UNIVERSAL MINIATURE SENSORS

MINIATURE HIGH-PERFORMANCE SENSORS



actual dimensions

- ***Miniature format with standard dimensions and fixing***
- ***15 m through beam and 4 m polarised retroreflex***
- ***70 cm diffuse proximity and 15 cm narrow-beam proximity***
- ***Versions with NPN or PNP output, dark or light mode, cable or M8 connection***

S3Z SERIES

The miniature format with dimensions and fixing compatible with market standards, together with excellent performances, long operating distances, cost-effectiveness, easy use and installation, make the **S3Z** series the ideal detection solution for industrial automation.

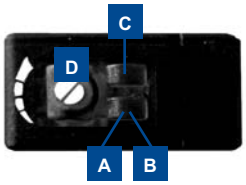
Different models are available to satisfy many different application requirements: 15 m through beam, 4 m polarised retroreflex, 70 cm diffuse proximity and another diffuse model for the detection of very small objects at a distance ranging from 50 to 150 mm. Every optic function has different versions with NPN or PNP output, dark or light operating mode and cable or M8 connection.

The plastic housing of the **S3Z** sensors is completely overmoulded on the internal photoelectric part offering maximum sturdiness and IP67 mechanical protection and thus guaranteeing excellent functioning also in case of frequent washing.

DATASENSOR
value through detection

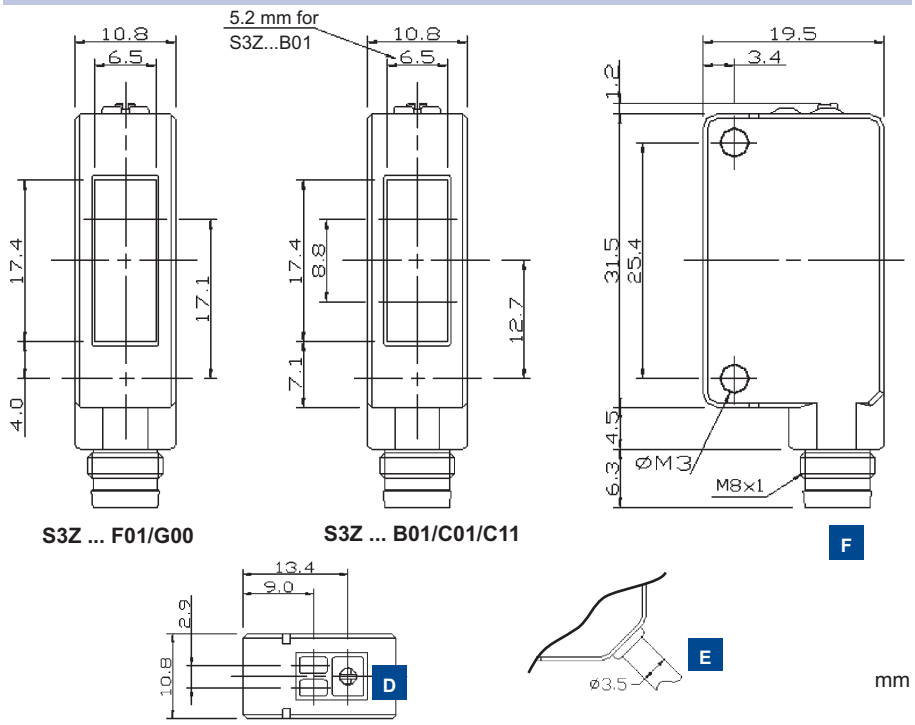
S3Z UNIVERSAL MINI SENSORS

INDICATORS AND SETTINGS



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

DIMENSIONS

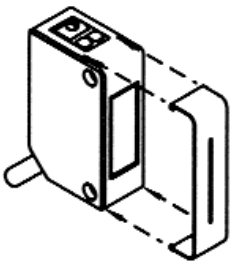


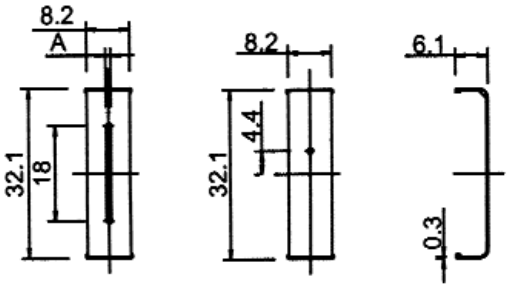
mm

SLIT

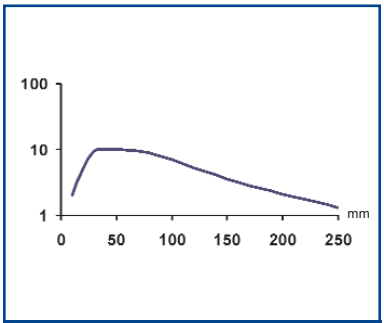
Two different slit models, with rectangular or circular slot, can be easily mounted on the front side of the through beam sensors to reduce the emission beam. The resolution and the minimum object detectable can be improved with the slit positioned on the receiver (S3Z...F01). The installation of the 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 (m)		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	Ø 0.5	0.8	0.08	5	0.3
S3Z-SLIT2	Ø 1	1.5	0.3	5	0.6
S3Z-SLIT3	Ø 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

