

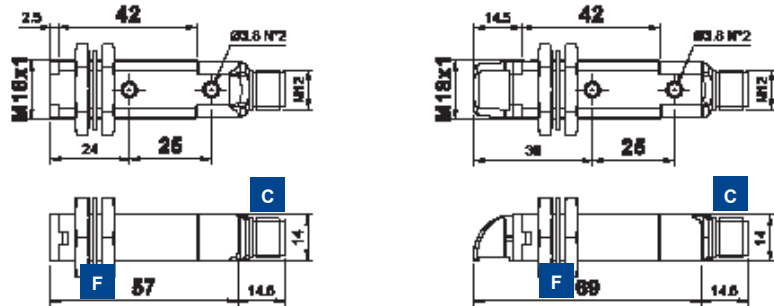
C SHORT DIFFUSE PROXIMITY WITH INFRARED EMISSION

This diffuse proximity sensor represents a reliable, simple and cost-effective solution for the direct detection of any object inside the fixed operating distance. Its particularly compact dimensions permit the installation in very small spaces.

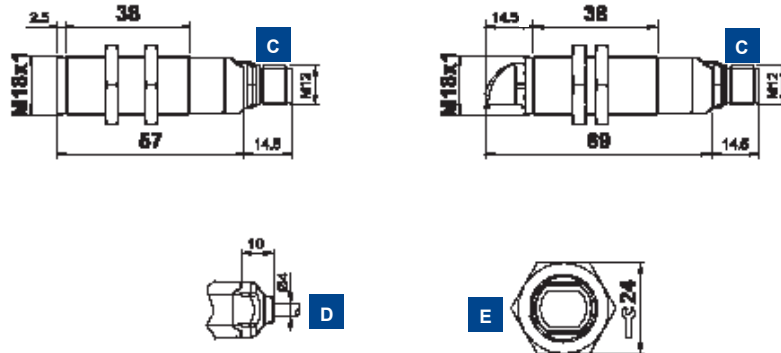


DIMENSIONS

PLASTIC HOUSING

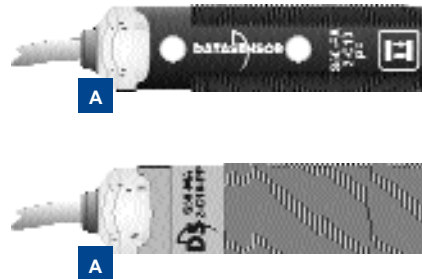
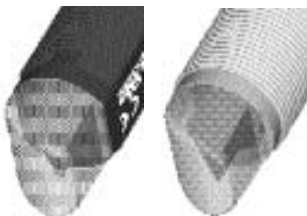


METAL HOUSING



INDICATORS AND SETTINGS

RADIAL OPTICS



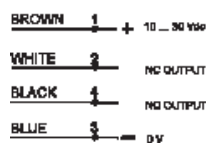
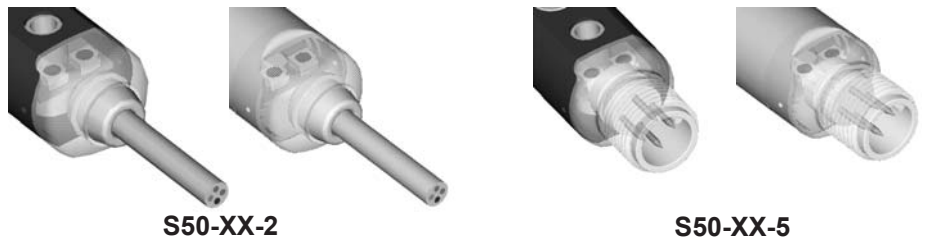
- A** OUTPUT status LED
- C** M12 connector output
- D** Cable output
- E** Fixing nuts
- F** Fixing gasket

