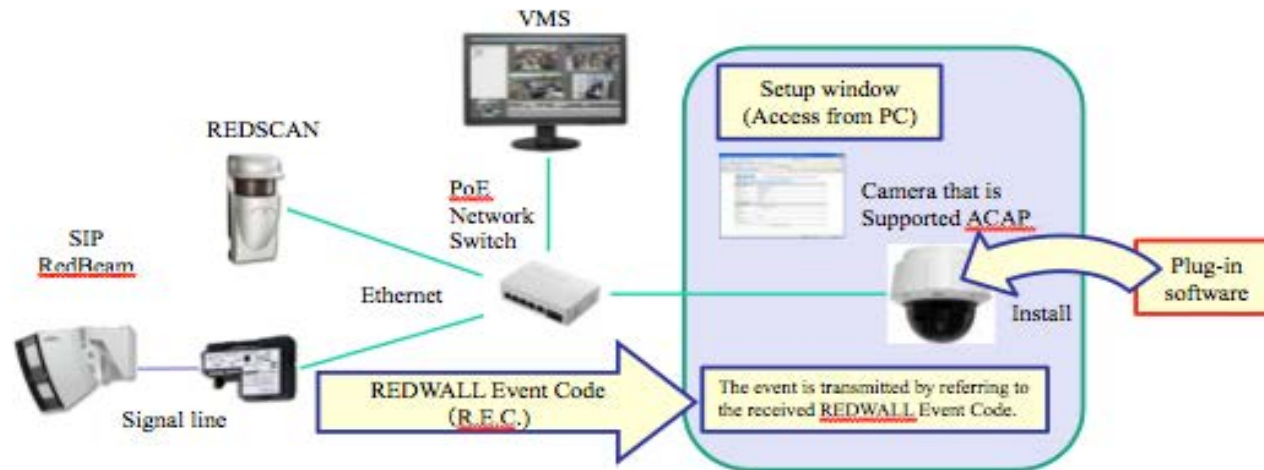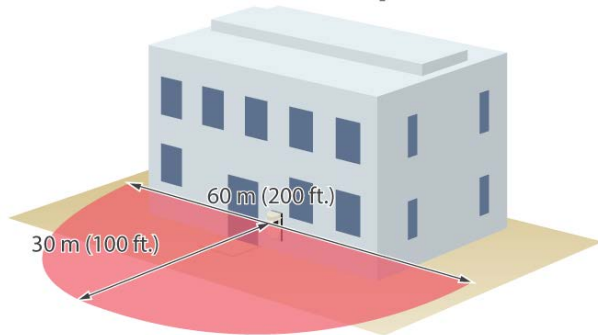
Contacts

Sales sales@optexamerica.com

Website information
• IP Perimeter solution & VMS integration
 www.optex-vms.com

• Product and Local Sales Representation Information
www.optexamerica.com

RLS-3060 Long Range Laser Detector

Indoor and Outdoor, Wired or IP

[HORIZONTAL DETECTION ZONE]

60 m (200 ft.)

30 m (100 ft.)

[VERTICAL DETECTION ZONE]

52-59 m
(170-193 ft.)

4-15 m (13-50 ft.)

