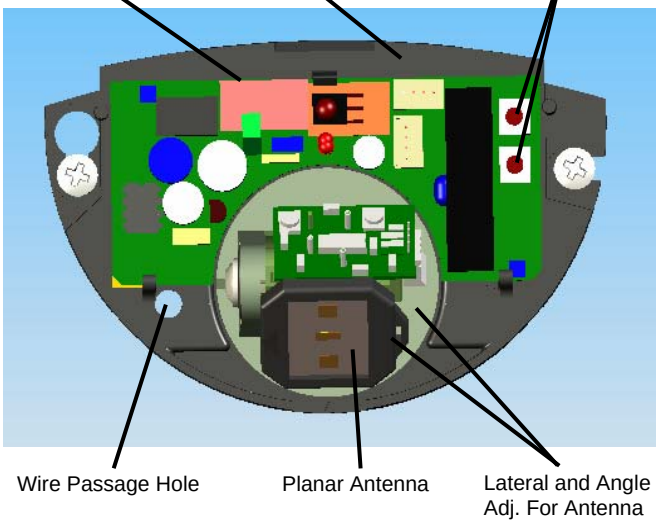
1 Description



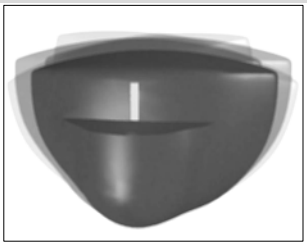
NOTE: For mounting heights between 10’ and 16’, use BEA model 10EAGLEHM (high mount).

2 Technical Specifications

DESCRIPTION	SPECIFICATION
Frequency:	24.125 GHz
Supply voltage:	12 to 24 V AC: ± 10%: 12 to 24 V DC: -10% / +30%:
Mounting height:	Normal: 7’; Maximum: 10’-0”
Tilt angle:	0° to 90° vertical -15° to +15° lateral
Detection area:	
Wide	13ft (W) x 6.5ft (D)
Narrow	6.5ft (W) x 8.2ft (D) (supplied as optional)
Minimum detection speed:	2 in/sec. (measured in axis)
Power consumption:	< 2 W
Standard output relay:	
Max contact voltage	60 VDC / 125 VAC
Max contact current	1 A (resistive)
Max switching power	30W (DC) / 60VA (AC)
Hold time:	0.5 sec. to 9 sec. (adjustable)
Temperature range:	-4°F to 131°F
Dimensions:	4.75in (W) x 3.15in (H) x 2.0in (D)
Weight:	0.5lbs
Material:	ABS
Housing color:	Black. Can be painted with non-metallic paint
Cable length:	6ft

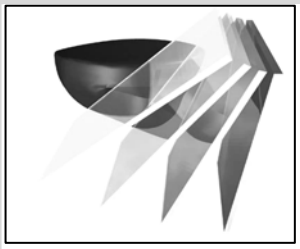
3 Installation

1 Tips

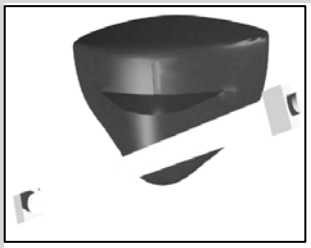


The sensor must be firmly fastened to prevent vibration.

The sensor must not be placed directly behind a panel or any kind of material.



The sensor must not have any object likely to move or vibrate in its sensing field.



The sensor must not have any fluorescent lighting in its sensing field.

2 Safety Precautions

- Shut off all power going to the header before attempting any wiring procedures.
- Maintain a clean & safe environment when working in public areas.
- Constantly be aware of pedestrian traffic around the door area.
- Always stop pedestrian traffic through the doorway when performing tests that may result in unexpected reactions by the door.
- Always check placement of all wiring and components before powering up to insure that moving door parts will not catch any wires and cause damage to equipment.
- Ensure compliance with all applicable safety standards upon completion of installation.

ELECTROSTATIC DISCHARGE (ESD) PRECAUTIONS

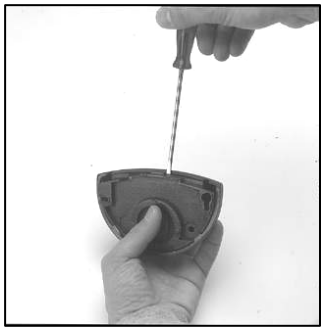
Circuit board components are vulnerable to damage by electrostatic discharge (ESD). ESD can cause immediate or subtle damage to sensitive electronic parts. An electrostatic charge can build up on the human body and then discharge when you touch a board. A discharge can be produced when walking across a carpet and touching a board, for example. Before handling any board, make sure you dissipate your body's charge.

