

## S10 SERIES INSTRUCTION MANUAL

### CONTROLS

#### OUTPUT LED

The red LED indicates the output status.

#### STABILITY LED and TRIMMER

The green LED ON indicates that the received signal has a safety margin greater than 30% compared to the output switching value.

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

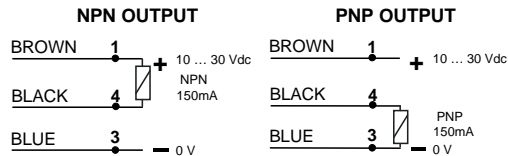
**WARNING:** The trimmer rotation is limited to 270° by a mechanical stop. Do not apply excessive torque when adjusting (max 40 Nmm).

#### POWER ON LED (S10-x-G8)

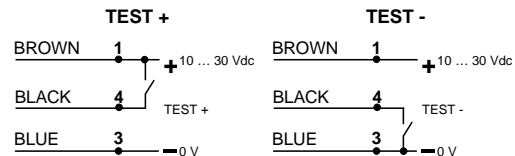
The red LED indicates that the sensor is operating.

### CONNECTIONS

#### S10-5-A2/B1.5/C8/C30/D14/F8



#### S10-5-G8

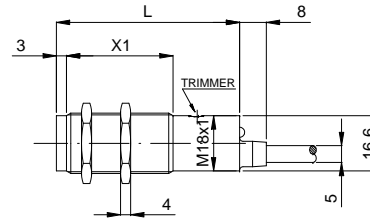
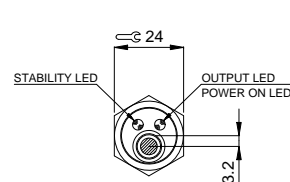


#### M12 CONNECTOR



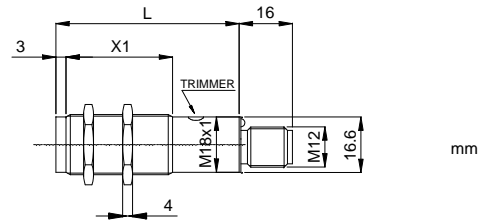
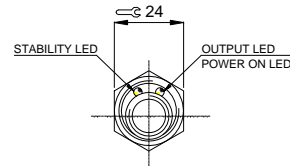
### DIMENSIONS

#### CABLE VERSION



	MODELS		
	A2/C8/C30/D14/F8	B1.5	G8
L	65.1	67.4	55.1
X1	41.3	43.6	31.3

#### M12 CONNECTOR VERSION



### TECHNICAL DATA

Power supply:	10 ... 30 Vdc limit values
Ripple:	2 Vpp max.
Current consumption (output current excluded):	30 mA max.
Output:	NPN or PNP: 30 Vdc max. (short-circuit protection at 200 mA)
Output current:	150 mA max.
Output saturation voltage:	1 V max.
Response time:	1 ms max. 2 ms max. mod. F8/G8
Switching frequency:	500 Hz max. 250 Hz max. mod. F8/G8
Indicators:	OUTPUT LED (RED) / STABILITY LED (GREEN) / POWER ON LED (RED) mod. G8
Setting:	sensitivity trimmer mod. A2/B1.5/C8/C30/D14/F8
Operating temperature:	-25 ... 55 °C
Storage temperature:	-25 ... 70 °C
Electric shock protection:	Class 1
Operating distance (minimum):	A2: 2 m on R2 B1.5: 1.5 m on R2 C8: 80 mm C30: 300 mm D14: 14 mm F8/G8: 8 m
Emission type:	INFRARED (880 nm) / RED (660 nm) mod. B1.5/D14
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)
Housing/Connector:	Nickel-plated brass
Gland:	Polycarbonate
Lenses:	PMMA plastic
Protection class:	IP67
Connections:	3 wires 2 m cable Ø 5 mm / metal M12 4-pole connector
Weight:	115 g. max. cable versions / 50 g. max. connector versions

### SETTING

The following procedures are valid for LIGHT mode operation.

#### Alignment S10-x-A2/B1.5

Position the sensor and reflector on opposite sides. Turn the sensitivity trimmer to maximum. Find the points where the red LED (OUT) is switched ON and OFF in both vertical and horizontal positions and fix the sensor in the centre between these points. Optimum operation is obtained when both LEDs are switched ON. 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 S10-x-F8/G8

Position the sensors on opposite sides. Turn the sensitivity trimmer to maximum. Find the points where the red LED (OUT) is switched ON and OFF in both vertical and horizontal positions, and fix the sensor in the centre between these points. Optimum operation is obtained when both LEDs are switched ON. If necessary, reduce sensitivity using the trimmer, in order to detect very small targets. In order to improve alignment, repeat the procedure detailed above whilst progressively reducing the sensitivity.

#### Alignment S10-x-C8/C30/D14

Position the sensor and turn the sensitivity trimmer at minimum: The green LED is ON and the red LED is OFF. Place the target opposite the sensor. Turn the sensitivity trimmer clockwise until the red LED turns ON (Target detected state, pos.A). Remove the target, the red LED turns OFF. Turn the trimmer clockwise until the red 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. The green LED must be ON.



### TEST FUNCTION (S10-5-G8)

The TEST input 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.

#### DECLARATION OF CONFORMITY

We DATASENSOR S.p.A. declare under our sole responsibility that these products are conform to the 2004/108/CE, 2006/95/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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