

BEA
IXIO-DT1 Motion
And Presence
Sensor



BEA IXIO-DT1 Motion And Presence Sensor Installation Guide

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BEA

BEA IXIO-DT1 Motion And Presence Sensor



Technical Specifications

- **Detection Mode:** Motion and Presence
- **Motion Minimum Detection Speed:** 2 in/s
- **Presence Response Time:** < 200 ms (max: 500 ms)
- **Technology:** Microwave Doppler Radar
- **Transmitter Frequency:** 24.150 GHz
- **Transmitter Radiated Power:** < 20 dBm EIRP
- **Transmitter Power Density:** < 5 mW/cm²
- **Mounting Height:** Subject to local regulations
- **Output Relay 1:** Solid-state relay, Max. contact current: 100 mA, Max. contact voltage: 42 VDC / 30 VAC
- **Output Relay 2:** Solid-state relay, potential and polarity free
- **Test/Monitoring Input Sensitivity:** Low: < 1 V, High: > 10 V (max. 30 V)
- **Response Time on Test Request:** Typical < 5 ms
- **Supply Voltage:** SELV-compatible power supplies only
- **Power Consumption:** < 2.5 W
- **Noise:** < 70 dB
- **Degree of Protection:** IP54
- **FCC Certification:** FCC: G9B-100606, IC: 4680A-100606

Product Usage Instructions

• Installation

The sensor should be securely mounted to prevent extreme vibrations. Avoid covering the sensor and ensure no moving objects or light sources interfere with the detection field.

• Maintenance

Clean the optical parts at least once a year or more frequently if environmental conditions require. Avoid placing highly reflective objects in the infrared field and refrain from using aggressive cleaning products on the optical parts.

• Safety

Ensure proper grounding of the door control unit and header cover profile. Only trained personnel should handle installation and setup. Test for proper operation after installation and before leaving the premises.

- **Compliance Expectations**

Assemble the device according to the provided instructions to comply with FCC rules. Ensure no unauthorized repairs are attempted to maintain warranty validity.

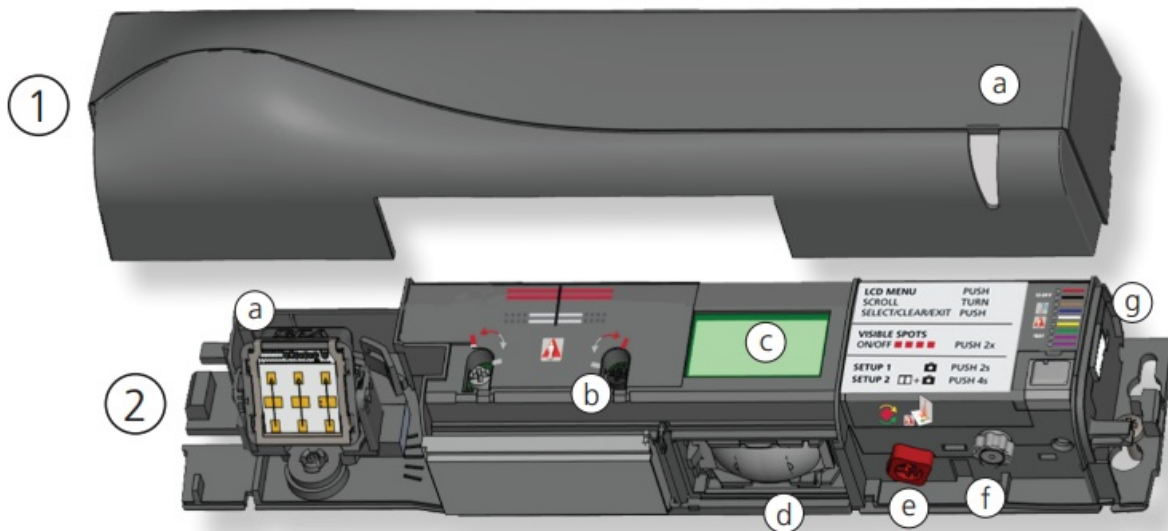
Visit website for available languages of this document.

