

S3Z SERIES

The high operating distances and cost-effective price, makes the **S3Z** series in the miniature format with dimensions and standard fixing affirmed in the market, in particular in Far-East. Different models are available: 15 m through beam, 4 m polarised retroreflex, 2m polarized for transparent, 70 cm diffuse proximity and narrow beam for between 50 and 150 mm. Moreover, a new 5 to 25 cm background suppression model with multi-turn mechanical trimmer setting is available. Versions with NPN or PNP output, with dark or light operating mode and with cable or M8 connection are foreseen. The plastic housing is completely overprinted, guaranteeing maximum mechanical protection also in presence of frequent washing.



HIGHLIGHTS

- 2m polarized for transparent detection
- 50-250 mm background suppression
- 1 m proximity, 15 cm with narrow beam
- 4 m polarised retroreflex
- 15 m through beam
- Standard 3 wire output configuration
- IP67 mechanical protection
- Interference prevention allows two units to be mounted in close proximity (polarized retro-reflective, diffused and background suppression).

APPLICATIONS

Automotive



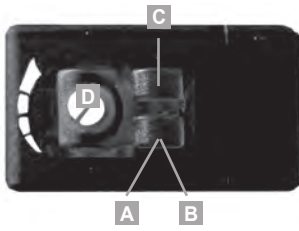
Beverage & Bottling



Packaging lines

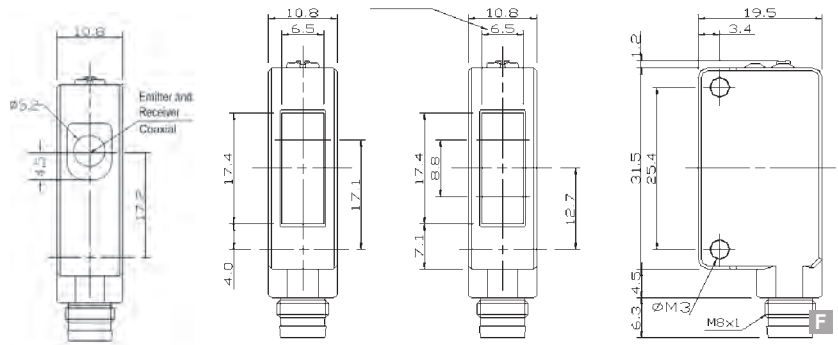


INDICATORS AND SETTING



- A** Output status LED
- B** Power on LED (S3Z ... G00)
- C** Stability LED
- D** Sensitivity trimmer
- E** Cable output
- F** M8 connector output

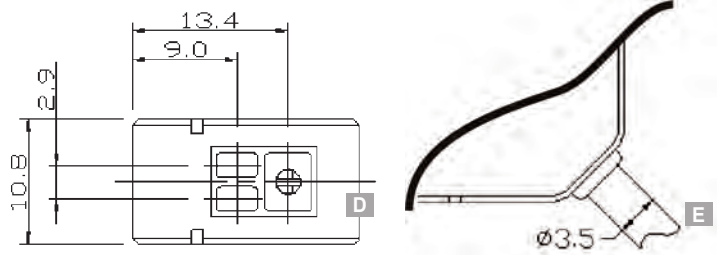
DIMENSIONS



S3Z ... T51

S3Z ... F01/G00

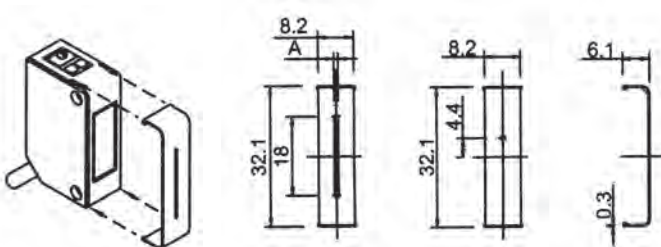
S3Z ... B01/C01/C11/M01



SLIT

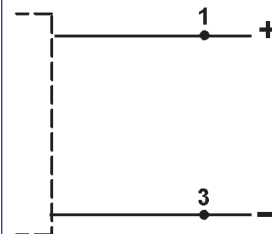
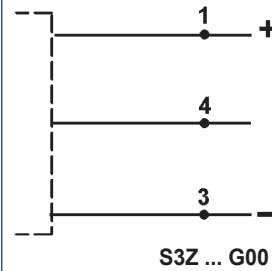
Two different slit models, with rectangular or circular slot, can be easily mounted on the front side of the through beam sensors to reduce the emission beam. The resolution and the minimum object detectable can be improved with the slit positioned on the receiver (S3Z...F01). The installation of the two aligned sensor couples is eased by mounting the slit also on the emitter (S3Z...G00), avoiding reciprocal interference. The slit reduces the operating distance as shown in the following table.

