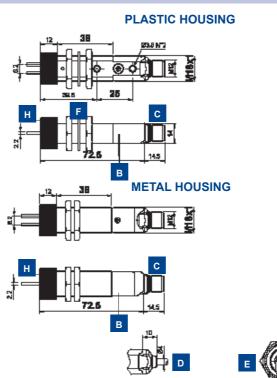
### **E** FIBRE-OPTIC AMPLIFIER WITH RED EMISSION

The amplifier is built to accept any standard 2.2 mm Ø fibre-optic which can be for either diffused or through beam operation. A locking ring when tightened holds the fibres firmly in position. The sensitivity is adjusted by an IP67 rated trimmer. The proximity or through beam fibres are mainly used in applications where space is of a premium and for detection of small objects. Special fibres are also available for high temperature and high wear applications. For further information on the extensive range of fibre-optic accessories please see the OF datasheet.

#### DIMENSIONS



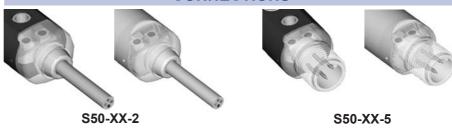




Single-turn trimmer for sensitivity adjustment. Rotate in a clockwise direction to increase the operating distance.

Α

# Fibre fixing nut adjustment. Rotate in a operating distance.





### ACCESSORIES

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

Refer also to Fibre-optics (A.02), Connectors (A.03) and Fixing brackets (A.04) of the General Catalogue.