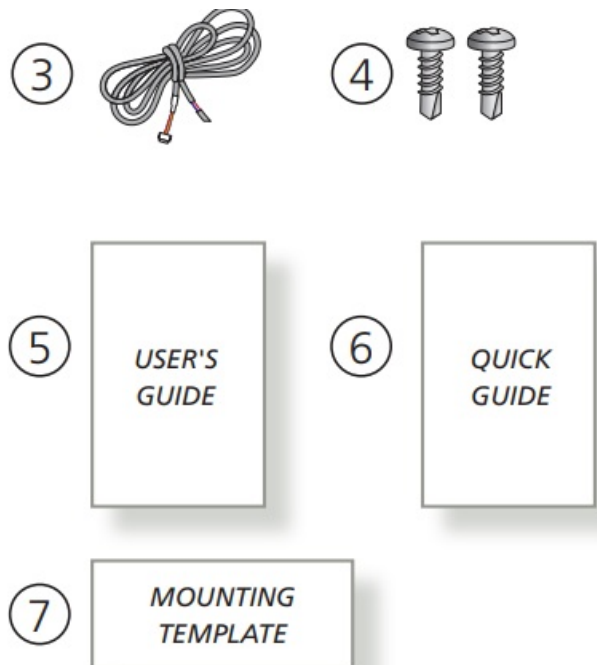


Download the BEA DECODER app for a quick overview of settings



WHAT'S IN THE BOX

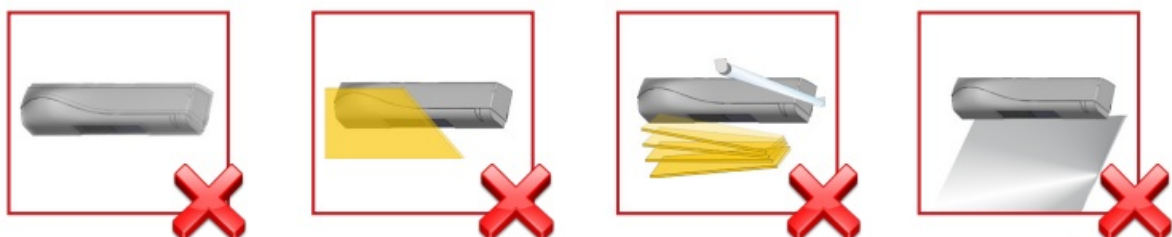




1. cover (35.1609)
 1. LED window
2. sensor (10IXIODT1)
 1. radar antenna
 2. AIR curtain width adjustment
 3. LCD
 4. AIR lenses
 5. AIR curtain angle adjustment knob
 6. main adjustment knob
 7. main connector
3. harness (20.5349)
4. screw kit (50.1818)
5. User's Guide (75.5751)
6. Quick Guide (75.1219)
7. Mounting Template (75.0128)

INSTALLATION

1. The sensor should be mounted securely to avoid extreme vibrations.
2. Do not cover the sensor.
3. Avoid moving objects and light sources in the detection field.
4. Avoid highly reflective objects in the infrared field.



MAINTENANCE

- It is recommended to clean the optical parts at least once a year or more if required due to environmental conditions.

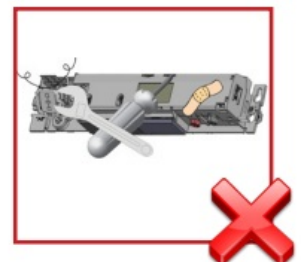
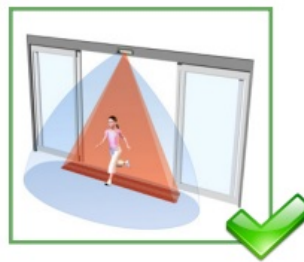
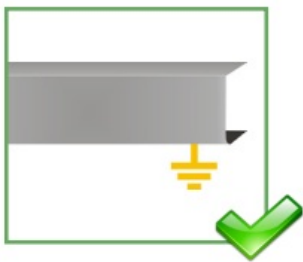


- Do not use aggressive products to clean the optical parts.



SAFETY

1. The door control unit and the header cover profile must be correctly grounded.
2. Only trained and qualified personnel are recommended for installation and setup of the sensor.
3. Following installation, always test for proper operation (according to ANSI 156.10) before leaving the premises.
4. The warranty is invalid if unauthorized repairs are made or attempted by unauthorized personnel.



This device can be expected to comply with Part 15 of the FCC Rules, provided it is assembled in exact accordance with the instructions provided with this kit. Operation is subject to the following conditions:

1. this device may not cause harmful interference, and
2. this device must accept any interference received, including interference that may cause undesired operation.

BEA, INC. INSTALLATION/SERVICE COMPLIANCE EXPECTATIONS

- BEA, Inc., the sensor manufacturer, cannot be held responsible for incorrect installations or incorrect adjustments of the sensor/device; therefore, BEA, Inc. does not guarantee any use of the sensor/device outside of its intended purpose.
- BEA, Inc. strongly recommends that installation and service technicians be AAADM-certified for pedestrian doors, IDA-certified for doors/gates, and factory-trained for the type of door/gate system.



- Installers and service personnel are responsible for executing a risk assessment following each installation/service performed, ensuring that the sensor/device system performance is compliant with local, national, and international regulations, codes, and standards.
- Once installation or service work is complete, a safety inspection of the door/gate shall be performed per the door/gate manufacturer's recommendations and/or per AAADM/ANSI/DASMA guidelines (where applicable) for best industry practices. Safety inspections must be performed during each service call – examples of these safety inspections can be found on an AAADM safety information label (e.g. ANSI/DASMA 102, ANSI/DASMA 107, UL294, UL325, and International Building Code).
- Verify that all appropriate industry signage, warning labels, and placards are in place.

TECHNICAL SPECIFICATIONS

TECHNOLOGY / PERFORMANCE

| Category | Specification |
|----------------------------------|---|
| Detection Mode | Motion |
| Minimum Detection Speed | 2 in/s |
| Presence | Typical Response Time: < 200 ms (Max: 500 ms) |
| Technology | Microwave Doppler Radar |
| Transmitter Frequency | 24.150 GHz |
| Transmitter Radiated Power | < 20 dBm EIRP |
| Transmitter Power Density | < 5 mW/cm ² |
| Active Infrared | Background Analysis |
| Spot | 2" x 2" (typical) |
| Number of Spots | Max. 24 per curtain |
| Number of Curtains | 2 |
| Mounting Height | 6'6" – 11'6" (Local regulations may impact acceptable mounting height for pedestrian applications only) |
| Sensor Temperature Range | -13 – 131 °F * |
| Humidity Range | 0 – 95% Relative Humidity (Non-condensing) |
| LCD Screen Operational Range | 14 – 131 °F |
| Programming in Cold Temperatures | Possible with Remote Control |

Electrical Specifications

| Output | Specification |
|---|---|
| Relay 1 | Electromechanical Relay (Potential and Polarity Free) |
| Relay 1  | Max. Contact Current: 1 A |
| | Max. Contact Voltage: 30 VAC |
| | Adjustable Hold Time: 0.5 – 9 s |
| Relay 2 | Solid-State Relay (Potential and Polarity Free) |
| Relay 2  | Max. Contact Current: 100 mA |
| | Max. Contact Voltage: 42 VDC / 30 VAC |
| Test/Monitoring Input | Sensitivity: |
| | Low: < 1 V |
| | High: > 10 V (Max. 30 V) |
| | Response Time on Test Request: Typical < 5 ms |
| Supply Voltage | 12 – 24 VAC ±10%; 12 – 30 VDC ±10% |
| | Operated from SELV-Compatible Power Supplies Only |
| Power Consumption | < 2.5 W |
| Noise | < 70 dB |

