

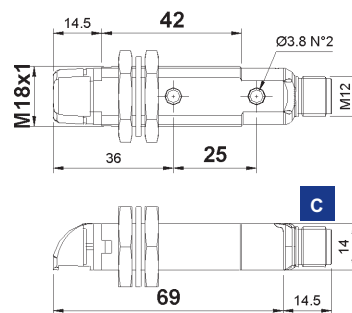
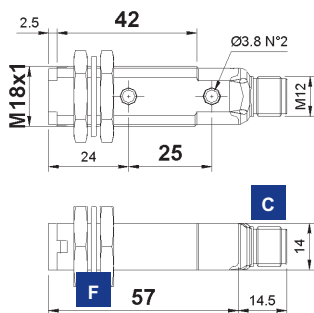
# G/F THROUGH BEAM WITH INFRARED EMISSION

Longer operating distances can be obtained utilising separate emitter and receiver units. The infrared emission is modulated to avoid interference with other light sources and the emitter is fitted with test inputs for remote system interrogation.

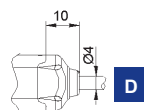
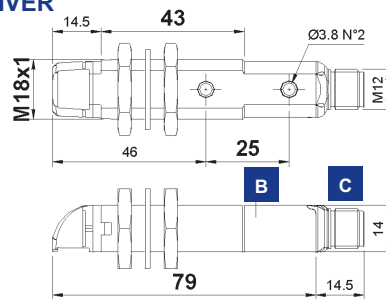
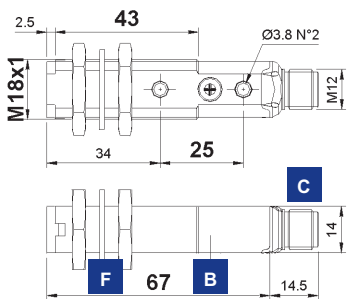


## DIMENSIONS

### EMITTER



### RECEIVER



mm

## INDICATORS AND SETTINGS

### RADIAL OPTICS



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

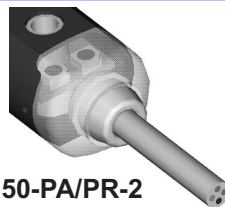
Single-turn trimmer for sensitivity adjustment. Rotate in a clockwise direction to increase the operating distance.

## ACCESSORIES

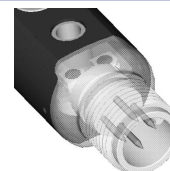
For dedicated accessories refer to the ACCESSORIES section of this catalogue.

