**IXIO-DP1**

Opening & safety sensor for automatic sliding doors  
(according to EN 16005 and DIN 18650)

User’s Guide for product version 0400 and higher  
See product label for serial number

**DESCRIPTION**

1. LCD  
2. radar antenna (narrow field)  
3. radar antenna (wide field)  
4. IR-curtain width adjustment  
5. IR-lenses

6. cover  
7. main connector  
8. main adjustment knob  
9. IR-curtain angle adjustment knob

**ACCESSORIES**

- **BA:** Bracket accessory  
- **CA:** Ceiling accessory  
- **RA:** Rain accessory  
- **CDA:** Curved door accessory  
- **9 V battery**
HOW TO USE THE LCD?

DISPLAY DURING NORMAL FUNCTIONING

- Opening impulse
- Safety
- Negative display = active output
- To adjust contrast, push and turn the grey button simultaneously.
  During normal function only.

FACTORY VALUE VS. SAVED VALUE

- AIR: Immunity
  - < 2.8m (displayed value = factory value)
  - ≥ 2.8m (displayed value = saved value)

NAVIGATING IN MENUS

- Push to enter the LCD-menu
- Scroll menu items
- Enter password if necessary
  - 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.
- Select Back to return to previous menu or display.
- Select More to go to next level:
  - basic settings
  - advanced settings
  - diagnostics

CHANGING A VALUE

- Scroll menu up-down
- Push to select parameter
- Scroll values up-down
- Push to save new value
- current value is displayed
- more values are displayed
- new value is displayed

CHANGING A ZIP CODE

- See application note on ZIP CODE

- 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
  - v/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

Fixation is compatible with the ACTIV8.

12-24 V DC

* Output status when sensor is operational

Do not invert polarity.

2 RADAR OPENING IMPULSE FIELD

**ANGLE**

- field size: 9
- immunity: 2

- from 15° to 45°, default 30 °

- from -15° to 15°, default 0°

**WIDTH**

- 4 m x 2 m (wide)
- 2 m x 2.5 m (narrow)

The size of the detection field varies according to the mounting height of the sensor.
**INFRARED SAFETY FIELD**

**ANGLE**

Activate the visible* spots to verify the position of the IR-curtain.

If necessary, adjust the IR-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.

**WIDTH**

Part of the detection field can be masked to reduce it. The arrow position determines the width of the detection field.

Always verify the actual detection field width with a piece of paper and not the Spotfinder, which detects the whole emitted 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.

<table>
<thead>
<tr>
<th>Mounting height</th>
<th>Detection width</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.00 m</td>
<td>2.00 m</td>
</tr>
<tr>
<td>2.20 m</td>
<td>2.20 m</td>
</tr>
<tr>
<td>2.50 m</td>
<td>2.50 m</td>
</tr>
<tr>
<td>3.00 m</td>
<td>d max</td>
</tr>
<tr>
<td>3.50 m</td>
<td>d max</td>
</tr>
</tbody>
</table>

**SETTINGS**

Choose one of the following presettings or adjust the sensor manually (see p.5):

- **STANDARD**: standard in- and outdoor installations
- **CRITICAL ENVIRONMENT**: critical installations due to surroundings or weather
- **SHOPPING STREET**: installations in narrow streets with pedestrian traffic

**SETUP**

**SETUP 1 (QUICK)**

reference picture

**SETUP 2 (ASSISTED)**

reference picture

**TEST THE GOOD FUNCTIONING OF THE INSTALLATION BEFORE LEAVING THE PREMISES!**
OVERVIEW OF SETTINGS

**PRESETTINGS**
- **RAD: FIELDSIZE**
  - Small: > > > > > > > large
  - For conformity to EN 16005 or DIN 18650 at a mounting height of 2.8 m or more, use values 6 and 7.
  - Sensors mounted close to each other should have a different frequency.

- **IR: IMMUNITY**
  - Low > > > > > > > high
  - Excludes conformity of the door system according to EN 16005 / DIN 18650 / BS 7036. IR Immunity on values 4 or 5 is incompatible with IR presence time on value 0.

