



# INDUSTRIAL AUTOMATION SOLUTIONS



# ▶ TECHNOLOGIES



**LASER** technology works according to the principle of Time-of-Flight. The sensor sends an intense light impulse in a defined direction and measures the time until the signal returns. As the speed of light is a constant value (approximately 300,000 km/s), this time is directly proportional to the distance between the sensor and the first object encountered by the light impulse.

As a result, and by sending multiple beams in multiple directions (2D or 3D), the sensor is capable of knowing the exact position of any object in its detection area at any given time.



**ACTIVE INFRARED with background analysis** technology works with a background (e.g. a sensor shines infrared light on the floor). In this case, the sensor lights up one or more areas and analyzes the energy that returns. Detection is triggered if there is any significant difference when compared to the original picture.



**ACTIVE INFRARED with background suppression** technology works on the principle of "triangulation", in which the sensor calculates the distance between the emitter and receiver. The emission angle is already known and the reflection angle becomes the key element as the distance to the object can be calculated according to the position of the reflected spot on the receiver side (a triangle can be drawn when you know one distance and two angles)



**PASSIVE INFRARED** technology measures the infrared light radiating from objects in its field of view. Motion or presence is detected when an infrared source with one temperature, such as a human being, passes in front of an infrared source with another temperature, such as the normal environment.



**RADAR** technology, also known as microwave technology, is based on the Doppler Effect: the radar sensor continuously emits microwaves with a certain frequency in a defined area. These microwaves are reflected back to the sensor by all of the objects present in its environment.



**PIEZO** technology, also known as piezoelectric, is the process of converting mechanical pressure (pushing a button) into electrical energy. A piezo switch is paired with a field effect transistor (FET) that, when pushed, allows current to flow through the FET.



**CAPACITIVE** technology detects close-range electrically charged objects. A small voltage is applied to a conductive surface, resulting in a uniform electrostatic detection field. When a conductor, such as the human hand, enters this field, detection occurs.



**RADIO CONTROL FREQUENCY** wireless technology uses transmitters and receivers operating on specific radio frequencies. The transmitter applies a radio frequency alternating current to an antenna, which then radiates radio waves. The receiver receives the transmitted frequency and converts the information into a usable form.



**VIDEO** technology uses optics and light to create pictures and videos. Enhanced definition cameras capture door environment and traffic usage in full color and high quality. Cameras are used within sensors to increase security and decrease liability.



- |          |   |           |   |
|----------|---|-----------|---|
| <b>1</b> | <b>FALCON FAMILY</b><br>MOTION SENSOR WITH CROSS TRAFFIC & PEDESTRIAN REJECTION | <b>6</b>  | <b>MS09</b><br>NEMA 4 RATED, TOUCHLESS ACTUATOR                               |
| <b>2</b> | <b>FALCON EX</b><br>MOTION SENSOR WITH EXPLOSION-PROOF HOUSING                  | <b>7</b>  | <b>LZR®-WIDESCAN</b><br>MOTION, PRESENCE & SAFETY SENSOR FOR INDUSTRIAL DOORS |
| <b>3</b> | <b>SPARROW</b><br>HIGHLY FLEXIBLE MOTION SENSOR                                 | <b>8</b>  | <b>LZR®-H100</b><br>LASER SCANNER FOR GATE & BARRIER APPLICATIONS             |
| <b>4</b> | <b>COLIBRI</b><br>OFF-DOOR UNIDIRECTIONAL MOTION SENSOR                         | <b>9</b>  | <b>LZR®-I30</b><br>LASER SCANNER FOR INDUSTRIAL AUTOMATION                    |
| <b>5</b> | <b>MS31</b><br>ADJUSTABLE RANGE TOUCHLESS ACTUATOR                              | <b>10</b> | <b>LZR®-S600</b><br>LASER SCANNER FOR BUILDING AUTOMATION & SECURITY          |





