**IXIO FAMILY**

Activation and safety sensors for automatic sliding doors

**PRODUCT FAMILY**

- **IXIO-DT1**: activation and safety for pedestrian doors
- **IXIO-DT1 INDUSTRIAL**: activation and safety for industrial doors
- **IXIO-ST**: safety for pedestrian doors
- **IXIO-ST INDUSTRIAL**: safety for industrial doors
- **IXIO-DT1 V**: IXIO-DT1 + camera cover accessory

**ACCESSORIES**

<table>
<thead>
<tr>
<th>IXIO-DT1</th>
<th>IXIO-ST</th>
<th>IXIO-DT1 V</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. radar antenna (wide field)</td>
<td>radar antenna (narrow field)</td>
<td>main adjustment knob</td>
</tr>
<tr>
<td>2.</td>
<td>LCD</td>
<td>AIR curtain angle adjustment knob</td>
</tr>
<tr>
<td>3.</td>
<td>AIR curtain width adjustment</td>
<td>IXIO-DT1 / IXIO ST cover</td>
</tr>
<tr>
<td>4.</td>
<td>AIR lenses</td>
<td>IXIO-DT1 V cover</td>
</tr>
<tr>
<td>5.</td>
<td>main connector</td>
<td>LED</td>
</tr>
<tr>
<td>6.</td>
<td></td>
<td>camera</td>
</tr>
</tbody>
</table>

**10ICA**: Ceiling accessory

**10ICA**: Ceiling accessory

**10IRA**: Rain accessory

**35.1286**: black cover
**35.1302**: white cover
**35.1303**: silver cover

**10CDA**: Curved door accessory

**10IXIO SPACER**: Spacer

**10.1279**: Camera cover accessory
LED SIGNAL

- (green) Motion detection (DT1 sensors) / AUX (ST sensors)
- (red) Presence detection
- LED flashes
- LED flashes x times
- LED flashes red-green
- LED flashes quickly
- LED is off

INSTALLATION

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

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.

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

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

DISPLAY DURING NORMAL FUNCTIONING

Activation impulse  Safety  Negative display = active output

To adjust contrast, push and turn the gray button simultaneously.
During normal function only.

FACTORY VALUE VS. SAVED VALUE

displayed value = factory value  displayed value = saved value

NAVIGATING IN MENUS

Push to enter the LCD menu
Password

Enter password if necessary:
Not during the first minute after power-on of the sensor.

Select your language before entering the first LCD menu:
During the first 30 seconds after power-on of the sensor or later in the Diagnostics menu.

Select More to go to next level:
- basic settings (MENU 1)
- advanced settings (MENU 2)
- diagnostics (MENU 3)

CHANGING A VALUE

Scroll menu items
Select Back to return to previous menu or display.

Select More
Presets

Push to enter the LCD menu

new value is displayed
more values are displayed
current value is displayed

CHANGING A ZIP CODE

See application note on ZIP CODE (76.0024)

Validate the last digit in order to activate the new ZIP code:

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

*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. Do not unlock first.
1 MOUNTING & WIRING

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.

Route the harness using the harness clip as shown in the exploded view of the mounting illustration.

MOUNTING

Mounting is compatible with the WIZARD.

Sensor connectivity (power and relays) must utilize only the supplied harness.

Sensor power (and camera power if using the DT1 V) 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.

WIRING

- **RED** (Power Supply)
- **BLACK**
- **BROWN**
- **BLUE**
- **WHITE (COM)**
- **YELLOW (N.C.**
- **GREEN (N.O.**
- **PURPLE**
- **PURPLE**

Voltage

Regulator

RCA VIDEO OUT (female)

* Output status when sensor is operational.

** 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 monitoring wires must be properly connected to the door control.

CAMERA HARNESS FOR DT1 V

12 – 24 VAC, 50/60 Hz
12 – 30 VDC
Max 2.5 W

100x
The size of the detection field varies according to the mounting height of the sensor. The following graphics are representations – not default settings.

**ANGLE**

- Field size: 9
  - Immunity: 2

  - From 15° to 45°, default 30°

- Field size: 9
  - Immunity: 2

  - From -15° to 15°, default 0°

**WIDTH**

- Field size: 9
  - Immunity: 2

  - 13' x 6'6" (wide)

- Field size: 9
  - Immunity: 2

  - 6'6" x 8' (narrow)

1 × 1 grid is approximately 3.28 ft × 3.28 ft.
**ANGLE**

Activate the visible* spots to verify the position of the AIR curtain.

