

## S50-PS/MS...M

Background suppression

# INSTRUCTION MANUAL

## CONTROLS

### OUTPUT LED

The yellow LED ON indicates that the NO output is closed.

### READY/ERROR (bicoloured) LED

When permanently green indicates a normal operating conditions and the sensor is ready to function correctly (stability condition). The alternative green / red blinking indicates a wrong detection. Please refer to the "SETTING" paragraph for acquisition or setup procedure indications.

### SET PUSHBUTTON

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

## INSTALLATION

**S50-PS...M:** The sensor can be fixed by means of the M18x1 threaded body through a Ø 18mm hole, using the specific washer and the two CH.24 nuts enclosed (1.5Nm 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 SET pushbutton.

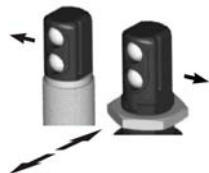
22mm nuts, h=8mm, (2Nm maximum tightening torque) are available to guarantee an improved torque.

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

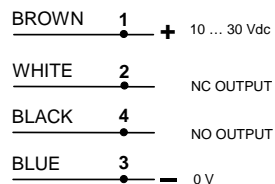
The operating distance is measured from the front surface of the sensor lens.

For the best detection, the object has to move closer or further away from this surface. In presence of a lateral movement, the object has to move as indicated in the drawing.

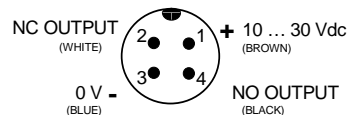


## CONNECTIONS

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

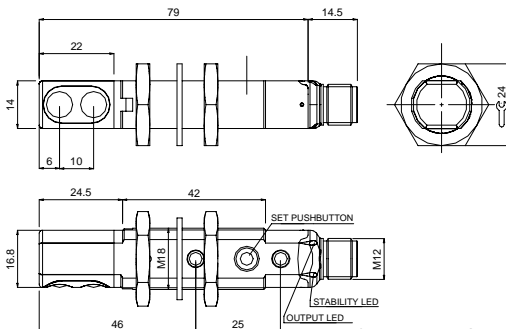


## M12 CONNECTOR

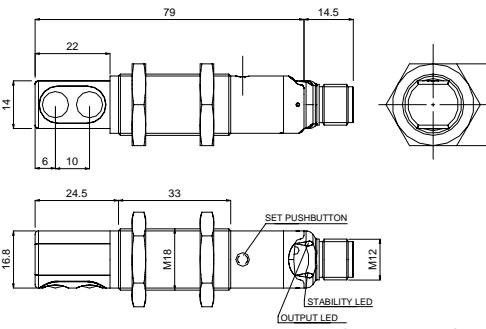


## DIMENSIONS

### S50-PS VERSION



### S50-MS VERSION



## TECHNICAL DATA

|  | S50-PS PLASTIC VERSIONS  | S50-MS METAL VERSIONS                          |
|--|--|--|
| Power supply:                                  | 10 ... 30 Vdc limit values   |  |
| Ripple:  | 2 Vpp max.   |  |
| Current consumption (output current excluded): | 30 mA max.   |  |
| Outputs:                                       | NO and NC; PNP or NPN (short-circuit protection)                       |  |
| Output current:                                | 100 mA max.  |  |
| Output saturation voltage:                     | 2 V max.   |  |
| Response time:                                 | 1 ms   |  |
| Switching frequency:                           | 500 Hz   |  |
| Indicators:                                    | OUTPUT LED (YELLOW) / READY/ERROR LED (GREEN/RED)                      |  |
| Setting:                                       | SET pushbutton   |  |
| Operating mode:                                | LIGHT mode on NO output / DARK mode on NC output                       |  |
| Data retention:                                | EEPROM non volatile memory   |  |
| Operating temperature:                         | -25 ... 55 °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):           | 15...100 mm proximity; 50...100 mm background suppression              |  |
| Emission type:                                 | red (670 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 Ø 4 mm / M12 - 4 pole connector                              |  |
| Weight:  | 90g. max. cable vers. /40g. max. conn. vers.                           | 125g. max. cable vers. /75g. max. conn. vers.. |

## SETTING

### 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™**; press for 2 sec. 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-PS/MS...M

To set correctly the sensor, the background or object to be suppressed has to be present during self-setting.

- **EASY TOUCH™ (standard detection)**

Place the background or the object to be suppressed inside the operating range.

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 all objects in the set range distinguishing them from the suppressed background (output LED turns ON).

- **Fine detection**

Place the background or the object to be suppressed inside the operating range.

Press the SET pushbutton and keep it pressed until the READY/ERROR LED turns OFF and then begins to blink green.

The sensor in this case makes a fine setting and is ready to detect with better precision objects different from the background (output LED turns ON).

### DECLARATION OF CONFORMITY

We DATALOGIC AUTOMATION declare under our sole responsibility that these products 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

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