TL46-WJ

Contrast sensor

INSTRUCTION MANUAL

CONTROLS

OUT LED *(yellow)*
The red LED indicates the output status.

READY LED *(green)*
During functioning, the green LED permanently ON indicates a normal operating condition.

MARK PUSH-BUTTON
Dynamic setting procedure is activated by pressing MARK push-button.

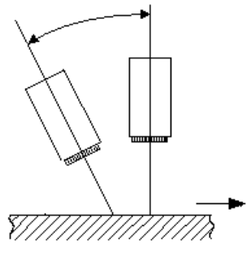
BKGD PUSH-BUTTON
Dynamic setting procedure is activated by pressing BKGD push-button.

See the "SETTING" paragraph for setup procedure indications.

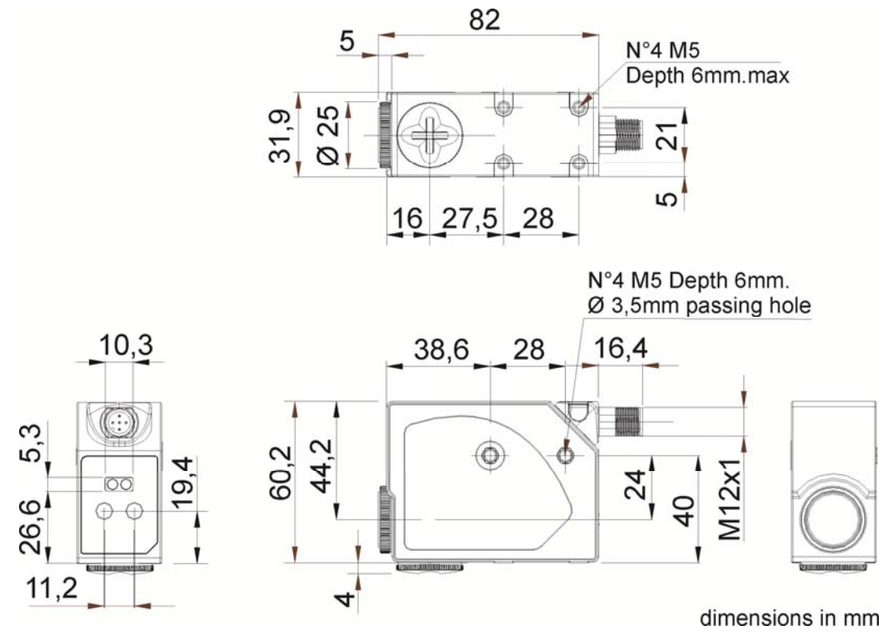
INSTALLATION

The sensor can be positioned by means the two Ø3.5mm housing's holes using or threaded M5 holes with 6mm max. depth.
<u>Warning</u>: the use of excessively long screws can damage the product.
The connector can be oriented at five different positions, rotating the block.
The position chosen is guaranteed by a mechanical blocking system.

The operating distance is measured starting from the lens front face.
The reading direction can be changed inverting the cap and lens.
Mark detection on a reflective surface is improved adjusting the beam direction to 5° … 20° from surface axis.



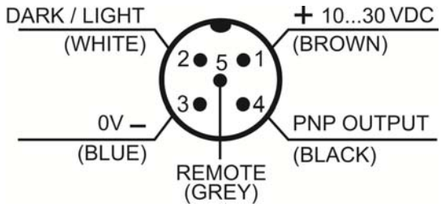
DIMENSIONS



TECHNICAL DATA

Power supply:	10…30 VDC limit values
Ripple:	2 Vpp max.
Current consumption *(output current excluded):*	50 mA max. @ 24VDC
Output:	1 PNP selectable output
Output current:	100 mA max.
Output saturation voltage:	≤ 2 V
Response time:	10 µs
Jitter:	<7 µs
Switching frequency:	50 kHz
Dark/light selection:	selectable by white wire
Indicators:	OUT LED (yellow) / READY LED (green)
Operating temperature:	-10 … 55 °C
Storage temperature:	-20 … 70 °C
Electric shock protection:	double insulation ⧈
Operating distance:	9 mm
Depth of field:	± 3 mm
Minimum spot dimension:	0.8 x 4 mm
Emission type:	BLUE (465 nm) / GREEN (520 nm) / RED (630 nm) with automatic selection
Ambient light rejection:	according to EN 60947-5-2
Vibrations:	0.5 mm amplitude, 10 … 55 Hz frequency, for each axis (EN60068-2-6)
Shock resistance:	11 ms (30 G) 6 shock for each axis (EN60068-2-27)
Housing material:	Aluminium
Lens material:	PMMA
Mechanical protection:	IP67
Connections:	M12 5-pole connector
Weight:	170 g. max.
AtEx 2014/34/EU:	II 3G EX nA II T6 ; II 3D EX tD A22 IP67 T85°C

CONNECTIONS



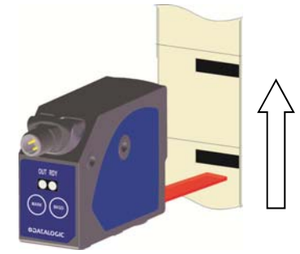
SETTING

<u>DYNAMIC SETTING</u>

The sensor sets automatically the threshold value during target movement. The DARK/LIGHT mode has to be previously set.

To select the DARK mode connect the DARK/LIGHT signal (white wire) to 0V or leave unconnected. To select the LIGHT mode connect the DARK/LIGHT signal to the power supply.

- Position the sensor spot in front of the contrast to detect.
  Press MARK or BKGD push-buttons until the green LED READY is OFF and keep it pressed. The green LED READY blinks.
- To end the dynamic detection procedure release the push-button.

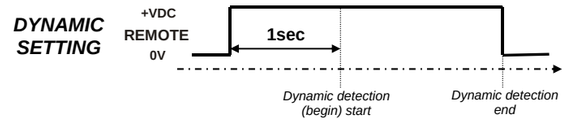


If the green LED permanently ON, the detection has been successful, the sensor returns to normal functioning.
If the green LED slowly blinks, the detection fails due to insufficient contrast.
The sensor returns to the previous setting by pressing MARK or BKGD push-buttons. Repeat the procedure from the beginning.

ACCESSORY FUNCTIONS

<u>REMOTE INPUT</u>
The REMOTE signals carries-out the acquisition functions without using the keyboard.
The REMOTE wire connected to +VDC is equal to pressing the MARK or BKGD push-buttons. Whereas, if the REMOTE wire is connected to 0V or not connected it is equal to not pressing the push-button.

REMOTE	***MARK/BKGD PUSH-BUTTON***
0V	NOT PRESSED
+VDC	PRESSED



<u>DARK/LIGHT input</u>
The DARK/LIGHT signal allows the operator to select the DARK/LIGHT operating mode for dynamic detection.
In the LIGHT mode the output is active with light marks on dark background, in the DARK mode the output is active with dark marks on light background.
The connection of the DARK/LIGHT wire to +VDC sets the LIGHT mode.
If connected to 0V or not connected set the DARK mode.
Select the operating mode before start the dynamic acquisition.

DARK/LIGHTT	***MODE***
0V	DARK
+VDC	LIGHT

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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Helpful links at www.datalogic.com: **Contact Us, Terms and Conditions, Support**.

The warranty period for this product is 36 months. See General Terms and Conditions of Sales for further details.

Under current Italian and European laws, Datalogic is not obliged to take care of product disposal at the end of its life. Datalogic recommends disposing of the product in compliance with local laws or contacting authorised waste collection centres.

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