IXIO-DT1

OPENING & SAFETY SENSOR
FOR AUTOMATIC SLIDING DOORS
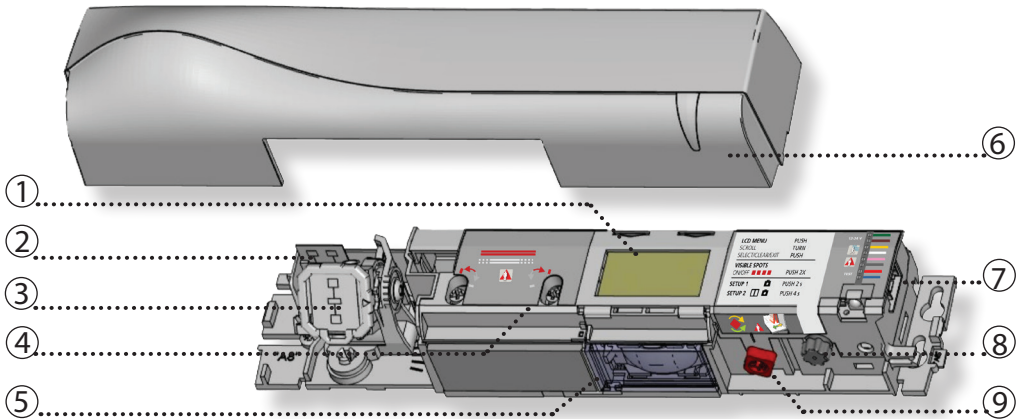
(according to EN 16005 and DIN 18650)

User's Guide for software version 0501 and higher
(refer to tracking label on product)

Download the BEA DECODER app
for a quick overview
of settings

ANDROID APP ON Google play

Available on the App Store

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
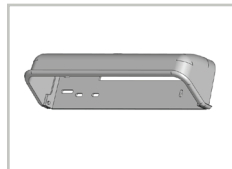9. IR-curtain angle adjustment knob
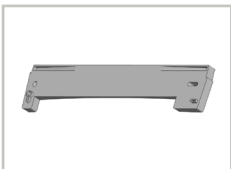
ACCESSORIES

BA: Bracket accessory

CA: Ceiling accessory
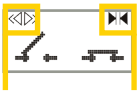
RA: Rain accessory

CDA: Curved door accessory

9 V battery

Smart Daisy Chain hub

HOW TO USE THE LCD?
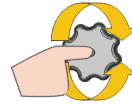
DISPLAY DURING NORMAL FUNCTIONING

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 2

displayed value = factory value

AIR:Immunity
>2.8m

displayed value = saved value

NAVIGATING IN MENUS

Push to enter the LCD-menu

Password
X X X X

Enter password if necessary

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

English
Deutsch

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.

Scroll menu items

Back
More

Select **Back** to return to previous menu or display.

Back
More
Presettings

Select **More** to go to next level:
- basic settings
- advanced settings
- diagnostics

CHANGING A VALUE

Scroll menu up-down

AIR:Immunity
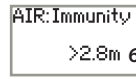<2.8m 2

Push to select parameter

AIR:Immunity
<2.8m 2

current value is displayed

Scroll values up-down

AIR:Immunity
>2.8m 6

more values are displayed

Push to save new value

AIR:Immunity
>2.8m 6

new value is displayed

CHANGING A ZIP CODE

See application note on ZIP CODE

Back
ZIP code
ID #

ZIP code
E24 1 56 KG4
01 0 800 02F

ZIP cod
E24 1 5
01 0 80

ZIP cod
E24 1 5
01 0 80

ZIP cod
H24 1 5
01 0 80

ZIP code
H24 1 5
01 0 80

ZIP code
H24 1 5
01 0 80

···
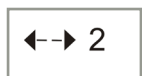ZIP code
H24 1 56-KG4
01 0 800/02D
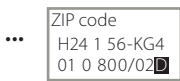
ZIP code
V

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
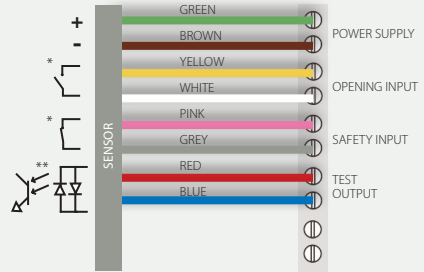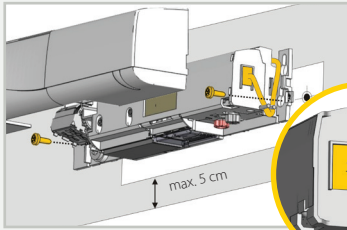- v/x = valid ZIP code, but from a different product.
     Only available values will be changed.