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





TECHNICAL DATA

		S50-PA-2-C10-NN	S50-PA-2-C10-PP	S50-PA-5-C10-NN	S50-PA-5-C10-PP	S50-PR-2-C10-NN	S50-PR-2-C10-PP	S50-PR-5-C10-NN	S50-PR-5-C10-PP	S50-MA-2-C10-NN	S50-MA-2-C10-PP	S50-MA-5-C10-NN	S50-MA-5-C10-PP	S50-MR-2-C10-NN	S50-MR-2-C10-PP	S50-MR-5-C10-NN	S50-MR-5-C10-PP
Operating distance:																	
	axial optics	0 ... 10 cm	●	●	●					●	●	●	●				
	radial optics	0 ... 8 cm				●	●	●	●					●	●	●	●
Power supply:		10 ... 30 Vdc ¹	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Ripple:		≤ 2 Vpp	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Consumption:		≤ 35 mA	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Light emission:		infrared LED 880 nm ²	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Spot dimension:																	
	axial optics	approx. 80 mm at 10 cm	●	●	●					●	●	●	●				
	radial optics	approx. 55 mm at 10 cm				●	●	●	●					●	●	●	●
Indicators:		yellow OUTPUT LED	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Output type:																	
		PNP, NO and NC		●		●		●		●		●		●		●	
		NPN, NO and NC	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Output current:		≤ 100 mA	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Saturation voltage:		≤ 2 V	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Response time:		0.5 ms	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Switching frequency:		1 kHz	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Operating mode:		dark on NO / light on NC	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Connection:																	
		2 m Ø 4 mm cable ³	●	●		●	●			●	●			●	●		
		M12 4-pole connector ⁴			●			●				●				●	
Electrical protection:		class 2	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Mechanical protection:		IP67	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Protection devices:		A, B ⁵	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Housing material:																	
		PBT	●	●	●	●	●	●	●								
		nickel plated brass								●	●	●	●	●	●	●	●
Lens material:		PMMA	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Weight:																	
		75 g max.	●	●		●	●										
		25 g max.			●	●		●	●								
		110 g max.								●	●			●	●		
		60 g max.										●	●			●	●
Operating temperature:		-25 ... +55°C	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Storage temperature:		-25 ... +70°C	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Reference standard:		EN 60947-5-2	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●

SELECTION TABLE

plastic - axial optics - 2 m cable		
S50-PA-2-C10-NN	952001630	NPN
S50-PA-2-C10-PP	952001240	PNP

metal - axial optics - 2 m cable		
S50-MA-2-C10-NN	952021520	NPN
S50-MA-2-C10-PP	952021020	PNP

plastic - axial optics - M12 connector		
S50-PA-5-C10-NN	952001520	NPN
S50-PA-5-C10-PP	952001250	PNP

metal - axial optics - M12 connector		
S50-MA-5-C10-NN	952021680	NPN
S50-MA-5-C10-PP	952021220	PNP

plastic - radial optics - 2 m cable		
S50-PR-2-C10-NN	952001800	NPN
S50-PR-2-C10-PP	952001490	PNP

metal - radial optics - 2 m cable		
S50-MR-2-C10-NN	952021620	NPN
S50-MR-2-C10-PP	952021490	PNP

plastic - radial optics - M12 connector		
S50-PR-5-C10-NN	952001740	NPN
S50-PR-5-C10-PP	952001480	PNP

metal - radial optics - M12 connector		
S50-MR-5-C10-NN	952021780	NPN
S50-MR-5-C10-PP	952021480	PNP

