COMPACT 50x50 mm LINE SENSOR

- *Line sensor with RS485 serial interface*
- *NP or NPN digital output and 4 - 20 mA analogue output*
- *Teach-in of the measurement limit values for digital output activation*
- *3 setting push-buttons and a 4-digit display*

S65-Z SERIES

ADVANCED MIDI SENSORS

Built in a 50 x 50 mm standard compact housing, the **S65-Z** series offers a retroreflex line sensor for accurate measurements of the centre or edge position and width of objects. This series results to be particular suitable for a wide range of industrial automation applications, such as packaging, printing assembling on automatic machines.

The detection is made on a reflecting tape, supplied with the sensor, positioned behind the object, with a 150 mm maximum measurement field width and a 200 mm operating distance.

The 4-20 mA analogue output is proportional to the measurement, while the digital output, PNP or NPN according to the model, is activated when the measured value is included inside the interval fixed by the operator via teach-in.

An alarm signal is activated when the luminous intensity received is weak, as for example in presence of dirty lenses.

The setting is accomplished through three push-buttons present on the control panel, together with the output status LED, two LEDs signalling the operating mode, an alarm LED and a 4-digit display for the visualisation of the measurement and sensor configuration messages.

Models with the RS485 serial interface offer the remote setting of all the programmable functions as well as the transmission of the measurements to an industrial PC are available. The electrical connection is made through a standard M12 8-pole connector.

DATASENSOR
value through detection

The object to measure is illuminated by the infrared emission cone. The light reflected by the reflector is detected by a photodiode array and analysed according to 3 operating modes:

· Edge position: detects the position of the right or left edge of an object or of the first edge beginning from the right or left side in presence of more objects;

· Centre position: detects the centre independently from the object's dimensions;

· Width measurement: in presence of one object it provides the distance between two edges; in presence of different objects it provides the sum of the respective widths;

The analogue output generates a signal proportional to the distance from the reference edge or to the object width; the digital output switches when the detected position or measurement is inside the interval acquired via teach-in.
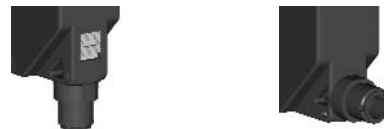
DIMENSIONS

11.5   5.5

M12
Ø15

mm
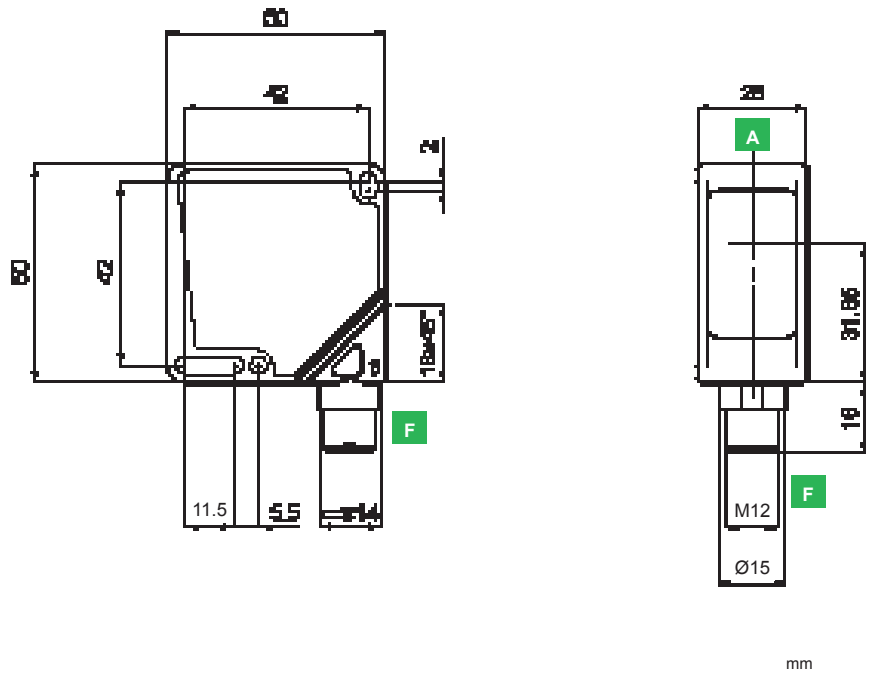
INDICATORS AND SETTINGS

OUT
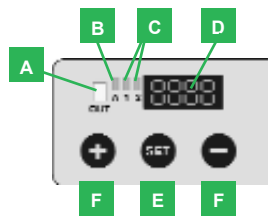
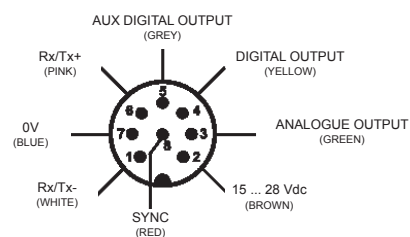|	Description
A	Output status LED
B	Alarm LED
C	Operating mode LEDs
D	4-digit display
E	SET push-button
F	+/- selection push-buttons
G	M12 connector output orientable on two positions