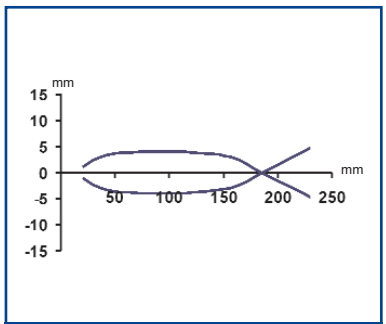








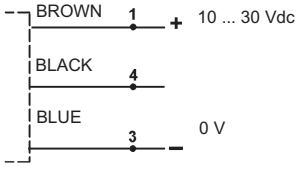
Excess gain - narrow beam proximity



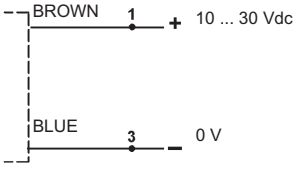
Detection area - narrow beam proximity

CONNECTIONS

S3Z...B01/C01/C11/F01



S3Z...G00



M8 STECKER



DATASENSOR

TECHNICAL DATA

		S3Z-PR-2-B01	S3Z-PR-2-C01	S3Z-PR-2-C11	S3Z-PR-2-F01	S3Z-PR-2-G00	S3Z-PR-5-B01	S3Z-PR-5-C01	S3Z-PR-5-C11	S3Z-PR-5-F01	S3Z-PR-5-G00
Narrow beam proximity operating distance:	50 ... 150 mm		●				●				
Diffuse proximity operating distance:	0 ... 70 cm			●				●			
Polarised retroreflex operating distance:	0.05 ... 4 m (on R5)	●					●				
Through beam operating distance:	0 ... 15 m				●	●				●	●
Power supply:	10 ... 30 Vdc [1]	●	●	●	●	●	●	●	●	●	●
Consumption:	30 mA max.	●	●	●	●	●	●	●	●	●	●
Light emission [2] :	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	●	●	●	●	●	●	●	●	●	●

CE

SELECTION TABLE

narrow beam proximity		
S3Z-PR-2-C01-PL	95B010040	PNP - light
S3Z-PR-5-C01-PL	95B010050	PNP - light
S3Z-PR-2-C01-PD	95B010060	PNP - dark
S3Z-PR-5-C01-PD	95B010070	PNP - dark
S3Z-PR-2-C01-NL	95B010200	NPN - light
S3Z-PR-5-C01-NL	95B010210	NPN - light
S3Z-PR-2-C01-ND	95B010220	NPN - dark
S3Z-PR-5-C01-ND	95B010230	NPN - dark
diffuse proximity		
S3Z-PR-2-C11-PL	95B010000	PNP - light
S3Z-PR-5-C11-PL	95B010010	PNP - light
S3Z-PR-2-C11-PD	95B010020	PNP - dark
S3Z-PR-5-C11-PD	95B010030	PNP - dark
S3Z-PR-2-C11-NL	95B010160	NPN - light
S3Z-PR-5-C11-NL	95B010170	NPN - light
S3Z-PR-2-C11-ND	95B010180	NPN - dark
S3Z-PR-5-C11-ND	95B010190	NPN - dark
polarised retroreflex		
S3Z-PR-2-B01-PL	95B010080	PNP - light
S3Z-PR-5-B01-PL	95B010090	PNP - light
S3Z-PR-2-B01-PD	95B010100	PNP - dark
S3Z-PR-5-B01-PD	95B010110	PNP - dark
S3Z-PR-2-B01-NL	95B010240	NPN - light
S3Z-PR-5-B01-NL	95B010250	NPN - light
S3Z-PR-2-B01-ND	95B010260	NPN - dark
S3Z-PR-5-B01-ND	95B010270	NPN - dark
through beam		
S3Z-PR-2-FG01-PL	95B010120	PNP - light
S3Z-PR-5-FG01-PL	95B010130	PNP - light
S3Z-PR-2-FG01-PD	95B010140	PNP - dark
S3Z-PR-5-FG01-PD	95B010150	PNP - dark
S3Z-PR-2-FG01-NL	95B010280	NPN - light
S3Z-PR-5-FG01-NL	95B010290	NPN - light
S3Z-PR-2-FG01-ND	95B010300	NPN - dark
S3Z-PR-5-FG01-ND	95B010310	NPN - dark