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

TECHNICAL NOTES

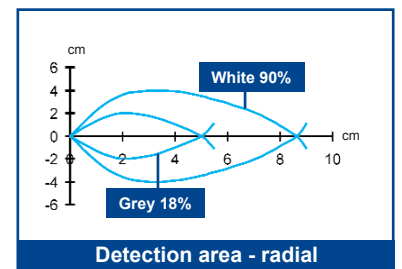
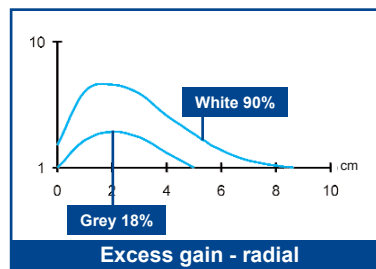
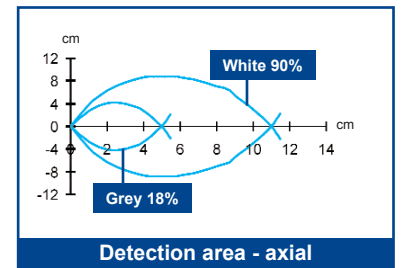
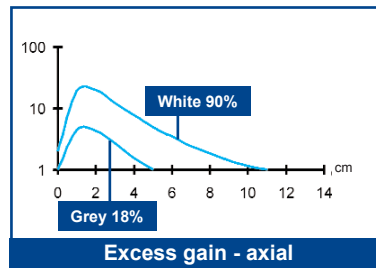
- ¹ Limit values
- ² Average life of 100.000 h with T_A = +25 °C
- ³ PVC, 4 x 0.14 mm²
- ⁴ Compatible with quick connection systems
- ⁵ A - reverse polarity protection
B - overload and short-circuit protection on the outputs



DETECTION DIAGRAMS

axial					10	11
radial			8	9		

■ Recommended operating distance
■ Maximum operating distance



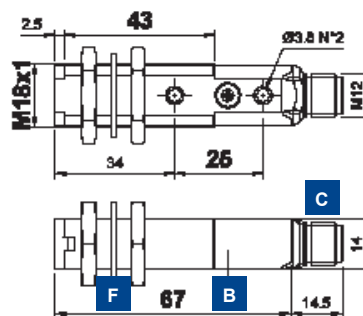
C DIFFUSE PROXIMITY WITH INFRARED EMISSION

This version of diffuse proximity sensor has a detection distance that can be set using the sensitivity adjustment trimmer. The green stability LED indicates whether the received signal is above to the minimum signal for stable output switching.

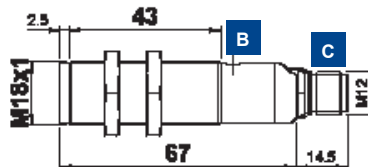


DIMENSIONS

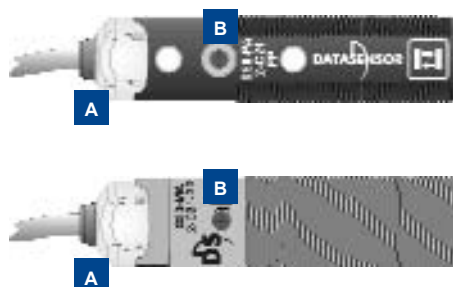
PLASTIC HOUSING



METAL HOUSING



INDICATORS AND SETTINGS



- A** OUTPUT status and STABILITY LEDs
- B** Adjustment trimmer
- C** M12 connector output
- D** Cable output
- E** Fixing nuts
- F** Fixing gasket

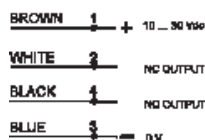
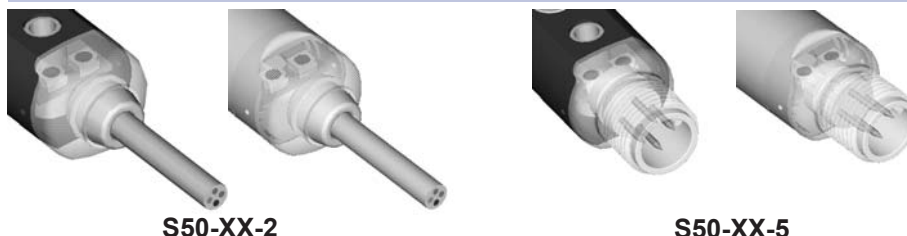
Single-turn trimmer for sensitivity adjustment. Rotate in a clockwise direction to increase the operating distance.

