



## LC-120-PL...

Polarized retroreflex

### INSTRUCTION MANUAL



CLASS 2 EN 60825-1 (1994)  
LASER PRODUCT

This product is not a safety sensor. It is not intended to be used to protect life or prevent bodily injury or damage from dangerous machine parts. It is a normal object detection sensor.

### CONTROLS

#### OUTPUT LED (yellow)

The yellow LED ON indicates the following 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.

#### SENSITIVITY TRIMMER (ADJ.)

Monoturn trimmer that adjusts the sensitivity and thus the sensor operating distance. Please refer to "SETTING" to learn how to use correctly.

**WARNING:** the maximum mechanical trimmer rotation is equal to 240°. Do not apply excessive torque over the maximum and minimum positions.

### INSTALLATION

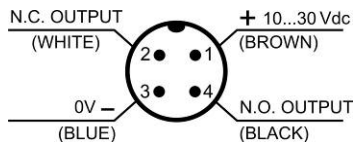
The sensor can be positioned by means of the three holes in the housing using two screws (M4x25 or longer, 1.5 N•m maximum tightening torque) with washers.

Various orientable fixing brackets are available to ease the sensor positioning. 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



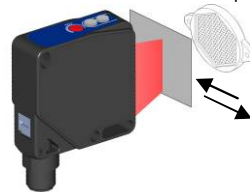
### TECHNICAL DATA

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 max (overload and overvoltage protection)
Output saturation voltage:	≤ 2 V
Response time:	200 μs
Switching frequency:	2.5 kHz
Emission type:	RED LASER (λ = 645...665 nm): Class 2 EN 60825-1 (1994), Class II CDRH 21 CFR PART 1040.10 Pulsed emission: pot. max ≤ 5 mW; pulse duration = 5 μs; Frequency max = 32 KHz
Operating distance (typical values):	0.3 to 20 m
Min. detectable object dimension:	0.5 mm at 0.5 m (minimum spot)
Indicators:	OUTPUT LED (YELLOW) / POWER ON LED (GREEN)
Setting:	Monoturn sensitivity adjustment trimmer
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 every axis (EN60068-2-6)
Shock resistance:	11 ms (30 G) 6 shock for every axis (EN60068-2-27)
Housing material:	ABS
Lens material:	PMMA window, polycarbonate lenses
Mechanical protection:	IP67
Connections:	M12 4-pole connector
Weight:	40 g. max.

### SETTING

#### Alignment:

- Position the sensor and reflector aligned on opposite sides at the desired distance.
- Turn the sensitivity adjustment trimmer (ADJ.) to maximum (clockwise).
- Determine the powering on and powering off points of the yellow LED (OUT) by moving the sensor vertically and horizontally and mount the sensor in the middle of the points found.

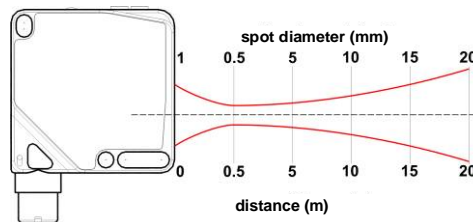


#### Control:

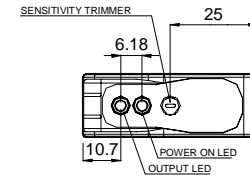
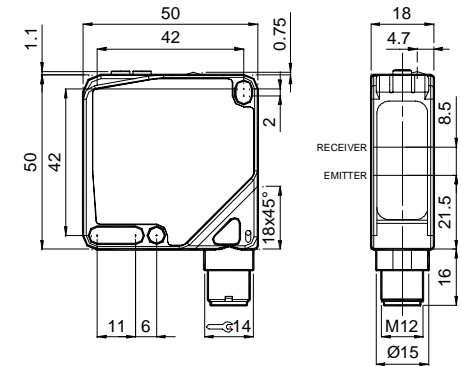
- Enter laterally the object inside the operating field and control that the yellow LED turns on.
- Remove the object and check that the yellow LED turns off immediately.



### PERFORMANCE



### DIMENSIONS



### SAFETY PRECAUTIONS

All the electric and mechanical safety regulations must be respected while the sensor is functioning.

The sensor has to be protected against mechanical damage. Apply the labels supplied in a visible position near the laser emission beam.

Do not stare directly into the laser beam!

Do not point the laser beam towards people!

Exposing your eye to laser radiation for more than 0.25 seconds is dangerous!

Please refer to the Class 2 Standard (EN60825-1).

These sensors cannot be used for safety applications!



### CONFORMITY



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