

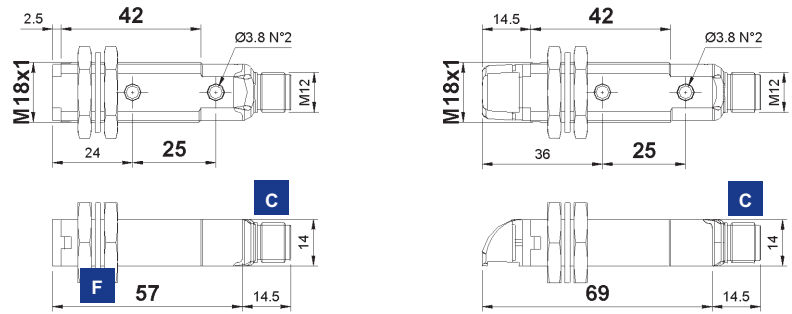
L-G/F LASER THROUGH BEAM WITH RED EMISSION

The high operating distance typical of emitter and receiver pairs is notably increased thanks to the use of visible red laser emission. The laser beam can be easily aligned and offers excellent detection resolution of even small objects. The class 1 laser emission guarantees maximum safety for the operators in all applications.

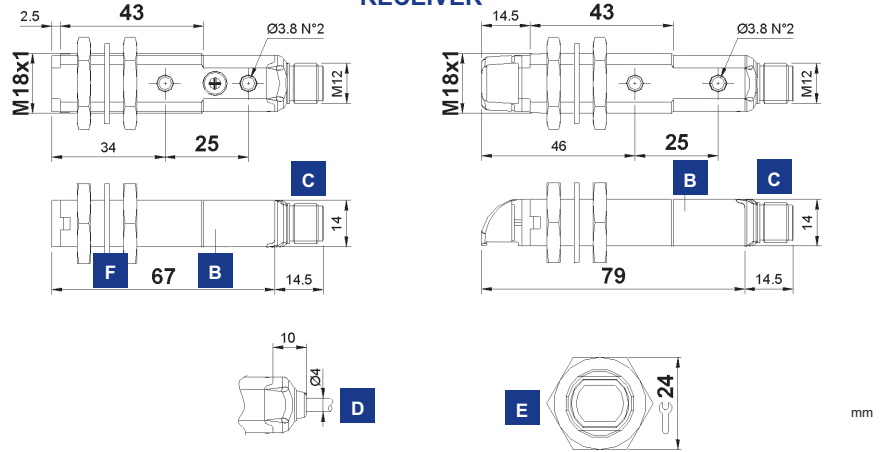


DIMENSIONS

EMITTER



RECEIVER



RADIAL OPTICS



INDICATORS AND SETTINGS



- A** OUTPUT status and power on LEDs
- B** Adjustment trimmer (receiver)
- C** M12 connector output
- D** Cable output
- E** Fixing nuts
- F** Fixing gasket

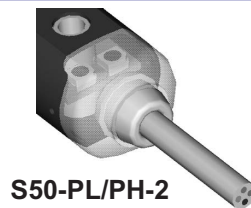
Single-turn trimmer for sensitivity adjustment. Rotate in a clockwise direction to increase the operating distance. Decrease sensitivity to increase resolution.

ACCESSORIES

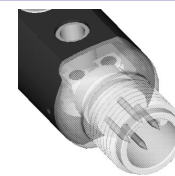
For dedicated accessories refer to the ACCESSORIES section of this catalogue.

Refer also to Connectors (A.03) and Fixing brackets (A.04) of the General Catalogue.

