MAGIC SWITCH CHROMA (ADV)

CONTACTLESS KNOWING ACT SENSOR
FOR AUTOMATIC DOORS
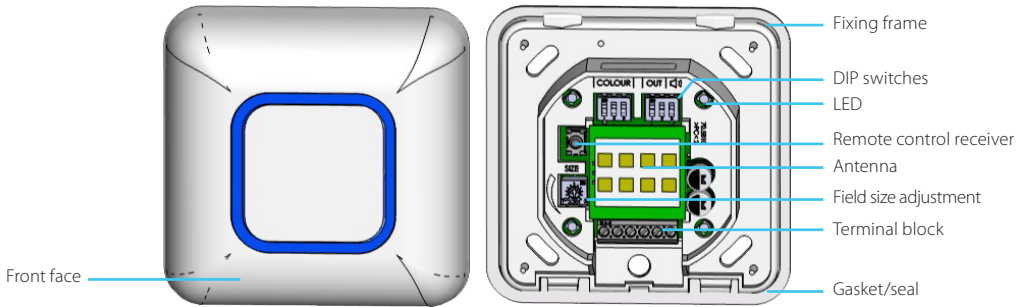
Biomaster PROTECTED

DESCRIPTION

RECESSED INSTALLATION

Front face

Fixing frame

DIP switches

LED

Remote control receiver

Antenna

Field size adjustment

Terminal block

Gasket/seal

SURFACE INSTALLATION

Front face

Fixing frame

DIP switches

LED

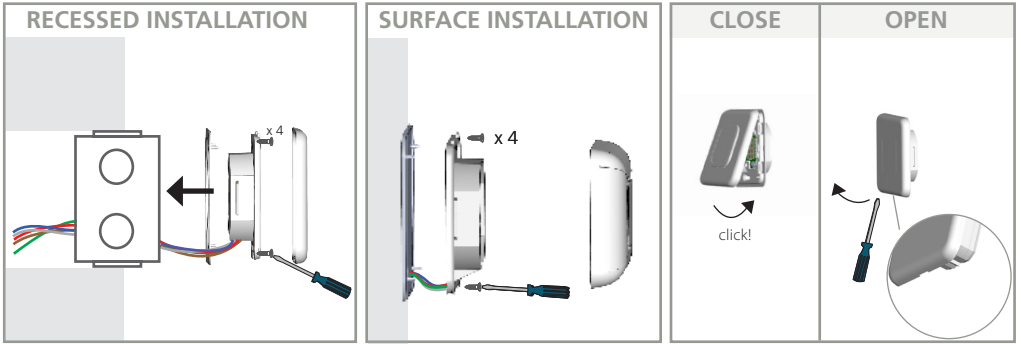Remote control receiver

Antenna

Field size adjustment

Terminal block

Gasket/seal
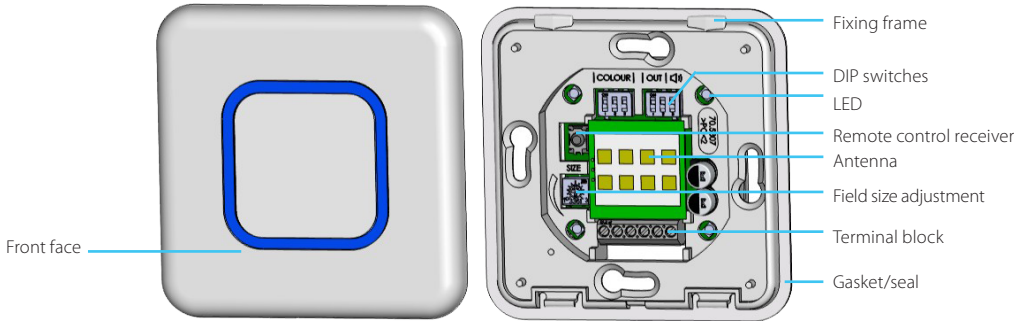
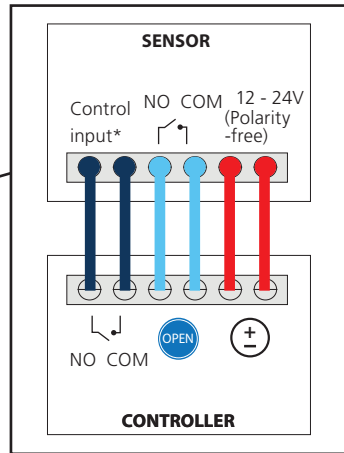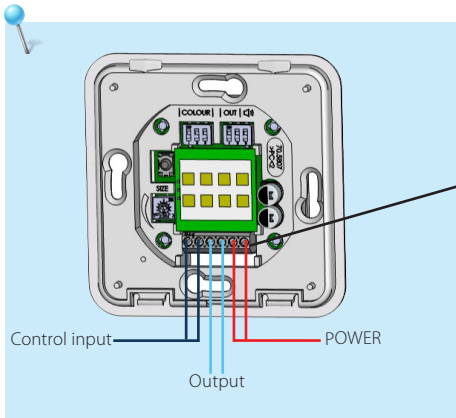### FEATURES