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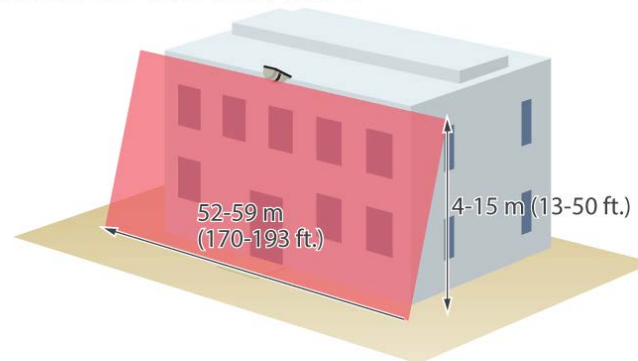
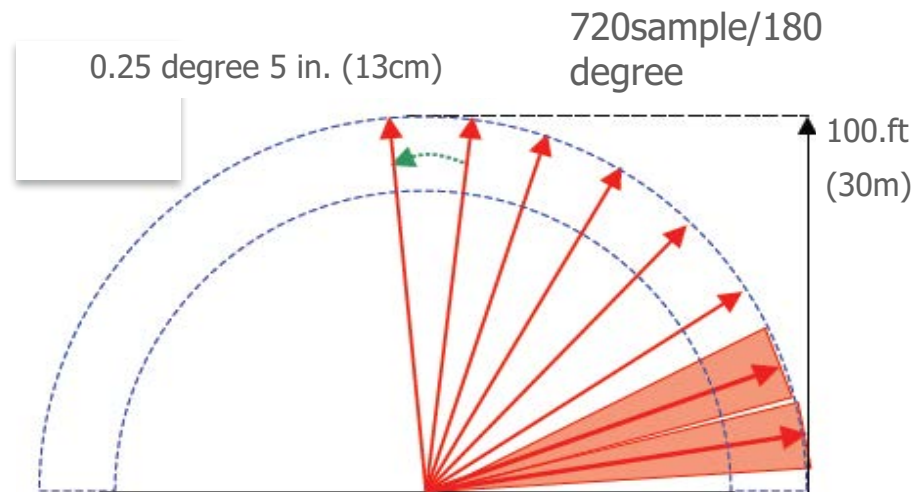# Redscan Detection Principle RLS-3060
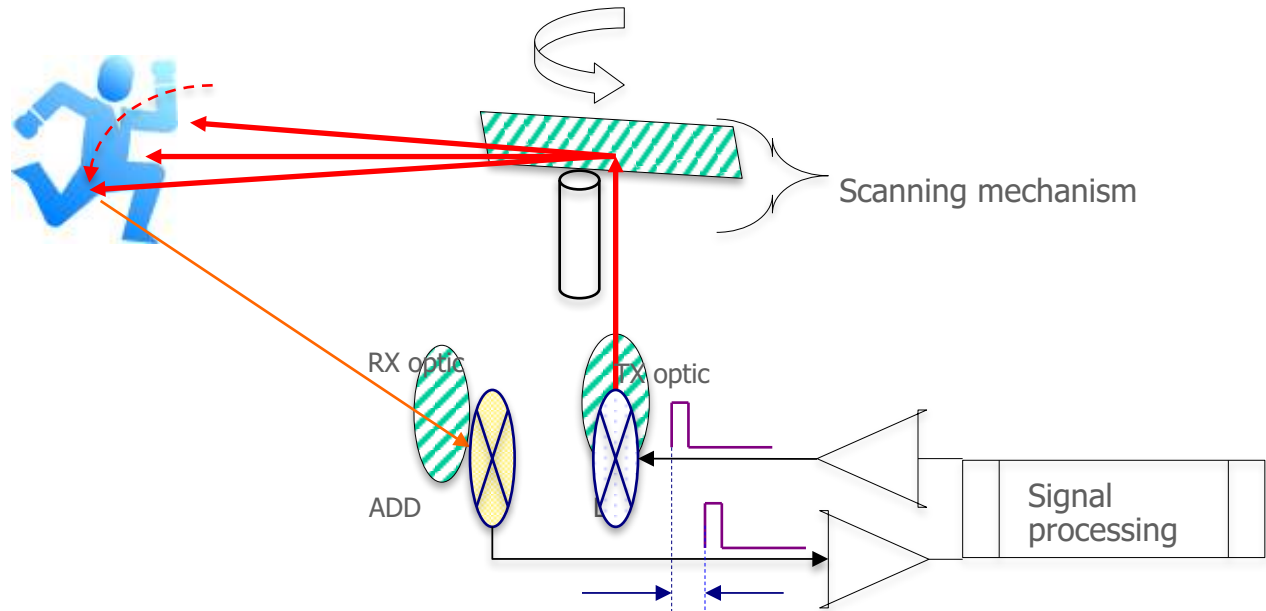
Time of Flight (TOF) method

By calculating the time during which a emitted beam returns after hitting an object, the distance to the object can be measured.

Scanning mechanism

RX optic

TX optic

ADD

Signal processing

Sensing resolution = 0.25 degree

At 100ft. (30m) distance, detection width is only 5 inch. (13cm).

Redscan is sampling every 0.25 degree. It means that Redscan protects 180 degree area with 720 beams and 190 degree area with 760 beams.

Scanning speed is 20 rotations per second.

0.25 degree 5 in. (13cm)

720sample/180 degree

100.ft
(30m)

The RLS-3060 can detect a moving object's size, speed and distance, which results in high reliable detection.

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Built-in On-board Laser Analytics

Detection patterns

Redscan, RLS-3060 can be installed vertically, horizontally or at an angle. Therefore, a horizontal or vertical or inclined detection area can be achieved:
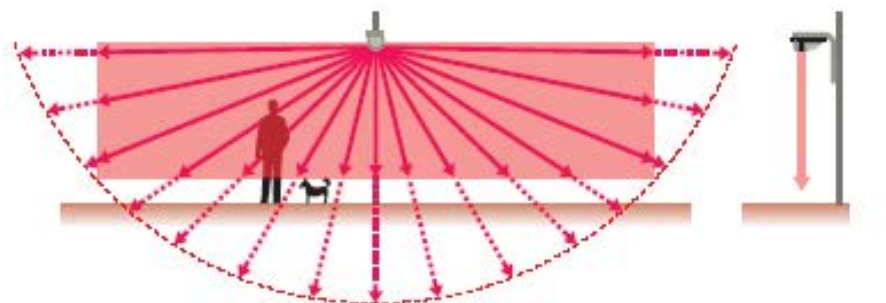
Detection range:

30m (100ft.) radius, 180 degree for vertical detection area (V mode)