**11**

**IS40P**

PRESENCE SENSOR IDEAL  
FOR VEHICLE DETECTION

**12**

**IXIO-ST INDUSTRIAL**

SAFETY SENSOR FOR SMALL  
INTERIOR INDUSTRIAL DOORS

**13**

**IS40 / XL**

MOTION & PRESENCE DETECTION  
FOR INDUSTRIAL APPLICATIONS

**14**

**IXIO-DT1 INDUSTRIAL**

MOTION & PRESENCE DETECTION  
FOR SMALL INTERIOR INDUSTRIAL  
DOORS

**15**

**BR3-X**

PROGRAMMABLE 3-RELAY  
LOGIC MODULES

**16**

**LED SIGNAL LIGHTS**

STACKABLE, COLUMN  
AND TRAFFIC STYLE

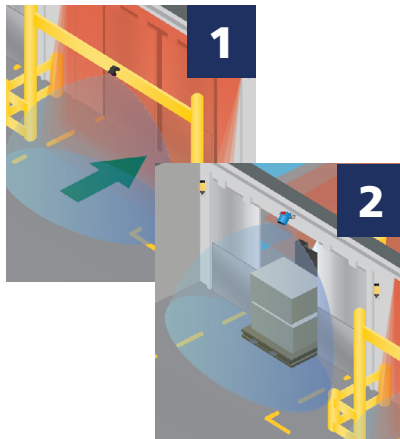
**17**

**GATELOCKS**

WEATHER-RESISTANT  
ELECTROMAGNETIC LOCK



# MICROWAVE SENSORS



## FALCON FAMILY

### MOTION SENSORS WITH CROSS-TRAFFIC AND PEDESTRIAN REJECTION

- Adjustable detection zones
- Mounting heights from 6½ to 23 feet (based on model)
- Six modes of detection filtering for microwave immunity, including pedestrian and cross-traffic rejection
- NEMA 4 rated enclosure for harsh environments
- Available with 11 lb, UL listed explosion-proof housing



## SPARROW

### HIGHLY FLEXIBLE MOTION SENSOR

- Adjustable detection zones
- Mounting height from 6½ to 20 feet
- Microwave antenna can be rotated 180 degrees to create different sensing fields
- Can be used for request-to-exit, off-door and industrial applications
- IP64 rated enclosure for harsh environments



## COLIBRI

### OFF-DOOR UNIDIRECTIONAL MOTION SENSOR

- Ideal for configuration with LED Signal Lights for warning indication applications
- Mounting height from six to 10 feet
- Can detect traffic moving as slow as two inches per second

## ACCESSORIES



### MS31

- Touchless design reduces the spread of germs and bacteria
- Offers a detection range of four to 24 inches



### MS09

- Surface mounted, NEMA 4 rated enclosure ideal for harsh environments
- Offers a detection range of four to 24 inches



### MS41

- Stainless steel faceplate with illuminated center
- IP55 rated enclosure
- Offers a detection range of four to 24 inches

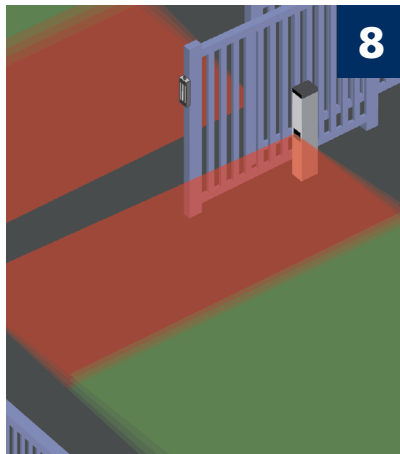
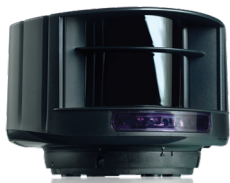
# LASER-BASED SENSORS



## LZR®-WIDESCAN

### MOTION, PRESENCE & SAFETY SENSOR FOR INDUSTRIAL DOORS

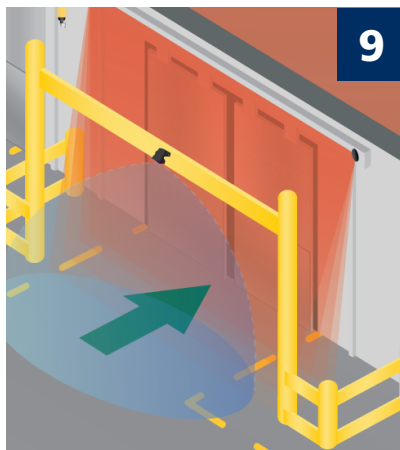
- Premier activation & safety sensor for high-performance doors
- Promotes energy savings by reducing false detections / unnecessary door cycling, helping to regulate HVAC
- Virtual pull-cord function can differentiate between pedestrian and vehicle traffic and can provide pulse-on-stop activation
- Ideal for replacing costly / labor-intensive induction loop and pull-cord solutions
- Two visible LASER alignment spots ensure accurate pattern placement



