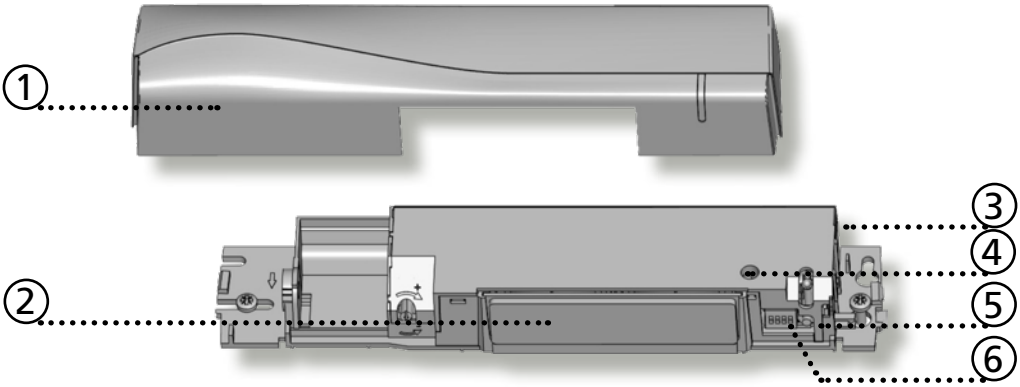
VIO-ST

SAFETY SENSOR FOR AUTOMATIC SLIDING DOORS

User's Guide for software version 0200 and higher
(refer to tracking label on product)

DESCRIPTION

The VIO-ST is a safety sensor for automatic sliding doors. It provides a double failsafe active infrared curtain for the protection of users.



1. cover
2. IR-prism (2 m)
3. main connector
4. IR-angle adjustment
5. push button for setup or DIP-setting confirmation
6. DIP-switch

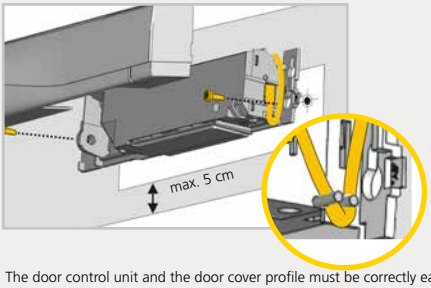
TECHNICAL SPECIFICATIONS

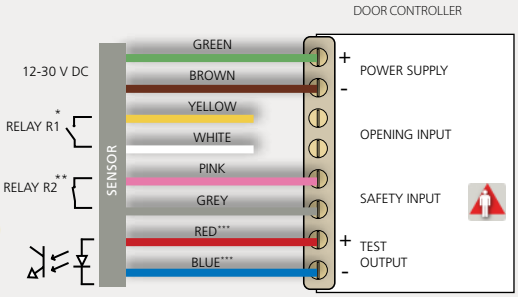
Supply voltage*:	12 V - 30 V DC -5%/+10%
Power consumption:	< 1.6 W
Mounting height:	1.8 m to 3 m
Sensitivity of the test input*:	< 1 V : Log. L; > 10 V: Log. H (max. 30 V)
Temperature range:	-25 °C to +55 °C
Degree of protection:	IP54 (IEC/EN 60529)
Noise:	< 70 dB
Detection mode:	Presence Typical response time: <256 ms Max. presence time: 30 sec
Technology:	Active infrared with background analysis Spot diameter: 0.1 m (typ) Number of spots: 24 Number of curtains: 2
Angle:	From -4 ° to +4 ° (adjustable)
Output*:	Solid-state-relay (free of potential, free of polarity) Max. contact current: 100 mA Max. contact voltage: 42 V DC/AC peak
Hold time output signal:	0.3 s to 1 s (not adjustable)
Response time on test request:	Typical: < 5 ms
Safety Standards:	EN ISO 13849-1 Performance level «c» CAT2 (under the condition that the door control system monitors the sensor at least once per door cycle); EN 61508 (SIL2); EN 12978; EN 16005

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

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

1 MOUNTING & WIRING





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

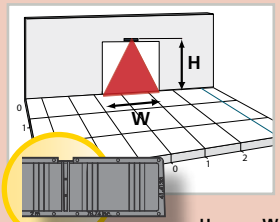
* Normally open
** Depending on OUTPUT CONFIGURATION settings
*** For compliance with EN 16005, connection to door controller test output is required.

Mount the sensor securely.

2 INFRARED FIELD - SAFETY

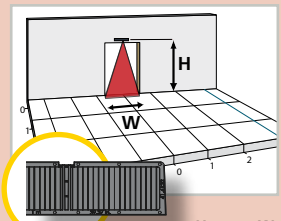
RED LED

WIDTH



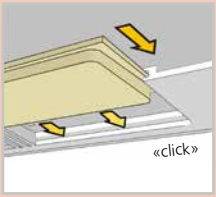
2 m

H	W
2.20 m	2.30 m
2.50 m	2.55 m
3.00 m	2.80 m



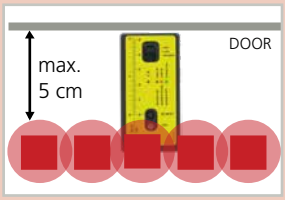
1 m

H	W
2.20 m	1.20 m
2.50 m	1.40 m
3.00 m	1.60 m



Detection field width indicated according to conditions defined in EN 16005 and including dimension of test body CA.