CONNECTIONS

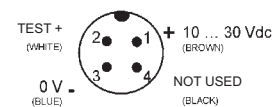
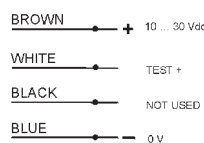


S50-PL/PH-2

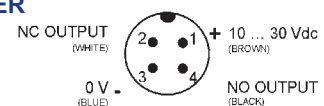
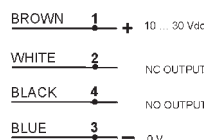


S50-PL/PH-5

EMITTER



RECEIVER



TECHNICAL DATA

	S50-PL-2-G00-XG	S50-PL-2-F01-NN	S50-PL-2-F01-PP	S50-PL-5-G00-XG	S50-PL-5-F01-NN	S50-PL-5-F01-PP	S50-PH-2-G00-XG	S50-PH-2-F01-NN	S50-PH-2-F01-PP	S50-PH-5-G00-XG	S50-PH-5-F01-NN	S50-PH-5-F01-PP
Operating distance:												
axial optics	●	●	●	●	●	●	●	●	●	●	●	●
radial optics	●	●	●	●	●	●	●	●	●	●	●	●
Power supply:	10 ... 30 Vdc ¹											
Ripple:	≤ 2 Vpp											
Consumption:												
emitter	●	●	●	●	●	●	●	●	●	●	●	●
receiver	●	●	●	●	●	●	●	●	●	●	●	●
Light emission:												
red Laser 650 nm ²	●	●	●	●	●	●	●	●	●	●	●	●
class 1 EN 60825-1												
class II CDRH21 CFR 1040.10												
Resolution:												
approx. 2.5 mm at 5 m	●	●	●	●	●	●	●	●	●	●	●	●
approx. 5 mm at 10 m	●	●	●	●	●	●	●	●	●	●	●	●
approx. 10 mm over 20 m	●	●	●	●	●	●	●	●	●	●	●	●
sensitivity trimmer ³	●	●	●	●	●	●	●	●	●	●	●	●
Setting:												
Indicators:												
yellow OUTPUT LED	●	●	●	●	●	●	●	●	●	●	●	●
green POWER ON LED	●	●	●	●	●	●	●	●	●	●	●	●
Output type:												
PNP, NO and NC	●	●	●	●	●	●	●	●	●	●	●	●
NPN, NO and NC	●	●	●	●	●	●	●	●	●	●	●	●
Output current:	≤ 100 mA											
Saturation voltage:	≤ 2 V											
Response time:	333 μs											
Switching frequency:	1.5 kHz											
Operating mode:	dark on NO / light on NC											
Auxiliary functions:	Test + ⁴											
Connection:												
2 m Ø 4 mm cable ⁵	●	●	●	●	●	●	●	●	●	●	●	●
M12 4-pole connector ⁶	●	●	●	●	●	●	●	●	●	●	●	●
Electrical protection:	class 2											
Mechanical protection:	IP67											
Protection devices:	A, B ⁷											
Housing material:	PBT											
Lens material:	PMMA / glass											
Weight:												
75 g max.	●	●	●	●	●	●	●	●	●	●	●	●
25 g max.	●	●	●	●	●	●	●	●	●	●	●	●
Operating temperature:	-10 ... +50°C											
Storage temperature:	-25 ... +70°C											
Reference standard:	EN 60947-5-2, EN 60825-1, CDRH21 CFR 1040.10											



SELECTION TABLE

emitter - axial optics - 2 m cable		
S50-PL-2-G00-XG	952001420	
receiver - axial optics - 2 m cable		
S50-PL-2-F01-NN	952001890	NPN
S50-PL-2-F01-PP	952001400	PNP
emitter - radial optics - 2 m cable		
S50-PH-2-G00-XG	952002060	
receiver - radial optics - 2 m cable		
S50-PH-2-F01-NN	952002030	NPN
S50-PH-2-F01-PP	952002020	PNP
emitter - axial optics - M12 connector		
S50-PL-5-G00-XG	952001430	
receiver - axial optics - M12 connector		
S50-PL-5-F01-NN	952001860	NPN
S50-PL-5-F01-PP	952001410	PNP
emitter - radial optics - M12 connector		
S50-PH-5-G00-XG	952002070	
receiver - radial optics - M12 connector		
S50-PH-5-F01-NN	952002050	NPN
S50-PH-5-F01-PP	952002040	PNP

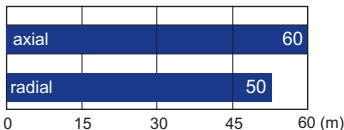
All the ordering codes and information are summarised in the last pages of this catalogue.