CAUTION: In the event a unit needs to be opened, observe the following precautions.

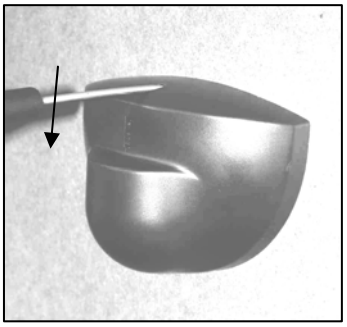
Ground yourself by touching a conductive surface of the door or other element connected to common earth ground to discharge the static electricity present in your body.
Avoid walking around while replacing items inside the case, especially if you are on carpet or during conditions of low temperature and low humidity.
Handle the board by the edges only to avoid touching electronic components.
Store a loose board in an anti-static bag.

3 Mechanical Installation

Opening the sensor

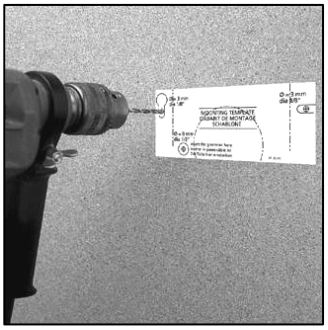


❑ From behind, before installation



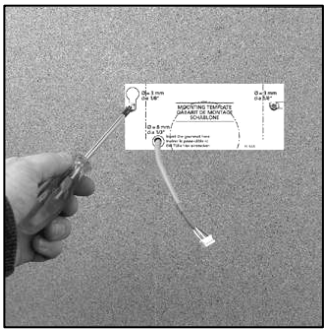
❑ From the front, after installation

Mounting the sensor



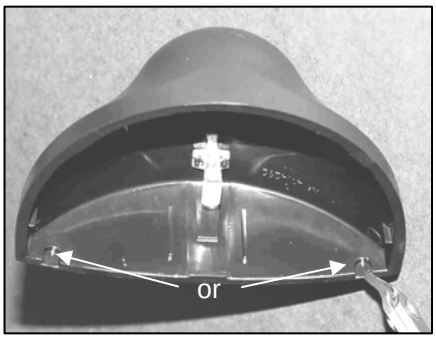
❑ Paste the template at desired location.

❑ Drill as instructed.



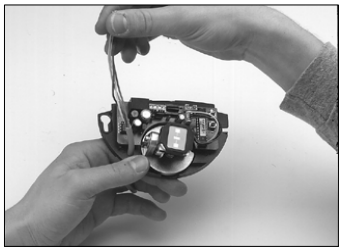
❑ Insert screws but do not screw them fully in.

❑ Pass the cable where indicated.

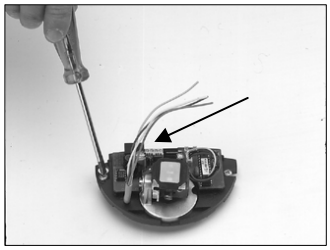


❑ Optional cable routing: Notch the cover as shown in the picture.

4 Electrical Installation



❑ Run the cable through the wire passage hole just below PCB.



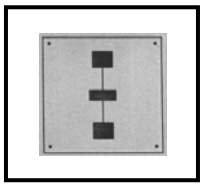
❑ Position the sensor and tighten the two screws. Make sure you leave enough cable to reach the terminal block near the top of the sensor.

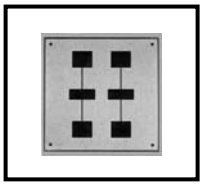
Terminal	Connection
1 (Red)	12 to 24 VAC / DC (+)
2 (Black)	12 to 24 VAC / DC (-)
3 (White)	Relay Common
4 (Green)	Relay N.O.
5	Relay N.C.
Note: Input power tolerance is +/- 10% for AC, and -10% to +30% for DC power.	

❑ Wiring connections are as shown above.

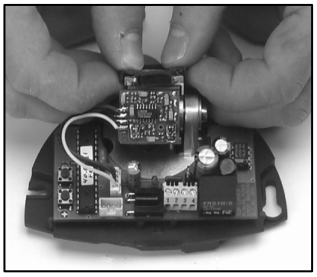
5 Mechanical Adjustments

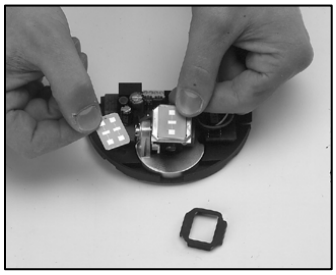
A. THE WIDTH OF THE SENSING FIELD IS DETERMINED BY THE CHOICE OF THE PLANAR ANTENNA (OPTION)



