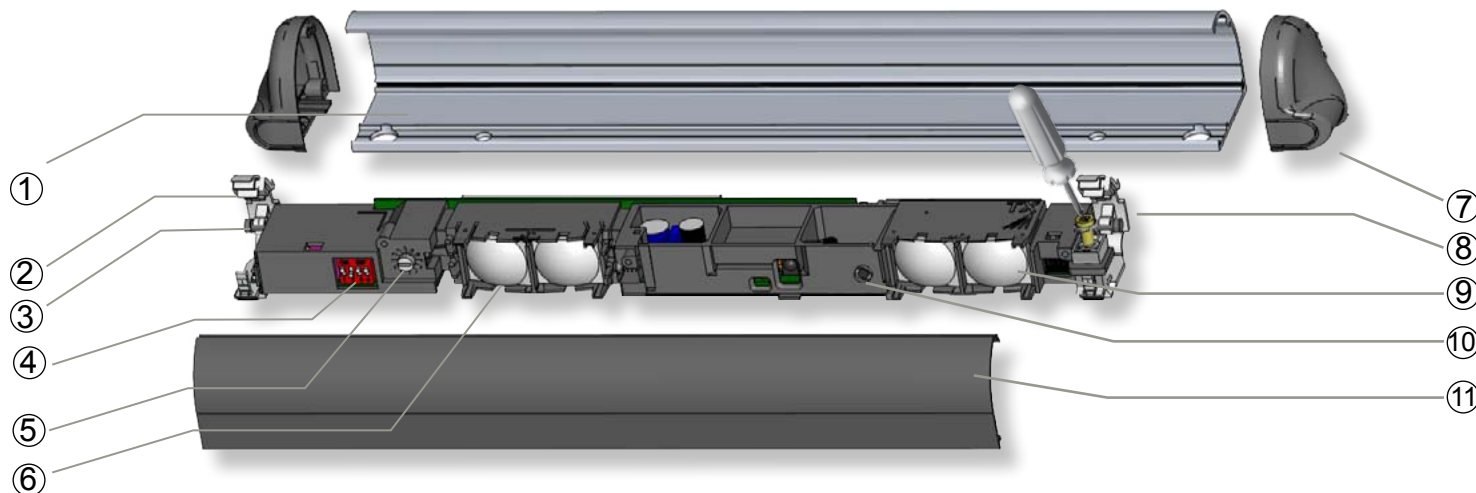


### Door Mounted Presence sensor

## 1 DESCRIPTION



- |                           |                                     |
|---------------------------|-------------------------------------|
| 1. housing                | 6. receiver                         |
| 2. clip                   | 7. end cap                          |
| 3. main connector         | 8. clip with angle adjustment screw |
| 4. DIP-switch             | 9. emitter                          |
| 5. range adjustment screw | 10. push/setup button               |
|                           | 11. lens cover                      |

NOTE: BEA refers to the emitter/ receiver sensing unit within the housing as a module.

## 2 TECHNICAL SPECIFICATIONS

|                          |                                                                                                                                                  |
|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| Technology:              | Active infrared with background suppression                                                                                                      |
| Detection field:         | 15 3/4 in. (W) x 2 3/4 in. (D) (at 6 1/2 ft. mounting height; 4 spots active)<br>400 mm (W) x 70 mm (D) (at 2 m mounting height; 4 spots active) |
| Mounting height:         | 3 ft. 7 in. (1.1 m) to 9 ft. 10 in. (3 m)                                                                                                        |
| Range Adjustment         | mechanical range adjustment screw                                                                                                                |
| Reaction time:           | 64 ms (typ)                                                                                                                                      |
| Supply voltage:          | 12 V - 24 V AC +/-10% ; 12 V - 30 V DC -5%/+10%                                                                                                  |
| Max current consumption: | 65 mA @ 24 V AC/ 75 mA @ 24 V DC (EACH MODULE)                                                                                                   |
| Output:                  | 2 relays (free of potential contact)                                                                                                             |
| Max. contact voltage     | 42 V AC/DC                                                                                                                                       |
| Max. contact current     | 1 A (resistive)                                                                                                                                  |
| Max. switching power     | 30 W (DC) / 60 VA (AC)                                                                                                                           |
| Input:                   | 1 optocoupler (free of potential contact)                                                                                                        |
| Max. contact voltage:    | 30 V                                                                                                                                             |
| Voltage threshold:       | high: >10 V DC<br>low: <1 V DC                                                                                                                   |
| Max. number of modules:  | 4 (up to 6 if 24 V DC)                                                                                                                           |
| Reflectivity:            | min 5% at IR-wavelength of 850 nm                                                                                                                |
| Degree of protection:    | IP53                                                                                                                                             |
| Temperature range:       | -13°F to + 131°F (-25°C to +55°C); 0-95% relative humidity, non condensing                                                                       |
| Norm conformity:         | EMC 2004/108/EC; MD 2006/42/EC<br>EN ISO 13849-1:2008 Performance Level «c» CAT 2; EN 12978                                                      |