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

* 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.

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**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. The full door width must be covered.

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

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

<table>
<thead>
<tr>
<th>Mounting height</th>
<th>Detection width</th>
</tr>
</thead>
<tbody>
<tr>
<td>6’ 6”</td>
<td>6’ 6”</td>
</tr>
<tr>
<td>7’ ½”</td>
<td>7’ ½”</td>
</tr>
<tr>
<td>8’ ⅞”</td>
<td>8’ ⅞”</td>
</tr>
<tr>
<td>9’ 13/16”</td>
<td>9’ 13/16”</td>
</tr>
<tr>
<td>11’ 6”</td>
<td>11’ 6”</td>
</tr>
</tbody>
</table>
Set up the sensor using either push-buttons or the remote control.

**STEP OUT OF THE INFRARED FIELD!**

**SETUP 1 (QUICK)**

*either hold the knob for 2 seconds, or use the remote control buttons as specified*

![Setup 1 Instructions]

**SETUP 2 (ASSISTED)**

*test of full door cycle + reference picture*

*either hold the knob for 4 seconds, or use the remote control buttons as specified*

![Setup 2 Instructions]

**TEST THE PROPER OPERATION OF THE INSTALLATION BEFORE LEAVING THE PREMISES!**
### OVERVIEW OF SETTINGS

**Back** | **More**
---|---
**RAD: FIELDSIZE**
- small
- >
- >
- >
- >
- >
- >
- >
- large

**AIR: WIDTH**
- DeEner/NO
- Energ/NC
- Deener/NO

**AIR: OUTPUT**
- off
- on

**RAD: IMMUNITY**
- low
- >
- >
- >
- >
- >
- >
- high

**RAD: DIRECTION**
- off
- bi
- uni
- uni
- uni
- uni
- uni

**RAD: HOLDTIME**
- 0.5 s
- 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
- Energ/NC
- Deener/NO

**AIR: IMMUNITY**
- normal
- enhanced

**AIR: WIDTH**
- DeEner/NO
- Energ/NC
- Deener/NO

**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
- Energ/NC
- Deener/NO

**TEST**
- off
- on

**REDIRECTION**
- motion
- motion or presence

**FACTOR RESET**
- full reset
- partial reset

### Notes:
1. See note 1.
2. See note 2.
3. See note 3.
4. See note 4.
5. See note 5.
7. See note 7.
8. See note 8.

### Additional Settings:
- **ZIP CODE**
  - all parameter settings in zipped format (see application note on ZIP CODE – 76.0024)
  - unique ID-number

- **ID #**
  - factory value

- **CONFIG P/N**
  - date of production

- **SOFT P/N**
  - software version

- **ERROR LOG**
  - last 10 errors + day indication

- **AIR: SPOTVIEW**
  - view of spot(s) that trigger detection

- **AIR: C1 ENERG**
  - signal amplitude received on curtain

- **AIR: C2 ENERG**
  - signal amplitude received on curtain 2

- **POWERSUPPLY**
  - supply voltage at power connector

- **OPERATING TIME**
  - power duration since first startup

- **RESET LOG**
  - delete all saved errors

- **PASSWORD**
  - LCD and remote control password (0000 = no password)

- **ADMIN**
  - enter code to access admin mode
### NOTES

<table>
<thead>
<tr>
<th>Note 1</th>
<th>Always additionally adjust the arrow position on the sensor with a screwdriver.</th>
</tr>
</thead>
</table>
| Note 2 | DeEner: De-Energized relay  
Energ: Energized relay  
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 monitoring wires must be properly connected to the door control. |
| Note 4 | MTF: motion tracking feature |
| Note 5 | min. value for DIN18650:  1 min  
min. value for EN16005:  30 s |
| Note 6 | opening output is active in case of:  
0  motion detection  
1  motion or presence detection |
| Note 7 | 0  presence detection on safety input  
1  presence detection on safety + auxiliary inputs |
<p>| Note 8 | partial: outputs are not reset |</p>
<table>
<thead>
<tr>
<th>LED Flash Count</th>
<th>Description</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>1x</td>
<td>ORANGE LED flashes</td>
<td>The sensor signals an internal fault.</td>
</tr>
<tr>
<td>2x</td>
<td>ORANGE LED flashes</td>
<td>The power supply voltage is too low/high.</td>
</tr>
<tr>
<td>4x</td>
<td>ORANGE LED flashes</td>
<td>The sensor does not receive enough AIR energy.</td>
</tr>
<tr>
<td>5x</td>
<td>ORANGE LED flashes</td>
<td>The sensor receives too much AIR energy.</td>
</tr>
<tr>
<td>8x</td>
<td>ORANGE LED flashes</td>
<td>IR power emitter is faulty.</td>
</tr>
<tr>
<td></td>
<td>ORANGE LED is on</td>
<td>The sensor encounters a memory problem.</td>
</tr>
<tr>
<td></td>
<td>RED LED flashes quickly after an assisted setup</td>
<td>The sensor sees the door during assisted setup.</td>
</tr>
<tr>
<td></td>
<td>RED LED illuminates sporadically</td>
<td>The sensor vibrates.</td>
</tr>
<tr>
<td></td>
<td>GREEN LED illuminates sporadically</td>
<td>The sensor sees the door.</td>
</tr>
</tbody>
</table>