ANGLE

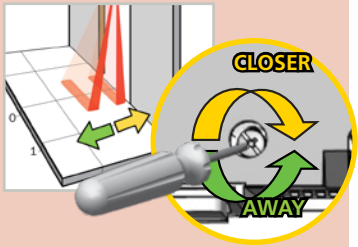


Check position of IR-curtains with Spotfinder and adjust if necessary.

ORANGE

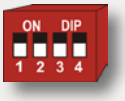
@ 2.2 m:
Depth of curtain : 8-10 cm
Depth of safety field: 25 cm*

* in standard presetting



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

3 SETTINGS (by DIP-switch)



	PRESETTINGS	FREQUENCY	ENVIRONMENT	R2 CONFIGURATION
1	critical environment	2: B	3: extreme [1]	4: NO
1	standard	2: A	3: standard	4: NC

[1] Enhanced IR-immunity which excludes EN 16005-conformity of the door system.

standard: standard environments (factory setting)

critical environment: enhanced immunity for critical environments (rain, snow, lamps...). Only 1 IR-curtain activated.

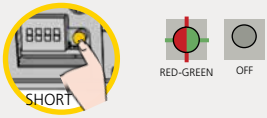
After changing a DIP-switch, the orange LED flashes.
A LONG push on the push button confirms the setting.

Always launch a setup after changes of the DIP-settings.

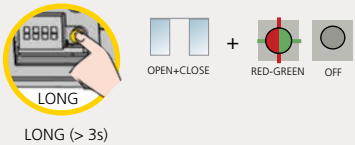
4 SETUP

Step outside of the detection field before launching a setup.

QUICK SETUP



ASSISTED SETUP



LONG (> 3s)

The yellow and white wires have to be connected to launch an assisted setup.

Launch an **ASSISTED SETUP** to verify wiring, position of the curtains and correct functioning of the sensor.

SAFETY INSTRUCTIONS

- Test the good functioning of the installation before leaving the premises.
- The sensor cannot be used for purposes other than its intended use.
- The manufacturer of the door system incorporating the sensor is responsible for compliance of the system to applicable national and international regulations and safety standards.
- The manufacturer of the sensor cannot be held responsible for injury or damage resulting from incorrect use, installation or inappropriate adjustment of the sensor.
- The installer must read, understand and follow the instructions given in this manual. Improper installation can result in improper sensor operation.
- Only trained and qualified personnel may install and setup the sensor.
- The warranty is void if unauthorized repairs are made or attempted by unauthorized personnel.
- Avoid touching any electronic and optical components, avoid vibrations, do not cover the sensor and avoid proximity to neon lamps or moving objects.
- It is recommended to clean the optical parts at least once a year or more often if required due to environmental conditions.

LED-SIGNALS

The ORANGE LED flashes quickly.	A DIP-switch was changed without confirmation.	1 Confirm the DIP-settings by a long push on the push button.
The ORANGE LED flashes 1 x.	The sensor signals an internal fault.	1 Cut and restore power supply. 2 If orange LED flashes again, replace sensor.
The ORANGE LED flashes 2 x.	Irregularities in the power supply	1 Check power supply. 2 Check wiring.
The ORANGE LED flashes 4 x.	The sensor receives not enough IR-energy.	1 Use the 1 m prism if possible (accessory). 2 Check the angle of the IR-curtains.
The ORANGE LED flashes 5 x.	The sensor receives too much IR-energy.	1 Use a low energy prism if possible (accessory). 2 Check the angle of the IR-curtains.
The 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.
The RED LED flashes quickly after an assisted setup.	The sensor sees the door during the assisted setup.	1 Check the angle of the IR-curtains. 2 Launch a new assisted setup. ***Attention: Do not stand in the detection field!***
The RED LED lights up sporadically.	The sensor vibrates.	1 Check if the sensor is fastened firmly. 2 Check position of prism and cover.
	The sensor sees the door.	1 Launch an assisted setup and adjust the IR angle.
	The sensor is disturbed by lamps or another sensor.	1 Choose a different frequency (DIP 2).
	The sensor is disturbed by the rain.	1 Choose the critical environment presetting (DIP 1).
The LED is off.		1 Check connections to test output. 2 If your door controller is not able to test the sensor, connect the red and blue cable to the power supply.*
The reaction of the door does not correspond to the LED-signal.		1 Change the output configuration (DIP 4).

*excludes EN 16005-conformity of the door system

Hereby, BEA declares that the VIO-ST is in conformity with European directives 2014/30/EU (EMC), 2006/42/EC (Machinery) and 2011/65/EU (RoHS).
EC-type examination certificate from TÜV NORD CERT: 44 205 13089601.
The complete declaration of conformity is available on our website.

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

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