Specifications are subject to changes without prior notice.

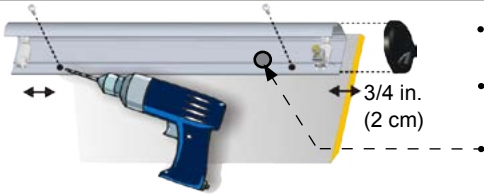
Other use of this device outside it's permitted purpose cannot be guaranteed by the manufacturer.

### 3 PRECAUTIONS



- ❑ Shut off all power 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.
- ❑ ESD electrostatic discharge: Circuit boards are vulnerable to damage by electrostatic discharge. Before handling any board ensure you dissipate your body's charge.
- ❑ Always check placement of all wiring 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 (i.e. ANSI A156.10 / 27 / 19) upon completion of the installation.
- ❑ DO NOT attempt any internal repair of the sensor. All repairs and/or component replacements must be performed by BEA, Inc. Unauthorized disassembly or repair:
  1. May jeopardize personal safety and may expose one to the risk of electrical shock.
  2. May adversely affect the safe and reliable performance of the product and will result in a voided product warranty.

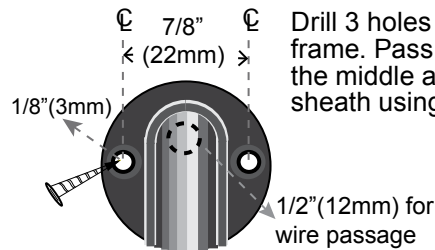
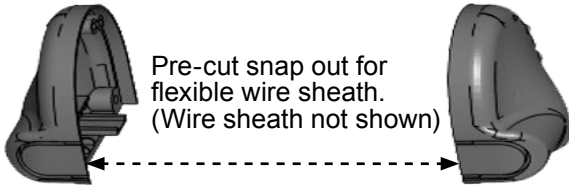
### 4 MOUNTING THE HOUSING



- Take into account the position of the white clips before drilling and fastening the screws.
- Mount the housing as close as possible to the leading edge. Leave 3/4 inch (2cm) for installation of the black end caps.
- If installing the housing on each side of the door carefully locate and drill a wire passage hole thru the housing, door and opposing housing.

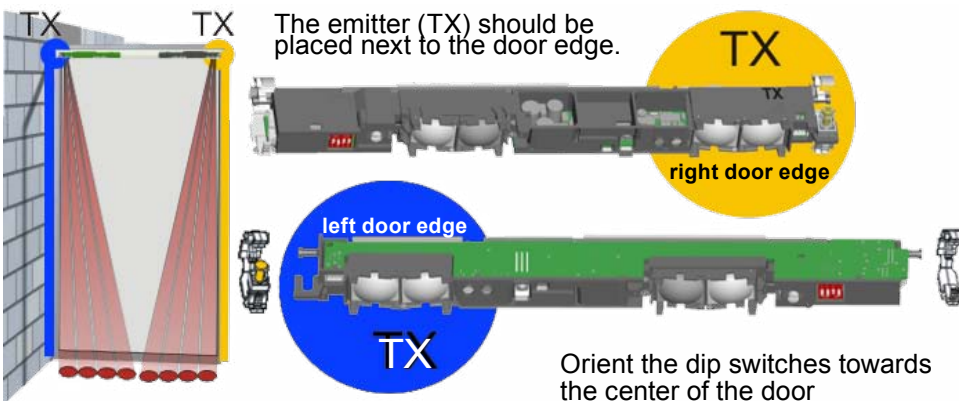
### 5 PREPARING THE WIRING

Pass the cable through the flexible wire sheath and snap off only one of the precut part of the end cap. Caution, end caps are handed.