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





TECHNICAL DATA

	S50-PA-2-C21-NN	S50-PA-2-C21-PP	S50-PA-5-C21-NN	S50-PA-5-C21-PP	S50-MA-2-C21-NN	S50-MA-2-C21-PP	S50-MA-5-C21-NN	S50-MA-5-C21-PP
Operating distance:	0 ... 40 cm							
Power supply:	10 ... 30 Vdc ¹							
Ripple:	≤ 2 Vpp							
Consumption:	≤ 35 mA							
Light emission:	infrared LED 880 nm ²							
Spot dimension:	approx. 100 mm at 300 cm							
Setting:	sensitivity trimmer ³							
Indicators:	yellow OUTPUT LED							
	green STABILITY LED							
Output type:	PNP, NO and NC							
	NPN, NO and NC							
Output current:	≤ 100 mA							
Saturation voltage:	≤ 2 V							
Response time:	0.5 ms							
Switching frequency:	1 kHz							
Operating mode:	light on NO / dark on NC							
Connection:	2 m Ø 4 mm cable ⁴							
	M12 4-pole connector ⁵							
Electrical protection:	class 2							
Mechanical protection:	IP67							
Protection devices:	A, B ⁶							
Housing material:	PBT							
	nickel plated brass							
Lens material:	PMMA							
Weight:	75 g max.							
	25 g max.							
	110 g max.							
	60 g max.							
Operating temperature:	-25 ... +55°C							
Storage temperature:	-25 ... +70°C							
Reference standard:	EN 60947-5-2							

SELECTION TABLE

plastic - axial optics - 2 m cable		
S50-PA-2-C21-NN	952002170	NPN
S50-PA-2-C21-PP	952002160	PNP

metal - axial optics - 2 m cable		
S50-MA-2-C21-NN	952022130	NPN
S50-MA-2-C21-PP	952022120	PNP

plastic - axial optics - M12 connector		
S50-PA-5-C21-NN	952002190	NPN
S50-PA-5-C21-PP	952002180	PNP

metal - axial optics - M12 connector		
S50-MA-5-C21-NN	952022150	NPN
S50-MA-5-C21-PP	952022140	PNP

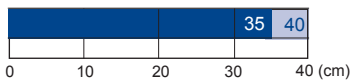
All the ordering codes and information are summarised in the last pages of this catalogue.

TECHNICAL NOTES

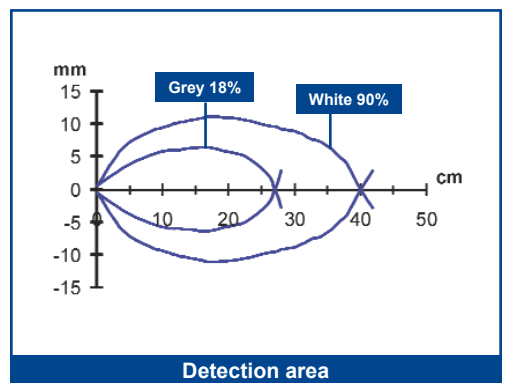
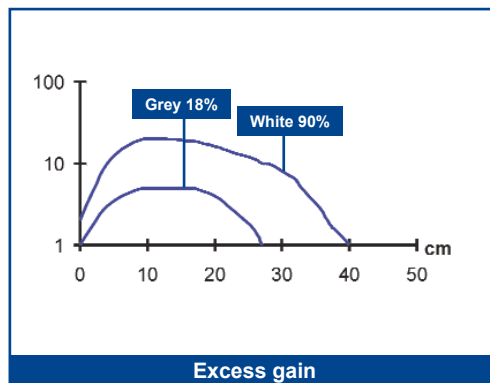
- ¹ Limit values
- ² Average life of 100.000 h with T_A = +25 °C
- ³ 270° single-turn trimmer
- ⁴ PVC, 4 x 0.14 mm²
- ⁵ Compatible with quick connection systems
- ⁶ A - reverse polarity protection
B - overload and short-circuit protection on the outputs