Physical Specifications

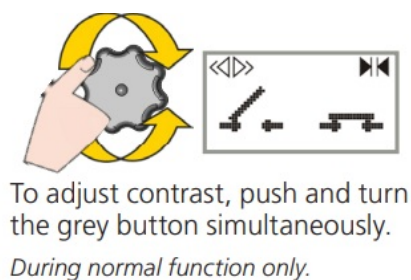
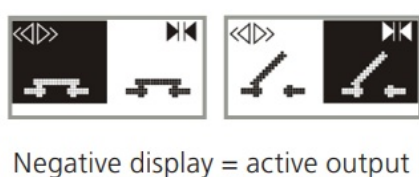
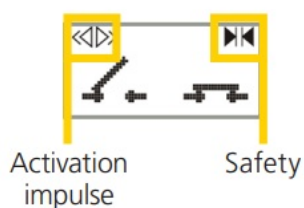
Degree of Protection | IP54 |

Compliance

FCC Certification | FCC: G9B-100606 | | **IC Certification** | IC: 4680A-100606 | | **Compliance Standards** | ISO 13849 PL «C» CAT. 2 (with door control system monitoring sensor at least once per cycle)|

HOW TO USE THE LCD

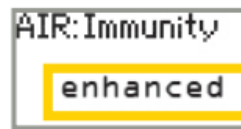
DISPLAY DURING NORMAL FUNCTION



FACTORY VALUE VS. SAVED VALUE



displayed value
=
factory value



displayed value
=
saved value

NAVIGATING IN MENUS

1. Push to enter the LCD menu.
2. Enter password, if necessary.
3. Select language before entering the first LCD menu.



Not during the first minute after power-on of the sensor.



During the first 30 seconds after power-on of the sensor or later in the diagnostics menu.

SelectA Back to return to previous menu or display.

Select More to go to next level:

- basic settings (MENU 1)
- advanced settings (MENU 2)
- diagnostics (MENU 3)



= scroll



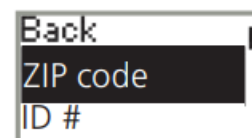
= select



CHANGING A ZIP CODE

See application note on ZIP CODE (76.0024).

1. Navigate to menu 3 (Diagnostics).
2. Select "ZIP code".



3. Change the code as desired.

ZIP code
E24 1 56-KG4
01 0 800/02F

ZIP code
E24 1 56-KG4
01 0 800/02F

ZIP code
E24 1 56-KG4
01 0 800/02F

ZIP code
H24 1 56-KG4
01 0 800/02F

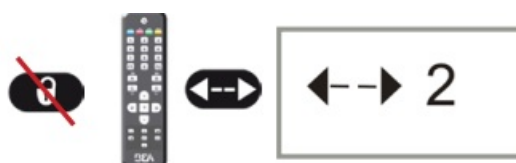
To activate the new ZIP code, you must validate the last digit (see below):

- v = valid ZIP code (values will be changed accordingly)
- x = invalid ZIP code (no values will be changed)
- v/x = valid ZIP code, but from a different product

... ZIP code H24 1 56-KG4 01 0 800/02F ZIP code v

only available values will be changed

VALUE CHECK WITH REMOTE CONTROL



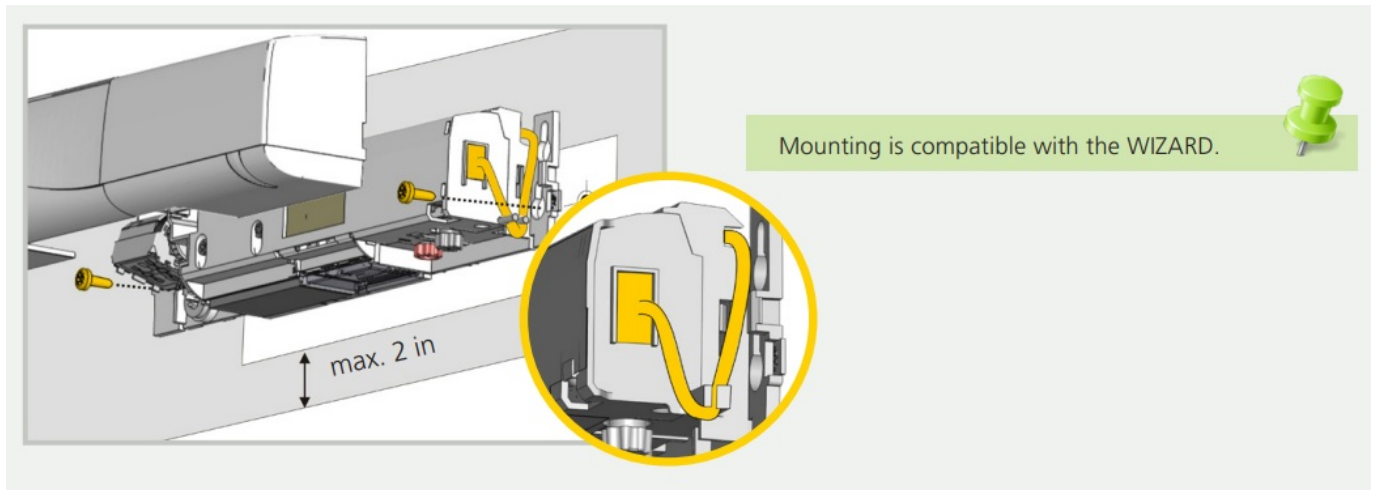
- Pressing a parameter symbol on your remote control displays the saved value directly on the LCD screen. Additionally, the green LED will blink the number of times that the parameter is set to. Do not unlock first.
- **Note:** When querying FIELD SHAPE, the green LED will blink the number of times that it is set to, and then the green LED will blink either 1 time (narrow shape) or 2 times (wide shape).