*troubleshooting continues on the next page*
### TROUBLESHOOTING (cont.)

<table>
<thead>
<tr>
<th>Issue</th>
<th>Reason</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>The LED and the LCD displays are off</td>
<td>No power to sensor.</td>
<td>Check wiring.</td>
</tr>
<tr>
<td>The reaction of the door does not correspond with the LED signal</td>
<td>Incorrect output configuration / wiring.</td>
<td>Check output configuration setting. Check wiring.</td>
</tr>
<tr>
<td>The LCD or remote control does not react</td>
<td>The sensor is protected by a password.</td>
<td>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.</td>
</tr>
<tr>
<td>Visible External Monitoring / Test Indication LED (red) does not flash</td>
<td>Monitoring installation/ setup error.</td>
<td>Verify door control is capable of monitoring and the sensor monitoring wires are properly connected to the door control.</td>
</tr>
<tr>
<td>Visible External Monitoring / Test Indication LED (red) flashes continuously</td>
<td>Sensor malfunction.</td>
<td>Replace the sensor.</td>
</tr>
<tr>
<td>Door cycles open and remains open</td>
<td>Door control not set correctly.</td>
<td>Verify door control monitoring set to Active Low.</td>
</tr>
<tr>
<td></td>
<td>Door control monitoring set to Active High.</td>
<td>Set door control monitoring to Active Low.</td>
</tr>
<tr>
<td></td>
<td>Safety output is set incorrectly.</td>
<td>Set the safety output required for the door control.</td>
</tr>
</tbody>
</table>

- IXIO sensors are intended to be used as intended by the manufacturer.
- 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.

### TECHNICAL SPECIFICATIONS

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supply voltage</td>
<td>12 – 24 VAC ±10%</td>
</tr>
<tr>
<td></td>
<td>12 – 30 VDC ±10%</td>
</tr>
<tr>
<td>Power consumption</td>
<td>&lt; 2.5 W</td>
</tr>
<tr>
<td>Mounting height</td>
<td>6’6” – 11’6”</td>
</tr>
<tr>
<td>Temperature range</td>
<td>Sensor: -13 – 131 °F</td>
</tr>
<tr>
<td></td>
<td>0 – 95% relative humidity, non-condensing</td>
</tr>
<tr>
<td>LCD screen</td>
<td>Operational from 14 – 131 °F</td>
</tr>
<tr>
<td></td>
<td>The sensor may still be programmed in colder</td>
</tr>
<tr>
<td></td>
<td>temperatures, but with the remote control.</td>
</tr>
<tr>
<td>Degree of protection</td>
<td>IP54</td>
</tr>
<tr>
<td>Noise</td>
<td>&lt; 70 dB</td>
</tr>
<tr>
<td>Applicable directives</td>
<td>R&amp;TTE 1999/5/EC</td>
</tr>
<tr>
<td></td>
<td>LVD 2006/95/EC</td>
</tr>
<tr>
<td></td>
<td>MD 2006/42/EC</td>
</tr>
<tr>
<td></td>
<td>ROHS 2 2011/65/EU</td>
</tr>
</tbody>
</table>

*Specifications are subject to change without prior notice. All values measured in specific conditions.*
## TECHNICAL SPECIFICATIONS (cont.)

