



**S62-PL...M Laser**  
Background suppression

**INSTRUCTION MANUAL**



**CONTROLS**

**OUTPUT LED (yellow)**

The yellow LED ON indicates the output status: N.O. closed and N.C. open.

**POWER ON LED (green)**

The green LED ON indicates the sensor powering status and laser emission presence.

**DISTANCE ADJUSTMENT TRIMMER (ADJ.)**

The multiturn trimmer with clutch (6 turn) adjusts the suppression distance through the mechanical variation of the optic triangulation angle. The operating distance increases rotation the trimmer shaft in a clockwise direction. Please refer to "SETTING" paragraph for the correct use procedure.

**POSITION INDICATOR**

This indicator has a scale numbered from 1 to 6 that allows the precise adjustment of the suppression distance on the entire operating range. Please refer to "SETTING" paragraph for the correct use procedure.

**INSTALLATION**

The sensor can be positioned by means of the three housing's holes using two screws (M4x25 or longer, 1.5 Nm maximum tightening torque) with washers.



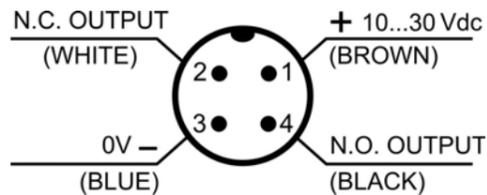
Various orientable fixing brackets to ease the sensor positioning are available (please refer to the accessories listed in the general catalogue).

The operating distance is measured from the front surface of the sensor optics.

The M12 connector can be oriented at two different positions using the specific fastening spring and rotating the block to 180°.

**CONNECTIONS**

**M12 connector**



**TECHNICAL DATA**

	S62-PL-M01...	S62-PL-M11...
Power supply:	10 ... 30 VDC	
Ripple:	2 Vpp max.	
Consumption (output current excluded):	30 mA max	
Outputs:	PNP or NPN N.O. / N.C.; 30 VDC max. (short-circuit protection)	
Output current:	100 mA (overload and overvoltage protection)	
Output saturation voltage:	≤ 2 V	
Response time:	140 μs	200 μs
Switching frequency:	3.5 kHz	2.5 kHz
Emission type:	RED LASER (λ = 645...665nm): Class 1 EN 60825-1 (2014), Class II CDRH 21 CFR PART 1040.10 Pulsed emission: pot. max ≤ 5mW; pulse duration = 5μs; frequency = 14KHz (mod. M01) / 10KHz (mod. M11)	
Focalisation point :	60 mm	150 mm
Spot dimension:	< 0.2 mm (at 60 mm)	< 0.4 mm (at 150 mm)
Operating distance (typical values):	30...150 mm	50...350 mm
Adjustment:	4-turn distance adjustment trimmer	6-turn distance adjustment trimmer
Difference (90% white/ 4% black):	< 4 % (see DETECTION DIAGRAM)	
Hysteresis (90% white):	< 1 %	
Indicators:	OUTPUT LED (YELLOW) / POWER ON LED (GREEN)	
Functioning temperature:	-10 ... 55 °C	
Storage temperature:	-20 ... 70 °C	
Dielectric strength:	500 Vac 1 min., between electronics and housing	
Insulating resistance:	>20 MΩ 500 Vdc, between electronics and housing	
Ambient light rejection:	According to EN 60947-5-2	
Vibrations:	0.5 mm amplitude, 10 ... 55 Hz frequency, for each axis (EN60068-2-6)	
Shock resistance:	11 ms (30 G) 6 shock for each axis (EN60068-2-27)	
Housing material:	ABS	
Lens material:	PMMA window; PC lens	
Mechanical protection:	IP67	
Connections:	M12 4-pole connector	
Weight:	40 g. max.	

**SETTING**

**Suppression distance setting**

**1. Object detection**

Position object to detect in front of the sensor at the distance required. Turn distance adjustment trimmer (ADJ) to minimum: yellow LED OFF and green LED ON.



Rotate trimmer in a clockwise direction until the yellow LED and green LED turn ON. *Object detection condition* (A status of position indicator).



A

**2. Background suppression**

Remove object and ensure that the background is in front of the sensor: yellow LED OFF and green LED ON.



Rotate trimmer in a clockwise direction until the yellow LED and green LED turn ON: *background detection condition* (B status of position indicator).



B

The trimmer reaches maximum level with yellow LED OFF if the background is outside the operating range.

Rotate trimmer in an anticlockwise direction until yellow LED turns OFF and green LED ON: *condition where background is outside operating range* (C status of position indicator).



C

**3. Setting and control**

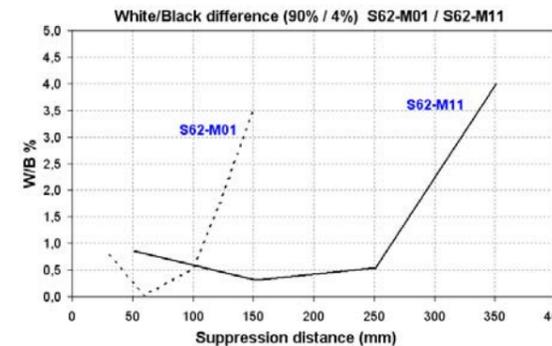
Rotate trimmer in an anticlockwise direction until the indicator reaches an intermediate point between position A and C.



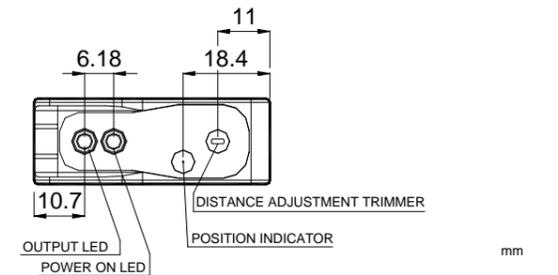
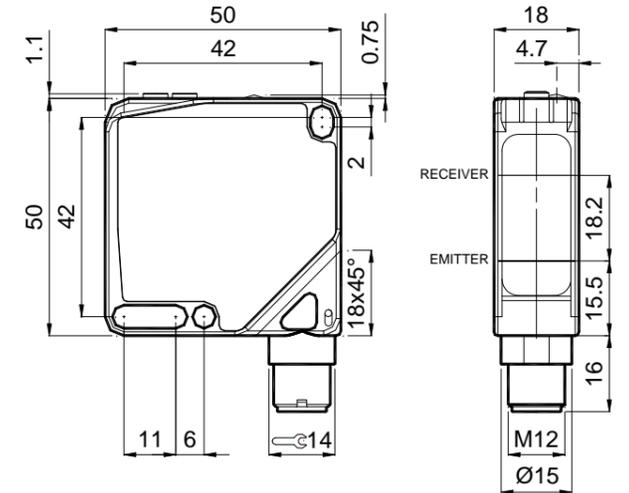
If position A and C are close to each other, leave trimmer on position C. The sensor is now ready to function correctly and in stable conditions.



**DETECTION DIAGRAM**



**DIMENSIONS**



**SAFETY PRECAUTIONS**

All the electric and mechanical safety regulations have to be respected during sensor functioning. The sensor has to be protected against mechanical damage. Apply the labels supplied in a visible position near the laser emission beam.

*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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