



S50-PA/MA...U

Luminescence sensor

INSTRUCTION MANUAL

CONTROLS

OUTPUT LED

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

READY/ERROR LED (bicolour)

When the bicoloured LED is continuously green, the sensor is operating in a normal condition and it is ready to function correctly (stability condition).

The red and green blinking of the LED indicates a wrong sensor setting. Please refer to the "SETTING" paragraph to get the correct setting procedure.

SET PUSHBUTTON

A long pressure on the pushbutton activates the self-setting procedure.

INSTALLATION

S50-PA...U: The sensor can be fixed by means of the M18x1 threaded body through a \varnothing 18 mm hole, using the specific washer and the enclosed 24 mm nuts (maximum torque of tightening 1.5 Nm). Alternatively, the sensor can be mounted through the two housing's holes using two screws (M3x22 or longer) and nuts.

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 SET pushbutton.

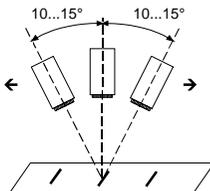
22 mm nuts, h=8 mm, (2 Nm maximum tightening torque) are available to guarantee an improved torque.

S50-MA...U: The sensor can be fixed by means of the M18x1 threaded body through a \varnothing 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).

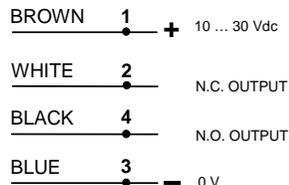
The operating distance is measured from the front surface of the sensor lens.

To detect luminescent marks on reflective surfaces, position the sensor axis at 10°...15° respect to the orthogonal line of the surface to detect.

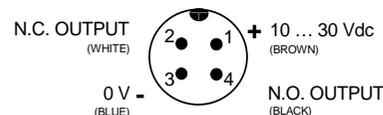


CONNECTIONS

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

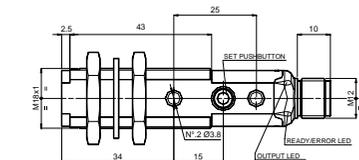
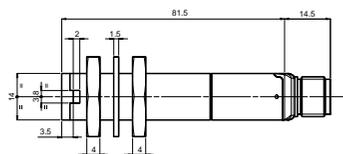


M12 CONNECTOR

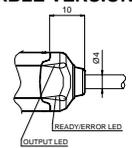


DIMENSIONS

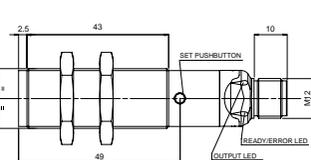
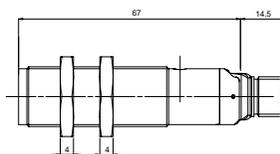
S50-PA VERSIONS



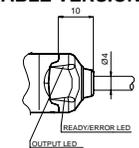
CABLE VERSION



S50-MA VERSIONS



CABLE VERSION



TECHNICAL DATA

	S50-PA PLASTIC VERSIONS	S50-MA METALLIC VERSIONS
Power supply:	10 ... 30 Vdc (limit values)	
Ripple:	2 Vpp max.	
Current consumption (output current excluded):	25 mA max.	
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:	500 μ s	
Switching frequency:	1 kHz	
Indicators:	OUTPUT LED (YELLOW) / READY/ERROR LED (GREEN/RED)	
Setting:	SET pushbutton	
Operating mode:	LIGHT mode on N.O. output / DARK mode on N.C. output	
Data retention:	non volatile EEPROM memory	
Operating temperature:	-10 ... 55 °C	
Storage temperature:	-20 ... 70 °C	
Insulating strength:	500 Vac 1 min., between electronics and housing	
Insulating resistance:	>20 M Ω 500 Vdc, between electronics and housing	
Operating distance (typical values):	8...20mm range, maximum signal at 10 mm	
Minimum spot dimension:	3 mm	
Emission type:	LED UV (370 nm)	
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 \varnothing 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

The supplied sensor is set at the maximum sensitivity, allowing the detection of the minimum luminescence intensity. No other setting procedure is necessary, unless luminescent objects placed on luminescence backgrounds have to be detected.

EASY TOUCH™

The sensor uses the patent-covered EASY TOUCH™ technology that allows a rapid and safe self-setting of the product.

Two different setting possibilities are available:

- **EASY TOUCH™**: a long pressure of the SET pushbutton allows self-setting.
- **FINE DETECTION**: to be used only in particularly critical conditions, this setting procedure is used only when the EASY TOUCH™ is not sufficient.

Setting of S50-PA/MA...U

To achieve a correct sensor functioning, the luminescence mark or object to be detected has to be placed at the right reading distance.

EASY TOUCH™ (standard detection in the LIGHT mode)

The EASY TOUCH™ technology allows the functioning in the LIGHT mode (mark presents a higher luminescence respect to the background).

The mark to detect has to be placed correctly at the right reading distance within the sensor spot.

Press the SET pushbutton until the READY/ERROR LED turns OFF. Release the SET pushbutton and wait for the READY/ERROR LED to turn green.

The sensor is now ready to detect the pre-set luminescent mark or object (output LED turns ON when the NO output is closed).

Note: The automatic EASY TOUCH™ setting has to be performed without any objects inside the sensor reading range (or using a non-luminescent object) in order to bring the sensor back to the maximum sensitivity condition.

Fine detection (DARK or LIGHT mode)

This mode offers an improved detection precision and also allows the detection of luminescent marks or objects placed on luminescent backgrounds.

The operating mode is selected automatically by the sensor:

DARK operating mode (mark presents a lower luminescence respect to the background) or LIGHT operating mode (mark presents a higher luminescence respect to the background).

The mark to detect has to be placed correctly at the right reading distance within the sensor spot.

Press the SET pushbutton. The READY/ERROR LED turns OFF. Keep the SET pushbutton pressed until the READY/ERROR LED blinks green. Place the background under the sensor spot. Press the SET pushbutton again until the READY/ERROR LED turns OFF. The sensor is now ready to detect, with a very high precision, the pre-set luminescent mark (output LED turns ON, READY/ERROR LED turns green).

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

DATALOGIC AUTOMATION cares for the environment: 100% recycled paper.

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