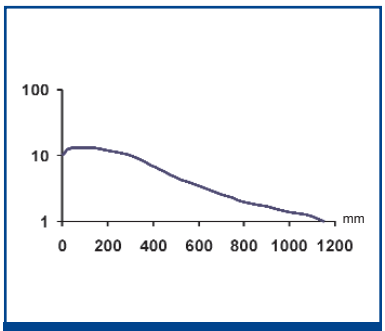
TECHNICAL NOTES

[1] *Limit values*

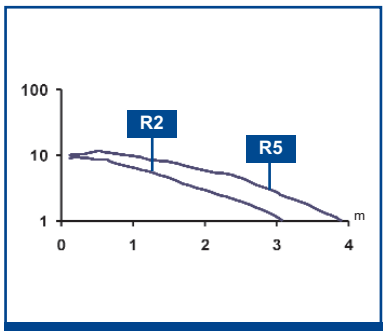
[2] *Average life of 100.000 h with T_A = +25 °C*

[3] *A - reverse polarity protection*
B - overload and short-circuit protection (B01/C01/C11/F01 vers.)

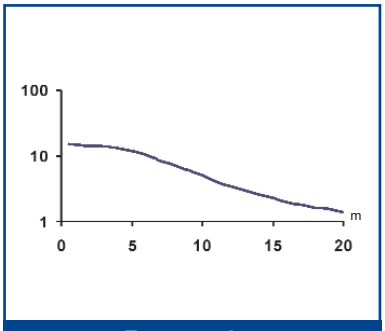
DETECTION DIAGRAMS



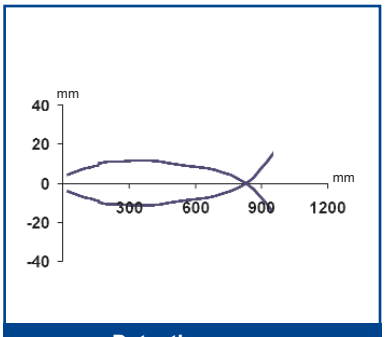
Excess gain - diffuse proximity



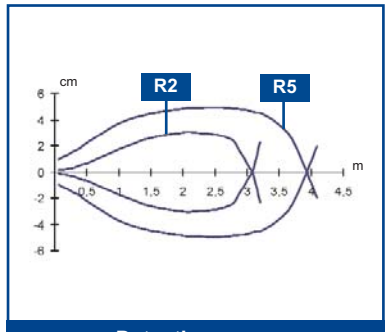
Excess gain - polarised retroreflex



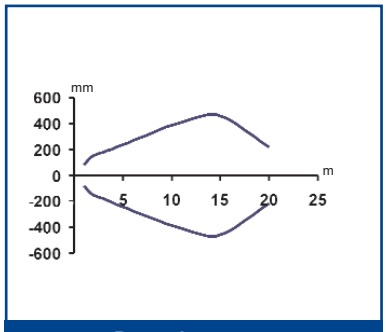
Excess gain - through beam



Detection area - diffuse proximity



Detection area - polarised retroreflex



Detection area - through beam

DATASENSOR

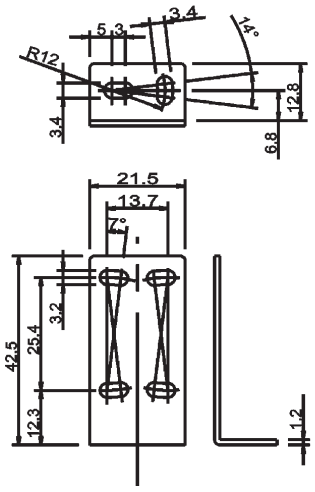
MODEL SELECTION TABLE

MODEL	FUNCTION	CONNECTION	OUTPUT	ORDER N°
S3Z-PR-2-C01-PL	narrow beam proximity	cable	PNP - light	95B010040
S3Z-PR-5-C01-PL	narrow beam proximity	M8 connector	PNP - light	95B010050
S3Z-PR-2-C01-PD	narrow beam proximity	cable	PNP - dark	95B010060
S3Z-PR-5-C01-PD	narrow beam proximity	M8 connector	PNP - dark	95B010070
S3Z-PR-2-C01-NL	narrow beam proximity	cable	NPN - light	95B010200
S3Z-PR-5-C01-NL	narrow beam proximity	M8 connector	NPN - light	95B010210
S3Z-PR-2-C01-ND	narrow beam proximity	cable	NPN - dark	95B010220
S3Z-PR-5-C01-ND	narrow beam proximity	M8 connector	NPN - dark	95B010230
S3Z-PR-2-C11-PL	diffuse proximity	cable	PNP - light	95B010000
S3Z-PR-5-C11-PL	diffuse proximity	M8 connector	PNP - light	95B010010
S3Z-PR-2-C11-PD	diffuse proximity	cable	PNP - dark	95B010020
S3Z-PR-5-C11-PD	diffuse proximity	M8 connector	PNP - dark	95B010030
S3Z-PR-2-C11-NL	diffuse proximity	cable	NPN - light	95B010160
S3Z-PR-5-C11-NL	diffuse proximity	M8 connector	NPN - light	95B010170
S3Z-PR-2-C11-ND	diffuse proximity	cable	NPN - dark	95B010180
S3Z-PR-5-C11-ND	diffuse proximity	M8 connector	NPN - dark	95B010190
