

SL5 SERIES INSTRUCTION MANUAL



CONTROLS

OUTPUT LED

The yellow LED indicates the output status.

STABILITY LED

The green LED ON indicates that the received signal has a reserve greater than 30% compared to the output switching value.

TRIMMER

The trimmer can be used to adjust sensitivity; the operating distance increases turning the trimmer clockwise.

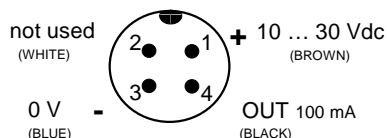
WARNING: The trimmer rotation is limited to 270° by a mechanical stop. Do not apply excessive torque when adjusting (max 40 Nmm).

POWER ON LED

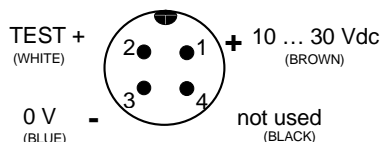
The green LED indicates that the sensor is operating.

CONNECTIONS

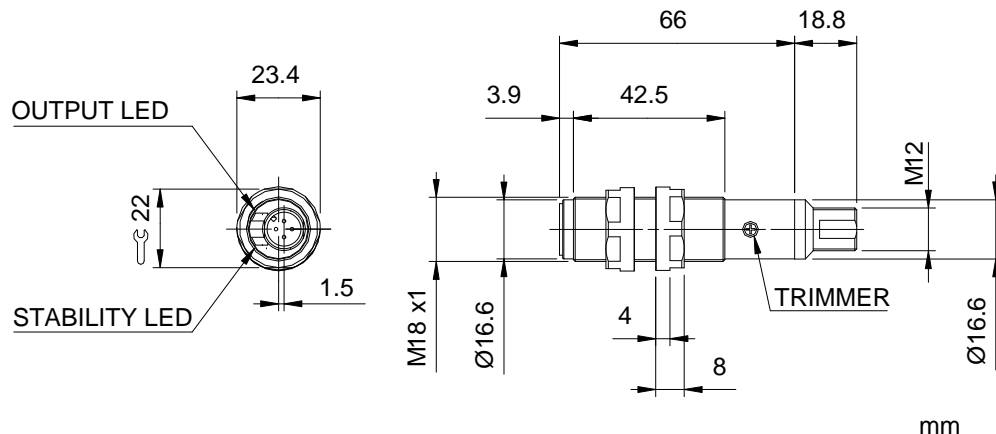
SL5-5-B/C/F



SL5-5-G



DIMENSIONS



TECHNICAL DATA

| | |
|--|---|
| Power supply: | 10 ... 30 Vdc |
| Ripple: | 2 Vpp max. |
| Current consumption (output current excluded): | 35 mA max. |
| Output: | PNP or NPN - short-circuit protection at 100 mA |
| Output current: | 100 mA max. |
| Output saturation voltage: | 2 V max. |
| Output leakage: | 50 µA a 30 Vdc |
| Response time: | 330 µs max. |
| Switching frequency: | 1.5 kHz max. |
| Indicators: | OUTPUT LED (YELLOW) / STABILITY LED (GREEN) / POWER ON LED (GREEN) mod. G |
| Setting: | sensitivity trimmer mod. B/C/F |
| Operating temperature: | -10 ... 50 °C |
| Storage temperature: | -25 ... 70 °C |
| Electric shock protection: | Class 2 |
| Operating distance (minimum): | B: see TAB.1 C: 0 ... 35 cm F/G: 0 ... 60 m |
| Resolution: | 0.2 mm at 50 mm mod.C |
| Emission type: | red laser (650 nm) Class 1 EN 60825-1 (2014) |
| Ambient light rejection: | according to EN 60947-5-2 |
| Vibration: | 0.5 mm amplitude, 10 ... 55 Hz frequency, for every axis (EN60068-2-6) |
| Shock resistance: | 11 ms (30 G) 6 shock for every axis (EN60068-2-27) |
| LIGHT/DARK selection: | LIGHT mode mod. C and DARK mode mod. B/F |
| Housing: | ABS UL 94V-O / Polycarbonate |
| Lenses: | PMMA plastic |
| Protection class: | IP67 |
| Connections: | M12 4-pole connector |
| Weight: | 30 g. max. |

SETTING

Alignment SL5-5-B

Position the sensor and reflector on opposite sides. Turn the sensitivity trimmer to maximum. Find the points where the yellow LED (OUT) is switched ON and OFF in both vertical and horizontal positions, and fix the sensor in the centre between these points. Optimum operation is obtained when both LEDs switch ON. If necessary, reduce sensitivity in order to detect very small targets. In order to improve alignment, repeat the procedure detailed above whilst progressively reducing the sensitivity.

Alignment SL5-5-F/G

Position the sensors on opposite sides. Turn the sensitivity trimmer to maximum. Find the points where the yellow LED (OUT) is switched ON and OFF in both vertical and horizontal positions, and fix the sensor in the centre between these points. Optimum operation is obtained when both LEDs switch ON. If necessary, reduce sensitivity using the trimmer, in order to detect very small targets. In order to improve alignment, repeat the procedure detailed above whilst progressively reducing the sensitivity.

Alignment SL5-5-C

Position the sensor and turn the sensitivity trimmer at minimum: the green LED is ON and the yellow LED is OFF. Place the target opposite the sensor. Turn the sensitivity trimmer clockwise until the yellow LED turns ON (Target detected state, pos.A). Remove the target, the yellow LED turns OFF. Turn the trimmer clockwise until the yellow LED turns ON (Background detected state, pos.B). The trimmer reaches maximum if the background is not detected. Turn the trimmer to the intermediate position C, between the two positions A and B. The green LED must be ON.



TEST FUNCTION (SL5-5-G)

The TEST+ input can be used to inhibit the emitter and verify that the system is correctly operating. The receiver output should switch when the test is activated while the beam is uninterrupted. The inputs activating voltage range is 10 ... 30 Vdc.

TAB.1: SL5-5-B max. operating distance table (meters)

| REFLECTOR | | | | | | |
|-----------|----|----|----|----|----|----|
| R1 | R2 | R3 | R4 | R6 | R7 | R8 |
| 5 | 12 | 8 | 12 | 14 | 7 | 3 |

The sensors are NOT safety devices, and so MUST NOT be used in the safety control of the machines where installed.

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