DETECTION DIAGRAMS



■ Recommended operating distance
■ Maximum operating distance



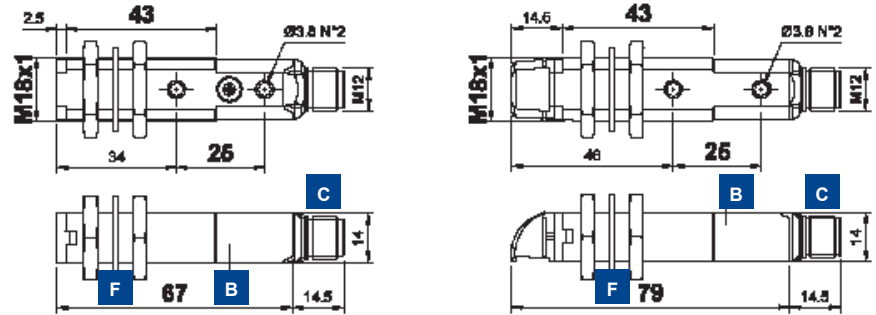
C LONG DIFFUSE PROXIMITY WITH INFRARED EMISSION

This version of diffuse proximity sensor offers the maximum operating distance for the direct detection of objects. The detection distance can be set using the sensitivity adjustment trimmer. The green stability LED indicates whether the received signal is above to the minimum signal for stable output switching.

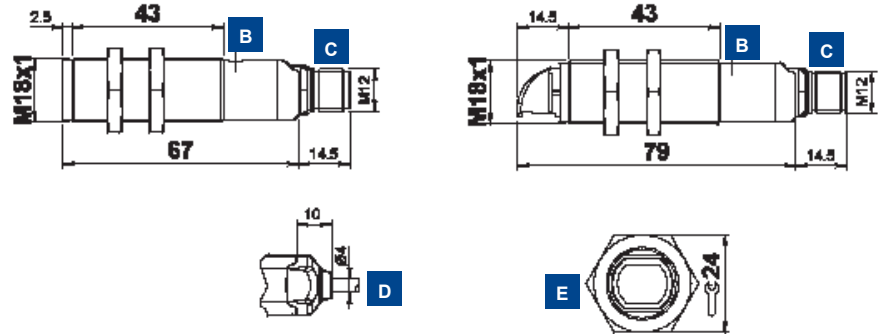


DIMENSIONS

PLASTIC HOUSING

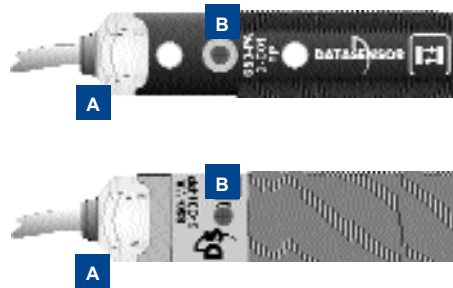
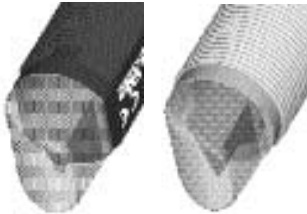


METAL HOUSING



INDICATORS AND SETTINGS

RADIAL OPTICS



- A** OUTPUT status and STABILITY LEDs
- B** Adjustment trimmer
- C** M12 connector output
- D** Cable output
- E** Fixing nuts
- F** Fixing gasket

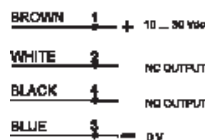
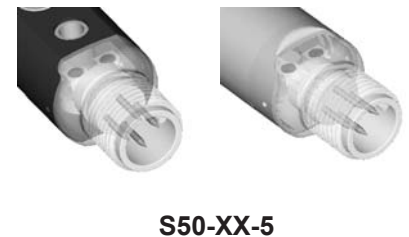
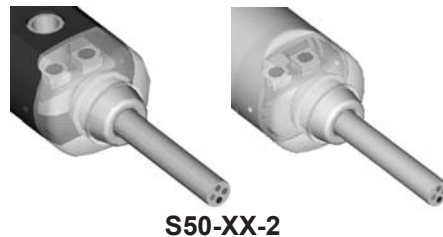
Single-turn trimmer for sensitivity adjustment. Rotate in a clockwise direction to increase the operating distance.