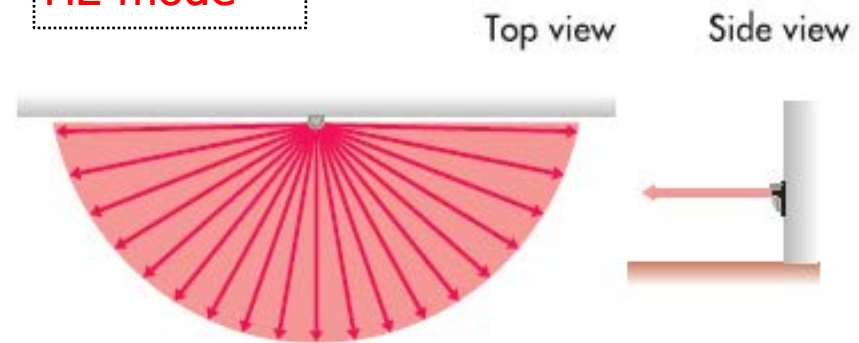30m (100ft.) radius, 190 degree for horizontal detection area (H2 mode)
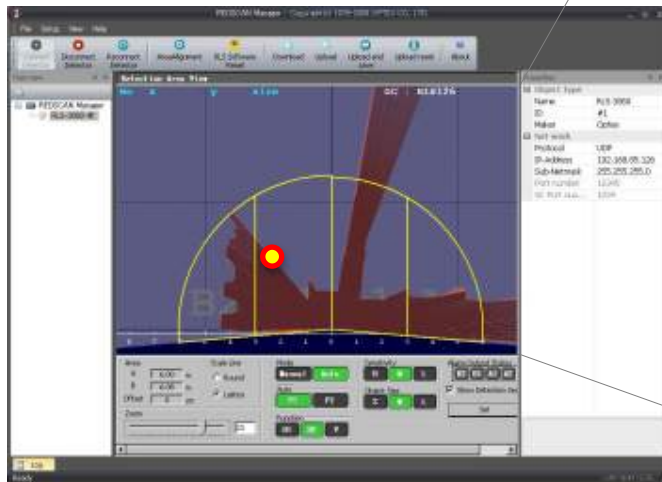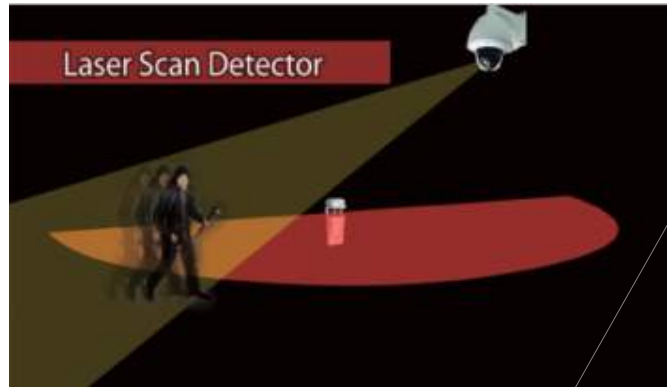
■Image of vertical detection area
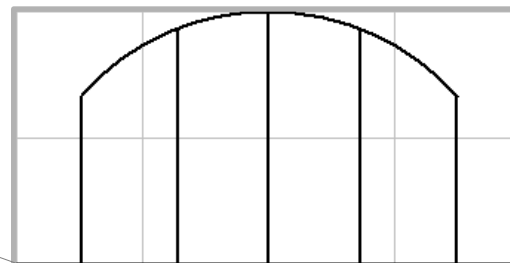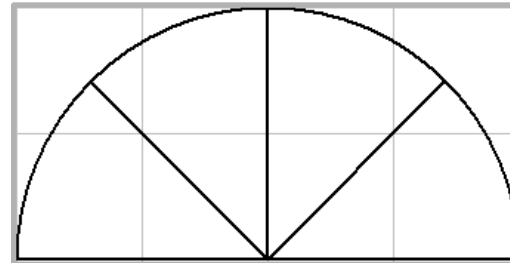
V mode

■Image of horizontal detection area
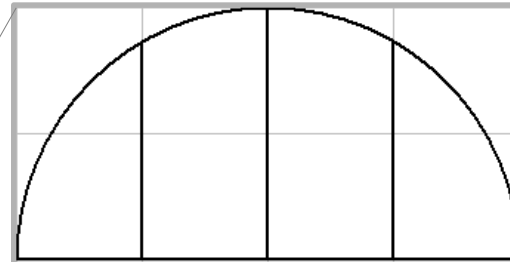
H2 mode