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

## CONNECTIONS



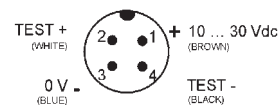
S50-PA/PR-2



S50-PA/PR-5

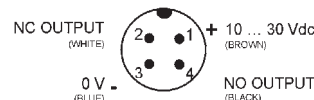
### EMITTER

BROWN	1	+	10 ... 30 Vdc
WHITE	2	TEST +	
BLACK	4	TEST -	
BLUE	3	0 V	



### RECEIVER

BROWN	1	+	10 ... 30 Vdc
WHITE	2	NC OUTPUT	
BLACK	4	NO OUTPUT	
BLUE	3	0 V	



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



## TECHNICAL DATA

		S50-PA-2-F01-NN	S50-PA-2-F01-PP	S50-PA-2-G00-XG	S50-PR-2-F01-NN	S50-PR-2-F01-PP	S50-PR-2-G00-XG	S50-PA-5-F01-NN	S50-PA-5-F01-PP	S50-PA-5-G00-XG	S50-PR-5-F01-NN	S50-PR-5-F01-PP	S50-PR-5-G00-XG
<b>Operating distance:</b>													
	axial optics	0 ... 30 m	•	•				•	•				
	radial optics	0 ... 25 m			•	•	•				•	•	•
<b>Power supply:</b>		10 ... 30 Vdc <sup>1</sup>	•	•	•	•	•	•	•	•	•	•	•
<b>Ripple:</b>		≤ 2 Vpp	•	•	•	•	•	•	•	•	•	•	•
<b>Consumption:</b>													
	emitter	≤ 35 mA		•		•			•				•
	receiver	≤ 30 mA	•	•	•	•	•	•	•	•	•	•	•
<b>Light emission:</b>		infrared LED 880 nm <sup>2</sup>		•		•			•			•	•
<b>Spot dimension:</b>													
	axial optics	approx. 500 mm at 15 m		•					•				
	radial optics	approx. 470 mm at 10 m				•							•
<b>Setting:</b>		sensitivity trimmer <sup>3</sup>	•	•	•	•	•	•	•	•	•	•	•
<b>Indicators:</b>													
		yellow OUTPUT LED	•	•	•	•	•	•	•	•	•	•	•
		green STABILITY LED	•	•	•	•	•	•	•	•	•	•	•
		green POWER ON LED		•		•			•			•	•
<b>Output type:</b>													
		PNP, NO and NC		•		•			•			•	
		NPN, NO and NC	•		•		•		•		•		•
<b>Output current:</b>		≤ 100 mA	•	•	•	•	•	•	•	•	•	•	•
<b>Saturation voltage:</b>		≤ 2 V	•	•	•	•	•	•	•	•	•	•	•
<b>Response time:</b>		2 ms	•	•	•	•	•	•	•	•	•	•	•
<b>Switching frequency:</b>		250 Hz	•	•	•	•	•	•	•	•	•	•	•
<b>Operating mode:</b>		dark on NO / light on NC	•	•	•	•	•	•	•	•	•	•	•
<b>Auxiliary functions:</b>		Test + and Test - <sup>4</sup>		•		•			•			•	
<b>Connection:</b>													
		2 m Ø 4 mm cable <sup>5</sup>	•	•	•	•	•	•	•	•	•	•	•
		M12 4-pole connector <sup>6</sup>	•	•	•	•	•	•	•	•	•	•	•
<b>Electrical protection:</b>		class 2	•	•	•	•	•	•	•	•	•	•	•
<b>Mechanical protection:</b>		IP67	•	•	•	•	•	•	•	•	•	•	•
<b>Protection devices:</b>		A, B <sup>7</sup>	•	•	•	•	•	•	•	•	•	•	•
<b>Housing material:</b>		PBT	•	•	•	•	•	•	•	•	•	•	•
<b>Lens material:</b>		PMMA	•	•	•	•	•	•	•	•	•	•	•
<b>Weight:</b>													
		75 g max.	•	•	•	•	•	•	•	•	•	•	•
		25 g max.											
<b>Operating temperature:</b>		-25 ... +55°C	•	•	•	•	•	•	•	•	•	•	•
<b>Storage temperature:</b>		-25 ... +70°C	•	•	•	•	•	•	•	•	•	•	•
<b>Reference standard:</b>		EN 60947-5-2	•	•	•	•	•	•	•	•	•	•	•

## SELECTION TABLE

receiver - axial optics - 2 m cable		
S50-PA-2-F01-NN	952001660	NPN
S50-PA-2-F01-PP	952001150	PNP

emitter - axial optics - 2 m cable		
S50-PA-2-G00-XG	952001190	

receiver - radial optics - 2 m cable		
S50-PR-2-F01-NN	952001820	NPN
S50-PR-2-F01-PP	952001170	PNP

emitter - radial optics - 2 m cable		
S50-PR-2-G00-XG	952001210	

receiver - axial optics - M12 connector		
S50-PA-5-F01-NN	952001550	NPN
S50-PA-5-F01-PP	952001160	PNP

emitter - axial optics - M12 connector		
S50-PA-5-G00-XG	952001200	

receiver - radial optics - M12 connector		
S50-PR-5-F01-NN	952001760	NPN
S50-PR-5-F01-PP	952001180	PNP

emitter - radial optics - M12 connector		
S50-PR-5-G00-XG	952001220	

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

## TECHNICAL NOTES

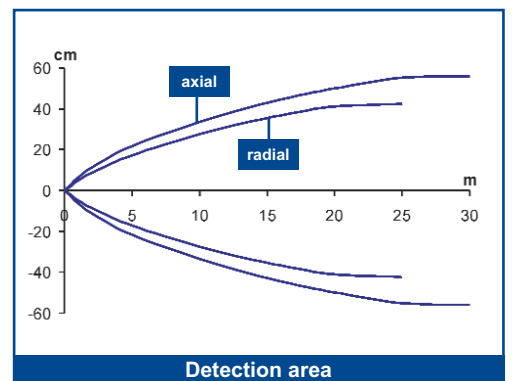
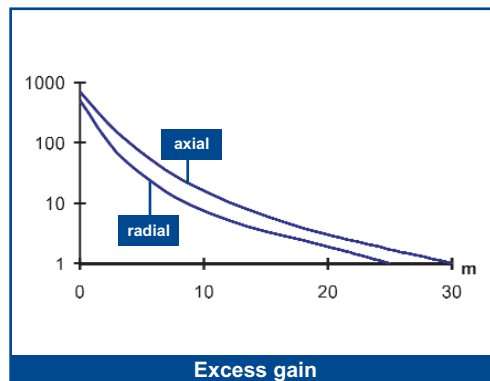
- Limit values
- Average life of 100.000 h with  $T_A = +25^\circ\text{C}$
- 270° single-turn trimmer
- Emitter off with Test+ on Vdc and Test- on 0 V
- PVC, 4 x 0.14 mm<sup>2</sup>
- Compatible with quick connection systems
- A - reverse polarity protection  
B - overload and short-circuit protection on receiver outputs



