

# IXIO-DT1

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

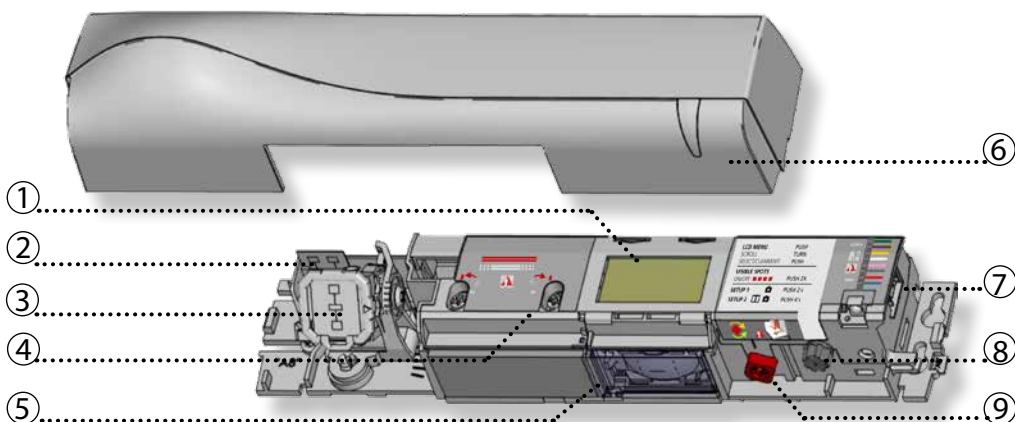


Download the BEA DECODER app  
for a quick overview  
of settings



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

## DESCRIPTION



- |    |                              |    |                                  |
|----|------------------------------|----|----------------------------------|
| 1. | LCD                          | 6. | cover                            |
| 2. | radar antenna (narrow field) | 7. | main connector                   |
| 3. | radar antenna (wide field)   | 8. | main adjustment knob             |
| 4. | IR-curtain width adjustment  | 9. | IR-curtain angle adjustment knob |
| 5. | IR-lenses                    |    |                                  |

## ACCESSORIES



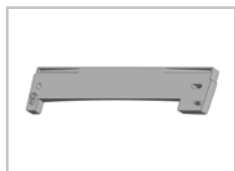
BA: Bracket accessory



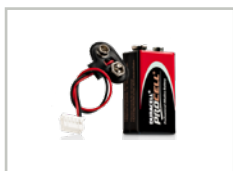
CA: Ceiling accessory



RA: Rain accessory



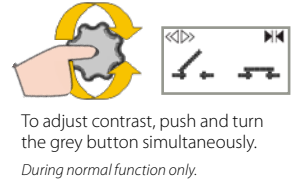
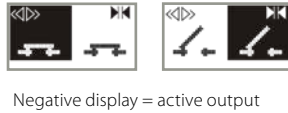
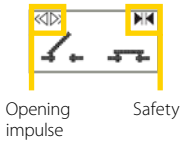
CDA: Curved door accessory



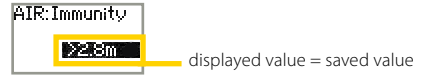
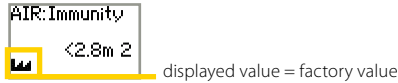
9V battery

## HOW TO USE THE LCD?

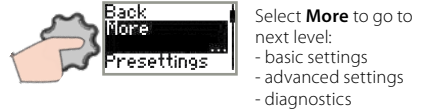
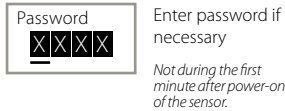
### DISPLAY DURING NORMAL FUNCTIONING



