

S50-PL/ML SERIES INSTRUCTION MANUAL



CONTROLS

OUTPUT LED (S50-PL/ML...B01/C01/F01)

The yellow LED ON indicates that the N.O. (normally open) output status is closed.

POWER ON LED

The green LED indicates that the sensor is operating.

TRIMMER (S50-PL/ML...B01/C01/F01)

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).

INSTALLATION

S50-PL: The sensor can be fixed by means of the M18x1 threaded body through a Ø 18 mm hole, using the specific washer and the two CH.24 nuts enclosed (1.5 Nm maximum tightening torque).

Alternatively, the sensor can be mounted through the two housing's holes using two screws (M3x22 or longer) and washer.

Amongst the various possible solutions, we suggest to choose the combination that offers the best visibility of the signalling LEDs and the easiest access to the trimmer.

22 mm nuts, h=8 mm, (2 Nm maximum tightening torque) are available to guarantee an improved torque.

S50-ML: The sensor can be fixed by means of the M18x1 threaded body through a Ø 18 mm hole, using the specific washer and the two CH.24 nuts enclosed (22 Nm maximum tightening torque).

For both plastic version and metallic version are available various orientable fixing brackets to ease the sensor positioning (please refer to the accessories listed in the general catalogue).

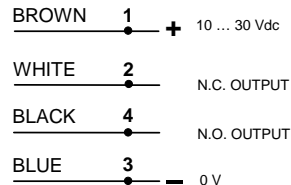
The operating distance is measured from the front surface of the sensor lens. In case of lateral translation, the object must move as indicated in the figure.



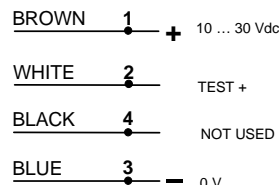
CONNECTIONS

The connections are compliant to the EN 60947-5-2 standard.

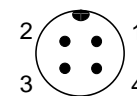
S50-PL/ML...B01/C01/F01



S50-PL/ML...G00

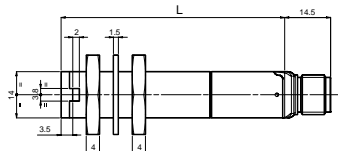


M12 CONNECTOR



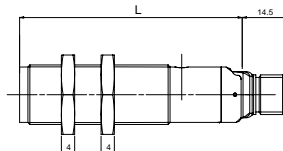
DIMENSIONS

S50-PL VERSIONS



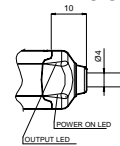
MODELS	
B/C/F version	G version
L	67
X	43
X1	34
	57
	42
	24

S50-ML VERSIONS

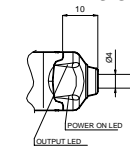


MODELS	
B/C/F version	G version
L	67
X	43
	57
	38

CABLE VERSION



CABLE VERSION



TECHNICAL DATA

	S50-PL PLASTIC VERSIONS	S50-ML METALLIC VERSIONS
Power supply:	10 ... 30 Vdc (limit values)	
Ripple:	2 Vpp max.	
Current consumption (output current excluded):	35 mA max. (mod.B01/C01/F01) 30 mA max (mod.G00)	
Outputs:	N.O. and N.C.; PNP or NPN (short-circuit protection)	
Output current:	100 mA max.	
Output saturation voltage:	2 V max.	
Response time:	333 µs	
Switching frequency:	1,5 kHz	
Indicators:	OUTPUT LED (YELLOW) (mod.B01/C01/F01) / POWER ON LED (GREEN)	
Setting:	sensitivity trimmer (mod.B01/C01/F01)	
Operating mode:	LIGHT mode on N.O. output / DARK mode on N.C. output (mod.C01) DARK mode on N.O. output / LIGHT mode on N.C. output (mod.B01/F01)	
Operating temperature:	-10 ... 50 °C	
Storage temperature:	-25 ... 70 °C	
Insulating strength:	500 Vac 1 min., between electronics and housing	
Insulating resistance:	>20 MΩ 500 Vdc, between electronics and housing	
Operating distance (typical values):	B01: 0.1...16 m on R2 C01: 0...35 cm F01/G00: 0...60 m	
Emission type:	RED LASER: Class 1 EN 60825-1 (1994) (mod.B01/C01/G00) Class II CDRH 21 CFR PART 1040.10 (mod.B01/C01/G00) Max. power ≤ 1 mW; Pulse = 4.5 µs; λ = 630...680nm; Frequency = 25 kHz	
Ambient light rejection:	according to EN 60947-5-2	
Vibrations:	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 material:	PBT	Nickel plated brass
Lens material:	PMMA	
Mechanical protection:	IP67 Metal versions type 1 enclosure	
Connections:	2 m cable Ø 4 mm / M12 - 4 pole connector	
Weight:	75 g. max. cable vers./25 g. max. connector vers.	110 g. max. cable vers./60 g. max. connector vers.

SETTING

Setting of S50-PL/ML...B01

Position the sensor and reflector on opposite sides. Turn the sensitivity trimmer to the maximum position. Moving the sensor both vertically and horizontally, determine the power ON and OFF points of the OUTPUT LED and then mount the sensor in the middle of the points defined. 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.

Setting of S50-PL/ML...F01/G00

Position the sensors on opposite sides.

Turn the sensitivity trimmer to maximum: moving the sensor both vertically and horizontally, determine the power ON and OFF points of the OUTPUT LED and then mount the sensor in the middle of the points defined. 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.

Setting of S50-PL/ML...C01

Turn the sensitivity trimmer to minimum: the OUTPUT LED is OFF. Position the target to detect in front of the sensor.



Turn the sensitivity trimmer clockwise until the OUTPUT LED turns ON (Target detected state, pos.A). Remove the target, the OUTPUT LED turns OFF.

Turn the sensitivity trimmer clockwise until the OUTPUT 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.

TEST FUNCTION (S50-PL/ML...G00)

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 input activating voltage range is 10...30 Vdc.

DECLARATION OF CONFORMITY

We DATALOGIC AUTOMATION declare under our sole responsibility that these products are conform to the 2004/108/CE and successive amendments.



WARRANTY

DATALOGIC AUTOMATION warrants its products to be free from defects.

DATALOGIC AUTOMATION 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 DATALOGIC AUTOMATION products.

DATALOGIC AUTOMATION

Via Lavino 265 - 40050 Monte S.Pietro - Bologna - Italy
 Tel: +39 051 6765611 - Fax: +39 051 6759324

www.automation.datalogic.com e-mail:info.automation.it@datalogic.com

DATALOGIC AUTOMATION cares for the environment: 100% recycled paper. DATALOGIC AUTOMATION reserves the right to make modifications and improvements without prior notification.

Datalogic and the Datalogic logo are registered trademarks of the U.S.A. and the E.U. in many countries, including the U.S.A. and the E.U.

826001344 Rev.G

© Copyright Datalogic 2007-2011