Side view

Top view
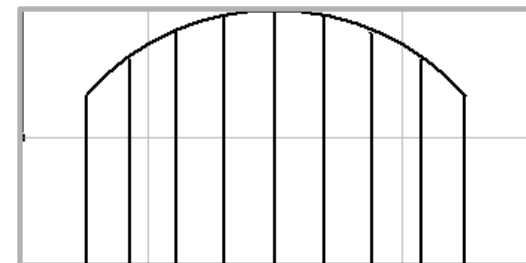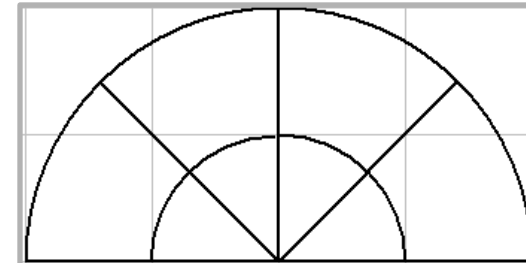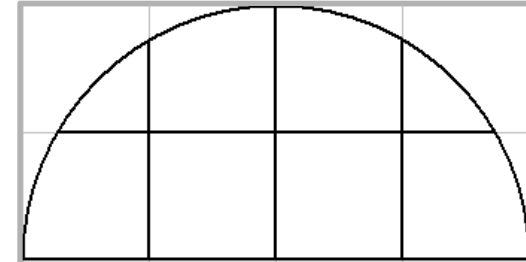
Side view

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Detection Patterns

4 Zones

8 Zones

RLS-3060SH Only

Built-in On-board Laser Analytics

REDSCAN Base Model （RLS-3060)

Standard model with advanced intrusion detection

Features
◇ Detection range is 100ft. (30m) radius, max. 190 degree
◇ Selectable horizontal & vertical detection area
◇ Recognition of intrusion locations and activates
  4 independent outputs for PTZ control
◇ Flexible and easy Set-up for detection area
◇ Analog (dry-contact) & IP connection

REDSCAN Advanced Model（RLS-3060SH)

High end model with intelligent detection analysis

Additional features
◇ Intelligent detection analysis for various type of applications
  such as PTZ camera control, human hands detection,
  direction control, vehicle detection etc.
◇ Built-in heater (-40 + 60 C degree, -40 + 140 F degree)
◇ Selectable zone patterns for PTZ camera control on IP
  connection

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Application Example- Horizontal Detection

Auto mode P1 (Auto learning)
By using this feature, the unit can trace the shape of the site and set the detection area automatically.
(The detection range is within the area which is set by the rotary switch and fine adjustment potentiometer.)

Horizontal detection area
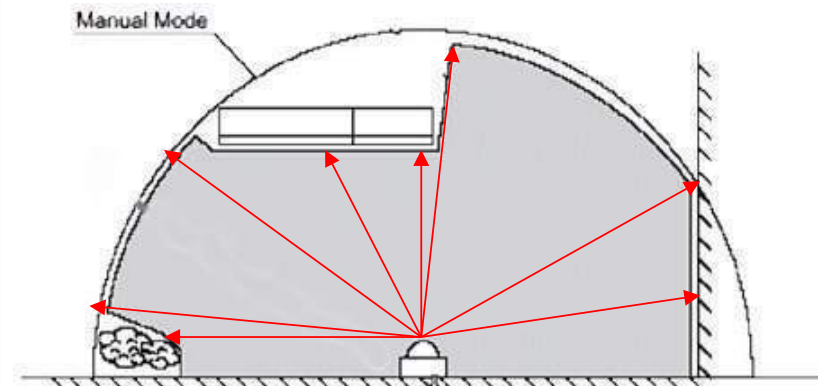
Accessories

- Adjustable angle bracket for RLS-3060 for mounting on wall or pole
  - RLS-SB

- Pole Mounting Bracket for RLS-3060
  - RLS-PB

- Laser Area Checker, to confirm the laser area
  - LAC-1 (included in RLS-AT)

- Snow or Rain cover for RLS-3060
  - RLS- ENCL-V

- Conversion adapter for M16 to 1/2"NPT
  - RLS- AM1612BR

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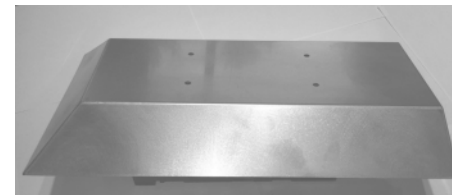
RLS-2020 Short Range Laser Detector

Indoor and Outdoor, Wired or IP
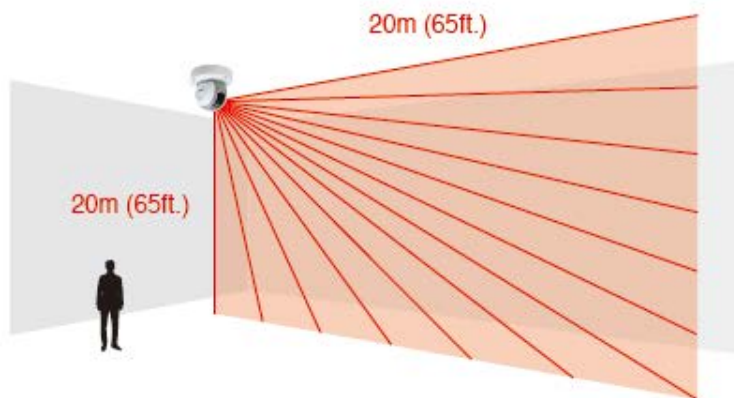
Detection Area

Redscan mini, RLS-2020 series can [...]
installed vertically, horizontally or at [...]
ang[...]