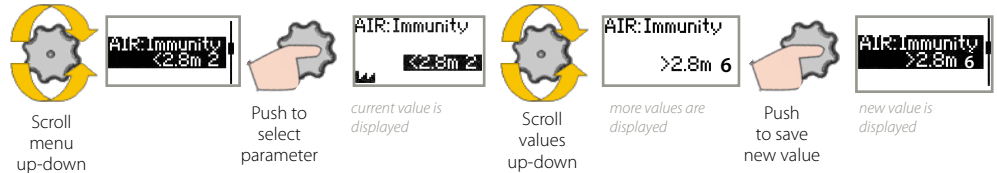
### FACTORY VALUE VS. SAVED VALUE



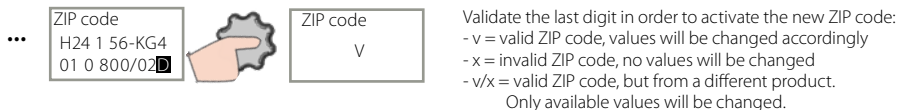
### NAVIGATING IN MENUS



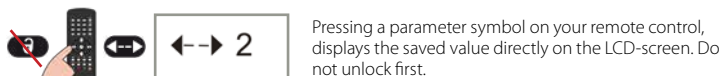
### CHANGING A VALUE



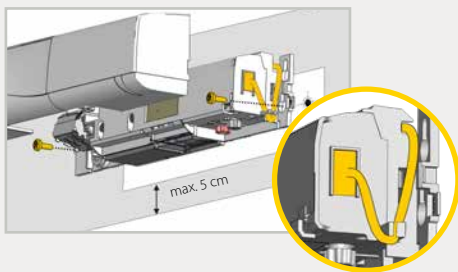
### CHANGING A ZIP CODE



### VALUE CHECK WITH REMOTE CONTROL



## 1 MOUNTING & WIRING



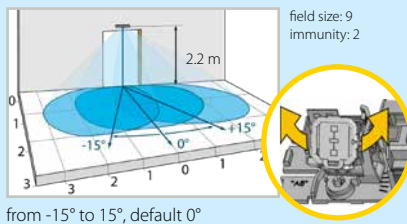
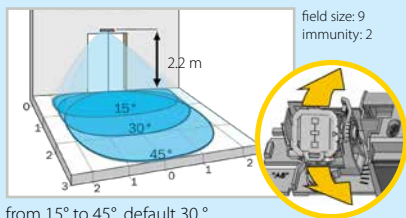
Fixation is compatible with the ACTIV8.



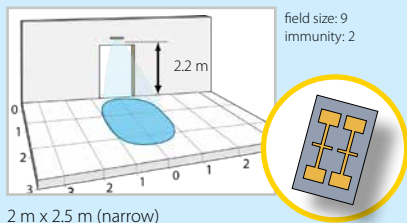
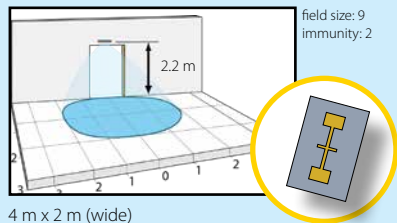
\* Output status when sensor is operational  
 \*\* For compliance with EN 16005 and DIN 18650, connection to door controller test output is required.

## 2 RADAR OPENING IMPULSE FIELD

ANGLE



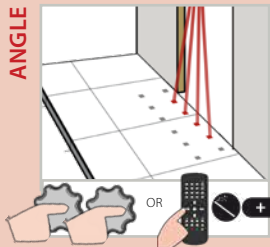
WIDTH



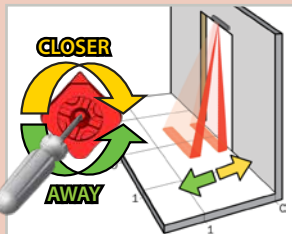
The size of the detection field varies according to the mounting height of the sensor.

### 3 INFRARED SAFETY FIELD

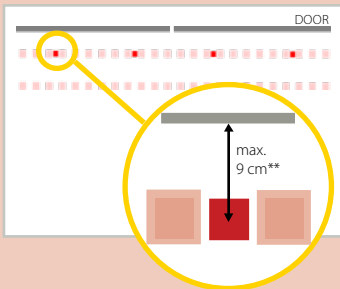
ANGLE



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

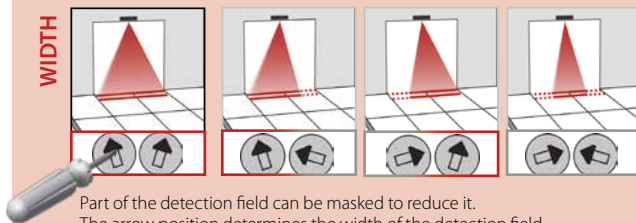


If necessary, adjust the IR-curtain angle (from -7° to 4°, default 0°).



\* Visibility depends on external conditions. When spots are not visible, use the Spotfinder to locate the curtains.  
 \*\* 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 20 cm. The distance to the door leaf depends therefore on the thickness of the door leaf.

WIDTH



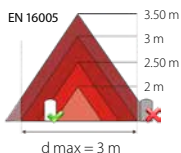
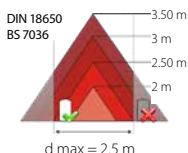
Part of the detection field can be masked to reduce it. The arrow position determines the width of the detection field.