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





TECHNICAL DATA

		S50-PA-2-C01-NN	S50-PA-2-C01-PP	S50-PA-5-C01-NN	S50-PA-5-C01-PP	S50-PR-2-C01-NN	S50-PR-2-C01-PP	S50-PR-5-C01-NN	S50-PR-5-C01-PP	S50-MA-2-C01-NN	S50-MA-2-C01-PP	S50-MA-5-C01-NN	S50-MA-5-C01-PP	S50-MR-2-C01-NN	S50-MR-2-C01-PP	S50-MR-5-C01-NN	S50-MR-5-C01-PP
Operating distance:																	
	axial optics	0 ... 70 cm	●	●	●					●	●	●	●				
	radial optics	0 ... 40 cm				●	●	●	●					●	●	●	●
Power supply:		10 ... 30 Vdc ¹	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Ripple:		≤ 2 Vpp	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Consumption:		≤ 35 mA	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Light emission:		infrared LED 880 nm ²	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Spot dimension:																	
	axial optics	approx.200 mm at 60 cm	●	●	●					●	●	●	●				
	radial optics	approx.35 mm at 40 cm				●	●	●	●					●	●	●	●
Setting:		sensitivity trimmer ³	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Indicators:																	
		yellow OUTPUT LED	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
		green STABILITY LED	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Output type:																	
		PNP, NO and NC	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
		NPN, NO and NC	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Output current:		≤ 100 mA	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Saturation voltage:		≤ 2 V	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Response time:		0.5 ms	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Switching frequency:		1 kHz	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Operating mode:		dark on NO / light on NC	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Connection:																	
		2 m Ø 4 mm cable ⁴	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
		M12 4-pole connector ⁵		●	●	●	●	●	●	●	●	●	●	●	●	●	●
Electrical protection:		class 2	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Mechanical protection:		IP67	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Protection devices:		A, B ⁶	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Housing material:																	
		PBT	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
		nickel plated brass								●	●	●	●	●	●	●	●
Lens material:		PMMA	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Weight:																	
		75 g max.	●	●	●	●	●	●	●								
		25 g max.		●	●	●	●	●	●								
		110 g max.								●	●	●	●	●	●	●	●
		60 g max.									●	●	●	●	●	●	●
Operating temperature:		-25 ... +55°C	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Storage temperature:		-25 ... +70°C	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Reference standard:		EN 60947-5-2	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●

SELECTION TABLE

plastic - axial optics - 2 m cable		
S50-PA-2-C01-NN	952001620	NPN
S50-PA-2-C01-PP	952001050	PNP

metal - axial optics - 2 m cable		
S50-MA-2-C01-NN	952021510	NPN
S50-MA-2-C01-PP	952021010	PNP

plastic - axial optics - M12 connector		
S50-PA-5-C01-NN	952001510	NPN
S50-PA-5-C01-PP	952001060	PNP

metal - axial optics - M12 connector		
S50-MA-5-C01-NN	952021670	NPN
S50-MA-5-C01-PP	952021210	PNP

plastic - radial optics - 2 m cable		
S50-PR-2-C01-NN	952001790	NPN
S50-PR-2-C01-PP	952001070	PNP

metal - radial optics - 2 m cable		
S50-MR-2-C01-NN	952021610	NPN
S50-MR-2-C01-PP	952021150	PNP

plastic - radial optics - M12 connector		
S50-PR-5-C01-NN	952001730	NPN
S50-PR-5-C01-PP	952001080	PNP

metal - radial optics - M12 connector		
S50-MR-5-C01-NN	952021770	NPN
S50-MR-5-C01-PP	952021350	PNP

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

TECHNICAL NOTES

- ¹ Limit values
- ² Average life of 100.000 h with T_A = +25 °C
- ³ 270° single-turn trimmer
- ⁴ PVC, 4 x 0.14 mm²
- ⁵ Compatible with quick connection systems
- ⁶ A - reverse polarity protection
B - overload and short-circuit protection on the outputs



DETECTION DIAGRAMS

	axial	radial
Recommended operating distance	60	35
Maximum operating distance	70	40

■ Recommended operating distance
■ Maximum operating distance

