



# TL46

954601010

TL46-W-815L

HIGH PERFORMANCE CONTRAST SENSOR FOR COLORED  
REGISTRATION MARK DETECTION

## OVERVIEW

- Fastest and accurate low jitter model (TL46-WJ)
- Color mode enhanced model (TL46-WE)
- Wide-spectrum RGB or white LED emission
- 5 different models: basic, standard, enhanced, low jitter, color mode
- Automatic, manual and dynamic settings
- 10, 15, 20, 30 or 50 kHz switching frequencies
- Very low jitter down to 7 $\mu$ s (TL46-WJ...)
- NPN/PNP and analog outputs
- Standard mounting, M12 connector rotatable to 5 positions

## TECHNICAL FEATURES

### Detection properties

|                          |      |
|--------------------------|------|
| Nominal sensing distance | 12mm |
|--------------------------|------|

|                |           |
|----------------|-----------|
| Spot dimension | 1,5 x 5mm |
|----------------|-----------|

|                        |          |
|------------------------|----------|
| Sensitivity adjustment | Teach-in |
|------------------------|----------|

### Application

|                    |                         |
|--------------------|-------------------------|
| Function Principle | Contrast mark detection |
|--------------------|-------------------------|

|                |                                 |
|----------------|---------------------------------|
| Description    | Standard case - horizontal spot |
| Optic position | axial                           |
| Functions      | Contrast mark detection         |

#### Outputs

|                     |                                  |
|---------------------|----------------------------------|
| Output type         | NPN/PNP - Dark/Light sel., 0-5 V |
| Switching frequency | 15kHz                            |
| Response time       | 0,033 (15kHz)                    |

#### Electrical data

|                                |   |
|--------------------------------|---|
| Operating Voltage              | 10...30VDC  |
| No-Load supply current         | $\leq 50\text{mA}$  |
| Load current                   | $\leq 100\text{mA}$   |
| Output voltage drop            | $\leq 2\text{V}$  |
| Max ripple content             | $\leq 2\text{Vpp}$  |
| LED indicators                 | Yellow (output state) Green (Ready) orange (delay or keylock) |
| Short-circuit protection       | YES   |
| Reverse Polarity Protection    | Yes   |
| Emission                       | LED RGB   |
| Interference to external light | according to EN 60947-5-2 : 2020                              |

|                                  |   |
|----------------------------------|---|
| Impulsive Overvoltage Protection | Yes   |
| Insulation resistance            | >20 MΩ 500 Vdc, between electronics and housing |
| Contact resistance               | 500 Vac 1 min., between electronics and housing |

#### Mechanical data

|                      |                          |
|----------------------|--------------------------|
| Dimensions           | 32x60x82                 |
| Material             |                          |
| Housing material     | Metal - Aluminium / PMMA |
| Connections          | M12 plug                 |
| Active Head Material | Glass                    |
| Storage temperature  | - 20°C...+70°C           |
| Diameter/Dimension   | Cubic                    |

#### Test/Approvals

|                       |  |
|-----------------------|--|
| Approvals             | CE cULus   |
| Shocks and vibrations | 0.5 mm amplitude, 10 ... 55 Hz frequency, for every axis (EN60068-2-6) |

#### Generical Data

|                       |                 |
|-----------------------|-----------------|
| Dimensions            | 32x60x82        |
| Operating Temperature | - 10°C...+ 55°C |
| Mechanical Protection | IP67            |

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**date of**  
**printing**

15/06/2026  
21:56:28