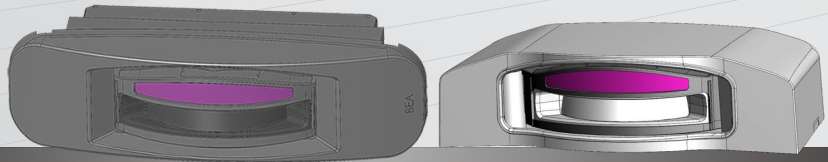
PLEASE KEEP FOR FURTHER USE - DESIGNED FOR COLOUR PRINTING

EN



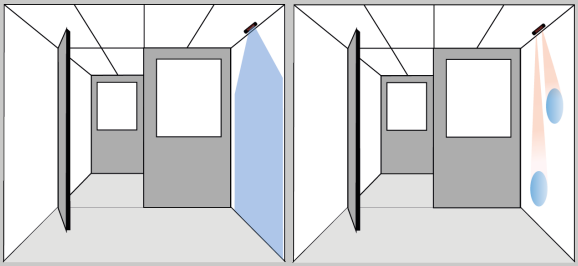
RECESSED VERSION SURFACE VERSION

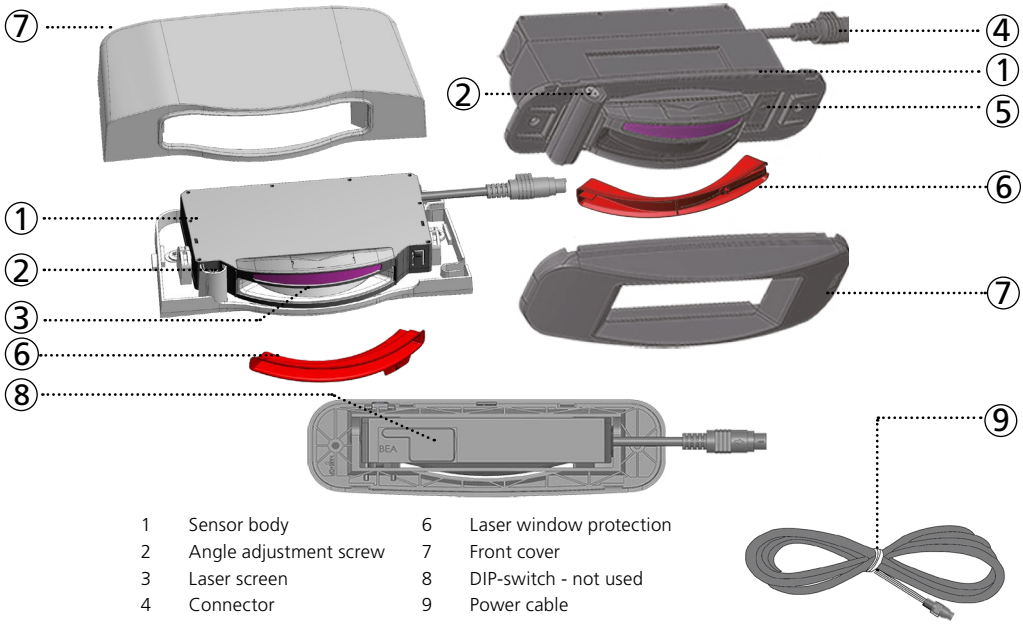
V - SWITCH

User's Guide for software version SW 0100 and higher
(refer to tracking label on product)

DESCRIPTION

V-SWITCH is a touchless solution using a virtual opening curtain or buttons at a hand or foot height. Designed as an hygienic solution, the sensor can be used to activate all types of doors.





1	Sensor body	6	Laser window protection
2	Angle adjustment screw	7	Front cover
3	Laser screen	8	DIP-switch - not used
4	Connector	9	Power cable
5	Push button		

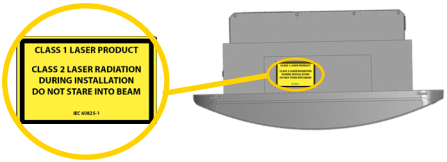
LED-SIGNALS

- Curtain or switch 1 detection
- Switch 2 detection
- Calculation in progress
- LED flashes red-green
- LED flashes
- LED flashes quickly
- LED flashes x times
- LED is off

SYMBOLS

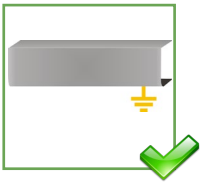
- Caution! Laser radiation
- Remote control sequence
- Factory values
- Attention
- Note

SAFETY TIPS



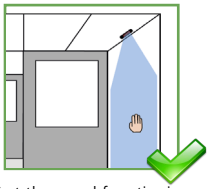
The device emits invisible (IR) and visible laser radiations. The visible laser beams can be activated during the installation process to adjust the position of the detection field.
Do not stare directly into the visible red beams.
The visible laser beams are inactive during normal functioning.

