VIO-ST

Safety sensor
for automatic sliding doors

DESCRIPTION

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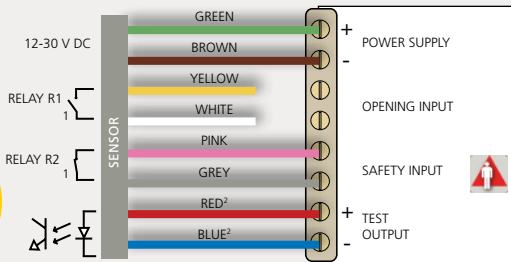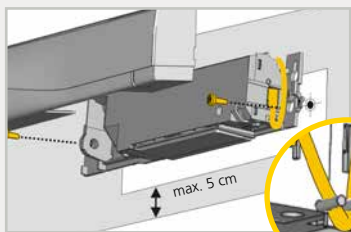4. IR-angle adjustment
5. push button for setup or DIP-setting confirmation
6. DIP-switch
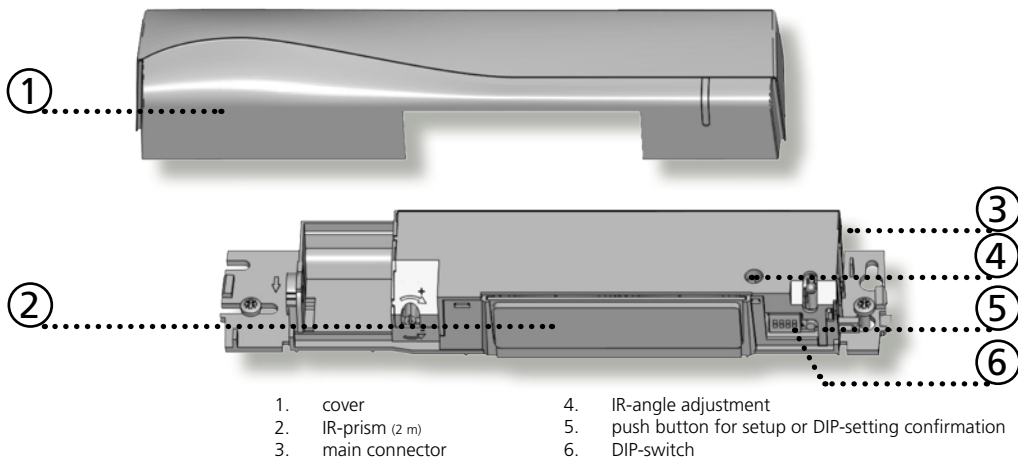
TECHNICAL SPECIFICATIONS

Supply voltage:	12 V - 30 V DC -5%/+10% (to be operated from SELV compatible power supplies only)
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
Noise:	< 70 dB
Expected lifetime:	20 years
Norm conformity:	EN 62061 SIL2; EN 61496-1 ESPE Type 2; EN 61000-6-2; EN 61000-6-3; EN 12978; EN 50581; EN 16005; 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)
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 AC/DC
Hold time output signal:	0.3 s to 1 s (not adjustable)
Response time on test request:	Typical: < 5 ms

1 MOUNTING & WIRING

|	
12-30 V DC	GREEN — + POWER SUPPLY
	BROWN — -
RELAY R1	YELLOW — OPENING INPUT
	WHITE —
RELAY R2	PINK — SAFETY INPUT
	GREY —
	RED² — + TEST OUTPUT
	BLUE² — -

SENSOR

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

max. 5 cm

[1] Output status when sensor is operational
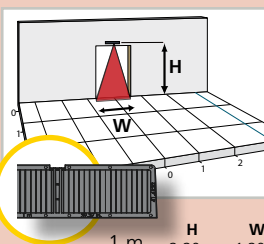[2] For compliance with EN 16005, connection to door controller test output is required.
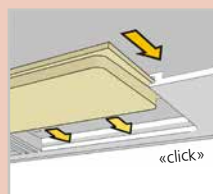
2 INFRARED FIELD - SAFETY

RED LED

WIDTH

H

W
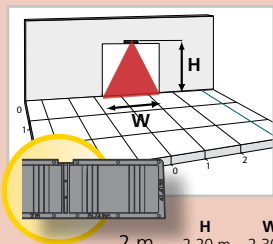
2 m

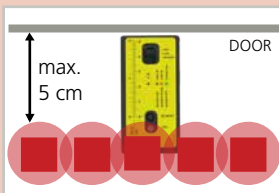| H	W
2.20 m	2.30 m
2.50 m	2.55 m
3.00 m	2.80 m

H

W

1 m

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

«click»

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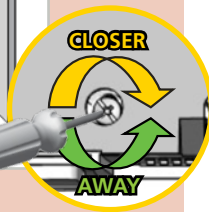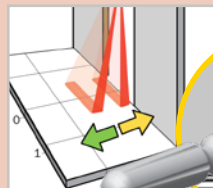
ANGLE

max. 5 cm

DOOR

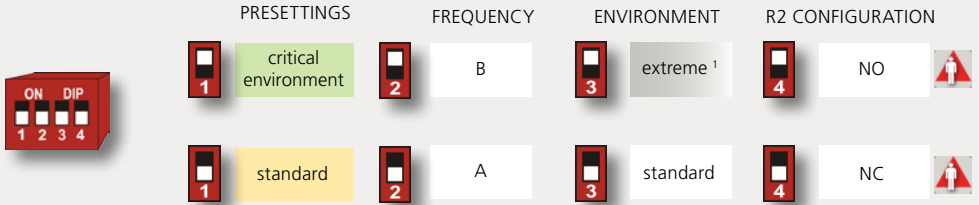Check position of IR-curtains with Spotfinder and adjust if necessary.

ORANGE

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

* in standard presetting

CLOSER

AWAY

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.

+   ORANGE   LONG (> 3s)   OFF

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

SHORT   RED-GREEN   OFF

ASSISTED SETUP

LONG
LONG (> 3s)   OPEN+CLOSE   **+**   RED-GREEN   OFF

⚠ 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 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 and if applicable, the machinery directive 2006/42/EC.
- 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.
- 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

LED	Meaning	Cause	Action
	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.
1	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.
2	The ORANGE LED flashes 2 x.	Irregularities in the power supply	**1** Check power supply. **2** Check wiring.
4	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.
5	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