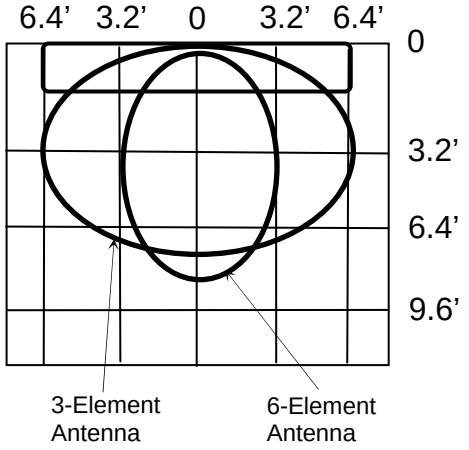


Wide sensing field:	**Narrow sensing field**:
3-element antenna	**6-element antenna**





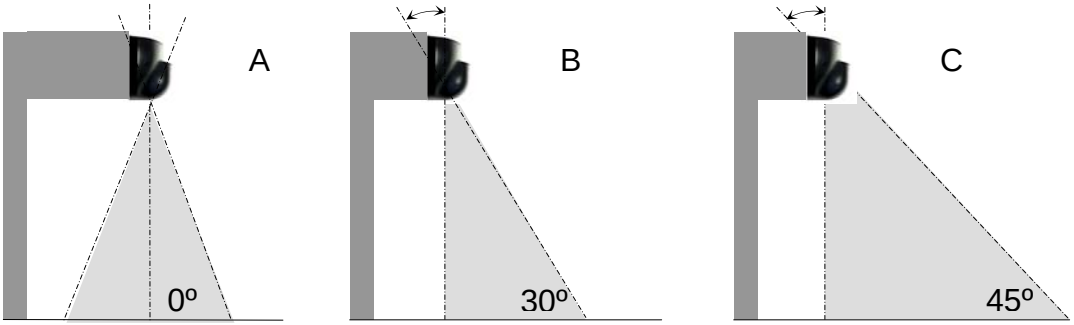
Carefully remove the protective cover of the antenna with a screwdriver.	Change the antenna and replace the protective cover.



SENSING FIELDS ACCORDING TO THE TYPE OF ANTENNA

The sensing fields above correspond to the <u>following adjustments</u>:
vertical angle of the antenna: 30°
sensitivity: 9
Mounting height: 7’

B. THE POSITION OF THE SENSING FIELD IS DETERMINED BY THE VERTICAL TILT ANGLE OF THE ANTENNA

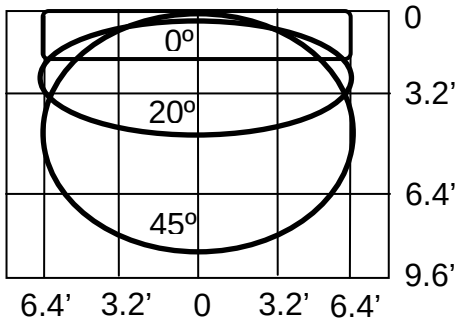


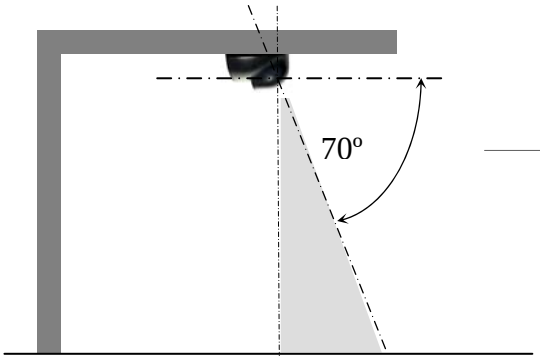
Sensing field as close to the door as possible:	Sensing field close to the door:	Sensing field far from the door:
-antenna set at the position of **0°**	-antenna set at the position of **30°**	-antenna set at the position of **45°**

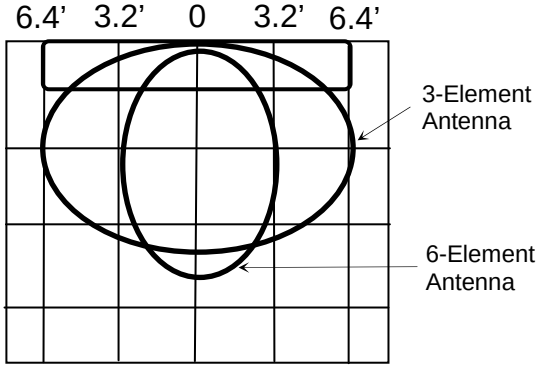
SENSING FIELDS ACCORDING TO THE VERTICAL TILT ANGLE OF THE ANTENNA

The sensing fields on the right correspond <u>to the following adjustments</u>:

wide sensing field antenna
vertical angle of the antenna: 0°, 20°, 45°
sensitivity: 9
Mounting height: 7’