VALUE CHECK WITH REMOTE CONTROL

← → 2

Pressing a parameter symbol on your remote control, displays the saved value directly on the LCD-screen. Do not unlock first.

IXIO-DT1: INSTALLATION GUIDE
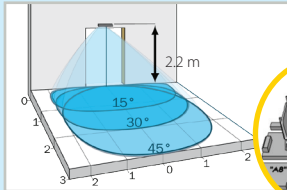
1 MOUNTING & WIRING

max. 5 cm

Fixation is compatible with the ACTIV8.

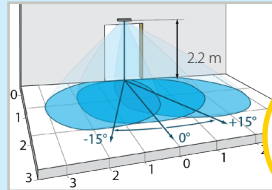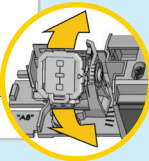|		
GREEN		
BROWN		POWER SUPPLY
YELLOW		
WHITE		OPENING INPUT
PINK		
GREY		SAFETY INPUT
RED		TEST
BLUE		OUTPUT

SENSOR

\+ -

* Depending on OUTPUT CONFIGURATION settings
** For compliance with EN 16005 and DIN 18650,
connection to door controller test output is required.

2 RADAR OPENING IMPULSE FIELD

ANGLE

field size: 9
immunity: 2

2.2 m

15°
30°
45°

0 1 2 3 2 1 0 1 2

from 15° to 45°, default 30 °

field size: 9
immunity: 2

2.2 m

-15° 0° +15°

0 1 2 3 3 2 1 0 1 2

from -15° to 15°, default 0°

WIDTH

field size: 9
immunity: 2

2.2 m

2 3 2 1 0 1 2

4 m x 2 m (wide)

field size: 9
immunity: 2

2.2 m

0 1 2 3 3 2 1 0 1 2
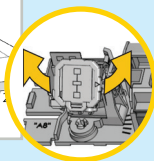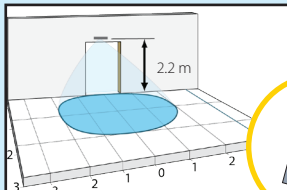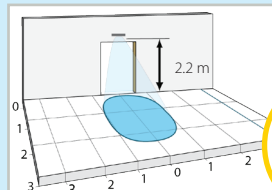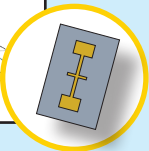
2 m x 2.5 m (narrow)

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

3

3 INFRARED SAFETY FIELD

ANGLE

OR +

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

CLOSER

AWAY

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

DOOR

max. 9 cm**

*Visibility depends on external conditions. When spots are not visible, use the Spotfinder to locate the curtains.
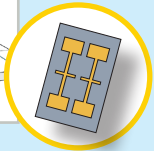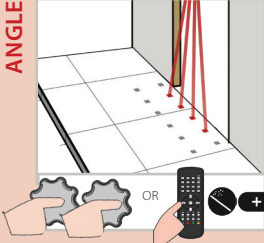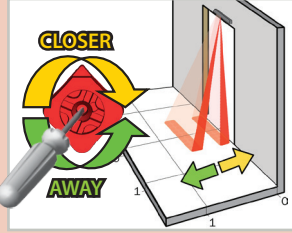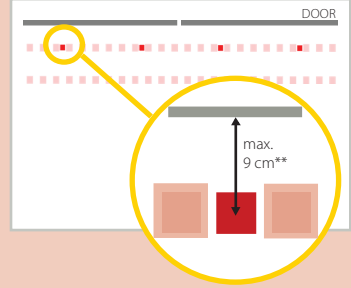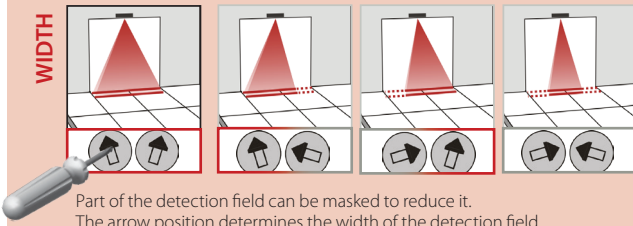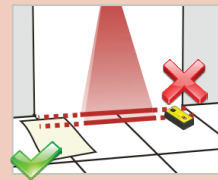**The distance between the inner curtain of the inside door sensor and the inner curtain of the outside door sensor should always be smaller than 20 cm. The distance to the door leaf depends therefore on the thickness of the door leaf.
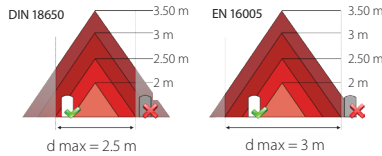
WIDTH