MOUNTING & WIRING

MOUNTING

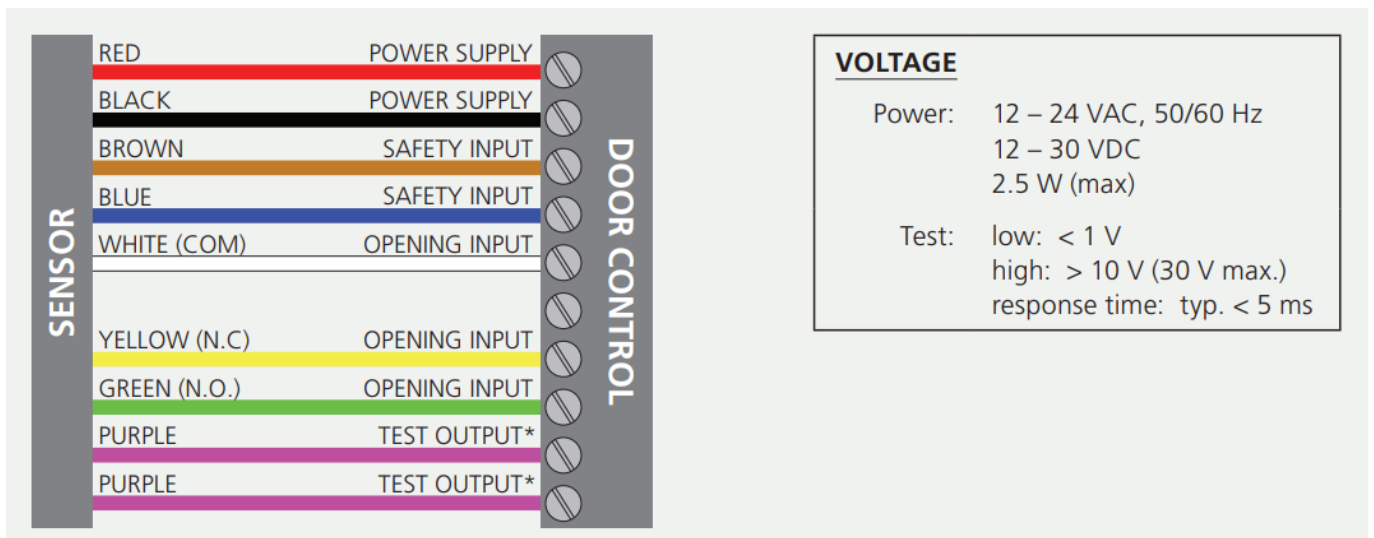
- Using the provided mounting template, mount the sensor, ensuring that the bottom of the sensor is within 2 inches of the bottom of the door header.
- Refer to Application Note 76.0035 if an IXIO Spacer is required for the given application.

- Route the harness (20.5349) using the harness clip as shown in the exploded view of the mounting illustration.



- Sensor connectivity (power and relays) must utilize only the supplied harness.
- Sensor power must be supplied from a Class 2 supply source limited to 15 W.
- Sensor is intended to be monitored for proper operation by the door operator or system.
- Harness shall be routed separated from any Mains or non-Class 2 voltage cable for correct operation or shall be rated for the Mains voltage, and suitable protection and routing means shall be used according to National and Local Codes to prevent damage to the harness and/or IXIO sensor.

WIRING

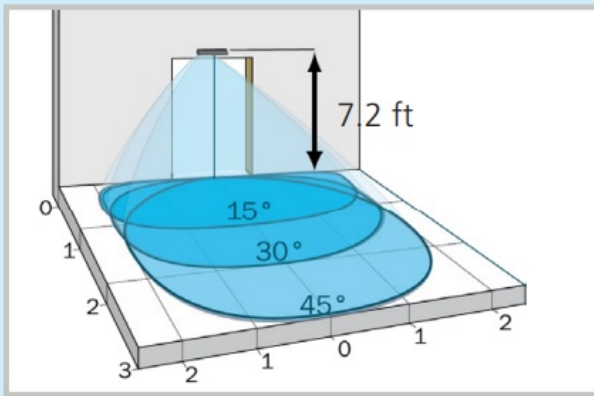


* The sensor LED will briefly flash RED during monitoring communication with door control, indicating that external monitoring is functional. Monitoring functionality must be active on the sensor, door control, and monitoring wires must be properly connected to the door control.

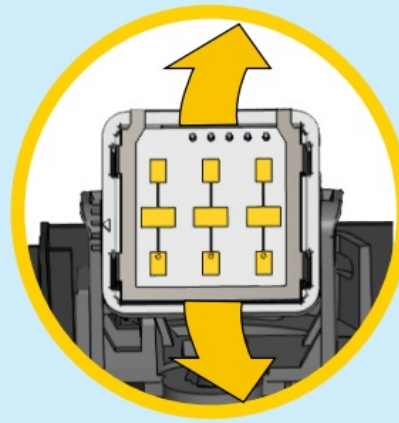
RADAR OPENING IMPULSE FIELD

The size of the detection field varies according to the mounting height of the sensor. The following graphics are representations – not default settings.