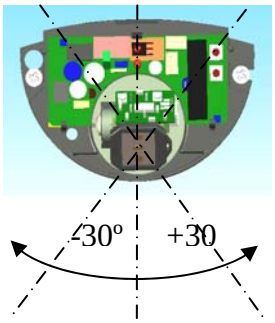




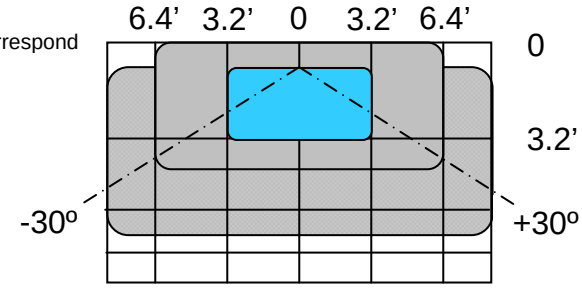
- For ceiling mounting, the vertical tilt angle of the antenna must be set at the maximum position of 70-75° and the spherical part of the sensor must be oriented in the opposite direction to the door.

SENSING FIELDS – CEILING MOUNT
The sensing fields above correspond to the following adjustments:
- Vertical angle of antenna: 70º
- Sensitivity: 9
- Mounting height: 7’

C. THE LATERAL POSITION OF THE SENSING FIELD IN FRONT OF THE DOOR IS DETERMINED BY THE LATERAL TILT ANGLE OF THE ANTENNA.

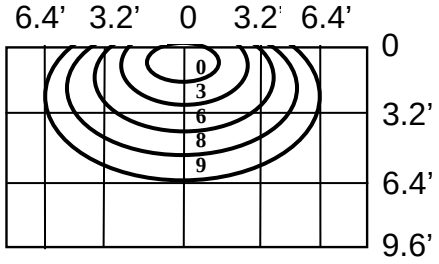


The sensing fields on the right correspond to <u>following adjustments</u>:
Wide sensing field antenna
Lateral angle of the antenna: +30°, -30°
Sensitivity:
1= min., 6 = middle, 9 = max.
Mounting height: 7’



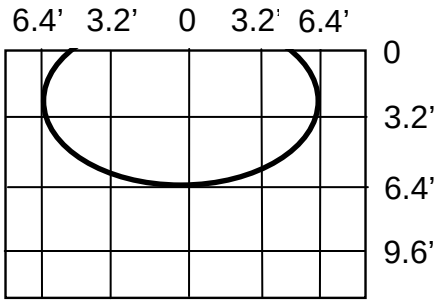
D. THE DIMENSIONS (WIDTH, DEPTH) OF THE SENSING FIELD DEPEND ON THE SENSITIVITY SETTING.

The sensing fields on the right correspond to the <u>following adjustments</u>:
Wide sensing field antenna
Vertical angle of the antenna: 30°
Mounting height: 7’



E. THE DIMENSIONS (WIDTH, DEPTH) OF THE SENSING FIELD DEPEND ON THE MOUNTING HEIGHT

The sensing fields on the right correspond to the <u>following adjustments</u>:
Wide sensing field antenna
Vertical angle of the antenna: 20°
Sensitivity: 9
Mounting height: 9.6’



6 Programming Guide

The Eagle is equipped with a Motion Tracking Feature (MTF). The MTF is available when the Eagle is used in the uni-directional mode. The Eagle is factory preset with the MTF ON. MTF is recommended for use in short vestibule areas to help reduce unwanted door hold-open time. Refer to the Programming Guide to alter this setting. BEA recommends keeping the MTF enabled for all applications. The detection capabilities perform as follows:

BI-DIRECTIONAL MODE:
- Detection of all motion towards or away from the sensor.

UNI-DIRECTIONAL MODE:
- The detector will work in a uni-directional mode at all times regardless of traffic patterns - detecting only motion moving toward the sensor.

OR

UNI-DIRECTIONAL MODE WITH MTF: The principle is as follows:
- The detector does NOT activate its relay as long as it detects movement exclusively moving away from the detector. It acts like the classic unidirectional detector.
- As soon as the Eagle detects movement toward the sensor, it automatically switches to bi-directional mode.
- The Eagle maintains the bi-directional function for approximately 2 seconds following the last detection of motion toward the door.
- At the end of the 2-second time frame, if the Eagle does not detect any further motion, it switches back to the unidirectional mode.