TECHNICAL NOTES

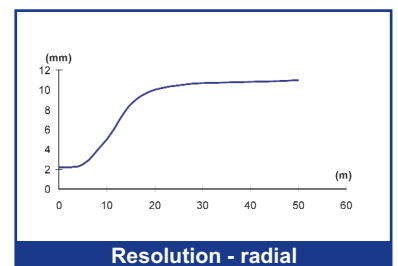
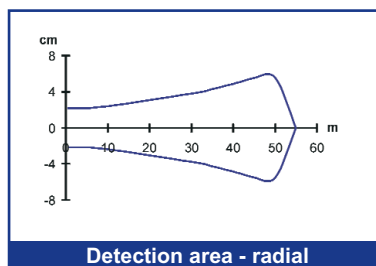
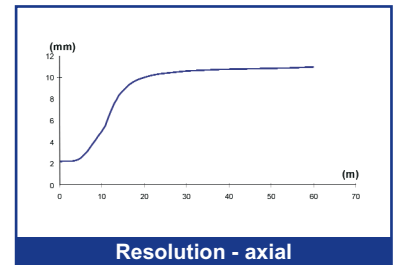
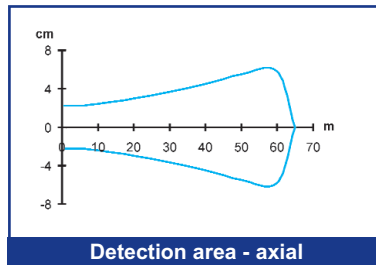
- Limit values
- Average life of 50.000 h with $T_A = +25^\circ\text{C}$
- 270° single-turn trimmer
- Emitter off with Test+ connected to +Vcc
Emitter on with Test+ not connected or connected to 0V
- PVC, 4 x 0.14 mm²
- Compatible with quick connection systems
- A - reverse polarity protection
B - overload and short-circuit protection on receiver outputs

The use of the MICRO-18 fixing bracket (cod. 95ACC1380) is recommended for the correct optic axis alignment of the laser emission.

DETECTION DIAGRAMS



Operating distance



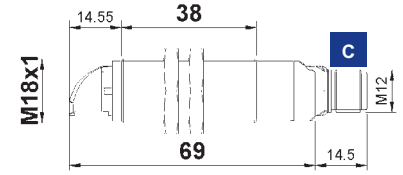
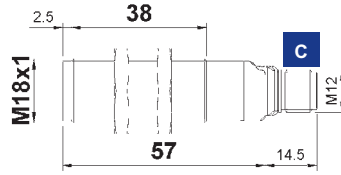
L-G/F LASER THROUGH BEAM WITH RED EMISSION

The high operating distance typical of emitter and receiver pairs is notably increased thanks to the use of visible red laser emission. The laser beam can be easily aligned and offers excellent detection resolution of even small objects. The class 1 laser emission guarantees maximum safety for the operators in all applications.

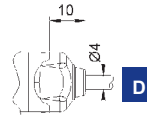
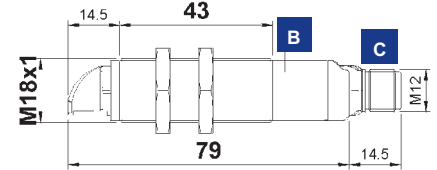
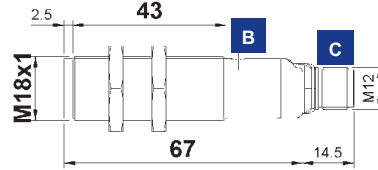