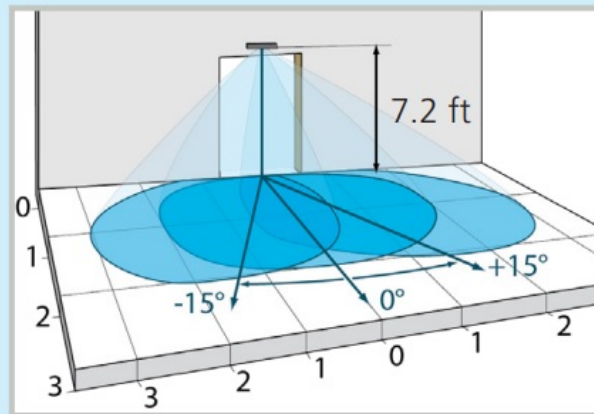
ANGLE



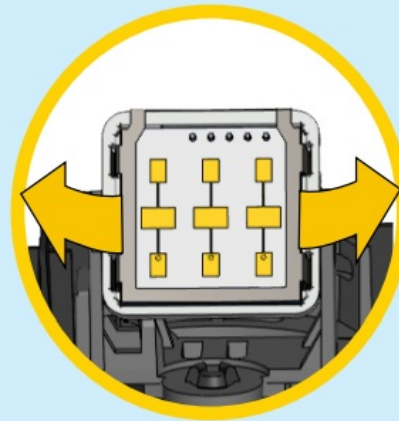
from 15° to 45°, default 30 °



field size: 9
immunity: 2

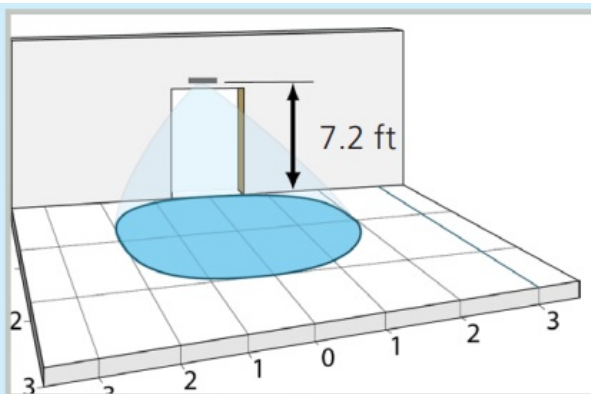


from -15° to 15°, default 0°

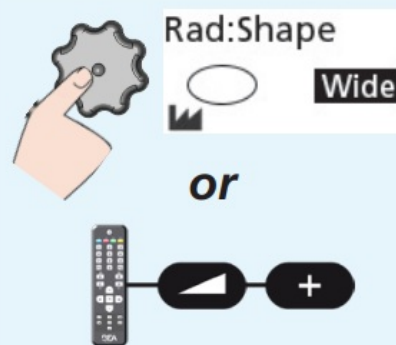


field size: 9
immunity: 2

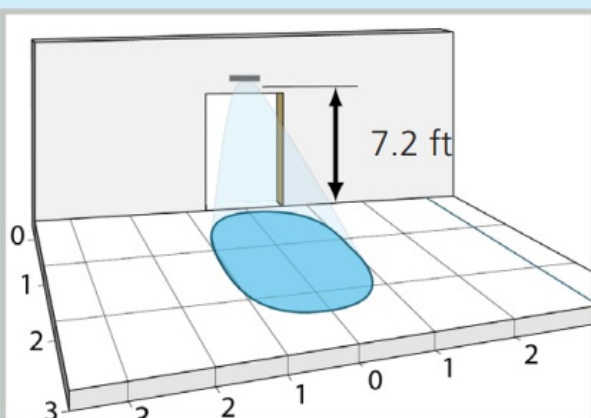
WIDTH



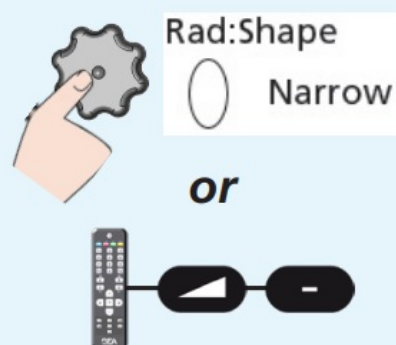
13' x 6'6" (wide)



field size: 9
immunity: 2



6'6" x 8' (narrow)