Number Keys

Number keys (0 through 9) are used for assigning a value for a given function

Unlock / Inquire / Lock

To UNLOCK the sensor:
Press the UNLOCK key once. Red LED flashes quickly

To LOCK the sensor:
Press the LOCK key twice, OR press once then followed by a 4-digit lock code. If less than 4 digits, press lock again after the last digit. LED goes out when complete.

To INQUIRE the sensor:
Unlock the sensor, press the desired function key, followed by the INQUIRY key – the number of green flashes corresponds to the value.

Default: 0000

Adjustment Keys

Plus (+) and minus (-) keys are used for incremental adjustments to the sensor

Relay Configuration

The relay configuration has 4 possible output values:

1= Normally Open Relay
2= Normally Closed Relay
3=Continuous Detection
4=Continuous Non-Detection

Default: 1

Default Values

After pressing the DEFAULT VALUE key, the red LED flashes quickly. After pressing a number button, the red LED flashes slowly.

1 = Normal Mounting Height (only for serial numbers lower than 84000)

2 = Boost Mode, increases sensitivity for high mount applications.

9 = Restore default values except lock code (for serial number 84000 and greater)

Sensitivity

0 = Minimum Sensitivity
9 = Maximum Sensitivity

Default: 8

Detection Mode

Detection mode offers 3 different levels of detection:

1 = Bi-Directional
2 = Uni-Directional
3 = Uni-Directional with motion tracking feature

Default: 3

Relay Hold Time

Relay hold time refers to the hold time on the output relay of the Eagle. Values range from 0 to 9.

0 = .5 sec.
1 = 1 sec through 9 = 9 sec in 1 second intervals

Default: 0

Immunity

Immunity helps to reduce the chance of unwanted detections due to environmental disturbances.

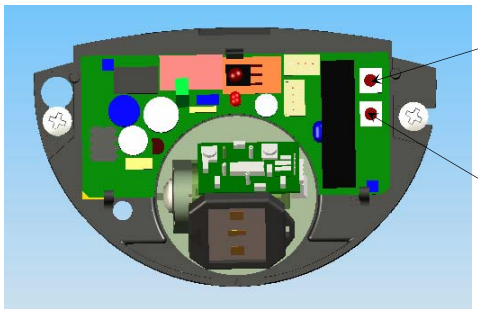
1 = Reduced
2 = Normal
3 = Increased
4 through 9: enhanced immunity (for highly reflective environment)
Default: 2

* Every adjustment, when using the infrared remote control, must start with the unlocking function, and end with the locking function.

7 Manual Setup

If a remote control is not available, only the sensitivity parameter can be adjusted manually, by means of the push buttons **+ (Plus)** and **- (Minus).**

The sensor parameters that are not accessible manually will remain at the factory preset values.



+ Press to increase sensitivity by one unit.

- Press to decrease sensitivity by one unit.

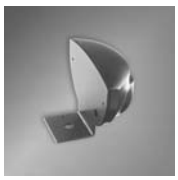
Pressing the two push buttons located on the circuit board, simultaneously for at least two seconds, will restore all default values except the lock code. Previously set lock codes will be retained.

4 Troubleshooting

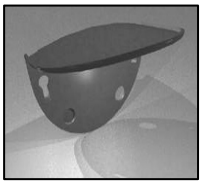
SYMPTOMS	PROBABLE CAUSE	CORRECTIVE ACTION
The door will not open and no red LED lights up.	The sensor power is off.	Check the wiring and power supply.
	The door control is set to level 3.	Set door control to automatic mode (level 1).
The door opens and closes constantly.	The sensor “sees” the door moving	Increase the tilt angle and/or reduce the sensitivity and/or increase the immunity.
	When closing the door creates vibrations picked up by the sensor.	Ensure the sensor is correctly fixed. Switch to unidirectional mode. Increase the immunity. Reduce the sensitivity.
The door will not close the. Red LED off.	On Off switch at door control in wrong position or is faulty. Improper output configuration on the sensor.	Check to insure On-Off switch for door is in the ON or AUTOMATIC position. Check the output configuration setting on each sensor connected to the door operator.
It rains and the sensor detects for no apparent reason.	The sensor detects the motion of the raindrops.	Use the ERA accessory. Switch to unidirectional mode (without MTF) and increase the immunity.
In airlock vestibules, the sensor sees the opposite door.		Increase immunity.
In airlock vestibules, the sensor sees the movement of the door leaves, despite of an increased immunity.		Make sure the antenna for the narrow sensing field is used.
In metallic environments, the sensor detects objects outside its detection field.		Increase immunity.
The sensor will not unlock when access code is entered.	Batteries in the remote control are weak or installed improperly.	Check the batteries insertion. Change the batteries.
	Remote control improperly pointed.	Point the remote control toward the sensor.