CAUTION!
Use of controls, adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.



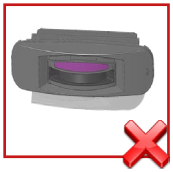
The door control unit and the door cover profile must be correctly earthed.

Only trained and qualified personnel may install and adjust the sensor.

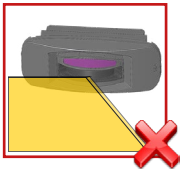


Test the good functioning of the installation before leaving the premises.

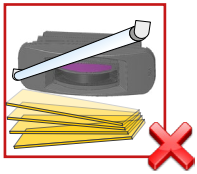
INSTALLATION AND MAINTENANCE



Avoid extreme vibrations.

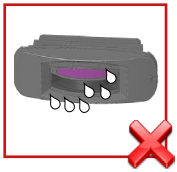


Do not cover the front screens. Remove the laser window protection before use.

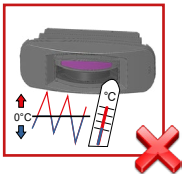


Avoid moving objects and light sources in the detection field.

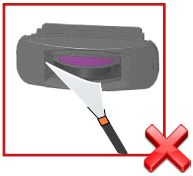
Avoid the presence of smoke and fog in the detection field.



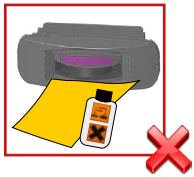
Avoid condensation.



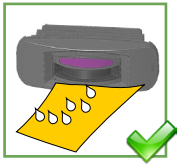
Avoid exposure to sudden and extreme temperature changes.



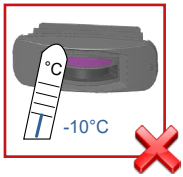
Avoid direct exposure to high pressure cleaning.



Do not use aggressive products to clean the front screen.



When needed, wipe the laser window only with a soft, clean and damp microfibre cloth



Keep the sensor permanently powered in environments where the temperature can drop below -10 ° C.

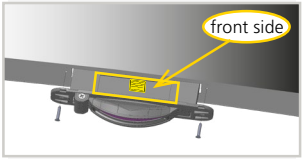
- The device cannot be used for purposes other than its intended use. All other uses cannot be guaranteed by the manufacturer of the sensor.
- The manufacturer of the sensor cannot be held responsible for incorrect installations or inappropriate adjustments of the sensor.
- The warranty is void if unauthorized repairs are made or attempted by unauthorized personnel.

1 INSTALLATION OF THE SENSOR

Install the sensor at the right position and fix it with the screws.

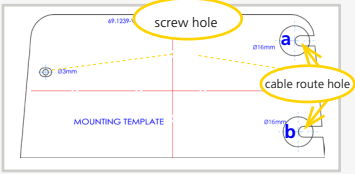
Mount the sensor securely.

RECESSED VERSION

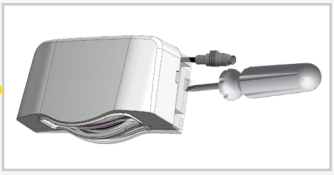


Make sure the front side of the sensor (where you will find the yellow sticker) faces towards you.

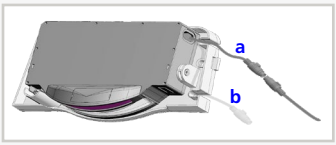
SURFACE VERSION



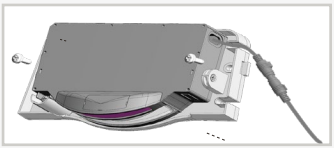
Place the template in the right position. Drill 2 screw holes and cable route hole to pass the cable.



Remove the cover with a screwdriver.

