

SRF SERIES

The slot sensors of the **SRF** series are photoelectric devices characterised by an excellent precision thanks to the red LED emission which offers resolutions reaching 0.3 mm or class II LASER emission for resolutions down to 0.03 mm. High precision and reading repeatability are obtained thanks to the Laser emission combined with high switching frequency.

The particular 'U' shape with opposite receiver and emitter units, together with the high resistance of the metal housing, make monitoring extremely simple and rapid, guaranteeing reliable functioning as well as shock and vibration resistance. The **SRF** series presents versions with 30, 50, 80 and 120 mm slots allowing the best adaptation to the many different applications, including opaque label detection on transparent supports, monitoring of the correct material position and dimension or object counting on conveyor belts. Sensitivity adjustment is easily accomplished thanks to the trimmer positioned on the back side of the sensor. The range offers versions with PNP or NPN output. The light/dark mode can be selected in all models.



HIGHLIGHTS

- Visible red LED emission versions
- High resolution LASER versions
- Versions with 30, 50, 80 and 120 mm slots
- Sensitivity adjustment and dark/light selectors
- Sturdy metal housing with glass lenses

APPLICATIONS

Automotive



Labelling machines



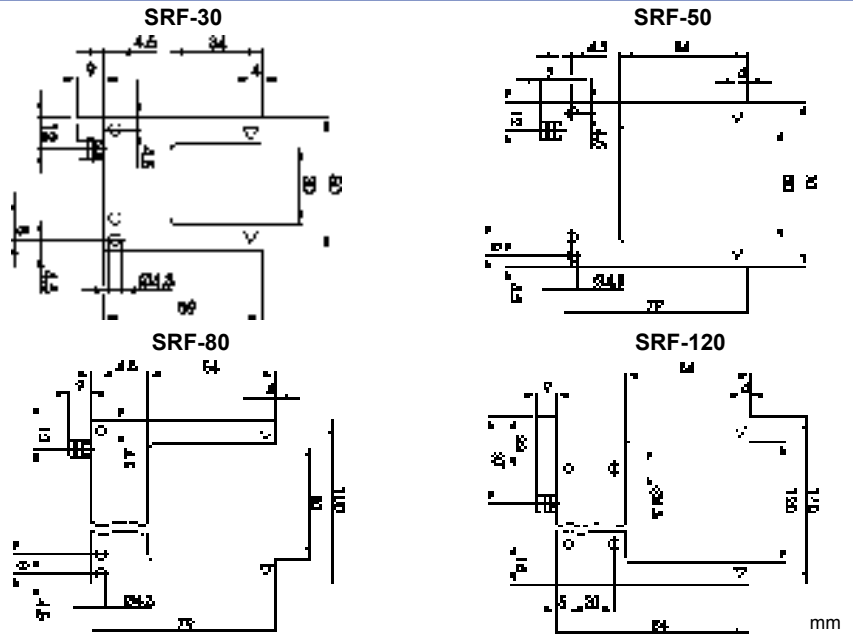
Packaging lines



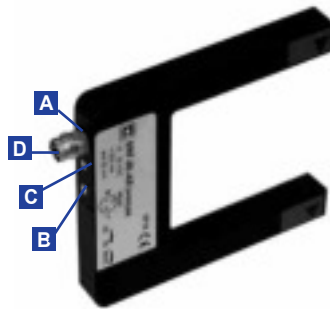
The best resolution, in terms of minimum detectable object, can be obtained rotating completely the sensitivity trimmer in a clockwise direction.

The normally closed output is selected by turning clockwise the output trimmer. The sensor, in this manner, functions in the light mode where the connector LED ON signals the absence of an object to detect. The opposite effect is obtained rotating the trimmer in an anti-clockwise direction and the sensor functions in the dark mode with the LED ON in presence of an object.

DIMENSIONS



INDICATORS AND SETTINGS

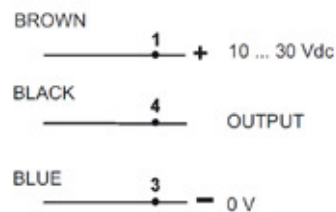


- A Output status LED
- B Sensitivity trimmer
- C Output type selector
- D M8 connector output