Slit		Operating distance		Minimum object detectable (mm)	
Model	Width (mm)	Used on F01	Used on F01 and G00	Used on F01	Used on F01 and G00
S3Z-SLIT1	∅ 0.5	0.8	0.08	5	0.3
S3Z-SLIT2	∅ 1	1.5	0.3	5	0.6
S3Z-SLIT3	∅ 2	2.5	1.2	5	1.5
S3Z-SLIT4	0.5x18	2.5	1	7	0.5
S3Z-SLIT5	1x18	3.5	1.5	7	1
S3Z-SLIT6	2x18	6	3.5	7	2

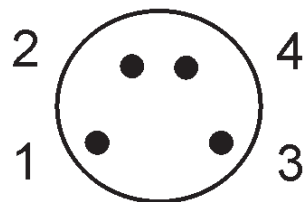


CONNECTIONS

S3Z ... B01/C01/C11/M01/T51



M8 CONNECTOR



TECHNICAL DATA

TECHNICAL NOTES

¹Limit values

²Average life of 100.000 h with T_A=+25°C

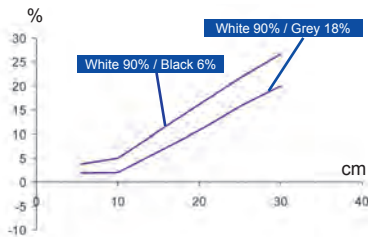
³A - reverse polarity protection

B - overload and short-circuit protection (B01/C01/C11/F01 VERS.)

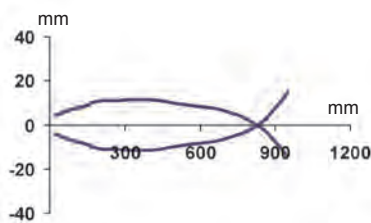
		S3Z-PR-2-B01	S3Z-PR-2-C01	S3Z-PR-2-C11	S3Z-PR-2-F01	S3Z-PR-2-G00	S3Z-PR-2-M01	S3Z-PR-2-T51	S3Z-PR-5-B01	S3Z-PR-5-C01	S3Z-PR-5-C11	S3Z-PR-5-F01	S3Z-PR-5-G00	S3Z-PR-5-M01	S3Z-PR-5-T51
Narrow beam proximity operating distance:	50 ... 150 mm		•							•					
Diffuse proximity operating distance:	0 ... 70 cm			•							•				
Polarized retroreflex operating distance:	0.05 ... 4 m (on R5)	•							•						
Polarized for transparent	0... 2 m (on R2)							•							•
Through beam operating distance:	0 ... 15 m				•	•							•	•	
Background suppression distance:	50 ... 250 mm						•							•	
Power supply:	10 ... 30 Vdc ¹	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Consumption:	30 mA max.	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Light emission²:	red LED 665 nm	•	•				•	•	•	•				•	•
	infrared LED 870 nm			•		•					•		•		•
Setting:	sensitivity trimmer	•	•	•	•		•	•	•	•	•	•	•	•	•
Indicators:	yellow OUTPUT LED	•	•	•	•		•	•	•	•	•	•	•	•	•
	green STABILITY LED	•	•	•	•		•	•	•	•	•	•	•	•	•
	green POWER ON LED					•							•		
Output type:	PNP or NPN (refer to table)	•	•	•	•		•	•	•	•	•	•	•	•	•
Operating mode:	dark or light (refer to table)	•	•	•	•		•	•	•	•	•	•	•	•	•
Saturation voltage:	≤2 V	•	•	•	•		•	•	•	•	•	•	•	•	•
Response time:	1 ms			•	•		•	•	•	•	•	•	•	•	•
Switching frequency:	500 Hz	•	•	•	•		•	•	•	•	•	•	•	•	•
Output current:	≤100 mA	•	•	•	•		•	•	•	•	•	•	•	•	•
Connection:	2 m cable, Ø 3.5 mm	•	•	•	•		•	•	•	•	•	•	•	•	•
	4-pole M8 connector														
Mechanical protection:	IP67	•	•	•	•		•	•	•	•	•	•	•	•	•
Protection devices:	A, B ³	•	•	•	•		•	•	•	•	•	•	•	•	•
Housing material:	PC / PBT	•	•	•	•		•	•	•	•	•	•	•	•	•
Lens material:	PMMA	•					•	•	•	•				•	•
	PC		•	•	•					•	•	•	•	•	•
Weight:	10 g								•	•	•	•	•	•	•
	50 g	•	•	•	•		•	•	•	•	•	•	•	•	•
Operating temperature:	-25 ... +55°C	•	•	•	•		•	•	•	•	•	•	•	•	•
Storage temperature:	-25 ... +70°C	•	•	•	•		•	•	•	•	•	•	•	•	•
Standard reference:	EN 60947-5-2	•	•	•	•		•	•	•	•	•	•	•	•	•

READING DIAGRAM

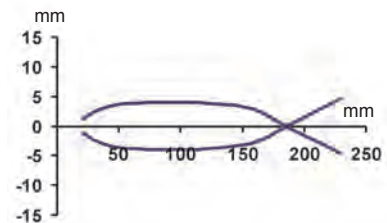
DETECTION AREA - BACKGROUND SUPPRESSION



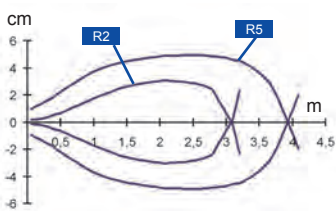
DETECTION AREA - DIFFUSE PROXIMITY



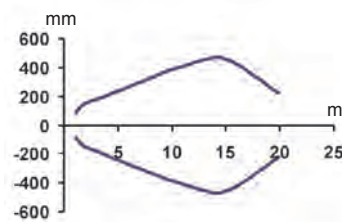
DETECTION AREA-NARROW BEAM PROXIMITY



DETECTION AREA - POLARISED RETROREFLEX



DETECTION AREA - THROUGH BEAM



DETECTION AREA - FOR TRANSPARENT