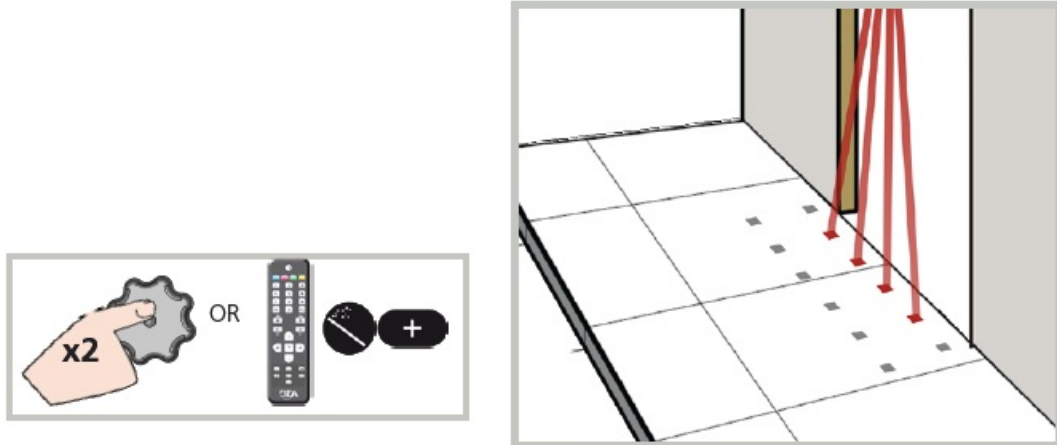


field size: 9
immunity: 2

INFRARED SAFETY FIELD

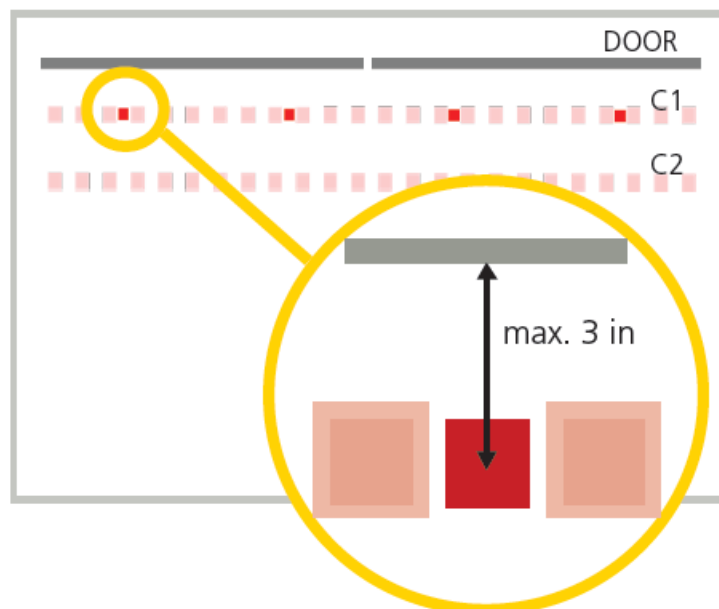
ANGLE

- Activate the visible spots to verify the position of the AIR curtain.
- Visibility depends on external conditions. When spots are not visible, use the Spotfinder to locate the curtains.

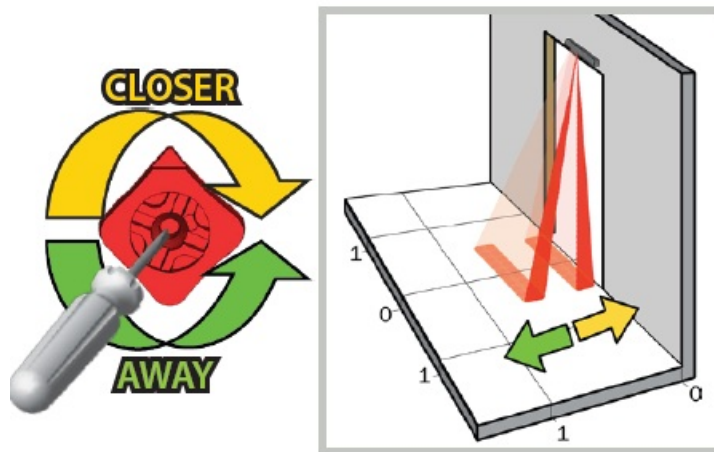


The distance between the inner curtain of the inside door sensor and the inner curtain of the outside door sensor should always be smaller than 8 in.

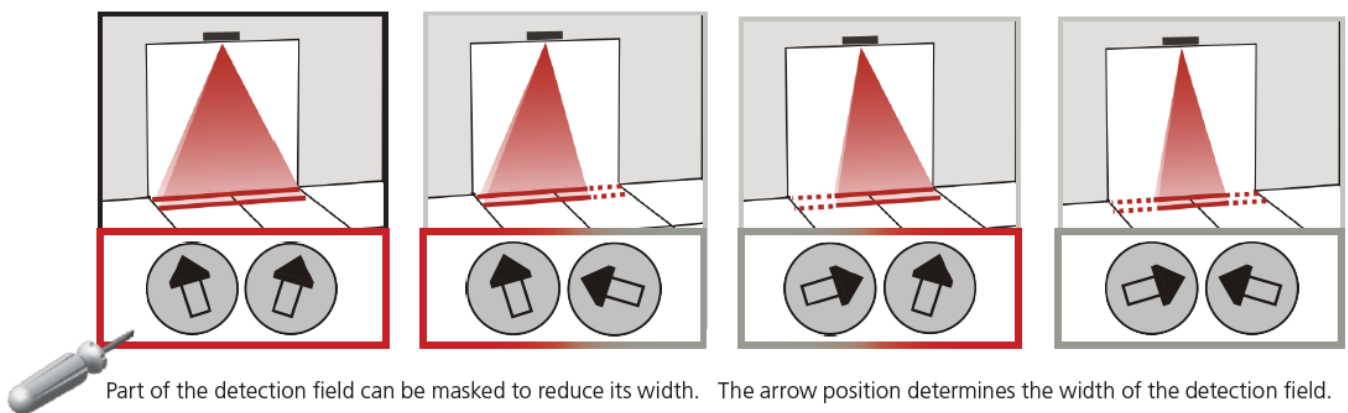
- C1 = closest to sliding door
- C2 = farthest from sliding door



If necessary, adjust the AIR curtain angle (from -7° to 4° , default 0°).

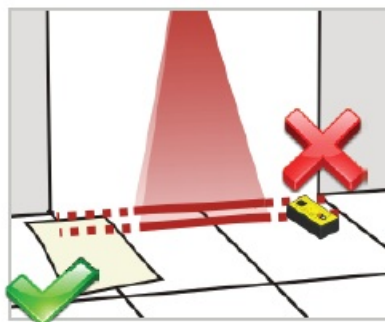


WIDTH



- Part of the detection field can be masked to reduce its width.
- The arrow position determines the width of the detection field.
- The size of the detection field varies according to the mounting height and the settings of the sensor.
- Wide setting has 1:1 ratio. For example, a 6-foot mounting height will project a 6-foot detection width at floor.

Always verify the actual detection field width by walk-testing according to ANSI 156.10.




















Additional adjustments are possible by LCD or remote control (see OVERVIEW OF SETTINGS).

SETUP

Set up the sensor using either push-buttons or the remote control.

STEP OUT OF THE INFRARED FIELD!

| | | |
|---|--|---|
| <div></div> | | |
| <div><div>SETUP 1 (QUICK)</div><div><i>either hold the knob for 2 seconds, or use the remote control buttons as specified</i></div></div> | <div><div>+</div><div></div></div> | <div></div> |
| <div><div>SETUP 2 (ASSISTED)</div><div><i>test of full door cycle + reference picture</i></div><div><i>either hold the knob for 4 seconds, or use the remote control buttons as specified</i></div></div> | <div><div></div><div>+</div><div><div>+</div><div></div></div></div> | <div></div> |

TEST THE PROPER OPERATION OF THE INSTALLATION BEFORE LEAVING THE PREMISES!