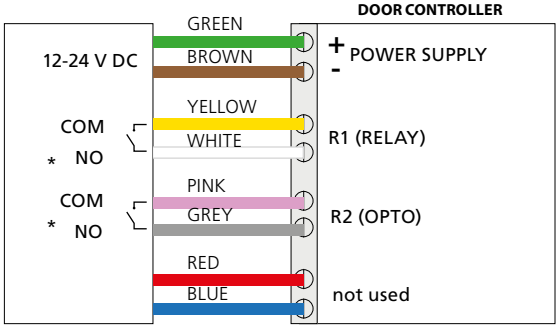


Pass the cable through the cable route hole (a or b).



Firmly screw the sensor. If you are installing the sensor on a curved surface, make sure the screws are not too tight.

2 WIRING

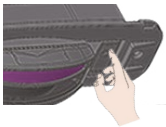


* See output configuration (page 9)

3 POWER SUPPLY

At initial power-up, the sensor is automatically launching a teach-in of a virtual opening curtain of a width of 40cm. Sensor's LED will be flashing red-green quickly (environment learning).

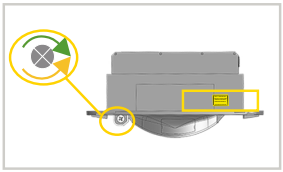
4 PUSH BUTTONS



Quickly press once < 2sec	to launch a teach-in process of virtual opening curtain (See page 5)
Quickly press twice < 2sec	to launch a teach-in process of virtual opening buttons (See page 6)
Press for 2 seconds	to activate or desactivate the visible spots

1 VISIBLE SPOTS FOR CURTAIN ADJUSTMENT

If you would like to adjust the orientation of the opening field you can press the push button for 2 seconds or via remote control + to activate the visible spots, and then adjust the tilt angle (range: 0 to +5°) with the screwdriver until the visible spots are at the desired position.



⚠ Do not stare into the visible beams !

2 TEACH-IN

The V-SWITCH can be configured to operate with either a virtual opening curtain (by default) or virtual opening buttons (see point 2b, page 6).

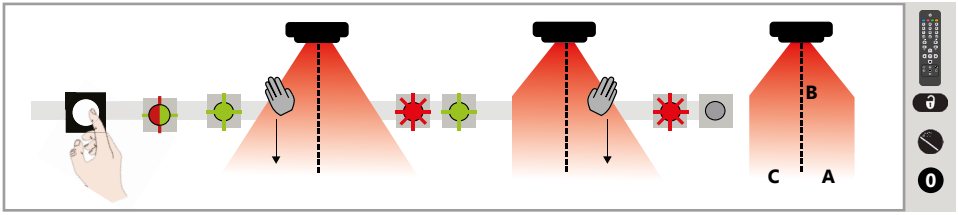
2a TEACH-IN OF VIRTUAL OPENING CURTAIN

At initial power-up, the sensor is automatically launching a teach-in of a virtual opening curtain of a width of 40cm (right width A and left width C = 20cm). Sensor's LED will be flashing red-green quickly (environment learning).

Set the virtual opening curtain either automatically or with the remote control:

Automatic teach-in

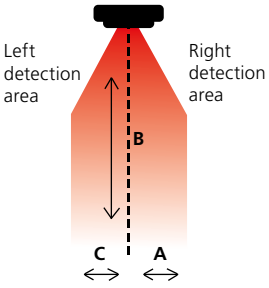
1. To launch a teach-in, press shortly (< 2 sec) the push button (or by remote control). The sensor starts flashing red-green quickly and automatically learns the installation height.
2. Wait until the sensor flashes green. Stretch out your arm in front of you and make an up and down movement to define the left/right limit of the detection field. The LED flashes red while calculating.
3. Wait until the sensor flashes green again. Stretch out your arm in front of you and make an up and down movement to define the right/left limit of the detection field. The LED flashes red while calculating.
4. Once the LED is off, the teach-in is completed.



⚠ If the LED blinks orange before the teach-in completion, adjust the tilt angle of the laser curtain and launch a new teach-in.

Manual teach-in

Use the remote control to define the right width A and left width C , then launch an environment learning (+ + 1). LED goes off after finishing the environment process. No need to define the right width A and the left width C of the field with your hand in this mode.