<table>
<thead>
<tr>
<th>Detection mode:</th>
<th>DT1 SENSORS:</th>
<th>DT1 &amp; ST SENSORS:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>MOTION</td>
<td>PRESENCE</td>
</tr>
<tr>
<td></td>
<td>minimum detection speed: 2 in/s</td>
<td>typical response time: &lt; 200 ms (max: 500 ms)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Technology:</th>
<th>DT1 SENSORS:</th>
<th>DT1 &amp; ST SENSORS:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Microwave doppler radar</td>
<td>Active infrared with background analysis</td>
</tr>
<tr>
<td></td>
<td>Transmitter frequency: 24.150 GHz</td>
<td>Spot: 2&quot; x 2&quot; (typ)</td>
</tr>
<tr>
<td></td>
<td>Transmitter radiated power: &lt; 20 dBm EIRP</td>
<td>Number of spots: max. 24 per curtain</td>
</tr>
<tr>
<td></td>
<td>Transmitter power density: &lt; 5 mW/cm²</td>
<td>Number of curtains: 2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Output:</th>
<th>DT1 &amp; ST SENSORS:</th>
<th>DT1 &amp; ST SENSORS:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Electromechanical relay</td>
<td>Solid-state relay</td>
</tr>
<tr>
<td></td>
<td>(potential and polarity free)</td>
<td>(potential and polarity free)</td>
</tr>
<tr>
<td></td>
<td>Max. contact current: 1 A</td>
<td>Max. contact current: 400 mA</td>
</tr>
<tr>
<td></td>
<td>Max. contact voltage: 30 VDC</td>
<td>Max. contact voltage: 42 VAC / VDC</td>
</tr>
<tr>
<td></td>
<td>Adjustable Hold time: 0.5 – 9 s</td>
<td>Hold time: 0.3 – 1 s</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Test/Monitoring input:</th>
<th>DT1 &amp; ST SENSORS:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Sensitivity:</td>
</tr>
<tr>
<td></td>
<td>Low: &lt; 1 V</td>
</tr>
<tr>
<td></td>
<td>High: &gt; 10 V (max. 30 V)</td>
</tr>
<tr>
<td></td>
<td>Response time on test request: typical &lt; 5 ms</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Norm conformity:</th>
<th>DT1 &amp; ST SENSORS:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>EN 12978</td>
</tr>
<tr>
<td></td>
<td>EN ISO 13849-1:2008 PL «c» CAT. 2</td>
</tr>
<tr>
<td></td>
<td>(under the condition that the door control system monitors the sensor at least once per door cycle)</td>
</tr>
<tr>
<td></td>
<td>IEC 61496-1:2012 ESPE Type 2</td>
</tr>
<tr>
<td></td>
<td>EN 16005:2012 Chapter 4.6.8</td>
</tr>
<tr>
<td></td>
<td>DIN 18650-1:2010 Chapter 5.7.4</td>
</tr>
<tr>
<td></td>
<td>BS 7036-1:1996 Chapter 8.1</td>
</tr>
</tbody>
</table>

### CAMERA

- **Voltage regulator:** 6.6 – 36 VDC (±10%)
  
  (built into wire harness): 6 – 28 VAC (±10%)

- **Operating temperature:** -30 – 60 °C (max. RH: 95%)

- **Video output:** 1.0 (Vp-p) / 75Ω

- **Image Sensor:** CMOS

- **Horizontal resolution:** 480 TVL

- **NTSC output:** 720 (H) × 480 (V)

- **Sync system:** Inter-Sync

- **Frame rate:** 30 fps

- **Minimum illumination:** 0.01 LUX

- **AE control:** auto

- **Gain control:** auto

- **Electronic shutter:** 1 s – 1/10,000s

- **S/N ratio:** > 50 dB

- **AWB:** Auto

### BEA INSTALLATION/SERVICE COMPLIANCE EXPECTATIONS

BEA, the sensor manufacturer, cannot be held responsible for incorrect installations or inappropriate adjustments of the sensor/device; therefore, BEA does not guarantee any use of the sensor outside of its intended purpose.

BEA 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 system installation 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 recommendations and/or per AAADM/ANSA/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).

Verify that all appropriate industry signage and warning labels are in place.

BEA hereby declares that IXIO sensors are in conformity with the basic requirements and the other relevant provisions of the directives 1999/5/EC, 2006/95/EC and 2006/42/EC.

Notified Body for EC-type inspection: 0044 - TÜV NORD CERT GmbH, Langemarckstr. 20, D-45141 Essen

EC-type examination certificate number: 44 205 12 405836-001

Angleur, October 2014 – Pierre Gardier, authorized representative and responsible for technical documentation

The complete declaration of conformity is available on our website: www.bea-pedestrian.be

Only for EC countries: According to the European Guideline 2012/19/EU for Waste Electrical and Electronic Equipment (WEEE)


General Tech Questions: Tech_Services@beainc.com | Tech Docs: www.BEAinc.com