DIMENSIONS

EMITTER



RECEIVER

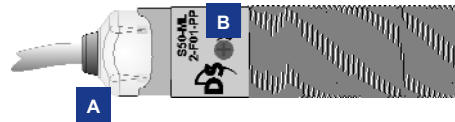


mm

RADIAL OPTICS



INDICATORS AND SETTINGS



- A** OUTPUT status and power on LEDs
- B** Adjustment trimmer (receiver)
- C** M12 connector output
- D** Cable output
- E** Fixing nuts
- F** Fixing gasket

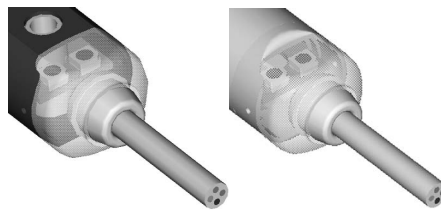
Single-turn trimmer for sensitivity adjustment. Rotate in a clockwise direction to increase the operating distance. Decrease sensitivity to increase resolution.

ACCESSORIES

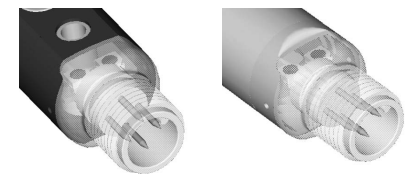
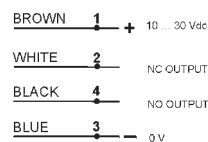
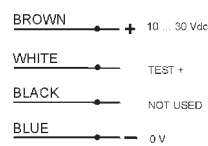
For dedicated accessories refer to the **ACCESSORIES** section of this catalogue.

Refer also to **Connectors (A.03)** and **Fixing brackets (A.04)** of the **General Catalogue**.

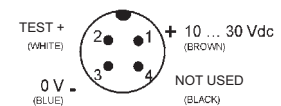
CONNECTIONS



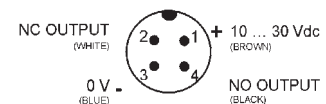
S50-ML/MH-2



S50-ML/MH-5



RECEIVER



Versions and options: refer to **MODEL ALPHABETICAL INDEX** of this catalogue.