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

DIN 18650

3.50 m
3 m
2.50 m
2 m

d max = 2.5 m

EN 16005

3.50 m
3 m
2.50 m
2 m

d max = 3 m

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

OR

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

STANDARD: standard in- and outdoor installations

Presettings Standard — 1

CRITICAL ENVIRONMENT: critical installations due to surroundings or weather

Presettings Critical env. — 2

SHOPPING STREET: installations in narrow streets with pedestrian traffic

Presettings Shopping str. — 3
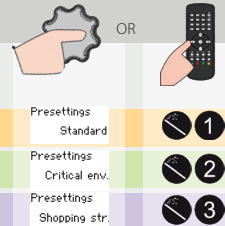
5 SETUP

⚠ STEP OUT OF THE INFRARED FIELD!

OR

SETUP 1 (QUICK)
reference picture

📷 + 👍 🕐 2 s

SETUP 2 (ASSISTED)
test of full door cycle + reference picture

+ 📷 + 👍 🕐 4 s — 0

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

OVERVIEW OF SETTINGS

BASIC

	0	1	2	3	4	5	6	7	8	9

Back
More

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: FIELDSIZE

small	>	>	>	>	>	>	🏭	>	large

IR: IMMUNITY

		low	normal	high	higher	highest	normal	high		

↕ < 2.8 m   ↕ > 2.8 m

For conformity to EN 16005 or DIN 18650 at a mounting height of 2.8 m or more, use values 6 and 7.

IR: FREQUENCY

	A	B								

Sensors mounted close to each other should have a different frequency.

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ADVANCED

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☐ factory value

⚠️ 🟦 excludes conformity of the door system according to EN 16005 / DIN 18650. 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 shop	uni shop	PRM shop		

PRM: for persons with reduced mobility
AWAY: unidirectional motion away from sensor
shop: automatic adaptation of field size (small shops)

RAD: HOLDTIME

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				Inv.freq **		

NO: normally open
NC: normally closed

Inv.freq. : frequency in detection (2.5 Hz)

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 DIN18650: 1 min
min. value for EN16005: 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

SMART DAISY CHAIN*

off	1/2	2/2	1/3	2/3	3/3				

1/2: 1st sensor in chain of 2; 2/2: 2nd sensor in chain of 2
1/3: 1st in chain of 3; 2/3: 2nd in chain of 3; 3/3: 3rd in chain of 3

FACTORY RESET

							full reset	partial reset	partial: outputs are not reset

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DIAGNOSTICS

* Setting in combination with an accessory. For more information, see user's guide of accessory

** Only accessible via LCD

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
IR: C1 ENERG	signal amplitude received on curtain 1		(0000= no password)
IR: C2 ENERG	signal amplitude received on curtain 2	LANGUAGE	language of LCD-menu
		ADMIN	enter code to access admin mode

