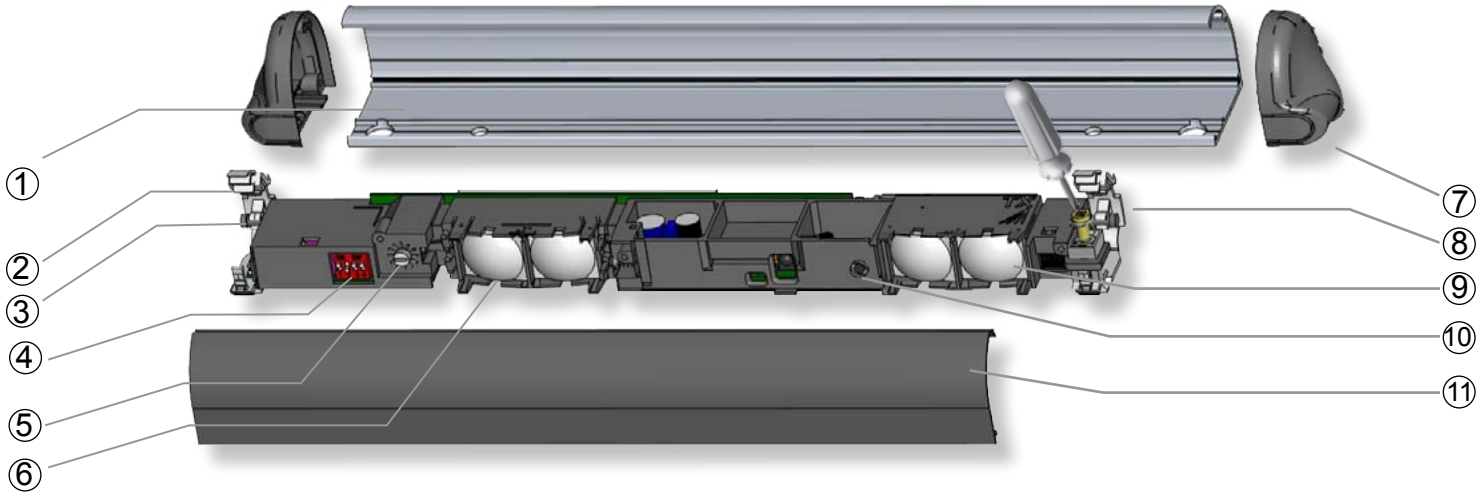
OPEN UP NEW HORIZONS
A HALMA COMPANY

QUADSCAN
User's Guide

Door Mounted Presence sensor

1 DESCRIPTION



1. housing
2. clip
3. main connector
4. DIP-switch
5. range adjustment screw
6. receiver
7. end cap
8. clip with angle adjustment screw
9. emitter
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) 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 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 EN ISO 13849-1:2008 Performance Level «c» CAT 2; EN 12978

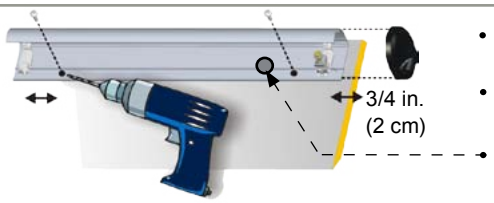
Specifications are subject to changes without prior notice.
Other use of this device outside it's permitted purpose cannot be guaranteed by the manufacturer.

3 PRECAUTIONS

CAUTION

- ❑ 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.

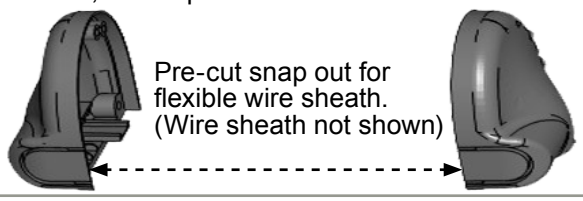
4 MOUNTING THE HOUSING

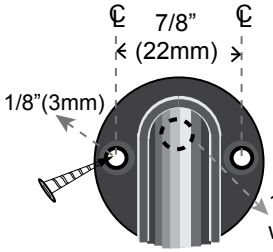


- Take into account the position of the white clips before drilling and fastening the screws.
- Mount the housing as close as possible to the leading edge. Leave 3/4 inch (2cm) for installation of the black end caps.
  If installing the housing on each side of the door carefully locate and drill a wire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

5 PREPARING THE WIRING

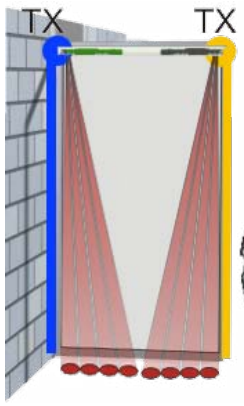
Pass the cable through the flexible wire sheath and snap off only one of the precut part of the end cap. Caution, end caps are handed.