OVERVIEW OF SETTINGS

Back
More

Back
More

Back
More

Back
More

| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|--------------------|---|----------------------|--------------|--------------|--------------|-------|--------|---------------|------------|---------------|
| RAD: FIELD SIZE | small | > | > | > | > | > | > | > | > | large |
| RAD: SHAPE | LCD: "narrow" and "wide" setting options (default = wide) Remote Control: + = wide, - = narrow | | | | | | | | | |
| AIR: WIDTH | | | | | | | | | | |
| AIR: OUTPUT | | DeEner/NO NC | Energy/NC NO | Energy/NC NC | DeEner/NO NO | | | | | |
| TEST | off | on | on+auto | | | | | | | |
| RAD: FIELD SIZE | small | > | > | > | > | > | > | > | > | large |
| RAD: IMMUNITY | | low | > | > | > | > | > | > | > | high |
| RAD: DIRECTION | off | bi | uni | MTF | | | | uni + reentry | | |
| RAD: HOLD TIME | auto | 1 s | 2 s | 3 s | 4 s | 5 s | 6 s | 7 s | 8 s | 9 s |
| RAD: REENTRY | small | > | > | > | > | > | > | > | > | large |
| RAD: OUTPUT | | DeEner/NO NC | Energy/NC NO | Energy/NC NC | DeEner/NO NO | | | | | |
| AIR: IMMUNITY | | normal | enhanced | | | | | mode B | | |
| AIR: WIDTH | | | | | | | | | | |
| AIR: NUMBER | | 1 | 2 | | | | | | | |
| AIR: PRESENCE TIME | | | 30 s | 1 min | 2 min | 5 min | 10 min | 20 min | 60 min | infinite |
| AIR: FREQ | | A | B | | | | | | | |
| AIR: OUTPUT | | DeEner/NO NC | Energy/NC NO | Energy/NC NC | DeEner/NO NO | | | | | |
| TEST | off | on | on+auto | | | | | | | |
| REDIRECTION | R1 MW R2 IR | R1 MW or IR R2 IR | | | | | | | | |
| FACTORY RESET | | | | | | | | | full reset | partial reset |

see note 1

see note 2

see note 3

see note 4

see note 5

see note 2

see note 1

see note 2

see note 3

see note 6

see note 7

factory value

all parameter settings in zipped format (see application note on ZIP CODE – 76.0024)

unique ID-number

RESET LOG

PASSWORD

ADMIN

delete all saved errors

LCD and remote control password (0000= no password)

enter code to access admin mode

motion (green)

presence (red)

NOTES

| | | |
|--------|---|---|
| Note 1 | Always use a screwdriver when making further AIR adjustments to the arrow position on the sensor. | |
| Note 2 | <i>RADAR</i> | <i>AIR</i> |
| | NO = normally open NC = normally closed DeEner = de-energized relay (active) Energy = energized relay (passive) | NO = normally open NC = normally closed |
| Note 3 | The sensor LED will briefly flash RED during monitoring communication with door control. This indicates that external monitoring is functional. Monitoring functionality must be active on the sensor and door control, and monitoring wires must be properly connected to the door control. | |
| Note 4 | MTF = uni-directional with motion-tracking feature uni + reentry: BEA recommends only adjusting using the LCD | |
| Note 5 | Auto mode evaluates traffic rate and adjusts hold time from 0.5 to 3 seconds | |
| Note 6 | REDIRECTION setting (F1 on remote control): R1-MW, R2-IR (F1=0): R1 = MW (i.e. motion detection) R2 = IR (i.e. presence detection) R1-MW or IR, R2-IR (F1=1): R1 = MW or IR (i.e. motion or presence detection) R2 = IR (i.e. presence detection) | |
| Note 7 | partial: outputs are not reset | |

LED SIGNALS

COLORS



(green)
Motion detection



(red)
Presence detection

BEHAVIORS



LED flashes



LED flashes quickly



LED flashes x times
















LED flashes red-green



LED is off

TROUBLESHOOTING

| | | | |
|---|--|--|--|
|  | GREEN LED illuminates sporadically | The sensor is disturbed by rain and/or leaves. | Increase radar immunity filter. |
| | | Ghosting created by door movement. | Change radar field angle. |
| | | The sensor vibrates. | Check if the sensor and door cover is secure. Check position of cable and cover. |
| | | The sensor sees the door or other moving objects. | Remove the objects if possible. Change radar field size, angle, or immunity. |
|  | The LED and the LCD displays are off | No power to sensor. | Check wiring. Check for correct power supply. |
| | | Incorrect output configuration / wiring. | Check output configuration setting. Check wiring. |
| | Cannot access LCD menu or change parameters via remote control | The sensor is protected by a password. | Enter the correct password. If you forgot the code, cut and restore the power supply to access the sensor without entering a password during 1 minute. |
| | Sensor does not respond to remote control | Dead batteries. | Replace batteries. |
|  | RED Visible External Monitoring (Test Indication LED) does not flash | Monitoring installation/setup error. | Verify door control is capable of monitoring and the sensor monitoring wires are properly connected to the door control. Verify monitoring (TEST) is ON in the sensor settings. |
| | | Sensor malfunction. | Replace the sensor. |
|  | RED Visible External Monitoring (Test Indication LED) flashes continuously | Wiring issue. | Verify wiring. |
| | | Door control not set correctly. | Verify door control monitoring set to Active Low. |
| | Door cycles open and remains open | Door control monitoring set to Active High. Safety and/or Motion output is set incorrectly. | Set door control monitoring to Active Low. Correctly set the given output required for the door control. |