A horizontal, vertical or inclined detect[...]
area can be achieve[...]

Detection ran[...]

20m x 20m (65 ft. x 65ft.), 95 deg[...]
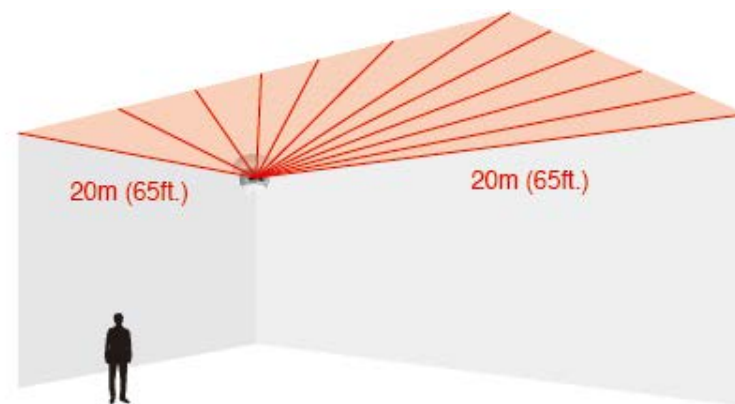
Side view

Front view

2.5°

X

90°

Y

20 m max.

2.5°

20 m max.

5m
(16 ft.)

Approx. 100mm
(4 inch)

10m
(33 ft.)

Approx. 200mm
(8 inch)

20m
(65 ft.)
Installation
height

Approx. 400mm
(16 inch)

Vertical detection area

20m (65ft.)

20m (65ft.)

Horizontal detection area

20m (65ft.)

20m (65ft.)

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21
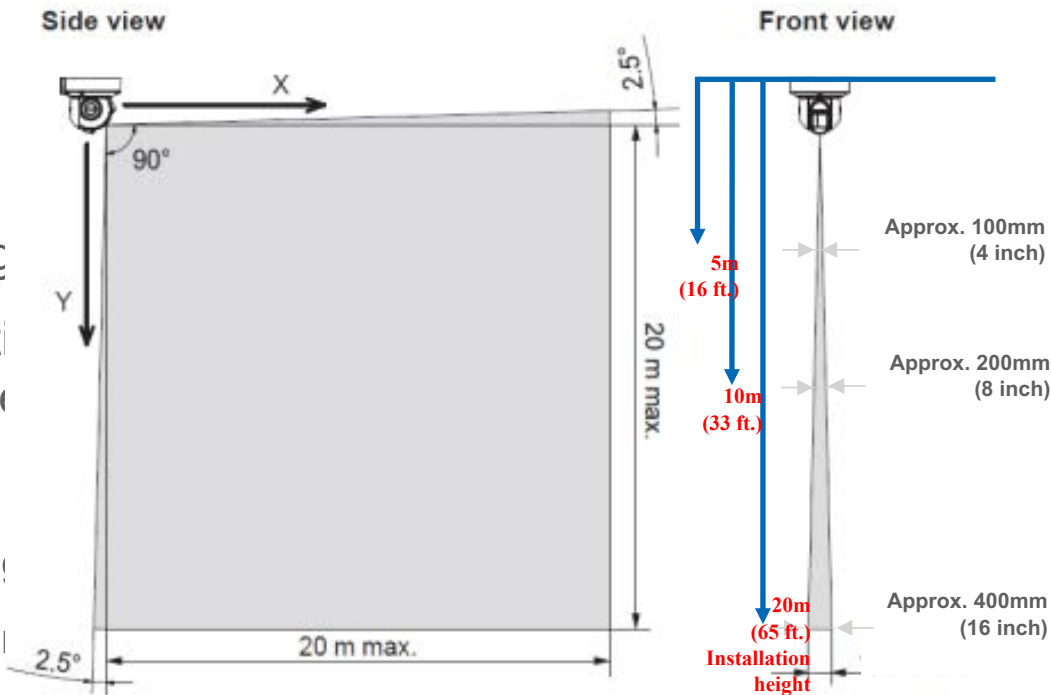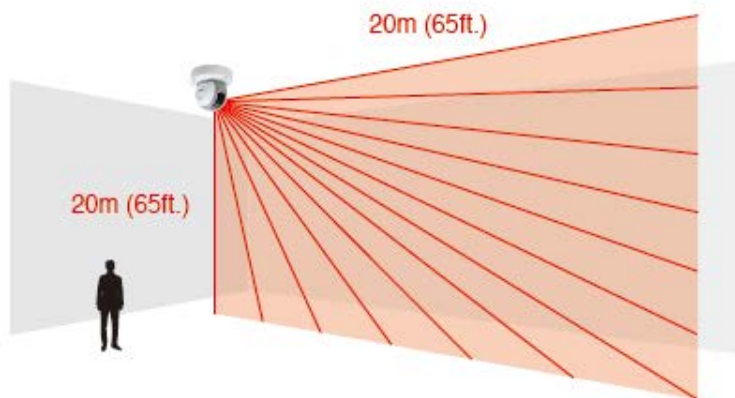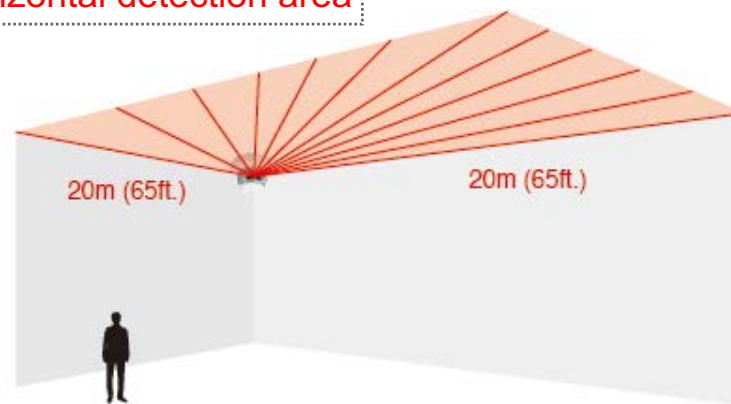
Models