Antimicrobial front face

Multicoloured LED-feedback

IP65

Toggle-function

Audible feedback

Remote control adjustments

Application-focused settings through external signal input

INSTALLATION

RECESSED INSTALLATION	SURFACE INSTALLATION	CLOSE	OPEN

x 4

x 4

click!

WIRING

SENSOR

Control input*   NO COM   12 - 24V (Polarity-free)

Control input

Output

POWER

NO COM   OPEN   (±)

CONTROLLER

* See page 3.

ADJUSTMENTS

1 DETECTION FIELD

10cm

60cm

2 DIP SWITCH SETTINGS

DIP
1 2 3
COLOUR LOGIC

DIP
1 2
OUTPUT

DIP
3
AUDIO ALERT

COLOUR LOGIC

DIP	no detection	detection
DIP 1(OFF) 2(OFF) 3(OFF)	OFF	BU
DIP 1(ON) 2(OFF) 3(OFF)	BU	OFF
DIP 1(ON) 2(ON) 3(OFF)	BU	GN
DIP 1(OFF) 2(OFF) 3(ON)	OFF	GN

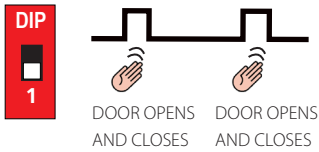| DIP	no detection	detection
DIP 1(ON) 2(OFF) 3(OFF)	GN	OFF
DIP 1(OFF) 2(OFF) 3(OFF)	OFF	OFF
DIP 1(ON) 2(ON) 3(OFF)	GN	RD
DIP 1(OFF) 2(ON) 3(OFF)	RD	GN

OUTPUT MODE

PULSE MODE :
recommended for automatic doors applications

DIP 1

DOOR OPENS AND CLOSES — DOOR OPENS AND CLOSES

TOGGLE MODE: recommended for switch applications

DIP 1

- min. 1 sec -

ON — OFF

NORMALLY OPEN (NO)

DIP 2

	NO
NO POWER	
NO DETECTION	
DETECTION	

NORMALLY CLOSED (NC)

DIP 2

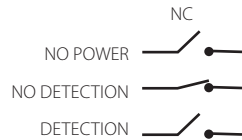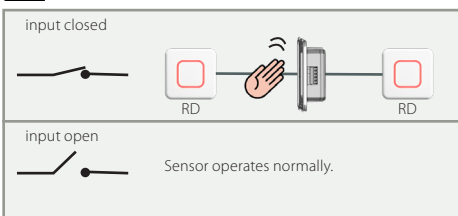|	NC
NO POWER	
NO DETECTION	
DETECTION	
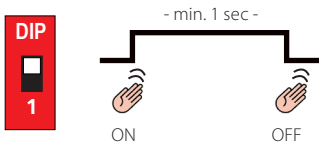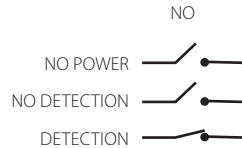
CONTROL INPUT

Connect the input to an external signal to control the switch and make the LED red.

⚠ Input signal must be a dry contact (no voltage).

input closed
RD — RD

input open
Sensor operates normally.

AUDIO ALERT

Detection activities an audio alert.

DIP 3 OFF

DIP 3 ON
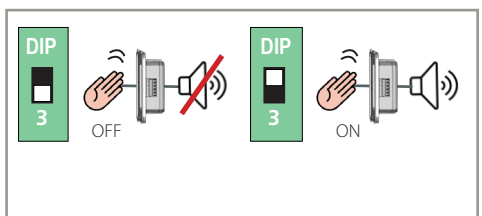
For restroom application, see application note for more details.

HOW TO USE THE REMOTE CONTROL

After unlocking, the red LED flashes and the sensor can be adjusted by remote control.