## DETECTION DIAGRAMS

	axial	radial
Recommended operating distance	25	20
Maximum operating distance	30	25

0 15 30 (m)



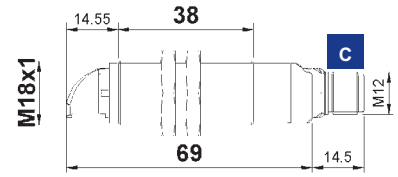
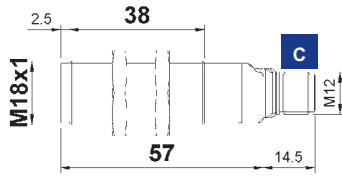
# G/F THROUGH BEAM WITH INFRARED EMISSION

Longer operating distances can be obtained utilising separate emitter and receiver units. The infrared emission is modulated to avoid interference with other light sources and the emitter is fitted with test inputs for remote system interrogation.

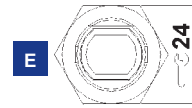
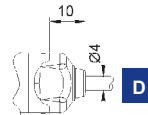
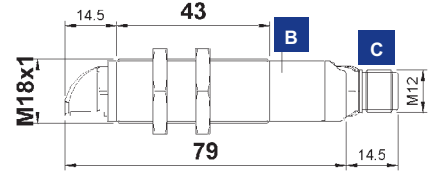
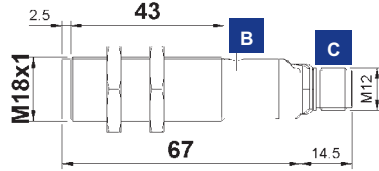


## DIMENSIONS

### EMITTER



### RECEIVER

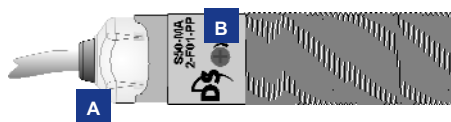


mm

## RADIAL OPTICS



## INDICATORS AND SETTINGS



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

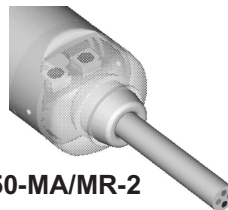
Single-turn trimmer for sensitivity adjustment. Rotate in a clockwise direction to increase the operating distance.