## LZR®-H100

### LASER SCANNER FOR GATE & BARRIER APPLICATIONS

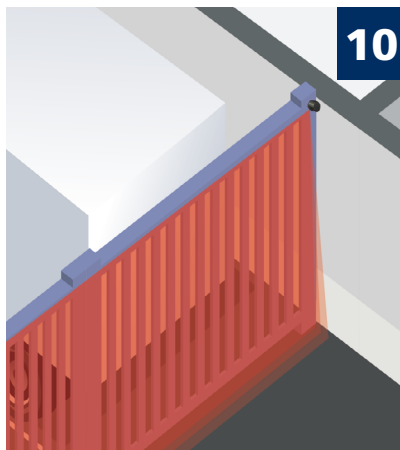
- Two relays allow for activation via motion or presence
- Ideal for applications where cutting ground for loops is prohibited, impossible or expensive
- Ability to detect or ignore pedestrian traffic
- Ability to detect vehicle trajectory during approach and departure
- Maximum detection field of 32 × 32 feet



## LZR®-I30

### LASER SCANNER FOR INDUSTRIAL AUTOMATION

- Time-of-Flight technology ensures accurate object detection within a three dimensional safety zone
- Four curtains of detection capable of 30 × 30 feet and customizable by the inch
- Has the ability to ignore dynamic ground conditions and extreme weather
- NEMA 4 rated enclosure ideal for harsh environments

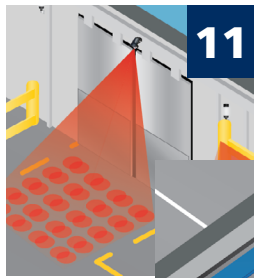


## LZR®-S600

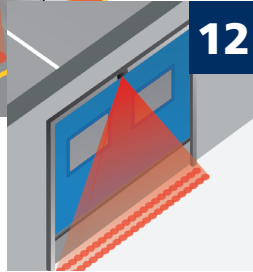
### LASER SCANNER FOR BUILDING AUTOMATION AND SECURITY

- Time-of-Flight technology ensures accurate object detection within a three dimensional zone
- Four curtains of detection, capable of 82 × 82 feet and customizable by the inch
- Has the ability to ignore dynamic ground conditions and extreme weather
- Ideal for perimeter protection applications requiring a large detection field
- NEMA 4 rated enclosure ideal for harsh environments

## INFRARED SENSORS



11



12

### IS40P

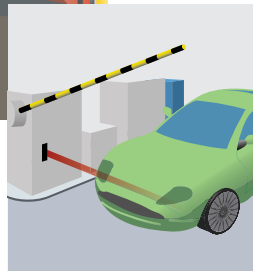
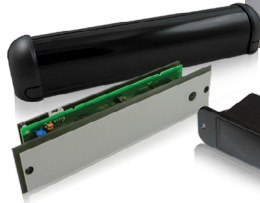
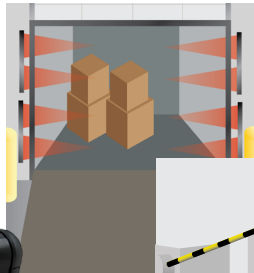
#### PRESENCE SENSOR IDEAL FOR VEHICLE DETECTION

- Mounting height from 6½ to 16 feet
- Utilizes 40 active infrared spots for presence detection

### IXIO-ST INDUSTRIAL

#### IP54 RATED OVERHEAD PRESENCE SENSOR

- Mounting height from 6½ to 11½ feet
- Two rows of 24 spots provide presence detection



### SUPERSCAN-T INDUSTRIAL

#### PRESENCE SENSOR FOR INDUSTRIAL AUTOMATION AND GATE APPLICATIONS

- Detection zone of 2½ to 11½ feet

### FOCUS FAMILY

#### VERSATILE, COMPACT PRESENCE SENSOR

- Ideal for barrier arm, gate and other pass-thru applications
- Detection distance of two to 8⅞ feet