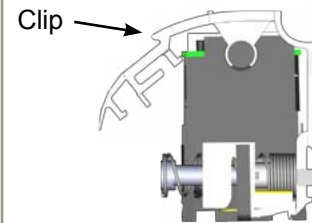


Drill 3 holes in the fixed part of the door frame. Pass the cable through the hole in the middle and fasten the flexible wire sheath using the two screws.

### 6 ORIENTATION AND POSITION OF THE MODULE(S)

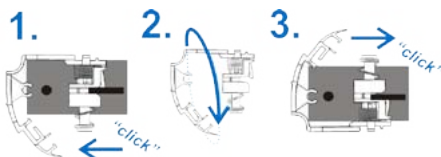


The angle adjustment clip should be next to the emitter.



If necessary, to move the module(s) left or right:  
 1. Remove from housing  
 2. Re-position within housing  
 3. Re-set into housing

Turn the module if necessary.



If necessary, when a module needs to be turned:

1. detach the clips
2. turn them by 180°
3. reattach

## 7 INSTALLING THE WIRING HARNESS

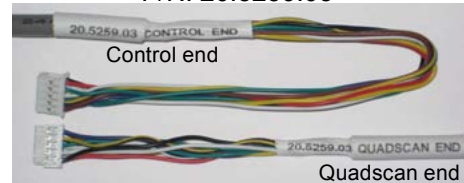


Slave cable connects between any module.



Module with the power cable connected to the door control becomes the master module.

P/N: 20.5259.03

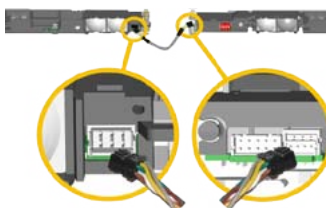


Ensure to properly connect the correct plug connector into its respective location. If a plug option doesn't exist at your control, simply cut off the plug and hardwire at the control end.

## 8 WIRING AND RELAY CONFIGURATION

| WIRE COLOR   | DESIGNATION      | FUNCTION                                         | CONNECTIONS                                      |
|--------------|------------------|--------------------------------------------------|--------------------------------------------------|
| RED          | POWER            | INPUT<br>12 - 24 VAC/DC                          | POWER SOURCE                                     |
| BLACK        | POWER            |                                                  |                                                  |
| WHITE        | COM.             | RELAY 2 (A) OUTPUT<br>APPROACH SIDE GREEN<br>LED | CONNECT TO ACTIVATION<br>INPUT OF DOOR CONTROL   |
| GREEN        | N.O.             |                                                  |                                                  |
| YELLOW       | N.C.             |                                                  |                                                  |
| WHITE/BLACK  | COM.             | RELAY 1 (S) OUTPUT<br>SAFETY SIDE RED LED        | CONNECT TO SAFETY/STALL<br>INPUT OF DOOR CONTROL |
| GREEN/BLACK  | N.O.             |                                                  |                                                  |
| YELLOW/BLACK | N.C.             |                                                  |                                                  |
| BLUE         | MONITOR/TEST (+) | EXTERNAL MONITORING                              | CONNECT TO MONITORING INPUT<br>OF DOOR CONTROL   |
| BROWN        | MONITOR/TEST (-) |                                                  |                                                  |

Plug the SLAVE CABLE between the modules in one of the two plug in connectors.



The module connected to the door controller becomes the MASTER.

## 9 SETTINGS

| FACTORY VALUE | DOOR SIDE                                      |                           | FREQUENCY                                                 | BACKGROUND (BACKGND)                                                | UNCOVERED ZONE                                             |
|---------------|------------------------------------------------|---------------------------|-----------------------------------------------------------|---------------------------------------------------------------------|------------------------------------------------------------|
|               | ON                                             | OFF                       |                                                           |                                                                     |                                                            |
|               | RELAY 1 (S) SAFETY SIDE                        | RELAY 2 (A) APPROACH SIDE | FREQ 1 (F1)                                               | ON                                                                  | H                                                          |
|               |                                                |                           | FREQ 2 (F2)                                               | OFF                                                                 | L                                                          |
|               | Dip Switch 1                                   | 2                         | 3                                                         | 4                                                                   |                                                            |
|               | LED during detection<br>R1 = RED<br>R2 = GREEN |                           | Set different frequencies on modules close to each other. | For low reflective floors it is recommended to turn off Background. | Factory defaulted to detect a 28 inch minimum high person. |

Notes:

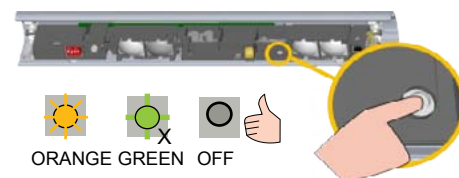
Dip Switch 2: Frequency 1 or 2 is not specific for the safety or approach side. 2 modules within the same housing must be set to different frequencies.