## 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.

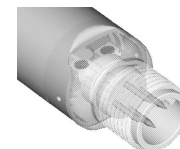
## CONNECTIONS



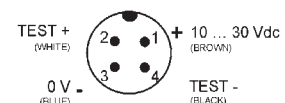
S50-MA/MR-2

BROWN	1	+	10 ... 30 Vdc
WHITE	2		TEST +
BLACK	4		TEST -
BLUE	3	-	0 V

BROWN	1	+	10 ... 30 Vdc
WHITE	2		NC OUTPUT
BLACK	4		NO OUTPUT
BLUE	3	-	0 V

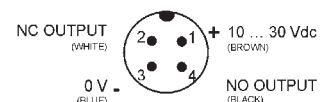


S50-MA/MR-5



### EMITTER

### RECEIVER



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



## TECHNICAL DATA

		S50-MA-2-F01-NN	S50-MA-2-F01-PP	S50-MA-2-G00-XG	S50-MR-2-F01-NN	S50-MR-2-F01-PP	S50-MR-2-G00-XG	S50-MA-5-F01-NN	S50-MA-5-F01-PP	S50-MA-5-G00-XG	S50-MR-5-F01-NN	S50-MR-5-F01-PP	S50-MR-5-G00-XG
<b>Operating distance:</b>													
	axial optics	0 ... 30 m	•	•	•	•	•	•	•	•	•	•	•
	radial optics	0 ... 25 m			•	•	•	•	•	•	•	•	•
<b>Power supply:</b>													
	10 ... 30 Vdc <sup>1</sup>	•	•	•	•	•	•	•	•	•	•	•	•
<b>Ripple:</b>													
	≤ 2 Vpp	•	•	•	•	•	•	•	•	•	•	•	•
<b>Consumption:</b>													
	emitter	≤ 35 mA		•		•		•		•		•	
	receiver	≤ 30 mA	•	•	•	•	•	•	•	•	•	•	•
<b>Light emission:</b>													
	infrared LED 880 nm <sup>2</sup>			•		•		•		•		•	
<b>Spot dimension:</b>													
	axial optics	approx. 500 mm at 15 m		•				•					
	radial optics	approx. 470 mm at 10 m				•							•
<b>Setting:</b>													
	sensitivity trimmer <sup>3</sup>	•	•		•	•		•	•		•	•	
<b>Indicators:</b>													
	yellow OUTPUT LED	•	•		•	•		•	•		•	•	
	green STABILITY LED	•	•		•	•		•	•		•	•	
	green POWER ON LED			•				•					•
<b>Output type:</b>													
	PNP, NO and NC		•		•			•			•		
	NPN, NO and NC	•	•		•	•		•	•		•	•	
<b>Output current:</b>													
	≤ 100 mA	•	•		•	•		•	•		•	•	
<b>Saturation voltage:</b>													
	≤ 2 V	•	•		•	•		•	•		•	•	
<b>Response time:</b>													
	2 ms	•	•		•	•		•	•		•	•	
<b>Switching frequency:</b>													
	250 Hz	•	•		•	•		•	•		•	•	
<b>Operating mode:</b>													
	dark on NO / light on NC	•	•		•	•		•	•		•	•	
<b>Auxiliary functions:</b>													
	Test + and Test - <sup>4</sup>			•		•				•		•	
<b>Connection:</b>													
	2 m Ø 4 mm cable <sup>5</sup>	•	•	•	•	•							
	M12 4-pole connector <sup>6</sup>							•	•	•	•	•	•
<b>Electrical protection:</b>													
	class 2	•	•	•	•	•	•	•	•	•	•	•	•
<b>Mechanical protection:</b>													
	IP67	•	•	•	•	•	•	•	•	•	•	•	•
<b>Protection devices:</b>													
	A, B <sup>7</sup>	•	•	•	•	•	•	•	•	•	•	•	•
<b>Housing material:</b>													
	nickel plated brass	•	•	•	•	•	•	•	•	•	•	•	•
<b>Lens material:</b>													
	PMMA	•	•	•	•	•	•	•	•	•	•	•	•
<b>Weight:</b>													
	110 g max.	•	•	•	•	•							
	60 g max.							•	•	•	•	•	•
<b>Operating temperature:</b>													
	-25 ... +55°C	•	•	•	•	•	•	•	•	•	•	•	•
<b>Storage temperature:</b>													
	-25 ... +70°C	•	•	•	•	•	•	•	•	•	•	•	•
<b>Reference standard:</b>													
	EN 60947-5-2	•	•	•	•	•	•	•	•	•	•	•	•

## SELECTION TABLE

receiver - axial optics - 2 m cable		
S50-MA-2-F01-NN	952021700	NPN
S50-MA-2-F01-PP	952021250	PNP

emitter - axial optics - 2 m cable		
S50-MA-2-G00-XG	952021060	

receiver - radial optics - 2 m cable		
S50-MR-2-F01-NN	952021640	NPN
S50-MR-2-F01-PP	952021170	PNP

emitter - radial optics - 2 m cable		
S50-MR-2-G00-XG	952021180	

receiver - axial optics - M12 connector		
S50-MA-5-F01-NN	952021700	NPN
S50-MA-5-F01-PP	952021250	PNP

emitter - axial optics - M12 connector		
S50-MA-5-G00-XG	952021260	

receiver - radial optics - M12 connector		
S50-MR-5-F01-NN	952021800	NPN
S50-MR-5-F01-PP	952021370	PNP

emitter - radial optics - M12 connector		
S50-MR-5-G00-XG	952021380	

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

## TECHNICAL NOTES

- Limit values
- Average life of 100.000 h with  $T_A = +25^\circ\text{C}$
- 270° single-turn trimmer
- Emitter off with Test+ on Vdc and Test- on 0 V
- PVC, 4 x 0.14 mm<sup>2</sup>
- Compatible with quick connection systems
- A - reverse polarity protection  
B - overload and short-circuit protection on receiver outputs



## DETECTION DIAGRAMS