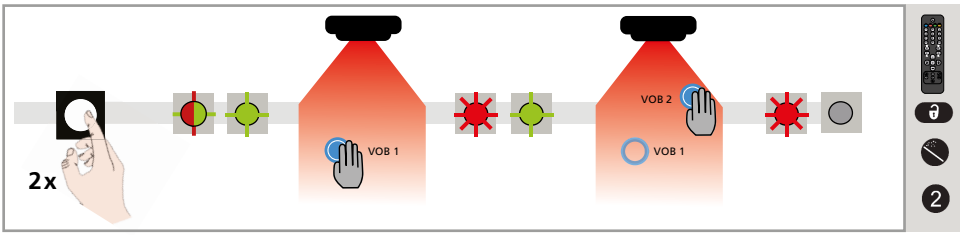


A ↔	WIDTH (right)	no field	001	- 250	cm
B ↕	HEIGHT	no field	001	- 500	cm
C ↔	WIDTH (left)	no field	001	- 250	cm

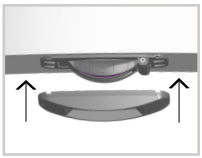
2b TEACH-IN OF VIRTUAL OPENING BUTTONS (VOB)

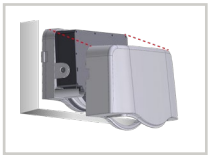
You can configure up to two virtual opening buttons. They are used as activation zones to open the door manually.

1. To launch a teach-in, press shortly twice (< 2 sec) the push button (or by remote control).
2. When the green LED flashes, hold your hand in the desired position to learn the virtual opening button. The LED flashes red to confirm the teach-in.
3. When the LED flashes green you can either learn another virtual opening button or wait 10 sec. until the end of the teach-in.

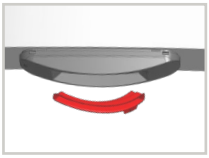


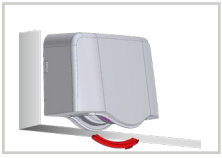
3 FRONT FACE





When all adjustements are done, clasp the front cover.

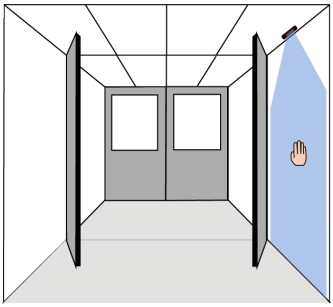


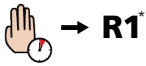


Protect the laser window in case of construction works.

1 PRESETS CURTAIN

Short push function (default setting)

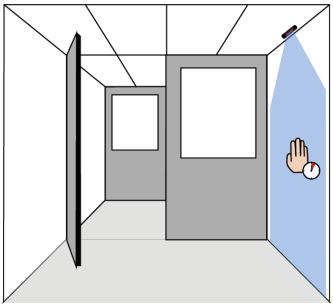


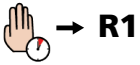


(e.g.,open both door leaves)

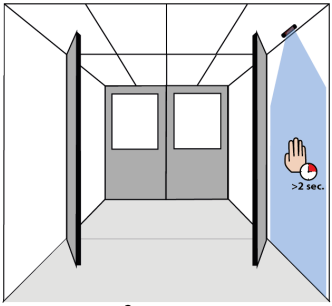
**(see Output redirection, page 9)*

Long push function





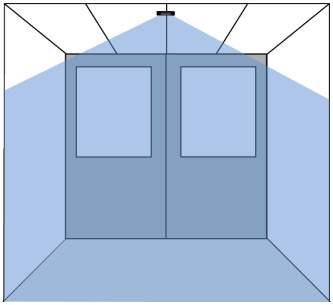
(e.g.,open one door leaf)



(e.g.,open both door leaves)

Corridor application

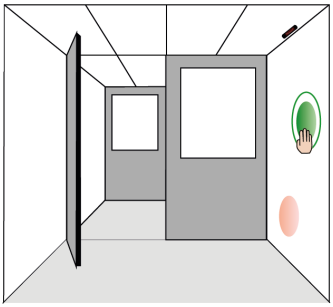
1. Mount the sensor (recessed version) in front of and in parallel to the door.
2. Define the detection field width via automatic curtain teach-in or manual teach-in. (see point 2a, page 5)



2 PRESETS VIRTUAL OPENING BUTTONS

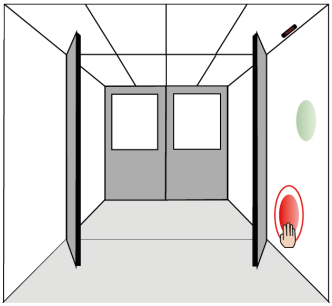
Different opening functions (default setting)