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

Additional adjustments are possible by LCD or remote control (see p. 5)

Mounting height	Detection width
2.00 m	2.00 m
2.20 m	2.20 m
2.50 m	2.50 m
3.00 m	d max
3.50 m	d max



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.

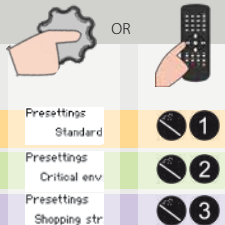
### 4 SETTINGS

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



### 5 SETUP

**STEP OUT OF THE INFRARED FIELD!**

**SETUP 1 (QUICK)**

reference picture



**SETUP 2 (ASSISTED)**

test of full door cycle + reference picture














TEST THE GOOD FUNCTIONING OF THE INSTALLATION BEFORE LEAVING THE PREMISES!

# OVERVIEW OF SETTINGS

	0	1	2	3	4	5	6	7	8	9			
<ul style="list-style-type: none"> <li>Back</li> <li>More</li> </ul>													
PRESETTINGS		standard	critical env.	shopping street			factory values for radar immunity, IR immunity, IR number and redirection						
							increased immunities, 1 curtain		increased immunities, redirection = motion and presence				
RAD: FIELD SIZE	small	>	>	>	>	>	>		>	large			
IR: IMMUNITY		low	normal	high	higher	highest	normal	high	For conformity to EN 16005 or DIN 18650 at a mounting height of 2.8 or more, use values 6 and 7.				
IR: FREQUENCY		A	B	Sensors mounted close to each other should have a different frequency.				For conformity to BS 7036 at a mounting height of 2.2 m or more, use values 6 and 7.					
More Back													
<ul style="list-style-type: none"> <li>Back</li> <li>More</li> </ul>		factory value											
											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		
RAD: IMMUNITY		low		>	>	>	>	>	>	high			
RAD: DIRECTION	radar off	bi	uni	uni PRM	uni AWAY	bi auto	uni auto	PRM auto	PRM: for persons with reduced mobility AWAY: unidirectional motion away from sensor auto: automatic adaptation of field size (small shops)				
RAD: HOLD TIME	0.5 s	1 s	2 s	3 s	4 s	5 s	6 s	7 s	8 s	9 s			
RAD: OUTPUT		NO NC	NC NO	NC NC	NO NO						NO: normally open NC: normally closed		
IR: WIDTH											Always additionally adjust the arrow position on the sensor with a screwdriver.		
IR: NUMBER	service mode	1	2	service mode = no IR detection during 15 minutes (maintenance). This value excludes conformity of the door system to EN 16005 and DIN 18650.									
IR: PRESENCE TIME	motion	15 s	30 s	1 min	2 min	5 min	10 min	20 min	60 min	infinite	min. value for DIN 18650: 1 min min. value for EN 16005: 30 s		
IR: OUTPUT		NO NC	NC NO	NC NC	NO NO						NO: normally open NC: normally closed		
REDIRECTION	motion	motion or presence	motion and presence	opening output is active in case of:			0 motion detection 1 motion or presence detection 2 motion and presence detection						
FACTORY RESET									full reset	partial reset	partial: outputs are not reset		
More Back													
<ul style="list-style-type: none"> <li>Back</li> <li>More</li> </ul>													
DIAGNOSTICS	ZIP CODE	all parameter settings in zipped format (see application note on ZIP CODE)										POWERSUPPLY	supply voltage at power connector
	ID #	unique ID-number										OPERATINGTIME	power duration since first startup
	ERROR LOG	last 10 errors + day indication										RESET LOG	delete all saved errors
	IR: SPOTVIEW	view of spot(s) that trigger detection										PASSWORD	LCD and remote control password (0000= no password)
	IR: C1 ENERG	signal amplitude received on curtain 1										LANGUAGE	language of LCD-menu
	IR: C2 ENERG	signal amplitude received on curtain 2										ADMIN	enter code to access admin mode