RLS-2020I

Indoor use only

- 20m x20m (65ft x 65ft) 95 degree detection area
- Vertical and Horizontal detection areas
- Multi-angle Adjustment Shell Structure (MASS)
- Automatic area setting function (no need to measure the field of view)
- Advanced area setting (1 pattern)
- 4 adjustable detection areas on IP connection
- Total 3 outputs can be assigned for analog connection
- Anti-rotation, Anti-masking, Tamper (Selectable)
- Compatible with Power over Ethernet
- Paintable housing

RLS-2020S

Indoor and Outdoor

In addition to the features of the RLS-2020I,
- Indoor and outdoor use
- Indoor high resolution mode
- Indoor throw-in mode
- Advanced area setting (4 pattern)
- Area selection
- Environmental disqualification circuit
- Anti-rotation, Anti-masking, Soiling, Trouble, Tamper, DQ output (Selectable)

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Accessories

- **Pole Mounting Bracket for RLS-series**
  - **RLS-PB**

- **Redscan Adjustment tool set**
  - **RLS-AT** (including 1 unit of Laser Area Checker, **LAC-1** and **Redscan Manager software**)

- **Redscan Laser Area checker**
  - **LAC-1**

- **Recess mount Bracket**
  - **RLS-RB**

- **Redscan mini Laser window**
  - **RLS-LW**

Accessories

2020WMA: 304 mm (12 inch) Wall Mount Bracket

2020WMA8: 203 mm (8 inch) Wall Mount Bracket

2020PDMA: Pendant Mount

2020CMB: Corner Mount

2020PLMK: Pole Mount Kit

Adjustable Arm 965 mm to 1.6 m (38 – 62 inches)

610 mm (24 inches)

2020ANGX   2020ANGS

Indoor Adjustable Angle Mount long/short

Photoelectric Detectors

Wireless

Detection Principle

A photoelectric detector consists of an infrared (IR) light source that generates a pulsed IR beam, and an IR receiver that detects the beam.

The transmitter and receiver are installed on opposite sides of the area to be monitored. The receiver detects when the pulsed beam is physically interrupted by an intruder, and generate alarms.