TECHNICAL DATA

		S50-ML-2-G00-XG	S50-ML-2-F01-NN	S50-ML-2-F01-PP	S50-ML-5-G00-XG	S50-ML-5-F01-NN	S50-ML-5-F01-PP	S50-MH-2-G00-XG	S50-MH-2-F01-NN	S50-MH-2-F01-PP	S50-MH-5-G00-XG	S50-MH-5-F01-NN	S50-MH-5-F01-PP
Operating distance:	axial optics	●	●	●	●	●	●	●	●	●	●	●	●
	radial optics	●	●	●	●	●	●	●	●	●	●	●	●
Power supply:		●	●	●	●	●	●	●	●	●	●	●	●
Ripple:		●	●	●	●	●	●	●	●	●	●	●	●
Consumption:	emitter	●	●	●	●	●	●	●	●	●	●	●	●
	receiver	●	●	●	●	●	●	●	●	●	●	●	●
Light emission:	red Laser 650 nm ²	●	●	●	●	●	●	●	●	●	●	●	●
	class 1 EN 60825-1	●	●	●	●	●	●	●	●	●	●	●	●
	class II CDRH21 CFR 1040.10	●	●	●	●	●	●	●	●	●	●	●	●
Resolution:	approx. 2.5 mm at 5 m	●	●	●	●	●	●	●	●	●	●	●	●
	approx. 5 mm at 10 m	●	●	●	●	●	●	●	●	●	●	●	●
	approx. 10 mm over 20 m	●	●	●	●	●	●	●	●	●	●	●	●
Setting:	sensitivity trimmer ³	●	●	●	●	●	●	●	●	●	●	●	●
Indicators:	yellow OUTPUT LED	●	●	●	●	●	●	●	●	●	●	●	●
	green POWER ON LED	●	●	●	●	●	●	●	●	●	●	●	●
Output type:	PNP, NO and NC	●	●	●	●	●	●	●	●	●	●	●	●
	NPN, NO and NC	●	●	●	●	●	●	●	●	●	●	●	●
Output current:	≤ 100 mA	●	●	●	●	●	●	●	●	●	●	●	●
Saturation voltage:	≤ 2 V	●	●	●	●	●	●	●	●	●	●	●	●
Response time:	333 μs	●	●	●	●	●	●	●	●	●	●	●	●
Switching frequency:	1.5 kHz	●	●	●	●	●	●	●	●	●	●	●	●
Operating mode:	dark on NO / light on NC	●	●	●	●	●	●	●	●	●	●	●	●
Auxiliary functions:	Test + ⁴	●	●	●	●	●	●	●	●	●	●	●	●
Connection:	2 m Ø 4 mm cable ⁵	●	●	●	●	●	●	●	●	●	●	●	●
	M12 4-pole connector ⁶	●	●	●	●	●	●	●	●	●	●	●	●
Electrical protection:	class 2	●	●	●	●	●	●	●	●	●	●	●	●
Mechanical protection:	IP67	●	●	●	●	●	●	●	●	●	●	●	●
Protection devices:	A, B ⁷	●	●	●	●	●	●	●	●	●	●	●	●
Housing material:	nickel plated brass	●	●	●	●	●	●	●	●	●	●	●	●
Lens material:	PMMA / glass	●	●	●	●	●	●	●	●	●	●	●	●
Weight:	75 g max.	●	●	●	●	●	●	●	●	●	●	●	●
	25 g max.	●	●	●	●	●	●	●	●	●	●	●	●
Operating temperature:	-10 ... +50°C	●	●	●	●	●	●	●	●	●	●	●	●
Storage temperature:	-25 ... +70°C	●	●	●	●	●	●	●	●	●	●	●	●
Reference standard:	EN 60947-5-2,	●	●	●	●	●	●	●	●	●	●	●	●
	EN 60825-1, CDRH21 CFR 1040.10	●	●	●	●	●	●	●	●	●	●	●	●

SELECTION TABLE

emitter - axial optics - 2 m cable		
S50-ML-2-G00-XG	952021430	
receiver - axial optics - 2 m cable		
S50-ML-2-F01-NN	952021840	NPN
S50-ML-2-F01-PP	952021420	PNP
emitter - radial optics - 2 m cable		
S50-MH-2-G00-XG	952022060	
receiver - radial optics - 2 m cable		
S50-MH-2-F01-NN	952022030	NPN
S50-MH-2-F01-PP	952022020	PNP
emitter - axial optics - M12 connector		
S50-ML-5-G00-XG	952021470	
receiver - axial optics - M12 connector		
S50-ML-5-F01-NN	952021870	NPN
S50-ML-5-F01-PP	952021460	PNP
emitter - radial optics - M12 connector		
S50-MH-5-G00-XG	952022070	
receiver - radial optics - M12 connector		
S50-MH-5-F01-NN	952022050	NPN
S50-MH-5-F01-PP	952022040	PNP

All the ordering codes and information are summarised in the last pages of this catalogue.

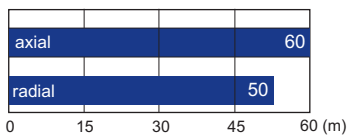
TECHNICAL NOTES

- Limit values
- Average life of 50.000 h with $T_A = +25^\circ\text{C}$
- 270° single-turn trimmer
- Emitter off with Test+ connected to +Vcc
Emitter on with Test+ not connected or connected to 0V
- PVC, 4 x 0.14 mm²
- Compatible with quick connection systems
- A - reverse polarity protection
B - overload and short-circuit protection on receiver outputs

The use of the MICRO-18 fixing bracket (cod. 95ACC1380) is recommended for the correct optic axis alignment of the laser emission.



DETECTION DIAGRAMS



■ Operating distance

