

S18/S18M SERIES INSTRUCTION MANUAL

CONTROLS

OUTPUT LED

The yellow LED indicates the output status.

TRIMMER (S18/S18M-5-x-B/C)

The trimmer can be used to adjust sensitivity; the operating distance increases turning the trimmer clockwise.

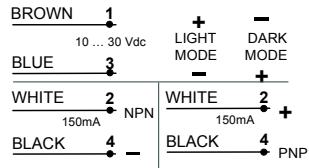
WARNING: The trimmer rotation is limited to 270° by a mechanical stop. Do not apply excessive torque when adjusting (max 40 Nmm).

POWER ON LED (S18/S18M-5-x-G)

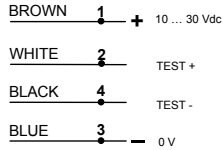
The green LED indicates that the sensor is operating.

CONNECTIONS

S18-5-x (4 wires)



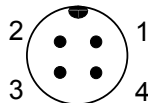
S18-5-G (4 wires)



S18-5-x (3 wires)

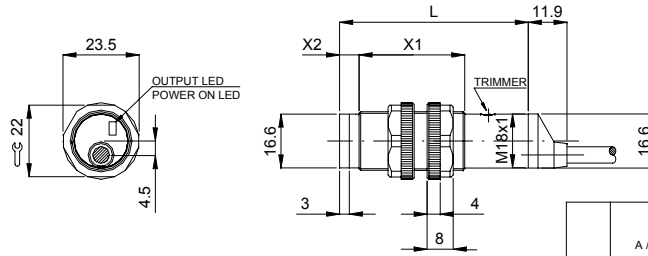


M12 CONNECTOR



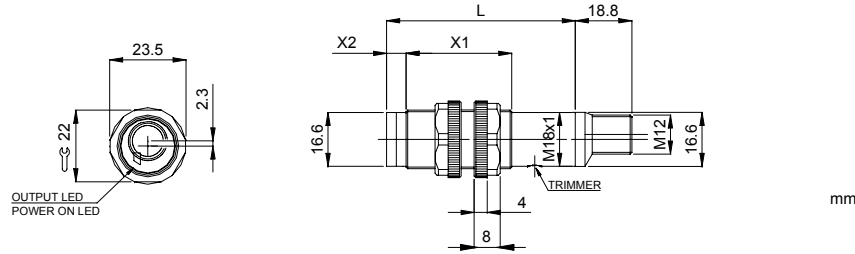
DIMENSIONS

CABLE VERSION



	MODELS		
	A / K / G	C / F	B
L	55	65	68
X1	32	42	42
X2	3	3	6

M12 CONNECTOR VERSION



TECHNICAL DATA

	S18/S18M-5-A	S18/S18M-5-B	S18/S18M-5-C/K	S18/S18M-5-F/G
Power supply:	10 ... 30 Vdc limit values			
Ripple:	2 Vpp max.			
Current consumption (output current excluded):	30 mA max.			
Output:	NPN/PNP selectable (4 wires versions) - short-circuit protection at 200 mA			
Output current:	150 mA max.			
Output saturation voltage:	2.5 V max. (4 wires versions) / 1.8 V max. (3 wires versions)			
Output leakage:	50µA at 30Vdc			
Response time:	1 ms max.		2 ms max.	
Switching frequency:	500 Hz max.		250 Hz max.	
Indicators:	led OUT (YELLOW) / led POWER ON (GREEN) mod. G			
Setting:	sensitivity trimmer mod. B/C			
Operating temperature:	-25 ... 55 °C			
Storage temperature:	-25 ... 70 °C			
Electric shock protection:	Class 2 vers.S18 / Class 1 vers.S18M			
Operating distance (minimum):	A/B: see TAB.1 C: 1 ... 30 cm K: 1 ... 10 cm F/G: 0 ... 12 m			
Emission type:	INFRARED (880 nm)	RED (660 nm)	INFRARED (880 nm)	
Ambient light rejection:	according to EN 60947-5-2			
Vibration:	0.5 mm amplitude, 10 ... 55 Hz frequency, for every axis (EN60068-2-6)			
Shock resistance:	11 ms (30 G) 6 shock for every axis (EN60068-2-27)			
LIGHT/DARK selection:	selectable by inverting the power supply wires (4 wires versions) LIGHT mode mod. K/C and DARK mode mod.A/ B/F (3 wires versions)			
Housing:	ABS vers.S18 / Nickel-plated brass vers. S18M			
Connector/Gland:	Polycarbonate			
Lenses:	PMMA plastic			
Protection class:	IP67			
Connections:	2 m cable Ø 5 mm / M12 4-pole connector			
Weight:	S18: 100 g. max. cable versions / 25 g. max. connector versions S18M: 115 g. max. cable versions / 50 g. max. connector versions			

SETTING

The following procedures are valid for LIGHT mode operation.

Alignment S18/S18M-5-A/B

Position the sensor and reflector on opposite sides. Find the points where the yellow LED (OUT) is switched ON and OFF in both vertical and horizontal positions, and fix the sensor in the centre between these points.

B models: Turn the sensitivity trimmer to maximum. If necessary, reduce sensitivity in order to detect very small targets.

In order to improve alignment, repeat the procedure detailed above whilst progressively reducing the sensitivity.

Alignment S18/S18M-5-F/G

Position the sensors on opposite sides.

Find the points where the yellow LED (OUT) is switched ON and OFF in both vertical and horizontal positions, and fix the sensor in the centre between these points.

Alignment S18/S18M-5-C

Position the sensor and turn the sensitivity trimmer at minimum: the yellow LED is OFF.

Place the target opposite the sensor. Turn the sensitivity trimmer clockwise until the yellow LED turns ON (Target detected state, pos.A).

Remove the target, the yellow LED turns OFF.

Turn the trimmer clockwise until the yellow LED turns ON (Background detected state, pos.B). The trimmer reaches maximum if the background is not detected. Turn the trimmer to the intermediate position C, between the two positions A and B.



Alignment S18-5-K

The operating distance range of these sensors is factory preset: please consider this feature when positioning.

TEST FUNCTION (S18/S18M-5-G)

The TEST+ and TEST- inputs can be used to inhibit the emitter and verify that the system is correctly operating.

The receiver output should switch when the test is activated while the beam is uninterrupted.

The inputs activating voltage range is 10 ... 30 Vdc, whilst respecting the polarity.

TAB.1: S18/S18-5-A/B max. operating distance table (meters)

	REFLECTOR						
	R0	R1	R2	R3	R4	R5	R6
-A	0.7	1.5	2	2	3	3	3.5
-B	N/A	0.8	1.5	1.5	2	2	2.2

DECLARATION OF CONFORMITY

We DATASENSOR S.p.A. declare under our sole responsibility that these products are conform to the 2004/108 CEE, 2006/25/CE Directives and successive amendments.



WARRANTY

DATASENSOR S.p.A. warrants its products to be free from defects. DATASENSOR S.p.A. will repair or replace, free of charge, any product found to be defective during the warranty period of 36 months from the manufacturing date.

This warranty does not cover damage or liability deriving from the improper application of DATASENSOR products.

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