5 Accessories (sold individually)

PN: 10ECA
For mounting into the ceiling, use the ECA embedding accessory.



PN: 10EMB
Bracket for mounting on the top of the door header.



PN: 10ERA
Rain protection accessory.

6 Company Contact

BEA
OPEN UP NEW HORIZONS
A HALMA GROUP COMPANY

CAUTION

Do not leave problems unresolved. If a satisfactory solution cannot be achieved after troubleshooting a problem, please call BEA, Inc. If you must wait for the following workday to call BEA, leave the door inoperable until satisfactory repairs can be made. Never sacrifice the safe operation of the automatic door or gate for an incomplete solution.

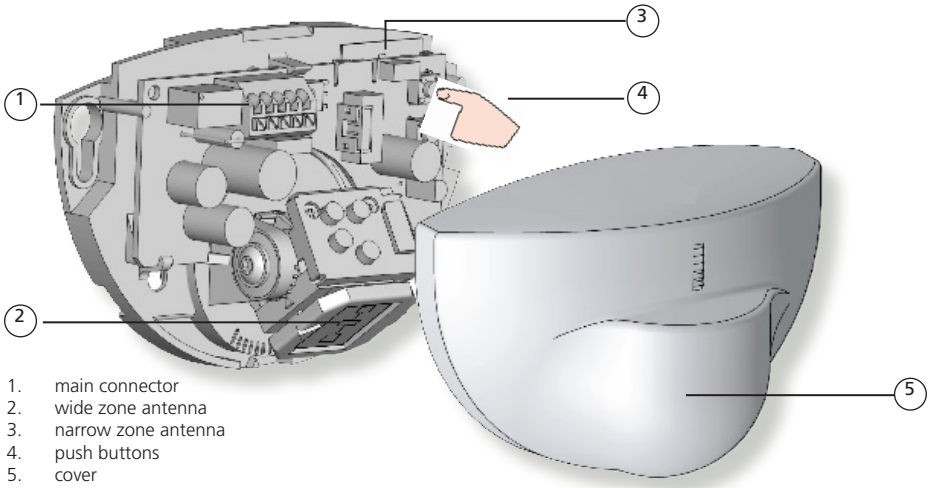
The following numbers can be called 24 hours a day, 7 days a week. For more information, visit www.beasensors.com.

West: 1-888-419-2564
South-East: 1-800-407-4545
US and Canada: 1-866-249-7937
Mid-West: 1-888-308-8843
North-East: 1-866-836-1863
Canada: 1-866-836-1863

EAGLE

Unidirectional activation sensor for automatic pedestrian doors*

DESCRIPTION



1. main connector
2. wide zone antenna
3. narrow zone antenna
4. push buttons
5. cover

TECHNICAL SPECIFICATIONS

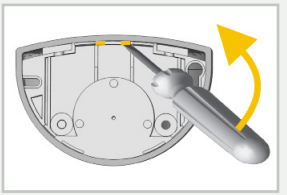
Technology:	microwave and microprocessor
Transmitter frequency:	24.150 GHz
Transmitter radiated power:	< 20 dBm EIRP
Transmitter power density:	< 5 mW/cm²
Detection mode:	motion
Min. detection speed:	2 in/s
Supply voltage:	12V to 24V AC ±10%; 12V to 24V DC +30% / -10%
Mains frequency:	50 to 60 Hz
Max power consumption:	< 2 W
Output:	relay (free of potential change-over contact)
Max. contact voltage:	42V AC/DC
Max. contact current:	1A (resistive)
Max. switching power:	30W (DC) / 60VA (AC)
Mounting height:	from 6 ft to 13 ft
Degree of protection:	IP54
Temperature range:	from -4 °F to + 131 °C
Dimensions:	4.7 in (L) x 3.1 in (H) x 2.0 in (W)
Tilt angles:	0° to 90° vertical; -30° to +30° lateral
Material:	ABS
Weight:	7.6 oz
Cable lenght:	8 ft
Norm conformity:	R&TTE 1999/5/EC, LVD 2006/95/EC, RoHS 2 2011/65/EU

Specifications are subject to changes without prior notice.
Measured in specific conditions.

