DATALOGIC

S60…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 PUSH-BUTTON
A long pressure on the push-button activates the self-setting procedure. The REMOTE input allows the external control of the SET push-button.

INSTALLATION

The sensor can be positioned by means of the three housing's holes using two screws (M4x25 or longer, 1.5 Nm maximum tightening torque) with washers.
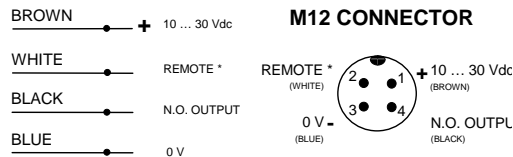Various orientable fixing brackets to ease the sensor positioning are available (please refer to the accessories listed in the general catalogue).
The operating distance is measured from the front surface of the sensor optics.
The M12 connector can be oriented at two different positions using the specific fastening spring and rotating the block of 180°.

CONNECTIONS

BROWN — + 10 … 30 Vdc

WHITE — REMOTE *

BLACK — N.O. OUTPUT

BLUE — 0 V

M12 CONNECTOR

REMOTE * (WHITE) — 2
1 — + 10 … 30 Vdc (BROWN)
0 V - (BLUE) — 3
4 — N.O. OUTPUT (BLACK)

* = Connect the REMOTE wire to 0 V if not used.

NOTE
If a setting error will occur please repeat again the EASY TOUCH™ setting procedure, in order to be sure to restart the setting procedure correctly.

DIMENSIONS

READY/ERROR LED
OUTPUT LED
SET PUSH-BUTTON

23.6

CABLE VERSION

mm
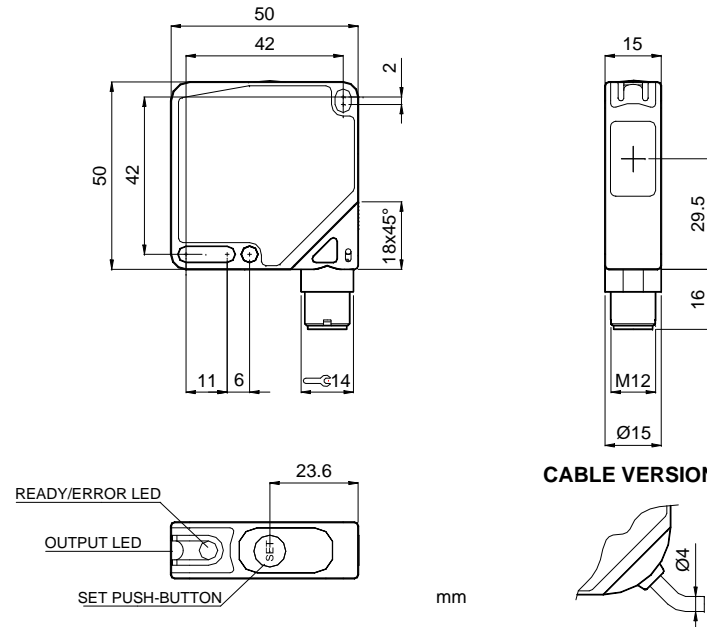
TECHNICAL DATA

Power supply:	10 … 30 Vdc (limit values)
Ripple:	2 Vpp max.
Current consumption (output current excluded):	30 mA max.
Outputs:	PNP or NPN; 30 Vdc max. (short-circuit protection)
Output current:	100 mA max.
Output saturation voltage:	≤ 2 V
Response time:	250 μs max.
Switching frequency:	2 KHz
Indicators:	OUTPUT LED (YELLOW) / READY/ERROR LED (GREEN/RED)
Adjustment:	SET push-button
Data retention:	non volatile EEPROM memory
Operating temperature:	-10 … 55 °C
Storage temperature:	-20 … 70 °C
Electrical shock protection:	Class 2
Operating distance (typical values):	0…40 mm range, maximum signal at 10 mm
Minimum spot dimension:	1.5 mm at 10 mm
Emission type:	UV LED (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)
DARK/LIGHT selection:	LIGHT mode with EASY TOUCH™ / Automatic with fine detection
Housing:	ABS
Lens:	glass window (sloped); glass lens
Mechanical protection:	IP67
Connections:	2 m cable ⌀ 4 mm / M12-4 pole connector
Weight:	90 g. max. cable vers. / 40 g. max. connector vers.

DELAY FUNCTION

Press the SET push-button and keep it pressed until the READY/ERROR LED turns off, blinking and turns off again, then release the SET push-button.
If the delay function *is not active* the READY/ERROR LED blinks green with 2 quick pulses.
If the delay function *is active* the READY/ERROR LED blinks green with 4 quick pulses.
Press and release immediately the SET push-button in order to change the function status, the new function status is indicated the READY/ERROR LED as the mode before described. The delay function adds 20ms to the duration of the sensor's ON pulse.

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 push-button 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.

S60…U setting
To achieve a correct sensor functioning, the luminescent 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 push-button until the READY/ERROR LED turns off.
Release the SET push-button 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 N.O. 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 minor luminescence respect to the background) or LIGHT operating mode (mark presents a higher luminescence respect to the background). Thus the output LED is ON and the N.O. output is closed, when the sensor is positioned on the pre-set luminescent mark. The mark to detect has to be placed correctly at the right reading distance within the sensor spot. Press the SET push-button. The READY/ERROR LED turns OFF. Keep the SET push-button pressed until the READY/ERROR LED blinks green. Place the background under the sensor spot.
Press the SET push-button 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).

REMOTE FUNCTION

The REMOTE wire, if connected to +Vdc, is equal to the pressure of the SET push-button. If the REMOTE wire is connected to +Vdc, when the sensor is powered ON, the *keyboard lock* function is activated; the SET push-button is no longer active. To deactivate the *keyboard lock* function, the sensor has to be turned off and powered again with the REMOTE wire not connected or connected to 0V.

The sensors are NOT safety devices, and so MUST NOT be used in the safety control of the machines where installed.

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