Transmitter   Receiver

ALARM

Transmitter   Receiver
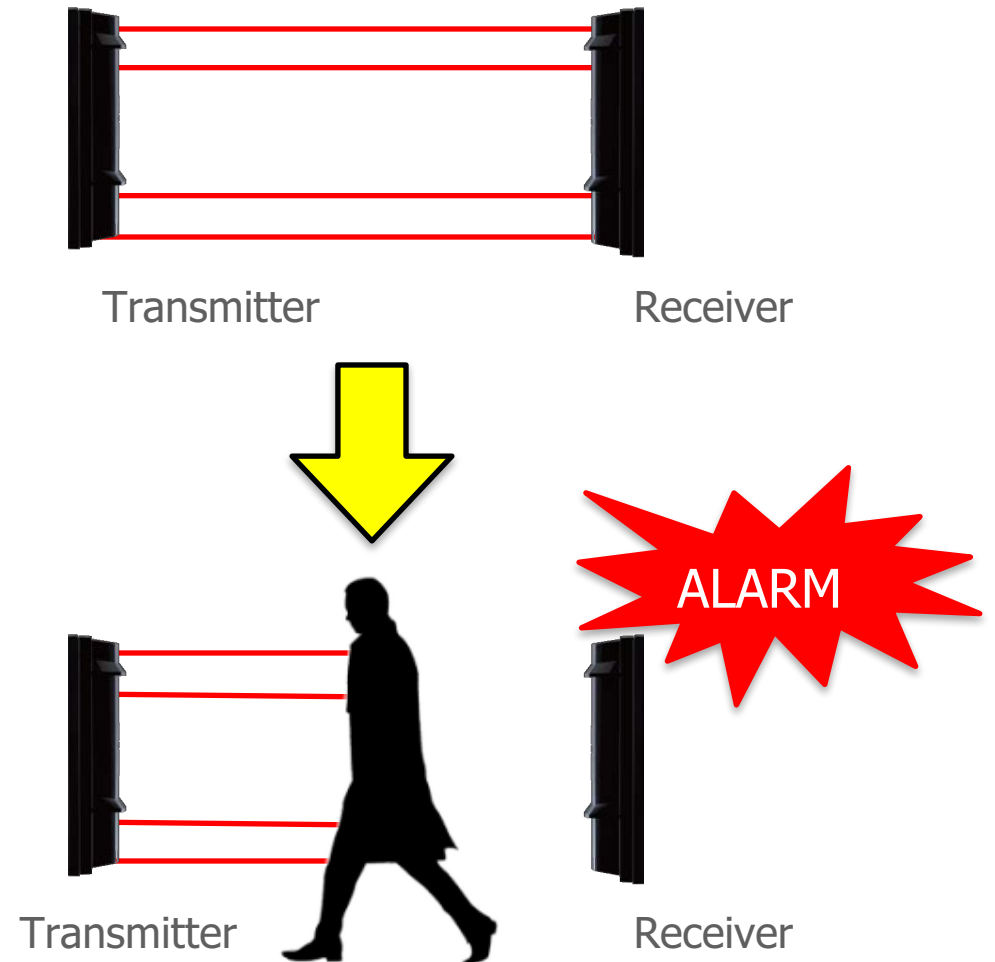
Features For Reliable Line Detection

- Used mainly for Perimeter applications

- Utilizes a transmitter side and receiver side

- Transmitter transmits invisible infrared light to the receiver

- When the light beam interrupted, an alarm is triggered

- 70ft. To 650ft. Detection ranges available

- Battery-Powered and hardwired options available
- 4 Channels allow for stacking and long run applications

- Environmental Disqualification output will send a trouble signal when beam strength reaches below adverse weather levels for 20 seconds due to rain, snow, or heavy fog.

- 99% beam blocking stability
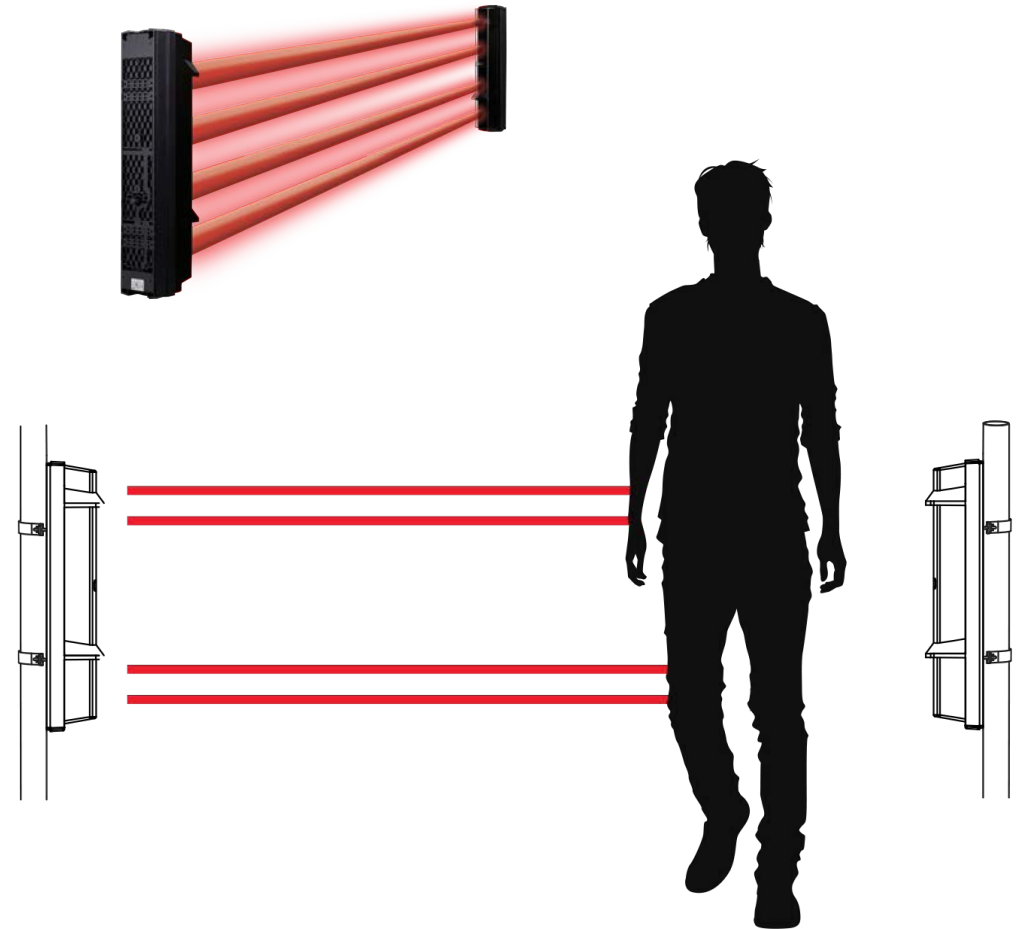
How do iSeries Detectors Work?