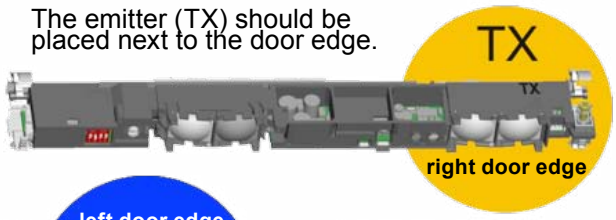


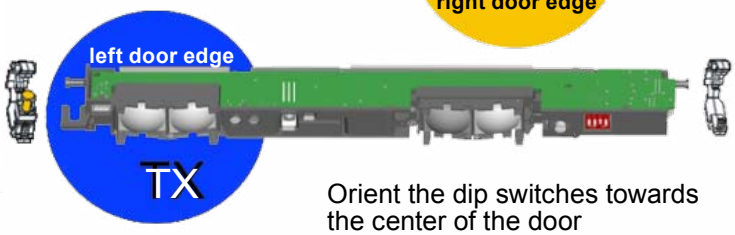
Drill 3 holes in the fixed part of the door frame. Pass the cable through the hole in the middle and fasten the flexible wire sheath using the two screws.

6 ORIENTATION AND POSITION OF THE MODULE(S)



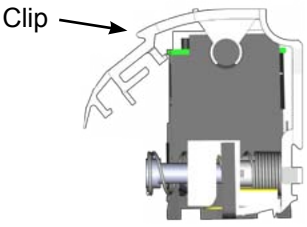
The emitter (TX) should be placed next to the door edge.





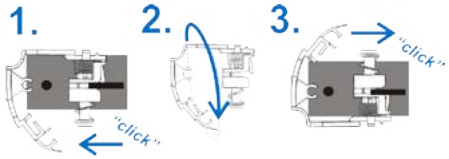
Orient the dip switches towards the center of the door

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.

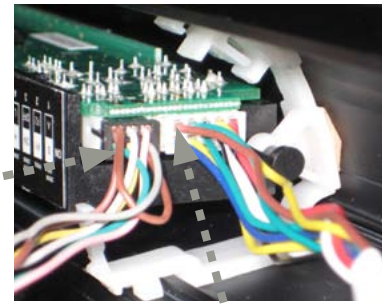


If necessary, when a module needs to be turned:

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

7 INSTALLING THE WIRING HARNESS

Secondary cable connects between any module.



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

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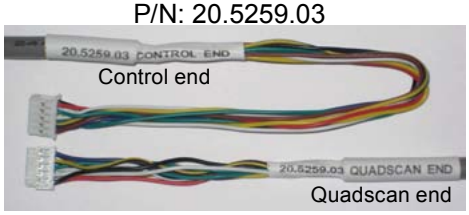
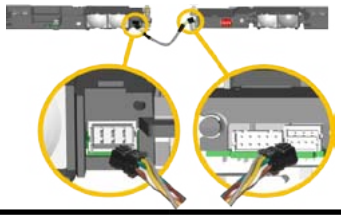


Ensure to properly connect the correct plug connector into its respective location. If a plug option doesn't exist at your control, simply cut off the plug and hardwire at the control end.

8 WIRING AND RELAY CONFIGURATION

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

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



The module connected to the door controller becomes the primary.

9 SETTINGS

FACTORY VALUE

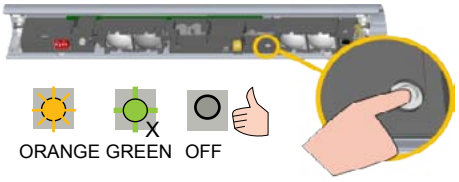
Dip Switch	1	2	3	4
	DOOR SIDE	FREQUENCY	BACKGROUND (BACKGND)	UNCOVERED ZONE
ON	RELAY 1 (S) SAFETY SIDE	FREQ 1 (F1)	ON	H
OFF	RELAY 2 (A) APPROACH SIDE	FREQ 2 (F2)	OFF	L
	LED during detection R1 = RED R2 = GREEN	Set different frequencies on modules close to each other.	For low reflective floors it is recommended 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 reflectivitey it may be desirable to change dip switch 3.

Dip Switch 4:
In most cased 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.