If the red LED flashes quickly after unlocking, you need to enter an access code from 1 to 4 digits. If you do not know the access code, **cut and restore the power supply**. During 1 minute, you can access the sensor without introducing any access code.
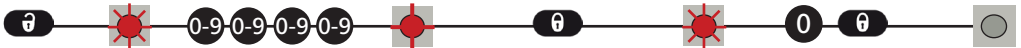
To end an adjustment session, always lock the sensor.

SAVING AN ACCESS CODE

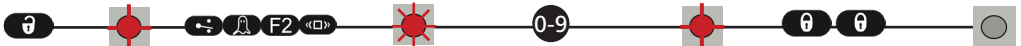The access code is recommended for sensors installed close to each other.
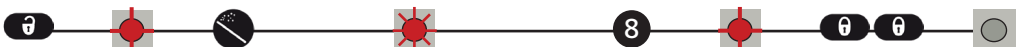
DELETING AN ACCESS CODE

Enter the existing code

ADJUSTING ONE OR MORE PARAMETERS

Any

RESTORING TO FACTORY VALUES

full reset

FIELD SIZE

FIELD SIZE

In order to change these settings by remote control, adjust the potentiometer to minimum.

	0	1	2	3	4	5	6	7	8	9
	small	>	>	>	>	>	>	>	large	

OUTPUT

OUTPUT MODE

In order to change these settings by remote control, adjust the 2 DIP switches to OFF.

DIP
1 2

	0	1	2	3	4	5
	Pulse NO	Toggle NO	Pulse NC	Toggle NC	Pulse Frequency	Toggle Frequency

If **0 2 4** in **Pulse** mode

HOLD TIME

	0	1	2	3	4	5
	0.5 s	1 s	2 s	3 s	4 s	5 s

If **1 3 5** in **Toggle** mode

TIMER *

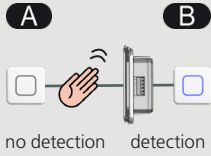|	0	1	2	3	4	5
	No timer	1 min	5 min	15 min	30 min	60 min

* Warning: 5 seconds before the end of the timer, the LED flashes and a signal tone sounds.

Factory value

4

LED

COLOUR LOGIC

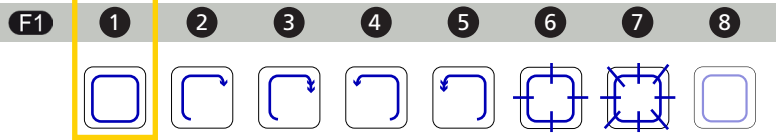In order to change these settings by remote control, adjust the 3 DIP switches to OFF.

DIP
1 2 3

	0	**1**	**2**	**3**	**4**	**5**	**6**	**7**
		or	or	or	or			
A	OFF	Red	Green	Blue	Yellow	Pink	Turquoise	White
B	OFF	Red	Green	Blue	Yellow	Pink	Turquoise	White

no detection   detection

Example :

no detection   detection

ANIMATION

F1	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**

BRIGHTNESS

D	**1**	**2**	**3**

AUDIO ALERT

TONE

◄--►	**1**	**2**	**3**

Factory value

5

SOUND SIGNAL	In order to change these settings by remote control, adjust the DIP switch to OFF.	DIP 3

no detection   detection

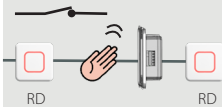| «□» | 0 | 🔇 ✋ 📱 | 🔇 |
	1	🔇 ✋ 📱	🔊 ● 🔇
	2	🔇 ✋ 📱	🔊 — 🔇
	3	🔇 ✋ 📱	🔊 ● ● 🔇
	4	🔇 ✋ 📱	🔊 ● ● ● 🔇

🔊 ● Short beep
🔊 — Long beep

CONTROL INPUT

COLOUR LOGIC	Visual, audible feedback and output response when the control input is activated :

RD   RD

C	0	1 or	2 or	3 or	4 or	5	6	7
	OFF	Red	Green	Blue	Yellow	Pink	Turqu-oise	White

LED ANIMATION	F2	1	2	3	4	5	6	7	8

DOOR CONTROL	📷	1	2	3	4
		AUTO	OPEN	CLOSED	RESTROOM

1	AUTO	A hand wave in front of the sensor opens the door.
2	OPEN	Door is maintained open.
3	CLOSED	Door is maintained closed.
4	RESTROOM	Door is maintained closed and opens once when the control input is released.