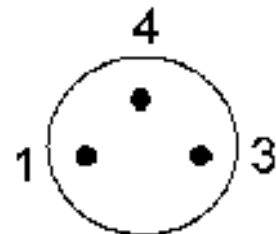
ACCESSORIES

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

CONNECTIONS



M8 CONNECTOR



Versions and options: refer to **MODEL SELECTION TABLE**

TECHNICAL DATA

TECHNICAL NOTES		SRF-30-5-P	SRF-30-5-N	SRF-50-5-P	SRF-50-5-N	SRF-80-5-P	SRF-80-5-N	SRF-120-5-P	SRF-120-5-N	SRF-L-30-5-P	SRF-L-50-5-P	SRF-L-80-5-P	SRF-L-120-5-P
1 Limit values 2 Average life of 100.000 h with TA = +25 °C 3 Class 1 EN60825-1, CDRH21 CFR 1040.10 4 270° trimmer 5 Dark/light selector 6 A - reverse polarity protection B - overload and short-circuit protection													
Power supply:	10..30 Vdc ¹	•	•	•	•	•	•	•	•	•	•	•	•
Consumption:	35 mA max	•	•	•	•	•	•	•	•	•	•	•	•
Light emission:	red LED 640 nm ²	•	•	•	•	•	•	•	•				
	red LASER 650 nm ³									•	•	•	•
Setting:	sensitivity trimmer ⁴	•	•	•	•	•	•	•	•	•	•	•	•
Resolution:	0.05 mm									•			
	0.08 mm										•		
	0.1 mm											•	
	0.15 mm												•
	0.3 mm	•	•										
	0.4 mm			•	•	•	•						
	0.8 mm							•	•				
Reproducibility:	0.015 mm									•	•	•	•
	0.02 mm	•	•										
	0.04 mm			•	•								
	0.06 mm					•	•						
	0.08 mm							•	•				
Hysteresis:	0,02 mm									•			
	0.025 mm										•		
	0.03 mm											•	
	0.05 mm												•
	0.1 mm	•	•										
	0.15 mm			•	•								
	0.2 mm					•	•	•	•				
Power on delay:	0.33 ms	•	•	•	•	•	•	•	•	•	•	•	•
Slot width:	30 mm	•	•							•	•		
	50 mm			•	•						•		
	80 mm					•	•					•	
	120 mm							•	•				•
Slot depth:	34 mm	•	•							•			
	54 mm			•	•	•	•	•	•		•	•	•
Detection point depth:	4 mm	•	•	•	•	•	•	•	•	•	•	•	•
Indicators:	red LED	•	•	•	•	•	•	•	•	•	•	•	•
Output type:	PNP	•		•		•		•		•	•	•	•
	NPN		•		•		•		•				
Saturation voltage:	3 V max	•	•	•	•	•	•	•	•	•	•	•	•
Output current:	200 mA, short-circuit protection	•	•	•	•	•	•	•	•	•	•	•	•
Response time:	100 µs									•	•	•	•
	333 µs	•	•	•	•	•	•	•	•				
Switching frequency:	5 KHz									•	•	•	•
	1,5 KHz	•	•	•	•	•	•	•	•				
Operating mode:	configurable light/dark ⁵	•	•	•	•	•	•	•	•	•	•	•	•
Connection:	M8 3-pole connector	•	•	•	•	•	•	•	•	•	•	•	•
Electrical protection:	class 1	•	•	•	•	•	•	•	•	•	•	•	•
Mechanical protection:	IP67	•	•	•	•	•	•	•	•	•	•	•	•
Protection devices:	A, B ⁶	•	•	•	•	•	•	•	•	•	•	•	•
Housing material:	anodised aluminium	•	•	•	•	•	•	•	•	•	•	•	•
Lens material:	glass	•	•	•	•	•	•	•	•	•	•	•	•
Weight:	36 g	•	•							•			
	54 g			•	•						•		
	77 g					•	•					•	
	118 g							•	•				•
Operating temperature:	-10...+60°C	•	•	•	•	•	•	•	•	•	•	•	•
Storage temperature:	-20...+70°C	•	•	•	•	•	•	•	•	•	•	•	•
Reference standard:	EN 60947-5-2,	•	•	•	•	•	•	•	•	•	•	•	•
	EN 60825-1, CDRH21 CFR 1040.10					•	•	•	•	•	•	•	•

SELECTION TABLE

slot sensors		
model	slot	output
SRF-30-5-P	30 mm	PNP
SRF-30-5-N	30 mm	NPN
SRF-50-5-P	50 mm	PNP
SRF-50-5-N	50 mm	NPN
SRF-80-5-P	80 mm	PNP
SRF-80-5-N	80 mm	NPN
SRF-120-5-P	120 mm	PNP
SRF-120-5-N	120 mm	NPN
SRF-L-30-5-P	30 mm	PNP
SRF-L-50-5-P	50 mm	PNP
SRF-L-80-5-P	80 mm	PNP
SRF-L-120-5-P	120 mm	PNP

MODEL SELECTION AND ORDER INFORMATION

MODEL	SLOT	EMISSION TYPE	USCITA	ORDER N°
SRF-30-5-P	30 mm	red LED	PNP	95B020050
SRF-30-5-N	30 mm	red LED	NPN	95B020090
SRF-50-5-P	50 mm	red LED	PNP	95B020060
SRF-50-5-N	50 mm	red LED	NPN	95B020100
SRF-80-5-P	80 mm	red LED	PNP	95B020070
SRF-80-5-N	80 mm	red LED	NPN	95B020110
SRF-120-5-P	120 mm	red LED	PNP	95B020080
SRF-120-5-N	120 mm	red LED	NPN	95B020120
SRF-L-30-5-P	30 mm	red LASER	PNP	95B020130
SRF-L-50-5-P	50 mm	red LASER	PNP	95B020140
SRF-L-80-5-P	80 mm	red LASER	PNP	95B020150
SRF-L-120-5-P	120 mm	red LASER	PNP	95B020160

ACCESSORY SELECTION AND ORDER INFORMATION

MODEL	DESCRIPTION	ORDER N°
CS-B1-01-G-03	3 m M8 3-pole axial connector	95A251490
CS-B1-01-G-05	5 m M8 3-pole axial connector	95A251510
CS-B2-01-G-03	3 m M8 3-pole radial connector	95A251500
CS-B2-01-G-05	5 m M8 3-pole radial connector	95A251520

The company endeavours to continuously improve and renew its products; for this reason the technical data and contents of this catalogue may undergo variations without prior notice. For correct installation and use, the company can guarantee only the data indicated in the instruction manual supplied with the products.