## TROUBLESHOOTING

E1	 ORANGE LED flashes 1 x.	The sensor signals an internal fault.	<ol style="list-style-type: none"> <li>1 Replace sensor.</li> </ol>
E2	 ORANGE LED flashes 2 x.	The power supply is too low or too high.	<ol style="list-style-type: none"> <li>1 Check power supply (in the diagnostics menu of the LCD).</li> <li>2 Check wiring.</li> </ol>
E4	 ORANGE LED flashes 4 x.	The sensor receives not enough IR-energy.	<ol style="list-style-type: none"> <li>1 Decrease the angle of the IR-curtains.</li> <li>2 Increase the IR-immunity filter (values &gt;2.8 m).</li> <li>3 Deactivate 1 curtain.</li> </ol>
E5	 ORANGE LED flashes 5 x.	The sensor receives too much IR-energy.	<ol style="list-style-type: none"> <li>1 Slightly increase the angle of the IR-curtains.</li> </ol>
E5		The sensor is disturbed by external elements.	<ol style="list-style-type: none"> <li>1 Eliminate the cause of disturbance (lamps, rain cover, door controller housing properly grounded).</li> </ol>
E8	 ORANGE LED flashes 8 x.	IR power emitter is faulty.	<ol style="list-style-type: none"> <li>1 Replace sensor.</li> </ol>
	 ORANGE LED is on.	The sensor encounters a memory problem.	<ol style="list-style-type: none"> <li>1 Cut and restore power supply.</li> <li>2 If orange LED lights up again, replace sensor.</li> </ol>
	 RED LED flashes quickly after an assisted setup.	The sensor sees the door during the assisted setup.	<ol style="list-style-type: none"> <li>1 Move the IR-curtains away from the door.</li> <li>2 Install the sensor as close to the door as possible. If needed, use a bracket accessory.</li> <li>3 Launch a new assisted setup.</li> </ol>
	 RED LED lights up sporadically.	The sensor vibrates.	<ol style="list-style-type: none"> <li>1 Check if the sensor is fastened firmly.</li> <li>2 Check position of cable and cover.</li> </ol>
		The sensor sees the door.	<ol style="list-style-type: none"> <li>1 Launch an assisted setup and adjust the IR angle.</li> </ol>
		The sensor is disturbed by external conditions.	<ol style="list-style-type: none"> <li>1 Increase the IR-immunity filter to value 3.</li> <li>2 Select presetting 2 or 3.</li> </ol>
	 GREEN LED lights up sporadically.	The sensor is disturbed by rain and/or leaves.	<ol style="list-style-type: none"> <li>1 Select presetting 2 or 3.</li> <li>2 Increase radar-immunity filter.</li> </ol>
		Ghosting created by door movement.	<ol style="list-style-type: none"> <li>1 Change radar field angle.</li> </ol>
		The sensor vibrates.	<ol style="list-style-type: none"> <li>1 Check if the sensor and door cover is fastened firmly.</li> <li>2 Check position of cable and cover.</li> </ol>
		The sensor sees the door or other moving objects.	<ol style="list-style-type: none"> <li>1 Remove the objects if possible.</li> <li>2 Change radar field size or angle.</li> </ol>
	 The LED and the LCD-display are off.		<ol style="list-style-type: none"> <li>1 Check wiring.</li> </ol>
	The reaction of the door does not correspond to the LED-signal.		<ol style="list-style-type: none"> <li>1 Check output configuration setting.</li> <li>2 Check wiring.</li> </ol>
	The LCD or remote control does not react.	The sensor is protected by a password.	<ol style="list-style-type: none"> <li>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.</li> </ol>

## 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

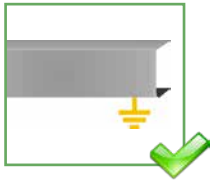


It is recommended to clean the optical parts at least once a year or more if required due to environmental conditions.



Do not use aggressive products to clean the optical parts.

## SAFETY



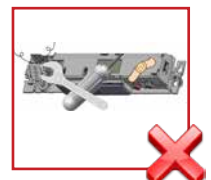
The door control unit and the door cover profile must be correctly earthed.



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.



- 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 - 24 V AC +/-10% ; 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/cm <sup>2</sup>	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	Solid-state-relay (potential and polarity free) Max. contact current: 100 mA Max. contact voltage: 42 V AC/DC Holdtime: 0.3 to 1 s
Test input:		Sensitivity: Low: < 1 V; High: > 10 V (max. 30 V) Response time on test request: typical: < 5 ms
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



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BEA hereby declares that the IXIO-DT1 is in conformity with the basic requirements and the other relevant provisions of the directives 2014/53/EU, and 2006/42/EC.

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

EC-type examination certificate number: 44 205 13089612

Angleur, September 2017 Pierre Gardier, authorized representative and responsible for technical documentation

The complete declaration of conformity is available on our website



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