= VOB 1 = VOB 2



→ R1

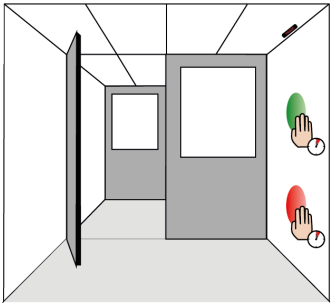
(e.g.,open one door leaf)



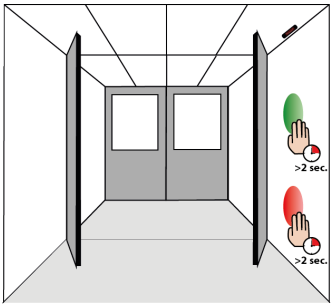
→ R2

(e.g.,open both door leaves)

Long push function

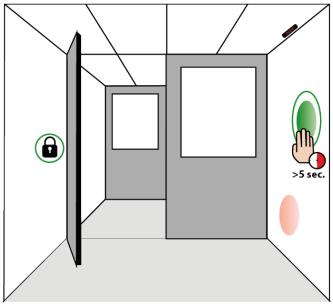


→ R1 → R1

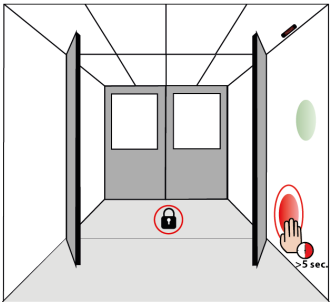


→ R2 *> 2 sec.* → R2 *> 2 sec.*

Lock open function



→ R1 → R1 *> 5 sec.*



→ R1 → R1 *> 5 sec.*

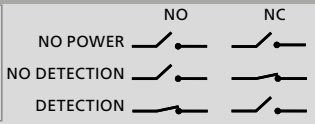
PARAMETER SETTINGS

Parameter settings can be set by remote control 

OUTPUT CONFIGURATION

NO = normally open
NC = normally closed

	1	2	3	4
R1 (RELAY)	NO	NC	NC	NO
R2 (OPTO)	NC	NO	NC	NO



OUTPUT REDIRECTION

		OFF	R1	R2	R1+R2
VOB 1 VOB 2 CURTAIN	**F1** (short push)	0	1	2	3
		0	1	2	3
		0	1	2	3
VOB 1 VOB 2 CURTAIN	**F2** (long push)	0	1	2	3

*parameter can be set separately for each VOB/curtain

Example:

Short push: activation at a detection of 0,5 seconds
Long push: activation at a detection of 2 seconds

MODE

	Pulse (0,5s)	Normal	Toggle
F1 (short push)	1	2	3
F2 (long push)	1	2	3

Pulse (0,5s): door opening cycle activated as soon as detection of >= 0,5 s in detection zone

Normal: door opening activated as long as detection in detection zone

Toggle: door opening activated and door being locked open as soon as detection in detection zone; door closing activated by a second detection in detection zone

FACTORY VALUES

HOW TO USE THE REMOTE CONTROL

After unlocking, the red LED flashes and the sensor can be adjusted with the 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.

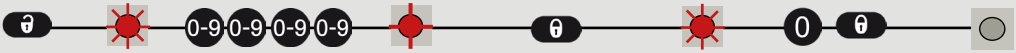
To end an adjustment session, always lock the sensor.

When there are several sensors it is recommended to use a different access code for each sensor in order to avoid changing settings on all of them at the same time.

SAVING AN ACCESS CODE

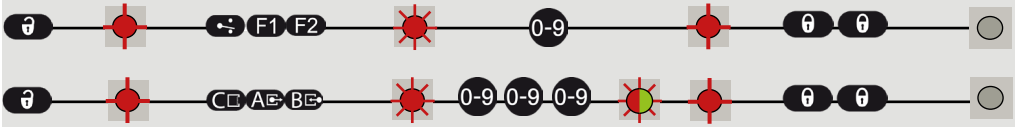
The access code is recommended for sensors installed close to each other.

DELETING AN ACCESS CODE

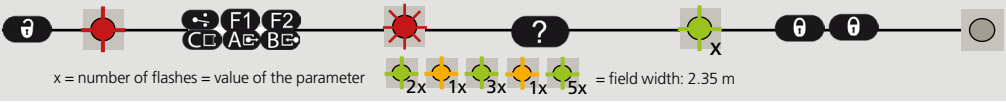


Enter the existing code.

