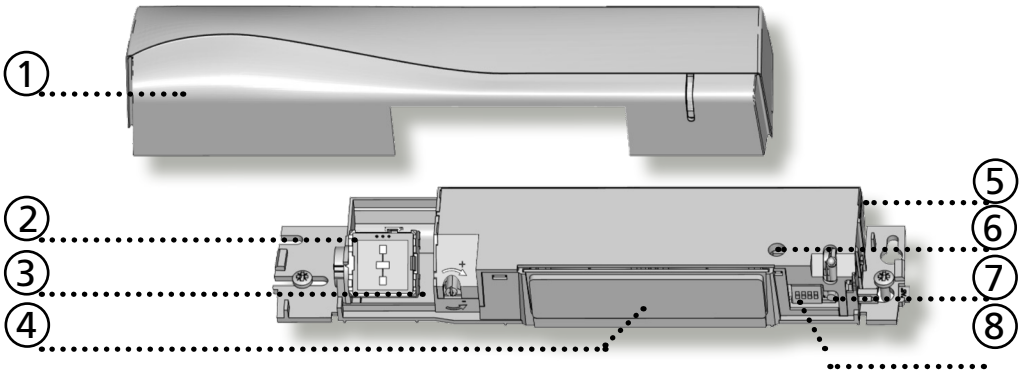
VIO-DT 1&2

OPENING & SAFETY SENSOR FOR AUTOMATIC SLIDING DOORS

VIO-DT1: energy-saving unidirectional sensor
VIO-DT2: bidirectional sensor

DESCRIPTION

The VIO-DT 1&2 are opening and safety sensors for automatic sliding doors. They combine a motion radar sensor for opening the door with a double failsafe active infrared curtain for the protection of users.



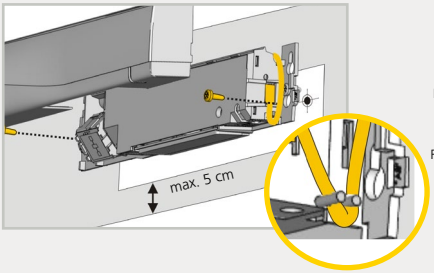
1. cover
2. radar antenna (wide field)
3. radar field size adjustment
4. IR-prism (2 m)
5. main connector
6. IR-angle adjustment
7. push button for setup or DIP-setting confirmation
8. DIP-switch

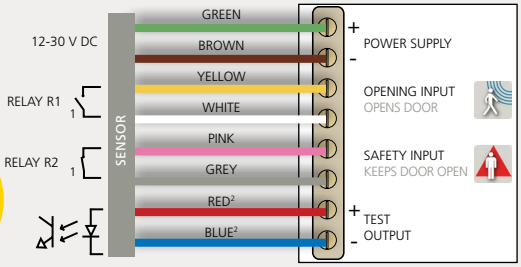
TECHNICAL SPECIFICATIONS

Supply voltage:	12 V - 30 V DC -5%/+10% (to be operated from SELV compatible power supplies only)
Power consumption:	< 2.2 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
Conformity:	EN 300 440; EN 301 489-1; EN 301 489-3; EN 62311; 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 61496-1 (ESPE Type 2) ; EN 12978; EN 16005

	GREEN LED	RED LED
Detection mode:	Motion Min. detection speed: 5 cm/s	Presence Typical response time: <256 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 diameter: 0.1 m (typ) Number of spots: 24 Number of curtains: 2
Angle:	From 15 ° to 50 ° vertical (adjustable)	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	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:	0.5 s	0.3 s to 1 s (not adjustable)
Response time on test request:		Typical: < 5 ms

1 MOUNTING & WIRING



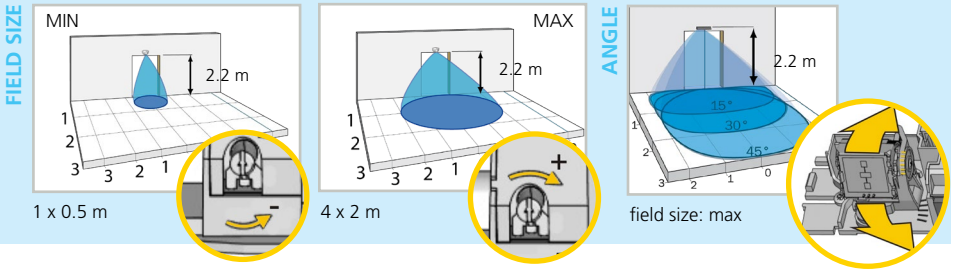


The door control unit and the door cover profile must be correctly earthed.