ACCESSORIES

For d**edicated 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

S65-PA-5

AUX DIGITAL OUTPUT
(GREY)

Rx/Tx+
(PINK)

DIGITAL OUTPUT
(YELLOW)

0V
(BLUE)

ANALOGUE OUTPUT
(GREEN)

Rx/Tx-
(WHITE)

15 ... 28 Vdc
(BROWN)

SYNC
(RED)

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

TECHNICAL DATA

		S65-PA-5-Z03-NNI	S65-PA-5-Z03-NNIZ	S65-PA-5-Z03-PPI	S65-PA-5-Z03-PPIZ
Measurement distance from object:	200 mm	●	●	●	●
Measured width:	150 mm	●	●	●	●
Power supply:	10 ... 30 Vdc [1]	●	●	●	●
Ripple:	2 Vpp	●	●	●	●
Consumption:	< 70 mA	●	●	●	●
Light emission [2] **:**	infrared LED 875 nm	●	●	●	●
Minimum dimension measured:	0.9 mm	●	●	●	●
Resolution:	0.15 mm	●	●	●	●
Lineariy error:	≤ 1%	●	●	●	●
Setting:	3 push-buttons	●	●	●	●
Indicators:	4-digit display	●	●	●	●
	2 green operating mode LEDs	●	●	●	●
	green ALARM LED	●	●	●	●
	yellow OUTPUT LED	●	●	●	●
Output type:	PNP, NA			●	●
	NPN, NA	●	●		
	analogue 4-20 mA	●	●	●	●
Output current:	≤ 100 mA at 25°C	●	●	●	●
Saturation voltage:	≤ 1.2 V	●	●	●	●
Switching frequency:	> 130 Hz	●	●	●	●
Auxiliary functions:	RS485 serial interface		●		●
	keylock	●	●	●	●
	delay	●	●	●	●
Connection:	M12 8-pole connector [3]	●	●	●	●
Electrical protection:	class 2	●	●	●	●
Mechanical protection	IP67	●	●	●	●
Protection devices:	A, B [4]	●	●	●	●
Housing material:	ABS	●	●	●	●
Lens material:	glass	●	●	●	●
Weight:	100 g max.	●	●	●	●
Operating temperature:	-10 ... +55°C	●	●	●	●
Storage temperature:	-20 ... +70°C	●	●	●	●
Standard reference:	EN 60947-5-2	●	●	●	●

CE   c (UL) US LISTED

SELECTION TABLE

models with RS485 serial interface

S65-PA-5-Z03-NNIZ	956251070	NPN
S65-PA-5-Z03-PPIZ	956251060	PNP

models without RS485 serial interface

S65-PA-5-Z03-NNI	956251050	NPN
S65-PA-5-Z03-PPI	956251040	PNP

TECHNICAL NOTES

[1] *Limit values*

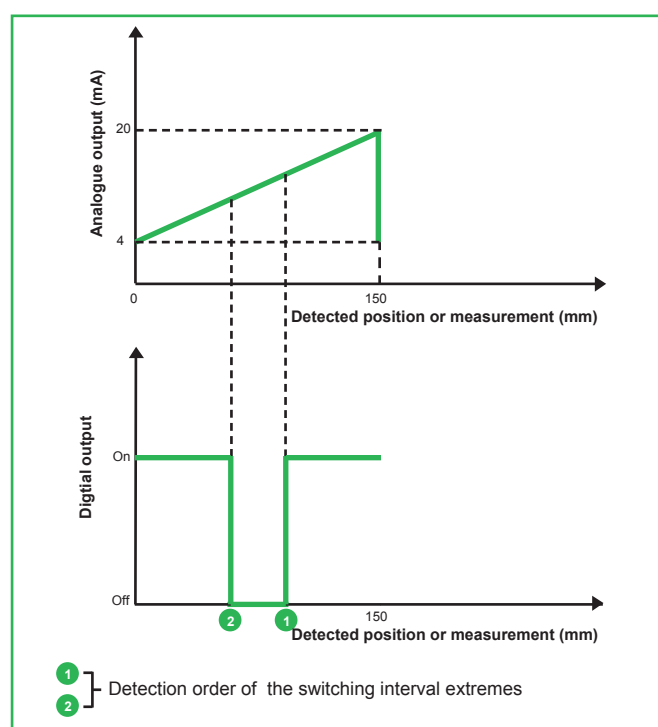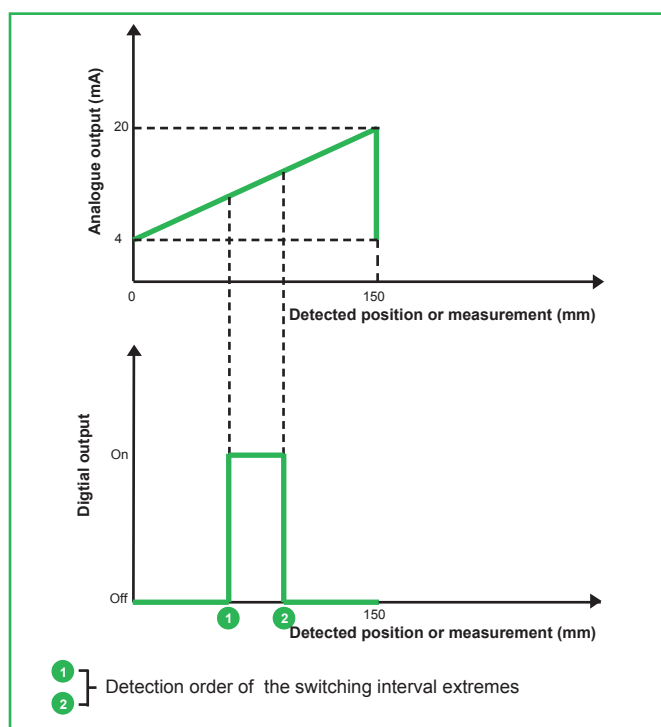[2] *Average life of 100.000 h with T_A = +25 °C*