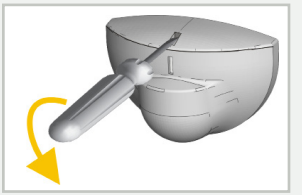
* Other use of the device outside of the intended purpose can not be guaranteed by the manufacturer.

- The device should not be used for purposes other than its intended use. All other uses cannot be guaranteed by the manufacturer of the sensor.
- The installer of the door system is responsible for carrying out a risk assessment and installing the sensor and the door system in compliance with applicable national and international regulations and standards on door safety.
- The manufacturer of the sensor cannot be held responsible for incorrect installations or inappropriate adjustments of the sensor.

1 OPENING THE SENSOR



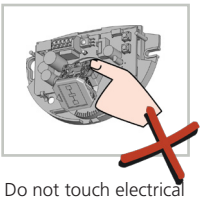
Before mounting



After mounting

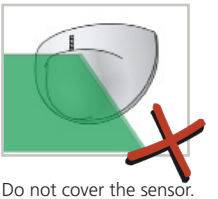
2 MOUNTING & WIRING

TIPS



Do not touch electrical parts.

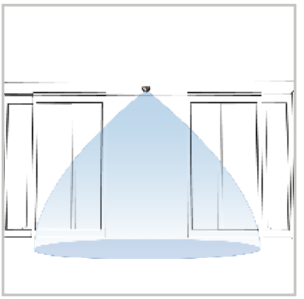
Avoid vibrations.



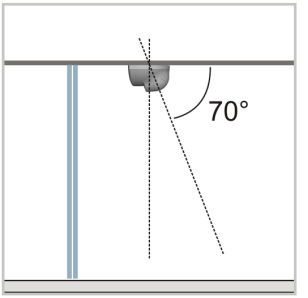
Do not cover the sensor.

Avoid proximity to neon lamps or moving objects.

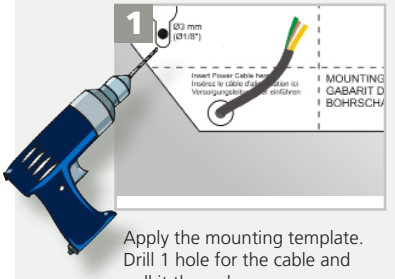
APPLICATIONS



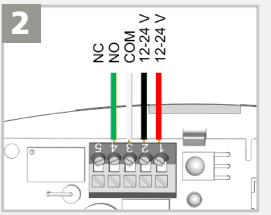
Header mounting above sliding or revolving door



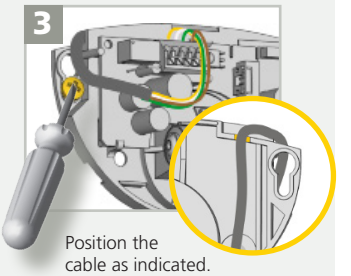
Ceiling mounting in front of door (sliding, revolving or swing doors)



Apply the mounting template.
Drill 1 hole for the cable and pull it through.
Drill 2 holes for the screws.



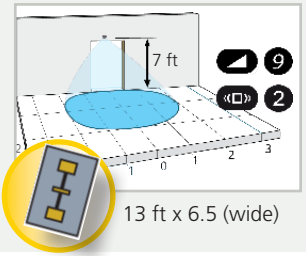
Connect the wires accordingly:
1 - RED - POWER SUPPLY +
2 - BLACK - POWER SUPPLY -
3 - WHITE - COM
4 - GREEN - NO or
5 - GREEN - NC



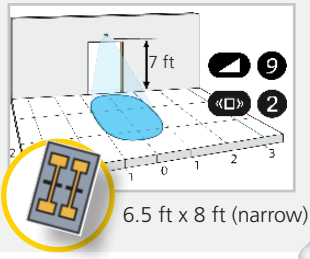
Position the cable as indicated.
Mount the sensor firmly.

3 MECHANICAL ADJUSTMENTS

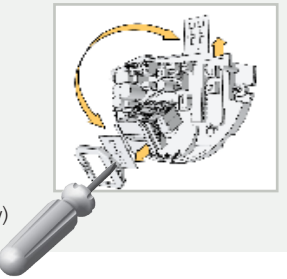
WIDTH



13 ft x 6.5 (wide)

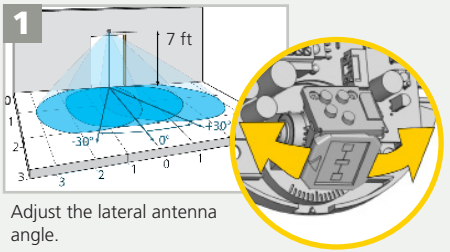


6.5 ft x 8 ft (narrow)



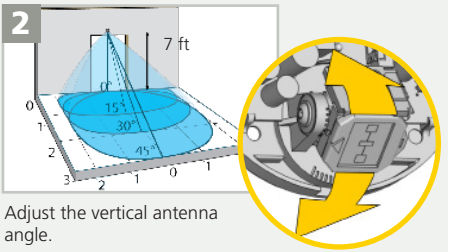
ANGLE

1



Adjust the lateral antenna angle.