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

2 RADAR FIELD - OPENING IMPULSE

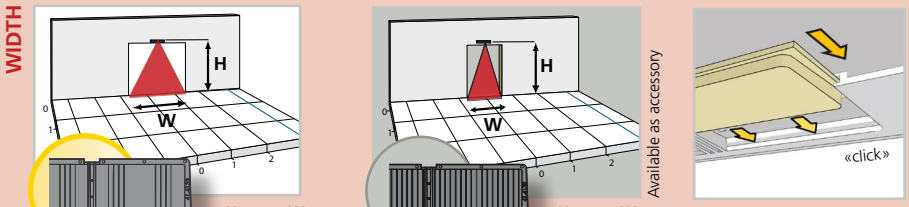
GREEN LED



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

3 INFRARED FIELD - SAFETY

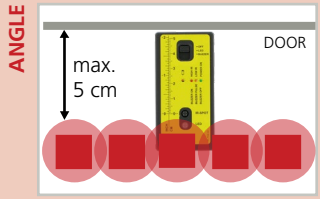
RED LED



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.

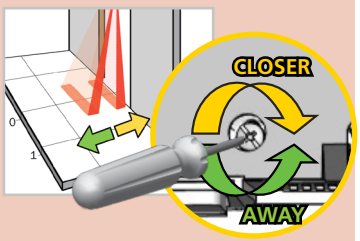


Check position of IR-curtains with Spotfinder and adjust if necessary.

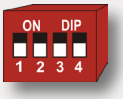
ORANGE

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

* in standard presetting



4 SETTINGS (by DIP-switch)



PRESETTINGS		ENVIRONMENT	RELAY R1 ACTIVATION
1 2 critical environment	1 2 hospital[2]	3 extreme[3]	4 motion or presence[4]
1 2 standard	1 2 shopping street[1]	3 standard	4 motion

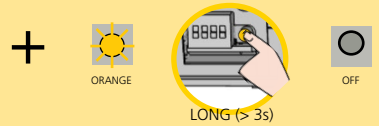
[1] Can only be used if DIP 4 is OFF.
[2] Not available on VIO-DT2. If selected, the presetting «standard» is applicable.
[3] Enhanced IR-immunity which excludes EN 16005-conformity of the door system.
[4] The opening relay (R1) is activated in case of detection in the radar **or** infrared field.

standard: standard environments (factory setting)

critical environment: enhanced immunity (rain, snow, lamps...) and only 1 IR-curtain activated.

shopping street: optimized for narrow sidewalks > the opening relay (R1) is activated in case of detection in radar + IR-field.

hospital: optimized for persons with reduced mobility (PRM)



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

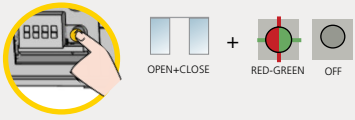
Always launch a setup after changes of the DIP-settings.

5 SETUP

⚠ Step outside of the infrared field before launching a setup.

QUICK SETUP

ASSISTED SETUP



TIP: 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 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.
- 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 the critical environment presetting (DIP 1+2).
	The sensor is disturbed by the rain.	1 Choose the critical environment presetting (DIP 1+2).
The GREEN LED lights up sporadically.	The sensor is disturbed by rain and/or leaves.	1 Choose the critical environment presetting (DIP 1+2).
	Ghosting	1 Change radar antenna angle.
	The sensor vibrates.	1 Check if the sensor 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.
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 activation mode of relay R1 (DIP 4).

*excludes EN 16005-conformity of the door system

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