ADJUSTING ONE OR MORE PARAMETERS

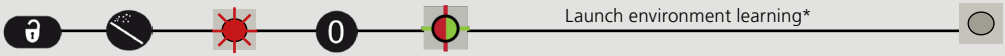


CHECKING A VALUE



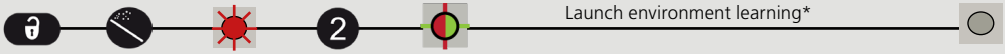
x = number of flashes = value of the parameter = field width: 2.35 m

TEACH-IN OF VIRTUAL OPENING CURTAIN



* refer to the curtain teach-in process on page 5.

TEACH-IN OF VIRTUAL OPENING BUTTONS



* refer to the VOB teach-in process on page 6.

VISIBLE SPOTS

turn on/ off the visible spots.

SERVICE MODE

disable the output and LED for during 15 minutes and can be useful during an installation, a mechanical teach-in of the door or maintenance work.

RESET TO FACTORY SETTINGS

factory reset of all values.

factory reset of all values except output configuration.

TROUBLESHOOTING

The RED or GREEN LED is ON sporadically or permanently and the opening function does not react as expected.	Bad teach-in		Launch a new teach-in.
	Unwanted detections (due to environment or external conditions)	1	Make sure the laser curtain at the correct position.
		2	Verify if the laser window is dirty and clean it carefully with a damp and clean microfibre cloth if necessary (attention: the surface of the laser window is delicate).
The sensor does not react at power-on.	Inverted power supply		Check wiring (green +, brown -).
	Faulty cable		Replace cable
	Faulty sensor		Replace sensor
The sensor does not react when powered.	The service mode is activated.		Exit the service mode.
It is not possible to adjust a setting with the remote control.	The sensor is password protected		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.
The ORANGE LED is on permanently.	The sensor encounters a memory problem.		Send the sensor back for a technical check-up.
The ORANGE LED flashes 1 x every 3 seconds.	The sensor signals an internal fault.		Cut and restore power supply. If orange LED flashes again, replace sensor.
The ORANGE LED flashes 2 x every 3 seconds.	Power supply is out of limit.	1	Check power supply (tension, capacity).
		2	Reduce the cable length or change cable.
The ORANGE LED flashes 3 x every 3 seconds.	The sensor signals an internal fault.		Cut and restore power supply. If orange LED flashes again, replace sensor.
The ORANGE LED flashes 5 x every 3 seconds.	Teach-in error	1	Check whether all teach-in requirements are fulfilled and launch a new teach-in.
		2	Adjust the tilt angle of the laser curtain and launch a new teach-in.
		3	Make sure there are no objects on the ground during teach-in and launch a new teach-in.

TECHNICAL SPECIFICATIONS

Technology	LASER scanner, time-of-flight measurement
Detection mode	Presence
Installation height	Max: 5m Min: 2m
Opening angle	90°
Angular resolution	0.23° (400 spots within 90°)
Optical characteristics IEC/EN 60825-1	Wavelength 905 nm; output power < 0.1 mW ; CLASS 1 Wavelength 635 nm; output power < 1 mW ; CLASS 2 - visible spot
Supply voltage*	12-24V DC ± 15%
Power consumption	≤ 2.2 W
Response time	Max. 90 ms
Output*	1 optocoupler (galvanic isolation - polarity free) Max. switching voltage: 30V AC/ 42V DC Max. switching current: 100 mA 1 Relay (free of potential change-over contact) Max. contact voltage: 30V AC / 42V DC Max. contact current: 1.0A (resistive) Max. switching power: 30W
LED-signals	1 bi-coloured LED: detection/output status
Dimensions	
Recessed version	178 mm (L) x 85 mm (H) x 53 mm (D)
Surface version	168 mm (L) x 93 mm (H) x 42.5 mm (D)
Material - Colour	PC/ABS - Black / Aluminum
Tilt angles	0° to +5°
Protection degree	IP54 (IEC/EN 60529)
Temperature range	-30°C to +60°C if powered
Humidity	0-95 % non-condensing
Vibrations	< 2 G

* External electrical sources must be within specified voltages, max 15W and ensure double insulation from primary voltages.

Specifications are subject to change without prior notice. All values are measured in specific conditions.

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BEA hereby declares that this product is in conformity with European directives: 2011/65/EU (RoHS) and 2014/30/EU (EMC).
The complete declaration of conformity is available on our website.

This product should be disposed of separately from unsorted municipal waste