[3] *Connector can be blocked on two positions*

[4] *A - reverse polarity protection*
B - overload and short-circuit protection

DETECTION DIAGRAMS

1 ⌐ Detection order of the switching interval extremes
2 ⌐

Note: the digital output is activated inside the switching range if the inferior limit is acquired first and then the superior limit. The inverse logic functioning is obtained inverting the acquisition order.
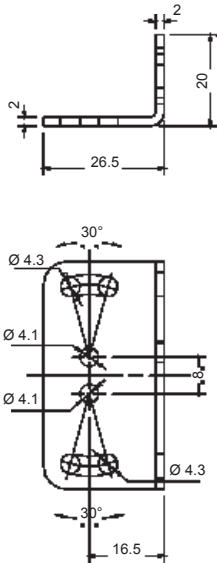
DATASENSOR

MODEL SELECTION TABLE

MODEL	RS485	CONNECTION	OUTPUT	ORDER N°
S65-PA-5-Z03-NNI		M12 connector	NPN	956251050
S65-PA-5-Z03-NNIZ	•	M12 connector	NPN	956251070
S65-PA-5-Z03-PPI		M12 connector	PNP	956251040
S65-PA-5-Z03-PPIZ	•	M12 connector	PNP	956251060

ACCESSORIES

DIMENSIONS

ST-5020

ST-5021
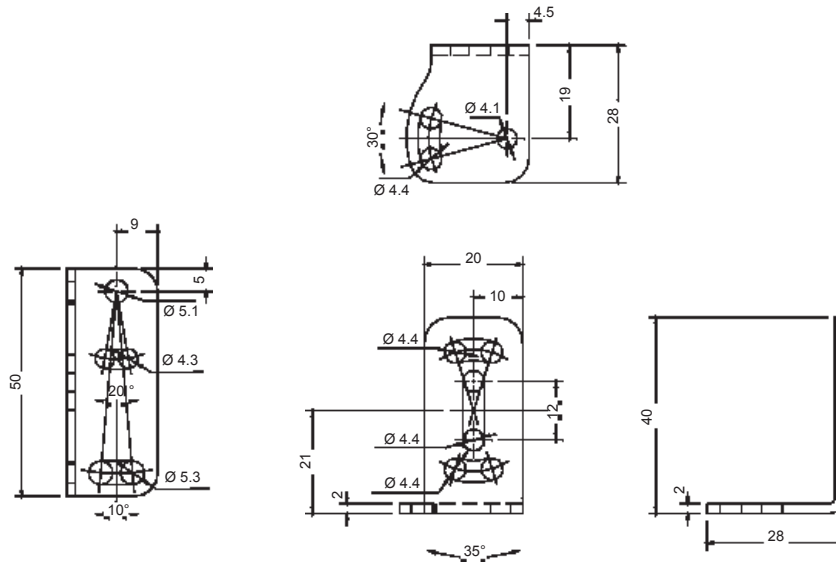
ACCESSORY SELECTION TABLE

MODEL	DESCRIPTION	ORDER N°
ST-5020	fixing bracket 50 x 27 x 20 mm	95ACC5330
ST-5021	fixing bracket 20 x 40 x 28 mm	95ACC5340
TAPE S65-Z	self-adhesive reflective tape 25 x 900 mm	95ACC2290
*Refer also to **Accessories for Sensors***		
CS-A1-06-B-03	M12 8-pole unshielded axial 3 m connector	95ACC2230
CS-A1-06-B-05	M12 8-pole unshielded axial 5 m connector	95ACC2240
CS-A1-06-B-10	M12 8-pole unshielded axial 10 m connector	95ACC2250

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