2



Adjust the vertical antenna angle.

4 SETTINGS (by remote control or push buttons)

ZONE SIZE	XXS	XS	S	>	>	>	>	L	**XL**	XXL
IMMUNITY FILTER		low	**normal**	high	>	>	>	>	>	highest
DETECTION MODE		bi	uni	**uni MTF**	uni AWAY	MTF & AWAY	bi = two-way detection; uni = one-way detection towards sensor uni MTF = one-way detection with motion tracking feature uni AWAY = one-way detection away from sensor			
OUTPUT CONFIGURATION		**A**	P		A = active output (NO-contact) P = passive output (NC-contact)					
HOLD-OPEN TIME	**0.5 s**	1 s	2 s	3 s	4 s	5 s	6 s	7 s	8 s	9 s
MOUNTING HEIGHT		**< 10 ft**	> 10 ft							
DOOR CONTROL		**auto**	open	closed	open = the sensor detects constantly. The LED is ON. closed = the sensor is in standby and does not detect. The LED is OFF.					

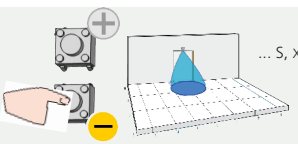
FACTORY VALUES

RESETTING TO FACTORY VALUES:

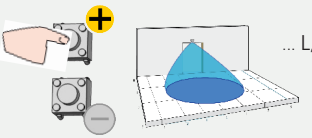
OR

> 2 seconds +

ZONE SIZE



... S, XS, XXS



... L, XL, XXL

ACCESS CODE

The access code (1 to 4 digits) is recommended to set sensors installed close to each other.

SAVING AN ACCESS CODE:

DELETING AN ACCESS CODE:

Once you have saved an access code, you always need to enter this code to unlock the sensor.
If you forget the access code, **cycle the power**. For the first minute, you can access the sensor without an access code.

TROUBLESHOOTING

The door remains closed. The LED is OFF.	The sensor power is off.	1 Check the wiring and the power supply.
	The door control setting (F2) is set to value 3 (closed).	1 Change the door control setting (F2) to value 1 (automatic).
The door does not react as expected.	Improper output configuration on the sensor.	1 Change the output configuration setting on each sensor connected to the door operator.
The door opens and closes constantly.	The sensor is disturbed by the door motion or vibrations caused by the door motion.	1 Make sure the sensor is fixed properly. 2 Make sure the detection mode is unidirectional. 3 Increase the antenna angle. 4 Increase the immunity filter. 5 Reduce the zone size.
The door opens for no apparent reason.	It rains and the sensor detects the motion of the rain drops.	1 Make sure the detection mode is unidirectional. 2 Increase the immunity filter. 3 Install the rain accessory.
	In highly reflective environments, the sensor detects objects outside of its detection zone.	1 Change the antenna angle. 2 Decrease the zone size. 3 Increase the immunity filter.
	In airlock vestibules, the sensor detects the movement of the opposite door.	1 Change the antenna angle. 2 Change the antenna. 3 Increase the immunity filter.
The LED flashes quickly after unlocking.	The sensor needs an access code to unlock.	1 Enter the right access code. 2 If you forgot the code, cycle the power to access the sensor without access code. Change or delete the access code.
The sensor does not respond to the remote control.	Batteries in the remote control are weak or installed improperly.	1 Check and change the batteries if necessary.
	Remote control poorly oriented.	1 Point the remote control towards the sensor.

ANSI / AAADM Compliance

Upon completion of the installation or service work, at a minimum, perform a daily safety check in accordance with the minimum inspection guidelines provided by AAADM. Provide each equipment owner with an owner's manual that includes a daily safety checklist and contains, at a minimum, the information recommended by AAADM. Offer an information session with the equipment owner explaining how to perform daily inspections and point out the location of power/operation switches to disable the equipment if a compliance issue is noted. The equipment should be inspected annually in accordance with the minimum inspection guidelines. A safety check that includes, at a minimum, the items listed on the safety information label must be performed during each service call. If you are not an AAADM certified inspector, BEA strongly recommends you have an AAADM certified inspector perform an AAADM inspection and place a valid inspection sticker below the safety information label prior to putting the equipment into operation.