# datasensor

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

### S50-PA

### S50-MA

3/10 cm 🛌

### **TECHNICAL DATA**

Operating distance: $3 \text{ cm} (OF-42-\text{ST-}20 \text{ standard fibres})$ $\bullet \bullet $			S50-PA-2-E01-N	S50-PA-2-E01-P	S50-PA-5-E01-N	S50-PA-5-E01-P	S50-MA-2-E01-N	S50-MA-2-E01-F	S50-MA-5-E01-N	S50-MA-5-E01-F
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	Organitian distances		s	s	s	s	s	S	S	s
through beam10 cm (OF-43-ST-20 standard fibres) $\bullet$		2 cm (OE 42 ST 20 standard fibros)								
Power supply: 10 30 Vdc 1 • • • • • • • • • • • •   Ripple: ≤ 2 Vpp • • • • • • • • • • • • • •   Consumption: ≤ 35 mA • • • • • • • • • • • • • • • • • • •	i · · · · /				-	-				
Ripple: $\leq 2 \text{ Vpp}$ $\bullet \bullet $	V				-					
Consumption: $\leq 35 \text{ mA}$ • • • • • • • • • • • • • • • • • • •				-	-	-			-	
Light emission: red LED 660 nm²   Setting: sensitivity trimmer ³   Indicators: yellow OUTPUT LED   green STABILITY • • • • • • • • •   Output type: • • • • • • • • • • • • • • • • • • •				-	-				-	
Setting:sensitivity trimmer $^3$ </td <td></td> <td></td> <td></td> <td>-</td> <td>-</td> <td></td> <td></td> <td></td> <td>-</td> <td></td>				-	-				-	
Indicators:yellow OUTPUT LEDImage: Constraint of the second secon				-	-	-			-	-
yellow OUTPUT LEDgreen STABILITYImage: Colspan="2">Image: Colspan="2" Colspan="2">Image: Colspan="2" Colspan		Sensitivity unimer	-	•	•	•	-	-	•	-
green STABILITYOutput type:PNP, NO and NCNPN, NO and NCOutput current: $\leq 100 \text{ mA}$ Saturation voltage: $\leq 2 V$ Response time:0.5 msSwitching frequency:1 kHzOperating mode:dark on NO / light on NCConnection:2 m Ø 4 mm cable 4M12 4-pole connector 5Electrical protection:IP67Protection devices:A, B 6Housing material:PBTnickel plated brassFibre fixing nut material:ABSWeight:75 g max.25 g max.60 g max.60 g max.0perating temperature:-25 +75°CStorage temperature:-25 +70°C• • • • • • • • • • • • • • • • • • •	marcators.				•					•
Output type: PNP, NO and NC   NPN, NO and NC Image: Imag			-	-	-	-		-	-	
PNP, NO and NCNPN, NO and NCOutput current: $\leq 100 \text{ mA}$ Saturation voltage: $\leq 2 V$ Response time:0.5 msSwitching frequency:1 kHzOperating mode:dark on NO / light on NCConnection:2 m Ø 4 mm cable <sup>4</sup> M12 4-pole connector <sup>5</sup> Electrical protection:class 2Mechanical protection:IP67Protection devices:A, B <sup>6</sup> Housing material:PBTnickel plated brassFibre fixing nut material:ABSWeight:75 g max.25 g max.60 g max.60 g max.60 g max.060 g max.00 <td>Output type:</td> <td>gicen erabierri</td> <td>-</td> <td></td> <td>-</td> <td>-</td> <td>Ē</td> <td>-</td> <td>-</td> <td>-</td>	Output type:	gicen erabierri	-		-	-	Ē	-	-	-
NPN, NO and NCOutput current: $\leq 100 \text{ mA}$ Saturation voltage: $\leq 2 V$ Response time: $0.5 \text{ ms}$ Switching frequency:1 kHzOperating mode:dark on NO / light on NCConnection: $\circ \circ $	output type.	PNP_NO and NC				•		•		•
Output current: $\leq 100 \text{ mA}$ Saturation voltage: $\leq 2 \text{ V}$ Response time: $0.5 \text{ ms}$ Switching frequency:1 kHzOperating mode:dark on NO / light on NCConnection: $\circ \circ $			-	-	•	-	•	-		-
Saturation voltage: $\leq 2 V$ $\bullet \bullet $	Output current:				•	•	•		•	•
Response time: 0.5 ms   Switching frequency: 1 kHz   Operating mode: dark on NO / light on NC   Connection: Image: Connector for the second seco				•	•	•	•	•	•	•
Switching frequency: 1 kHz Image: Consection of the section of th				•	•	•	•	•	•	
Operating mode: dark on NO / light on NC   Connection: 2 m Ø 4 mm cable <sup>4</sup> M12 4-pole connector <sup>5</sup> 0   Electrical protection: class 2   Mechanical protection: IP67   Protection devices: A, B <sup>6</sup> Housing material: 0   PBT 0   nickel plated brass 0   Fibre fixing nut material: ABS   Weight: 0   25 g max. 0   110 g max. 0   60 g max. 0   0perating temperature: -25 +55°C   Storage temperature: -25 +70°C				•	•	•	•	•	•	•
Connection: $2 m \emptyset 4 mm cable^4$ $\bullet$ $\bullet$ M12 4-pole connector 5 $\bullet$ $\bullet$ Electrical protection:class 2 $\bullet$ $\bullet$ Mechanical protection:IP67 $\bullet$ $\bullet$ $\bullet$ Protection devices:A, B 5 $\bullet$ $\bullet$ $\bullet$ Housing material:PBT $\bullet$ $\bullet$ $\bullet$ nickel plated brass $\bullet$ $\bullet$ $\bullet$ Fibre fixing nut material:ABS $\bullet$ $\bullet$ Weight: $\bullet$ $\bullet$ $\bullet$ 25 g max. $\bullet$ $\bullet$ 60 g max. $\bullet$ 60 g max.<	Operating mode:		•	•	•	•	•	•	•	•
$\begin{array}{c c c c c c c c c c c c c c c c c c c $		addit off floor high off floor								
M12 4-pole connector 5   Electrical protection: class 2   Mechanical protection: IP67   Protection devices: A, B 6   Housing material: PBT   nickel plated brass • • • • • • • • • • • • • • • • • • •		2 m Ø 4 mm cable⁴	•	•			•	•		
Electrical protection: class 2 • • • • • • • • • • • • • • • • • • •			-		•	•			•	•
Mechanical protection: IP67 • • • • • • • • • • • •   Protection devices: A, B ° • • • • • • • • • • • • • •   Housing material: PBT • • • • • • • • • • • • • • • • • • •	Electrical protection:		•	•	•	•	•	•	•	•
Protection devices: A, B °   Housing material: PBT   nickel plated brass • • • •   Fibre fixing nut material: ABS   Weight: • • • •   25 g max. • • •   110 g max. • • •   60 g max. • • •   0perating temperature: -25 +55°C   Storage temperature: -25 +70°C		IP67	•	•	•	•	•	•	•	٠
PBT Image: Constraint of the system of t		A. B <sup>6</sup>	•	•	•	•	•	•	•	•
nickel plated brass   Fibre fixing nut material: ABS   Weight: 75 g max.   25 g max. •   110 g max. •   60 g max. •   0perating temperature: -25 +55°C   Storage temperature: -25 +70°C	Housing material:									
Fibre fixing nut material: ABS Image: Constraint of the second seco	¥	PBT	•	•	•	٠				
Weight: 75 g max. • •   25 g max. • • •   110 g max. • • • •   60 g max. • • • •   Storage temperature: -25 +55°C • • • • • • •		nickel plated brass					•		•	•
75 g max. • •   25 g max. • •   110 g max. • •   60 g max. • •   0perating temperature: -25 +55°C   Storage temperature: -25 +70°C	Fibre fixing nut material:	ABS	•	٠	•	٠	•		•	•
25 g max. ● ●   110 g max. ● ●   60 g max. ● ●   0perating temperature: -25 +55°C   Storage temperature: -25 +70°C	Weight:									
110 g max. ● ●   60 g max. ● ●   Operating temperature: -25 +55°C ● ● ● ● ● ●   Storage temperature: -25 +70°C ● ● ● ● ● ●		75 g max.	•	•						
60 g max.     Operating temperature:   -25 +55°C     Storage temperature:   -25 +70°C		25 g max.				٠				
Operating temperature:   -25 +55 °C   ● ● ● ● ● ● ● ●     Storage temperature:   -25 +70 °C   ● ● ● ● ● ● ●		110 g max.					•			
Storage temperature: -25 +70°C		60 g max.								٠
Storage temperature: -25 +70°C	Operating temperature:	-25 +55°C		٠	٠	٠	٠			٠
Reference standard: EN 60947-5-2		-25 +70°C	•		•		•			•
	Reference standard:	EN 60947-5-2	•		٠	٠				۲