Dip Switch 3:

In rare occasions with low background reflectivity it may be desirable to change dip switch 3.

Dip Switch 4:

In most cases it's not necessary to change dip switch 4. When mounting above 8ft it may be desirable to change dip switch 4.



After changing a DIP-switch, the orange LED flashes.

Next Perform a LONG (approx. 3 sec.) push on the MASTER push button as this confirms the settings of ALL MODULES.

Afterwards, a number of green flashes (x) indicates the number of connected modules.

Note: A long push on a slave module will only confirm its settings.

## 10 SETUP (MANUAL SETUP RECOMMENDED)

During any set up (via the flashing red/green LED), ensure to remove all object within the detectin zone and do not stand in the field during set up!

**Step 1:** A SHORT push on the button of the MASTER launches a setup on ALL MODULES OF THE GIVEN DOOR.



When the LED is off on all modules, set up is successfull. Proceed to the next section. If any LED is on proceed to step 2.

**Step 2:** If setup is not successfull; based on each module(s) LED flashing rate and color, follow step 3 after reading the important note to the right.

**Step 3:** **GREEN** Next to the dip switches; **slowly** turn the adjustment screw clockwise to increase the range.



**RED** Next to the dip switches; **slowly** turn the screw counterclockwise to decrease the range.

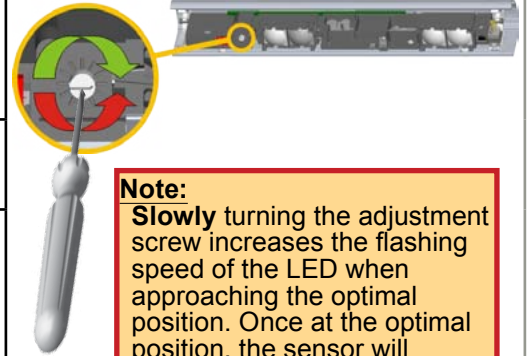


**ORANGE** Step out of the detection field.

If necessary, change angle or see troubleshooting section 13.



Launch a new setup. See troubleshooting section 13.



### Note:

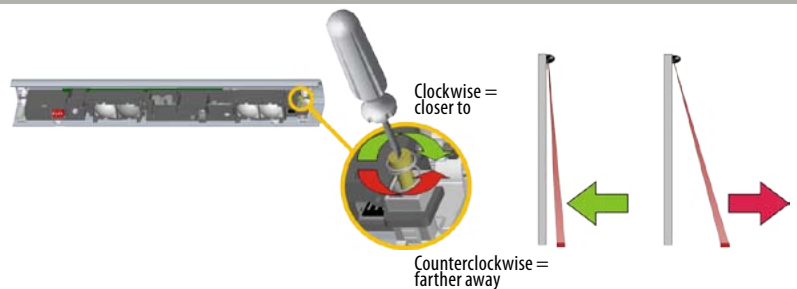
**Slowly** turning the adjustment screw increases the flashing speed of the LED when approaching the optimal position. Once at the optimal position, the sensor will automatically launch a new setup via the flashing red/green LED.

## 11 MODULE ANGLE ADJUSTMENTS

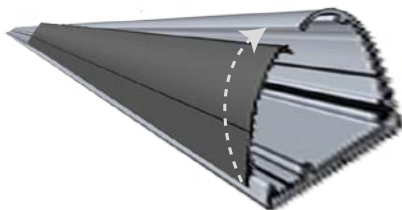
Test if door and sensor function correctly. Ensure the swing side will slow/stop the door and the approach side will activate/re-activate the door.

If necessary, use spotfinder to adjust IR spots closer to or away from the door face and relaunch a setup as described in step 10.

Walk test to ensure compliance to ANSI 156.10.



## 12 INSTALLING THE LENS COVER



After adjustment, you can fasten the lens and end caps. To fasten the lens correctly, position the curved side at the bottom and snap the top into place. Install the end caps (shown on page 2) using the supplied screws.