- **IR: FREQUENCY**
  - Service mode = no IR detection during 15 minutes (maintenance). This value excludes conformity of the door system to EN 16005 and DIN 18650.

**BASIC**
- **RAD: DIRECTION**
  - Auto: automatic adaptation of field size (small shops).
  - Uni: unidirectional motion away from sensor.

- **RAD: HOLDTIME**
  - 0.5 s 1 s 2 s 3 s 4 s 5 s 6 s 7 s 8 s 9 s
  - Min. value for DIN18650: 1 min
  - Min. value for EN16005: 30 s

- **RAD: OUTPUT**
  - No NC NC NO
  - Full reset partial reset partial: outputs are not reset

- **IR: WIDTH**
  - Always additionally adjust the arrow position on the sensor with a screwdriver.

- **IR: NUMBER**
  - Service mode = no IR detection during 15 minutes (maintenance).

- **IR: PRESENCE TIME**
  - Motion: 15 s 30 s 1 min 2 min 5 min 10 min 20 min 60 min infinite
  - Opening output is active in case of:
    - Motion detection
    - Motion or presence detection

- **IR: OUTPUT**
  - Pulse

**ADVANCED**
- **PULSE INPUT**
  - Negative = auto
  - Positive = uni

- **REDIRECTION**
  - Motion or presence

**FACTORY RESET**
- **POWER SUPPLY**
  - 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

- **LANGUAGE**
  - Language of LCD-menu

- **ADMIN**
  - Enter code to access admin mode

**DIAGNOSTICS**
- **ZIP CODE**
  - All parameter settings in zipped format (see application note on ZIP CODE)

- **ID #**
  - Unique ID-number

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

- **IR: SPOTVIEW**
  - View of spot(s) that trigger detection

- **IR: C1 ENERG**
  - Signal amplitude received on curtain 1

- **IR: C2 ENERG**
  - Signal amplitude received on curtain 2

- **FACTORY RESET**
  - All parameter settings in zipped format (see application note on ZIP CODE)

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  - Unique ID-number

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  - Signal amplitude received on curtain 2
## Troubleshooting

<table>
<thead>
<tr>
<th>LED Status</th>
<th>Description</th>
<th>Solutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>E1: ORANGE LED flashes 1 x.</td>
<td>The sensor signals an internal fault.</td>
<td>1. Replace sensor.</td>
</tr>
<tr>
<td>E2: ORANGE LED flashes 2 x.</td>
<td>The power supply is too low or too high.</td>
<td>1. Check power supply (in the diagnostics menu of the LCD). 2. Check wiring.</td>
</tr>
<tr>
<td>E4: ORANGE LED flashes 4 x.</td>
<td>The sensor receives not enough IR-energy.</td>
<td>1. Decrease the angle of the IR-curtains. 2. Increase the IR-immunity filter (values &gt;2.8 m). 3. Deactivate 1 curtain.</td>
</tr>
<tr>
<td>E5: ORANGE LED flashes 5 x.</td>
<td>The sensor receives too much IR-energy.</td>
<td>1. Slightly increase the angle of the IR-curtains.</td>
</tr>
<tr>
<td>E8: ORANGE LED flashes 8 x.</td>
<td>IR power emitter is faulty.</td>
<td>1. Replace sensor.</td>
</tr>
<tr>
<td>ORANGE LED is on.</td>
<td>The sensor encounters a memory problem.</td>
<td>1. Cut and restore power supply. 2. If orange LED lights up again, replace sensor.</td>
</tr>
<tr>
<td>RED LED flashes quickly after an assisted setup.</td>
<td>The sensor sees the door during the assisted setup.</td>
<td>1. Move the IR-curtains away from the door. 2. Install the sensor as close to the door as possible. If needed, use a bracket accessory. 3. Launch a new assisted setup.</td>
</tr>
<tr>
<td>RED LED lights up sporadically.</td>
<td>The sensor vibrates.</td>
<td>1. Check if the sensor is fastened firmly. 2. Check position of cable and cover.</td>
</tr>
<tr>
<td>GREEN LED lights up sporadically.</td>
<td>The sensor is disturbed by external conditions.</td>
<td>1. Increase the IR-immunity filter to value 3. 2. Select presetting 2 or 3.</td>
</tr>
<tr>
<td></td>
<td>The sensor is disturbed by rain and/or leaves.</td>
<td>1. Select presetting 2 or 3. 2. Increase radar-immunity filter.</td>
</tr>
<tr>
<td></td>
<td>Ghosting created by door movement.</td>
<td>1. Change radar field angle.</td>
</tr>
<tr>
<td></td>
<td>The sensor vibrates.</td>
<td>1. Check if the sensor and door cover is fastened firmly. 2. Check position of cable and cover.</td>
</tr>
<tr>
<td></td>
<td>The sensor sees the door or other moving objects.</td>
<td>1. Remove the objects if possible. 2. Change radar field size or angle.</td>
</tr>
<tr>
<td>The LED and the LCD-display are off.</td>
<td></td>
<td>1. Check wiring.</td>
</tr>
<tr>
<td>The reaction of the door does not correspond to the LED-signal.</td>
<td></td>
<td>1. Check output configuration setting. 2. 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>1. Enter the right 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>
</tbody>
</table>
**LED-SIGNAL**