Code	LED	Cause	Solution
E1	ORANGE LED flashes 1 x.	The sensor signals an internal fault.	**1** Replace sensor.
E2	ORANGE LED flashes 2 x.	The power supply is too low or too high.	**1** Check power supply (in the diagnostics menu of the LCD). **2** Check wiring.
E3	ORANGE LED flashes 3 x.	The previous sensor in the daisy chain is faulty	**1** Replace previous sensor in the chain
		The SDC setting does not match with the real product position	**1** Lock the SDC position setting
E4	ORANGE LED flashes 4 x.	The sensor receives not enough IR-energy.	**1** Decrease the angle of the IR-curtains. **2** Increase the IR-immunity filter (values >2.8 m). **3** Deactivate 1 curtain.
E5	ORANGE LED flashes 5 x.	The sensor receives too much IR-energy.	**1** Slightly increase the angle of the IR-curtains.
		The sensor is disturbed by external elements.	**1** Eliminate the cause of disturbance (lamps, rain cover, door controller housing properly grounded).
E8	ORANGE LED flashes 8 x.	IR power emitter is faulty.	**1** Replace sensor.
	ORANGE LED is on.	The sensor encounters a memory problem.	**1** Cut and restore power supply. **2** If orange LED lights up again, replace sensor.
	RED LED flashes quickly after an assisted setup.	The sensor sees the door during the assisted setup.	**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.
	RED LED lights up sporadically.	The sensor vibrates.	**1** Check if the sensor is fastened firmly. **2** Check position of cable and cover.
		The sensor sees the door.	**1** Launch an assisted setup and adjust the IR angle.
		The sensor is disturbed by external conditions.	**1** Increase the IR-immunity filter to value 3. **2** Select presetting 2 or 3.
	GREEN LED lights up sporadically.	The sensor is disturbed by rain and/or leaves.	**1** Select presetting 2 or 3. **2** Increase radar-immunity filter.
		Ghosting created by door movement.	**1** Change radar field angle.
		The sensor vibrates.	**1** Check if the sensor and door cover is fastened firmly. **2** Check position of cable and cover.
		The sensor sees the door or other moving objects.	**1** Remove the objects if possible. **2** Change radar field size or angle.
	The LED and the LCD-display are off.		**1** Check wiring.
	The reaction of the door does not correspond to the LED-signal.		**1** Check output configuration setting. **2** Check wiring.
	The LCD or remote control does not react.	The sensor is protected by a password.	**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.

LED-SIGNAL

Motion detection

Presence detection

LED flashes

LED flashes x times
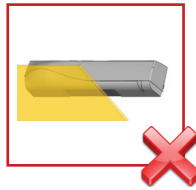
LED flashes red-green

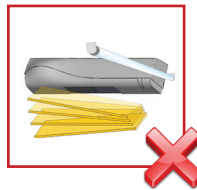LED flashes quickly

LED is off

INSTALLATION

The sensor should be fixed firmly to avoid extreme vibrations.
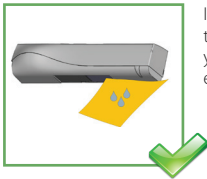
Do not cover the sensor.

Avoid moving objects and light sources in the detection field.

Avoid highly reflective objects in the infrared field.
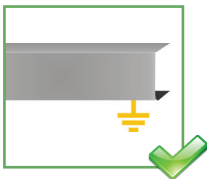
MAINTENANCE

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

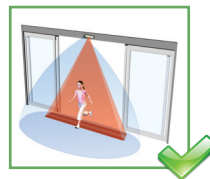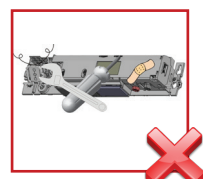Do not use aggressive products to clean the optical parts.

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%
Power consumption:	< 2.5 W
Mounting height:	2 m to 3.5 m
Temperature range:	-25°C to +55°C; 0-95% relative humidity, non condensing
Degree of protection:	IP54
Noise:	< 70 dB
Expected lifetime:	20 years

* The Equipment must be powered by a SELV limited power source ensuring double insulation between primary voltages and the Equipment supply. The supply current should be limited to max 3A.

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 In inverted frequency mode: pulsed signal in detection (f = 2.5 Hz)	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
Safety Standards:		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) EN 16005 (protective devices) DIN 18650-1 (protective devices) EN 12978

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

CE

BEA hereby declares that the IXIO-DT1 is in conformity with European directives 2014/53/EU (RED), 2006/42/EC (Machinery) and 2011/65/EU (RoHS).
Notified Body for EC-type inspection: 0044 - TÜV NORD CERT GmbH, Langemarckstr. 20, D-45141 Essen
EC-type examination certificate number: 44 205 13089612
Angleur, february 2021   Estelle GRAAS
The complete declaration of conformity is available on our website

This product should be disposed of separately from unsorted municipal waste