## 13 TROUBLESHOOTING (LED SIGNALS)

| LED                                         | Probable Cause                              | Corrective Action                                                                 |
|---------------------------------------------|---------------------------------------------|-----------------------------------------------------------------------------------|
| The RED or GREEN LED is ON sporadically.    | Incorrect adjustment                        | 1 Launch a new set up.                                                            |
| The RED or GREEN LED is ON permanently.     | Incorrect adjustment of the uncovered zone. | 1 Launch a new setup.                                                             |
| The ORANGE LED is on permanently.           | The sensor signals an internal fault.       | 1 Replace module(s).                                                              |
| The ORANGE LED flashes quickly.             | DIP-switch setting awaiting confirmation.   | Confirm the DIP-switch setting: long push on the push button.                     |
| The ORANGE LED flashes 1 x every 3 seconds. | The sensor signals an internal fault.       | 1 Cut and restore power supply.<br>2 If orange LED flashes again, replace sensor. |
| The ORANGE LED flashes 2 x every 3 seconds. | Voltage over or under specification.        | 1 Check power supply.<br>- Faulty or incorrect power supply.<br>2 Replace cable   |

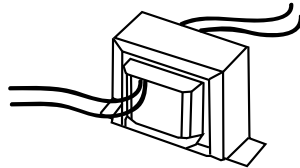
## 13 TROUBLESHOOTING CONTINUED (LED SIGNALS)

| LED                                                                                                                              | Probable Cause                                                                   | Corrective Action                                                                                                                                                                                                                                                |
|----------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  3<br>The ORANGE LED flashes 3 x every 3 seconds. | Communication error between modules.                                             | <ol style="list-style-type: none"> <li>1 Check wiring between modules.</li> <li>2 Launch a module count: long push on push button of MASTER module.</li> </ol>                                                                                                   |
|  4<br>The ORANGE LED flashes 4 x every 3 seconds. | The sensor does not receive enough IR-energy.                                    | <ol style="list-style-type: none"> <li>1 Step out of the detection zone.</li> <li>2 Launch a new set up.</li> <li>3 Change angle of the module.</li> <li>4 Switch off background.</li> </ol>                                                                     |
|  5<br>The ORANGE LED flashes 5 x every 3 seconds. | The sensor receives too much IR-energy.<br><br>IR saturation<br><br>Set up error | <ol style="list-style-type: none"> <li>1 Launch a new set up.</li> <li>1 Check mounting height.</li> <li>2 Adjust range or angle of module.</li> <li>3 Cut and restore power.<br/>- Launch a new set up.(If Orange LED flashes again replace module).</li> </ol> |
| <br>The ORANGE LED flickers.                      | The sensor is disturbed by lighting or another sensor.                           | <ol style="list-style-type: none"> <li>1 Select a different frequency for each module (DIP 2).Launch a new set up.</li> </ol>                                                                                                                                    |

## 14 ACCESSORIES



10Spotfinder



1024VAC



10BR3

## 15 ANSI/AAADM COMPLIANCE

### ANSI / AAADM Compliance

**AAADM** *American Association of Automatic Door Manufactures*

Upon finishing the installation and/or service work perform at a minimum a daily safety check in accordance with the minimum inspection guidelines provided by AAADM. Provide each owner with an owner's manual that includes a daily safety checklist and contains at a minimum the information recommended by AAADM. Offer a familiarization session with the owner explaining how to do daily inspections and calling out location of cutoff switches to put equipment out of service if a deficiency is noted. The equipment should be inspected in accordance with the minimum inspection guidelines annually. 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 to have an AAADM certified inspector perform an AAADM inspection and placing a valid inspection sticker below the safety information label prior to placing the equipment into operation.

## 16 COMPANY CONTACT



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.

Our Service Technicians can be called 24 hours a day, 7 days a week. For more information visit [www.beasensors.com](http://www.beasensors.com).

|                                                           |                           |                                          |                        |
|-----------------------------------------------------------|---------------------------|------------------------------------------|------------------------|
| For email support contact us at: Tech_Services@beainc.com |                           |                                          |                        |
| Phone: 1-800-523-2462                                     |                           | Fax: 1-888-523-2462                      |                        |
| After Normal Business Hours                               |                           |                                          |                        |
| West / Mexico<br>1-888-419-2564                           | Central<br>1-800-407-4545 | AK, MI, WI, TX, Canada<br>1-866-836-1863 | East<br>1-866-249-7937 |