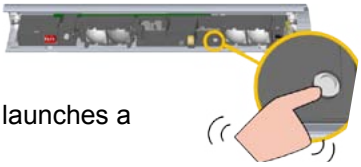
Next Perform a LONG *(approx. 3 sec.)* push on the primary push button as this confirms the settings of ALL MODULES.

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

Note: A long push on a secondary 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 primary launches a setup on ALL MODULES OF THE GIVEN DOOR.

RED-GREEN OFF 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. ⟶

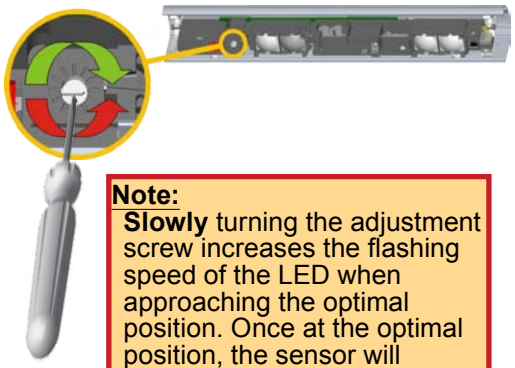
Step 3:

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 4 Step out of the detection field. If necessary, change angle or see troubleshooting section 13.

ORANGE 5 Launch a new setup. See troubleshooting section 13.

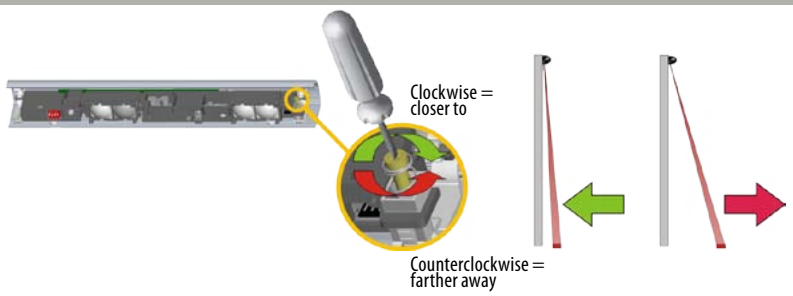


Note:
Slowly turning the adjustment screw increases the flashing speed of the LED when approaching the optimal position. Once at the optimal position, the sensor will automatically launch a new setup via the flashing red/green LED.

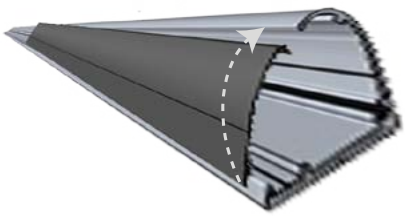
11 MODULE ANGLE ADJUSTMENTS

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)

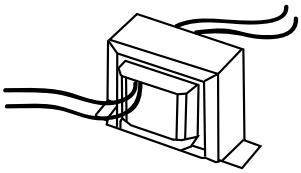
LED	Probable Cause	Corrective Action
The RED or GREEN LED is ON sporadicly.	Incorrect adjustment	1 Launch a new set up.
The RED or GREEN LED is ON permanently.	Incorrect adjustment of the uncovered zone.	1 Launch a new setup.
The ORANGE LED is on permanently.	The sensor signals an internal fault.	1 Replace module(s).
The ORANGE LED flashes quickly.	DIP-switch setting awaiting confirmation.	Corfirm 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. 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. - Faulty or incorrect power supply. 2 Replace cable

13 TROUBLESHOOTING CONTINUED (LED SIGNALS)

LED	Probable Cause	Corrective Action
The ORANGE LED flashes 3 x every 3 seconds.	Communication error between modules.	1 Check wiring between modules. 2 Launch a module count: long push on push button of primary module.
The ORANGE LED flashes 4 x every 3 seconds.	The sensor does not receive enough IR-energy.	1 Step out of the detection zone. 2 Launch a new set up. 3 Change angle of the module. 4 Switch off background.
The ORANGE LED flashes 5 x every 3 seconds.	The sensor receives too much IR-energy.	1 Launch a new set up.
	IR saturation	1 Check mounting height. 2 Adjust range or angle of module. 3 Cut and restore power.
	Set up error	- Launch a new set up.(If Orange LED flashes again replace module).
The ORANGE LED flickers.	The sensor is disturbed by lighting or another sensor.	1 Select a different frequecy for each module (DIP 2).Launch a new set up.

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

BEA OPEN UP NEW HORIZONS
A HALMA COMPANY

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.

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 1-888-419-2564	Central 1-800-407-4545	AK, MI, WI, TX, Canada 1-866-836-1863	East 1-866-249-7937