| | | | |
|---|---|---|---|
|  | E1: ORANGE LED flashes 1x | The sensor signals an internal fault. | Replace sensor. |
|  | E2: ORANGE LED flashes 2x | The power supply voltage is too low/high. | Check power supply voltage in diagnostics menu (menu 3) of the LCD. Check wiring. |
|  | E4: ORANGE LED flashes 4x | The sensor does not receive enough AIR energy. | Decrease the angle of the AIR curtains. Increase the AIR immunity filter. Deactivate curtain #2 (C2, outer curtain). |
|  | E5: ORANGE LED flashes 5x | The sensor receives too much AIR energy. | Slightly increase the angle of the AIR curtains. Decrease the AIR immunity filter. |
|  | E8: ORANGE LED flashes 8x | The sensor is disturbed by external elements. | Eliminate the cause of disturbance (lamps, rain cover, door controller housing properly grounded). |
|  | E8: ORANGE LED flashes 8x | AIR power emitter is faulty. | Replace sensor. |
|  | ORANGE LED is on | The sensor encounters a memory problem. | Cut and restore power supply. If ORANGE LED illuminates again, replace the sensor. |
|  | RED LED flashes quickly after an assisted setup | The sensor sees the door during assisted setup. | Move the AIR curtains away from the door. Install the sensor as close to the door as possible. If needed, use a bracket assembly. Ensure that the bottom of the sensor is mounted within 2" of the bottom of the door header. Launch a new assisted setup. |
|  | RED LED illuminates sporadically | The sensor vibrates. | Check if the sensor is secure. |
| | | | Check position of cable and cover. |
| | | The sensor sees the door. | Adjust the AIR angle and launch an assisted setup. |
| | | The sensor is disturbed by external conditions. | Increase the AIR immunity filter. |

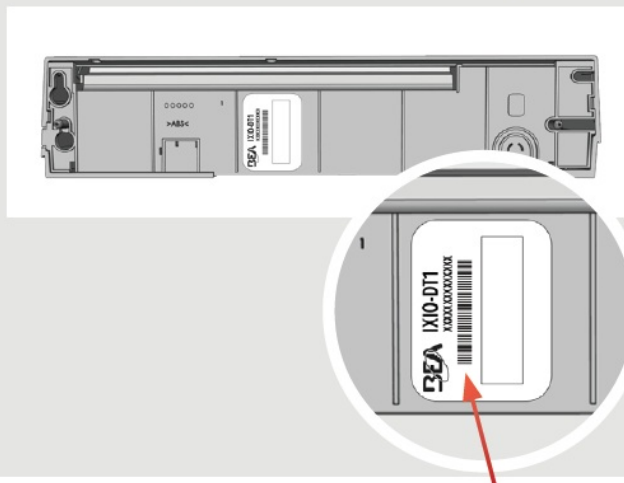
Can't find your answer? Visit www.beainc.com or scan QR code for Frequently Asked Questions!



Before contacting BEA Technical Support, locate the serial and CAN numbers of your sensor.

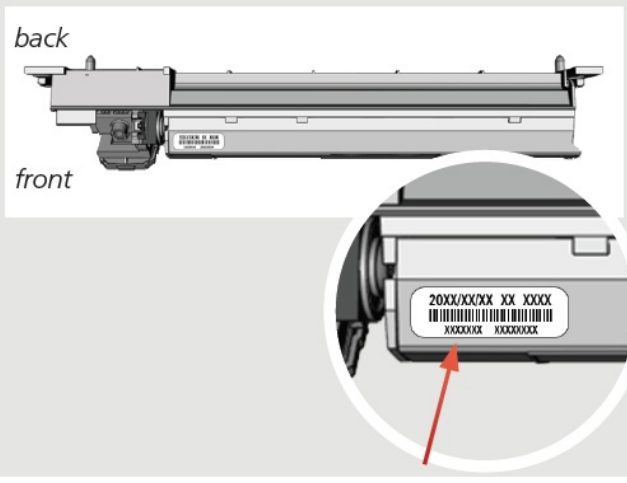
SERIAL NUMBER

view: back of sensor



CAN NUMBER

view: top of sensor



ACCESSORIES AND REPLACEMENT PARTS

ACCESSORIES



10IMB

Mounting bracket
adapter



10URA

Universal rain accessory



10CDA

Curved door accessory



10IXIOSPACER

Spacer



10ICA

Flush mount ceiling
adapter



10RETROFITSPACER

Retrofit Spacer Kit
(includes spacer, 2.5"
harness, and 9" harness)



20.5302

Retrofit harness



10REMOTE

BEA universal remote
control

REPLACEMENT PARTS



35.1609

Black replacement cover



20.5349

Replacement harness

- Tech Support: 1-[800-407-4545](tel:800-407-4545) |
- Customer Service: 1-[800-523-2462](tel:800-523-2462)
- General Tech Questions:
 - techservices-us@BEAsensors.com
 - www.BEAsensors.com

FAQ

Q: Can I mount the sensor at any height?

A: The mounting height may be impacted by local regulations, especially for pedestrian applications.

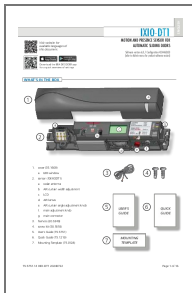
Q: How often should I clean the optical parts?

A: It is recommended to clean the optical parts at least once a year or more frequently based on environmental conditions.

Q: What should I do if the sensor is not detecting motion or presence accurately?

A: Check for any obstructions or interference in the detection field and ensure proper installation and setup following the user manual guidelines.

Documents / Resources



[BEA IXIO-DT1 Motion And Presence Sensor](#) [pdf] Installation Guide

75.5751.14, 10IXIODT1, 20.5349, IXIO-DT1 Motion And Presence Sensor, IXIO-DT1, Motion And Presence Sensor, And Presence Sensor, Presence Sensor, Sensor

References

- [User Manual](#)

[Manuals+](#), [Privacy Policy](#)

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