#### **SELECTION TABLE**

plastic - axial optics - 2 m cable								
S50-PA-2-E01-NN	952001650	NPN						
S50-PA-2-E01-PP	952001130	PNP						
metal - axial optics - 2 m cable								
S50-MA-2-E01-NN	952021880	NPN						
S50-MA-2-E01-PP	952021040	PNP						
plastic - axial optics - M12 connector								
S50-PA-5-E01-NN	952001540	NPN						
S50-PA-5-E01-PP	952001140	PNP						

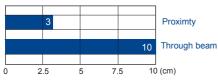
metal - axial optics - M12 connector								
S50-MA-5-E01-NN	952021890	NPN						
S50-MA-5-E01-PP	952021240	PNP						

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

### **TECHNICAL NOTES**

- <sup>1</sup> Limit values
- $^2$  Average life of 100.000 h with  $T_A$  = +25  $^\circ \mathrm{C}$
- <sup>3</sup> 270° single-turn trimmer
- <sup>4</sup> PVC, 4 x 0.14 mm<sup>2</sup>
- <sup>5</sup> Compatible with quick connection systems
- <sup>6</sup> A reverse polarity protection
  - *B* overload and short-circuit protection on the outputs

## 



Operating distance with standard fibres

Standard fibre-optics: OF-42-ST-20 proximity OF-43-ST-20 through beam

High efficiency fibre-optics or accessory lenses can be used to obtain larger operating distances. Refer to **Fibre**optics (A.02) of the **General Catalogue**.

#### **DETECTION DIAGRAMS**