Each iSeries detector comes with Inovonics transmitter pre-installed and includes batteries

Reset Switch

A B C D E F G H

A. Reserved
B. Reserved
C. Secondary alarm
D. Tamper Input
E. Reset Input
F. Power
G. Ground
H. Primary Alarm

N.C. / N.O. Selection pins

Frequency band Selection pins

Antenna
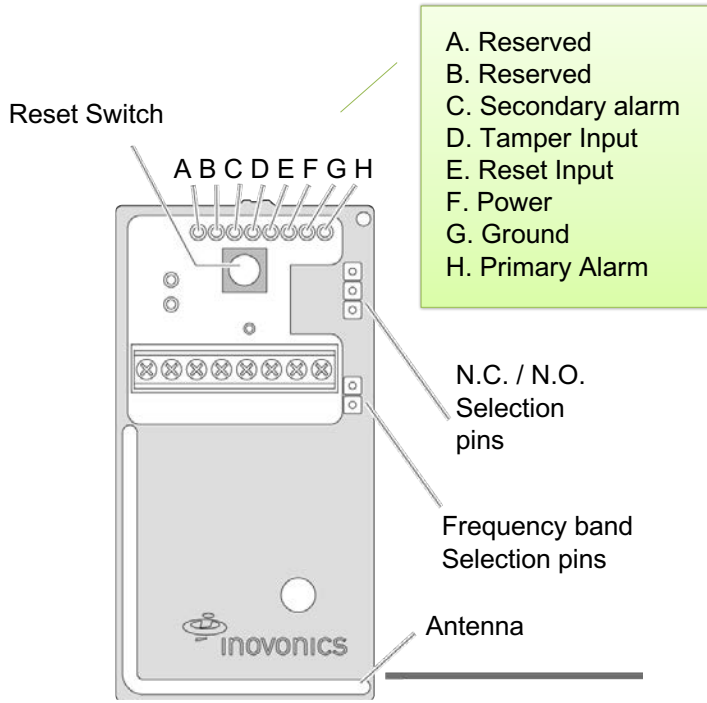
Inovonics EN1941 Transmitter

- Wireless transmitter is pre-installed by OPTEX techs.
- Monitors alarm, low battery, tamper, DQ circuit
- 2000ft. Line of sight transmission range

EN5040T Repeater
ACC650 WP Enclosure

If the job site is large or line of site to receiver is obstructed, a repeater is recommended.

EN4232MR Receiver
EN4216MR Receiver
EN7290 Vista Receiver

Inovonics add-on receivers use Form C relays to allow connection to any hardwired panel or stand-alone wireless application.

Any Control Panel

Any PC Application

iSeries Wireless Photoelectric Products

AX-100TFRi / AX-200TFRi

- 100ft. And 200ft. Photobeam Models
- Battery-powered, wireless
- Powered by Inovonics wireless (Included)
- Batteries Included

powered by INOVONICS®

SL-350QFRi (Battery-Powered)

- 350ft. Photobeam Models
- Battery-powered, wireless
- Powered by Inovonics wireless (Included)
- Batteries Included

powered by INOVONICS®

AX-TW Series

Beam Mounting Enclosures

- Enclosures for above beam models
- Custom built with beams to job specs
- AX-TW50 – 20"., Double Sided
- AX-TW100 – 3ft. 3in., Double Sided
- AX-TW200 – 6ft. 6in., Double Sided
(TW100M / TW200M are Single Sided)

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Options

Anti Bird Cap ABC-4

Keep birds and small animals off the detector to reduce false alarms.
Stop rain and snow streaming in front of the detector to keep the sensitivity.

Back Cover BC-4

Conceal the back side of pole mounted detector.

Pole Side Cover PSC-4

Conceal the gap between two pole mounted detectors in back to back.

Patent pending

Conduit Bracket CBR-4

Heting unit HU-3

Conceal the gap between two pole mounted detectors in back to back.

- **Power input**
  24VAC/DC
- **Current draw**
  210mA(max.) (Per 1 unit)
- **Thermo switch**
  60°C (140°F)

Thank You.