- **Motion detection**
- **Presence detection**
- **LED flashes**
- **LED flashes \(x\) times**
- **LED flashes red-green**
- **LED flashes quickly**
- **LED is off**

**INSTALLATION**

- The sensor should be fixed firmly 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.

**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 door cover profile must be correctly earthed.
- Only trained and qualified personnel may install and setup the sensor.
- Always test the good functioning of the installation before leaving the premises.
- The warranty is invalid if unauthorized repairs are made or attempted by unauthorized personnel.

**WARNING**

- The device cannot be used for purposes other than its intended use. All other uses cannot be guaranteed by the manufacturer of the sensor.
- The manufacturer 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.
**TECHNICAL SPECIFICATIONS**

Supply voltage: 12 V - 30 V DC +/-10% (to be operated from SELV compatible power supplies only)

Power consumption: < 2.5 W

Mounting height: 2 m to 3.5 m (according to the applicable laws and regulations)

Temperature range: -25°C to +55°C; 0-95% relative humidity, non condensing

Degree of protection: IP54

Noise: < 70 dB

Expected lifetime: 20 years

Applicable directives: RED 2014/53/EU; MD 2006/42/EC; ROHS 2 2011/65/EU

Detection mode: Motion

Min. detection speed: 5 cm/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/cm²

- Active infrared with background analysis
- Spot: 5 cm x 5 cm (typ)
- Number of spots: max. 24 per curtain
- Number of curtains: 2

Output:

- Solid-state-relay (potential and polarity free)
- Max. contact current: 100 mA
- Max. contact voltage: 42 V AC/DC

- Input:
  - Pulse polarity: positive or negative (adjustable)
  - Impedance:
    - Positive pulse: 2 K to ground
    - Negative pulse: 470 Ω to + sensor power supply
  - Pulse voltage: 6 V to 30 V
  - Pulse duration: 4 µs to 500 µs
  - Duty cycle: max. 50%

- Output:
  - Pulse polarity: negative
  - Level:
    - Standby: Pulse from V to ground
    - Detection: V Supply
  - Topology: op-collector with 4.7 K to 3.3 V
  - Max. sink current: 25 mA with external 1 K to 24 V

Norm conformity:

- EN 12978
- EN ISO 13849-1 PL «c» CAT. 2
  (under the condition that the door control system monitors the sensor at least once per door cycle)
- IEC 61496-1 ESPE Type 2
- EN 16005 Chapter 4.6.8;
- DIN 18650-1 Chapter 5.7.4
- BS 7036-1 Chapter 8.1

Specifications are subject to changes without prior notice.
All values measured in specific conditions and with a temperature of 25°C.