☐ Factory value

SOUND SIGNAL		no detection	detection

0
1
2
3
4
5
6
7

🔔

🔊 ● Short beep
🔊 — Long beep
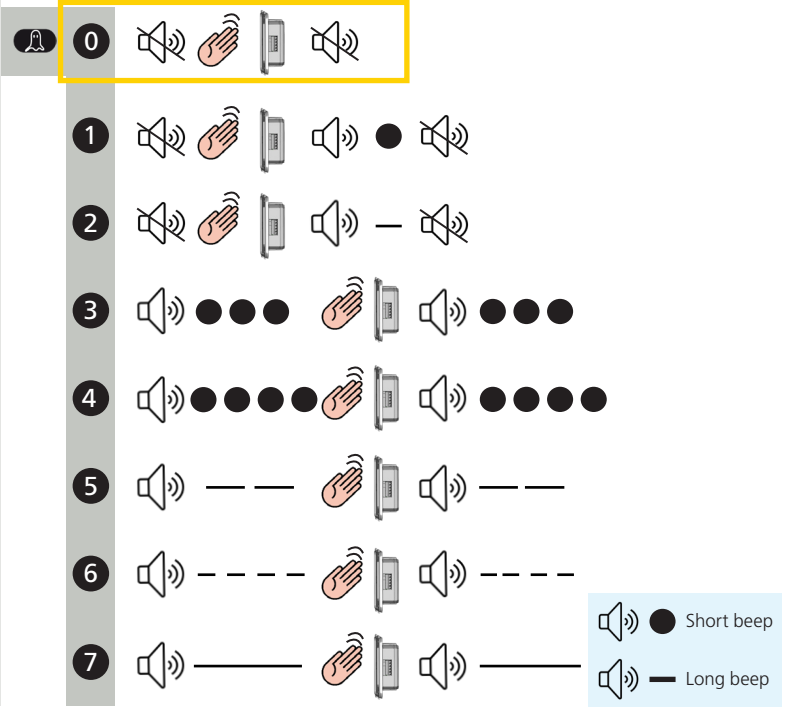
Factory value

TROUBLE SHOOTING

Door does not open even when moving the hand towards the sensor.	Bad or no power supply.	Check power supply. If LED switches on or flashes, power connection is OK.
	Detection range is too short.	Adjust the detection range.
		Remove any metal plates in front of the sensor.
	Incorrect wiring / connection.	Check wiring and relay connection.
Sensor stays in detection.	The environment influences the good functioning of the sensor.	Remove any moving object around the sensor.
	Incorrect wiring / connection.	Check wiring and relay connection.
Door remains open after detection/activation.	Wrong output mode.	Switch the output mode to PULSE.
	Incorrect wiring / connection.	Check wiring and relay connection.

TECHNICAL SPECIFICATIONS

Technology	Microwave motion sensor
Radiated frequency	24.150 GHz
Radiated power	< 20 dBm EIRP
Radiated power density	< 5mW/cm^2
Detection range (hand)	+/- 10 to 60 cm (adjustable) * if movement towards sensor at 90°
Detection mode	Motion (bidirectional)
Speed of target	Min. 5Hz or +/- 3cm/s, Max. 200Hz or +/- 1.2m/s
Supply voltage The Equipment must be powered by an approved Class II SELV limited power source. This requirement consists of the need for double insulation between primary voltages and the Equipment supply. The supply current should be limited to 1.5A.	12 - 24V AC +/- 10% 12 - 24V DC +30% / - 10%
Mains frequency	50 - 60 Hz
Power consumption	< 1.5W
Output Max. voltage Max. current	Electronic relay (galvanic isolation - polarity free) 42V AC/DC 100 mA
Output hold time	0.5s (in PULSE mode)
Temperature range	-20°C to +55°C
Degree of protection	IP65 with front face and gasket mounted on a smooth surface
Material	PMMA / PC Front face is treated with biomaster silver biocide tested to ISO 22196:2011. Please use biocides responsibly.
Dimension	80*80*21mm
Recommended wiring cable	Stranded cable up to 16 AWG - 1.5mm^2

* An adjustment of the detection field below 10 cm is possible but the detection capability of the sensor can not be guaranteed.
Technical specifications are subject to changes

CE

BEA hereby declares that the Magic Switch is in compliance with European Directives 2014/53/EU (RED) and 2011/65/EU (RoHS).
The full text of the EU declaration of conformity is available on our website.

This product should be disposed of separately from unsorted municipal waste.