



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

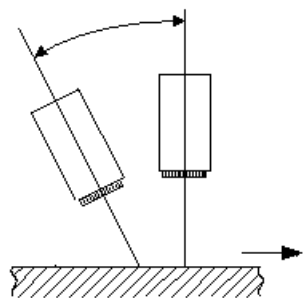
The sensor can be positioned by means the two Ø3.5mm housing's holes using or threaded M5 holes with 6mm max. depth.

Warning: the use of excessively long screws can damage the product.

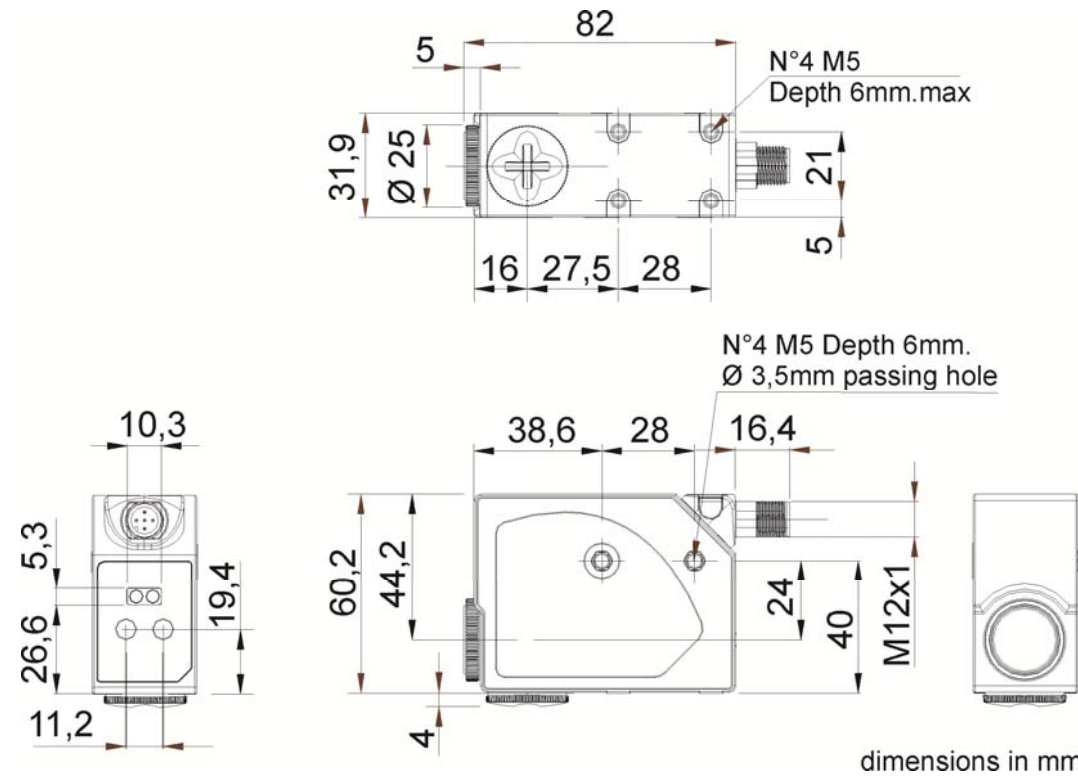
The connector can be oriented at five different positions, rotating the block. The position chosen is guaranteed by a mechanical blocking system.



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.



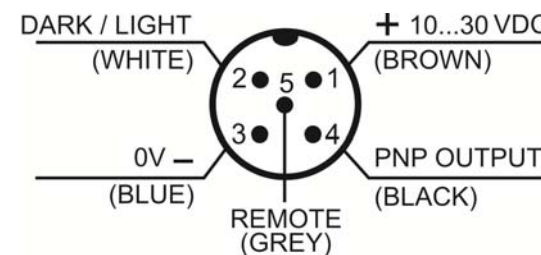
DIMENSIONS



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. |

CONNECTIONS



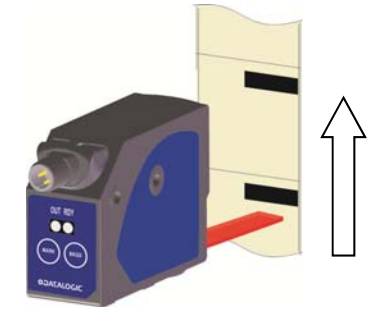
SETTING

DYNAMIC SETTING

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

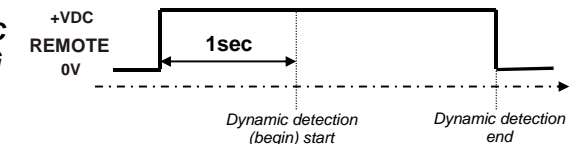
REMOTE INPUT

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 |

DYNAMIC SETTING



DARK/LIGHT input

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/LIGHT | 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.

DECLARATION OF CONFORMITY

We DATALOGIC AUTOMATION declare under our sole responsibility that these products are conform to the 2004/108/CE Directive 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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