## DUAL TECHNOLOGY SENSORS

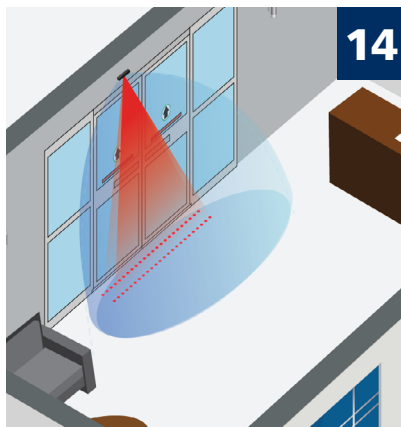


13

### IS40 / XL

#### MOTION AND PRESENCE DETECTION FOR INDUSTRIAL APPLICATIONS

- Combines our FALCON overhead motion sensor with 40 spots of infrared presence detection
- Six modes of detection filtering for microwave immunity, including pedestrian and cross traffic rejection
- Nine unique infrared patterns capable of highly flexible presence detection
- NEMA 4 rated enclosure for harsh environments



14

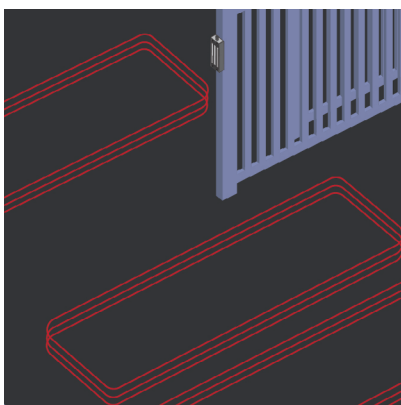
### IXIO-DT1 INDUSTRIAL

#### MOTION AND PRESENCE SENSOR FOR SMALL INTERIOR INDUSTRIAL DOORS

- IP54 rated overhead dual technology sensor
- Two rows of 24 spots provide dense infrared presence curtains for precise presence detection
- Ten microwave activation sensitivity settings
- Easy installation and troubleshooting with menu-driven LCD
- Mounting height from 6½ to 11½ feet



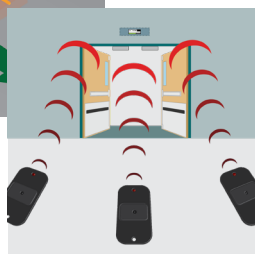
## MODULES



### MATRIX LOOP DETECTORS

#### UL LISTED SINGLE AND DUAL LOOP DETECTORS

- Available in operating powers of 110 to 120 VAC and 12 to 24 VAC / VDC
- Automatic sensitivity boost
- Settings are adjusted via two easy-to-use potentiometers
- Pulse-on-entry and pulse-on-exit presence detection



### BR3-X

#### PROGRAMMABLE 3-RELAY LOGIC MODULES

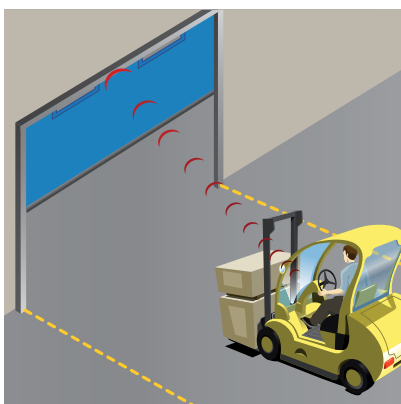
- 13 function universal modules for a variety of application needs, such as time delay, 3-relay sequencing and more

### BR2-900

#### 2-RELAY LOGIC MODULE + 900 MHZ

- 2-relay logic module with built-in 900 MHz wireless technology and day / night mode functionality

## RADIO CONTROLS



### 900 MHZ SERIES

#### COMPACT, LONG RANGE WIRELESS TRANSMITTERS AND RECEIVER

- Frequency-hopping feature ensures strong wireless connection
- Handheld transmitters available in standard 1, 2, 3 and 4 button models
- NEMA 4 rated handheld transmitters available
- Connects up to 500 feet (open-air transmission)

## ACCESSORIES

16

### LED SIGNAL LIGHTS

- UL Listed, IP67 models available
- Stackable, column and traffic styles available



### ACCESS CONTROL

- UL Listed GATELOCKS
- Universal IP66 rated KEYPAD
- KEYSWITCHES



17

### INSTALLATION ACCESSORIES

- UL Listed power supplies
- L & Z brackets
- Industrial extension brackets
- BEA UNIVERSAL REMOTE CONTROL







## BEA Americas

RIDC Park West  
100 Enterprise Drive  
Pittsburgh, PA 15275-1213

Phone: 1.800.523.2462

Fax: 1.888.523.2462

Email: [info-us@BEAsensors.com](mailto:info-us@BEAsensors.com)