S3Z-PR-2-B01-PL	polarised retroreflex	cable	PNP - light	95B010080
S3Z-PR-5-B01-PL	polarised retroreflex	M8 connector	PNP - light	95B010090
S3Z-PR-2-B01-PD	polarised retroreflex	cable	PNP - dark	95B010100
S3Z-PR-5-B01-PD	polarised retroreflex	M8 connector	PNP - dark	95B010110
S3Z-PR-2-B01-NL	polarised retroreflex	cable	NPN - light	95B010240
S3Z-PR-5-B01-NL	polarised retroreflex	M8 connector	NPN - light	95B010250
S3Z-PR-2-B01-ND	polarised retroreflex	cable	NPN - dark	95B010260
S3Z-PR-5-B01-ND	polarised retroreflex	M8 connector	NPN - dark	95B010270
S3Z-PR-2-FG01-PL	through beam	cable	PNP - light	95B010120
S3Z-PR-5-FG01-PL	through beam	M8 connector	PNP - light	95B010130
S3Z-PR-2-FG01-PD	through beam	cable	PNP - dark	95B010140
S3Z-PR-5-FG01-PD	through beam	M8 connector	PNP - dark	95B010150
S3Z-PR-2-FG01-NL	through beam	cable	NPN - light	95B010280
S3Z-PR-5-FG01-NL	through beam	M8 connector	NPN - light	95B010290
S3Z-PR-2-FG01-ND	through beam	cable	NPN - dark	95B010300
S3Z-PR-5-FG01-ND	through beam	M8 connector	NPN - dark	95B010310

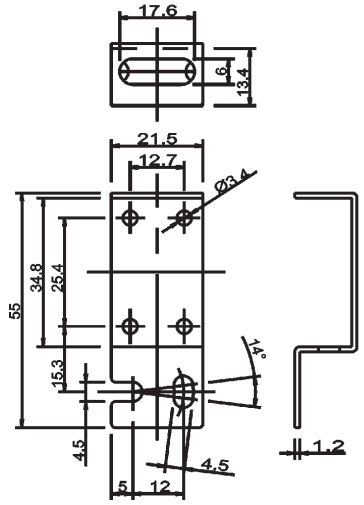
ACCESSORIES

DIMENSIONS

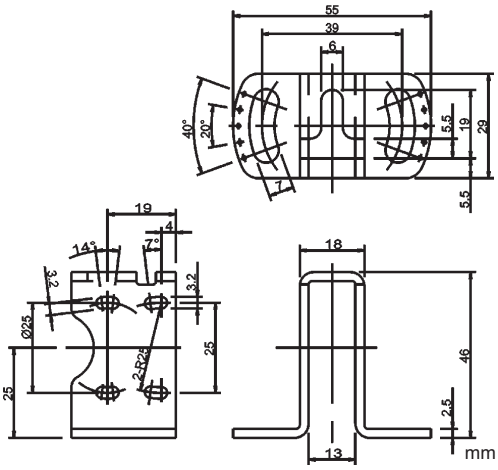
ST-5039



ST-5040



ST-5046



SELECTION TABLE

MODEL	DESCRIPTION	ORDER N°
ST-5039	L-shaped fixing bracket	95ACC2270
ST-5040	protection bracket with vertical fixing (only for cable versions)	95ACC2280
ST-5046	protection bracket with horizontal fixing	95ACC2370
S3Z-SLIT1	Ø 0,5 mm slit for through beam	95ACC2470
S3Z-SLIT2	Ø 1 mm slit for through beam	95ACC2480
S3Z-SLIT3	Ø 2 mm slit for through beam	95ACC2490
S3Z-SLIT4	0,5x18 mm slit for through beam	95ACC2500
S3Z-SLIT5	1x18 mm slit for through beam	95ACC2510
S3Z-SLIT6	2x18 mm slit for through beam	95ACC2520

*Refer also **DATASENSOR connectors** and **reflectors***

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