



## Contrast sensors KT5, KT5-2 Potentiometer

KT5G-2P1311



**Model Name** > [KT5G-2P1311](#)  
**Part No.** > [1016003](#)



#### At a glance

- Tough, metal housing
- Manual switching threshold adjustment with optical adjustment indicator
- Green or white LED technology
- Models with analog output
- Switching frequency of 10 kHz
- Various sensing distances and light spot directions
- M12 plug can be rotated 90°

#### Your benefits

- All standard print marks and contrasts are detected
- Reliable operation, even with jittering webs and high-gloss materials
- High positioning accuracy improves packaging quality
- Various sensing distances, light spot directions and light emissions make individual configuration and simple integration into the production process possible



#### Features

|                                      |                                              |
|--------------------------------------|----------------------------------------------|
| Dimensions (L x W x H):              | 80 mm x 30.4 mm x 53 mm                      |
| Sensing distance <sup>1)</sup> :     | 40 mm                                        |
| Sensing distance tolerance:          | ± 3 mm                                       |
| Light source <sup>2), 3)</sup> :     | LED green                                    |
| Light emission:                      | Long and short side of housing, exchangeable |
| Light spot size:                     | 1.1 mm x 4.2 mm                              |
| Light spot direction <sup>4)</sup> : | Vertical                                     |
| Adjustment:                          | Manual adjustment, potentiometer             |
| Output function:                     | Light/dark switching                         |

<sup>1)</sup> From front edge of lens   <sup>2)</sup> Average service life of 100,000 h at T<sub>A</sub> = +25 °C   <sup>3)</sup> Wave length: 520 nm   <sup>4)</sup> In relation to long side of housing

#### Mechanics/electronics

|                                               |                                                      |
|-----------------------------------------------|------------------------------------------------------|
| Supply voltage V <sub>s</sub> <sup>1)</sup> : | DC 10 V ... 30 V                                     |
| Ripple <sup>2)</sup> :                        | ≤ 5 Vpp                                              |
| Power consumption <sup>3)</sup> :             | < 80 mA                                              |
| Switching frequency <sup>4)</sup> :           | 10 kHz                                               |
| Response time <sup>5)</sup> :                 | 50 µs                                                |
| Output type:                                  | PNP: HIGH = V <sub>S</sub> - ≤ 2 V / LOW approx. 0 V |

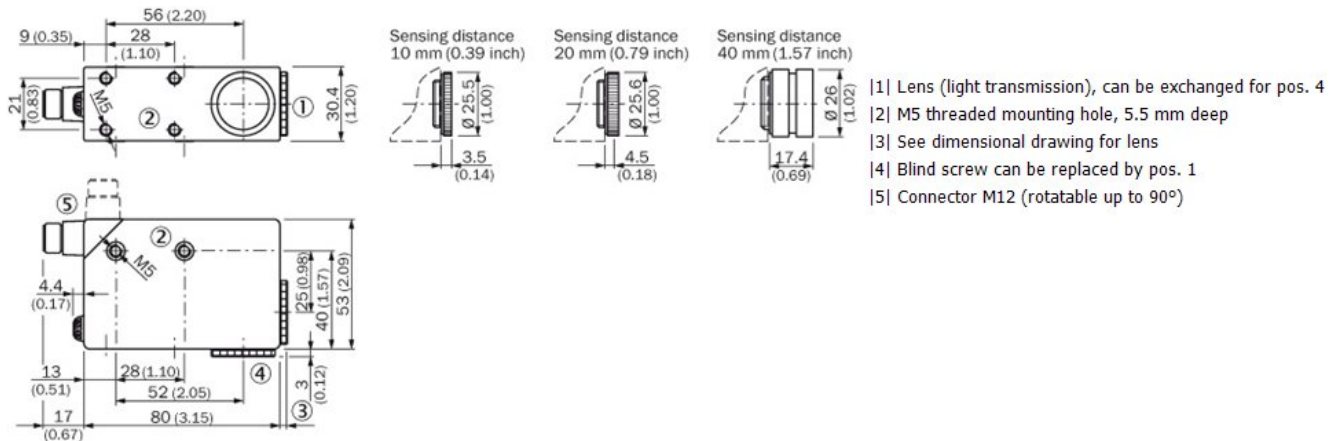
|                                    |                                                                                                       |
|------------------------------------|-------------------------------------------------------------------------------------------------------|
| Switching mode:                    | PNP                                                                                                   |
| Connection type:                   | Connector M12, 4-pin                                                                                  |
| Protection class <sup>6)</sup> :   | II                                                                                                    |
| Circuit protection:                | Output Q short-circuit protected, Interference suppression, VS connections reverse-polarity protected |
| Enclosure rating:                  | IP 67                                                                                                 |
| Weight:                            | Ca. 400 g                                                                                             |
| Housing material:                  | Zinc diecast                                                                                          |
| Output current I <sub>max.</sub> : | 100 mA                                                                                                |

1) Limit values: operation in short-circuit protected network max. 8 A    2) May not exceed or fall short of  $V_S$  tolerances    3) Without load    4) With light/dark ratio 1:1    5)  
Signal transit time with resistive load    6) Reference voltage DC 50 V

## Ambient data

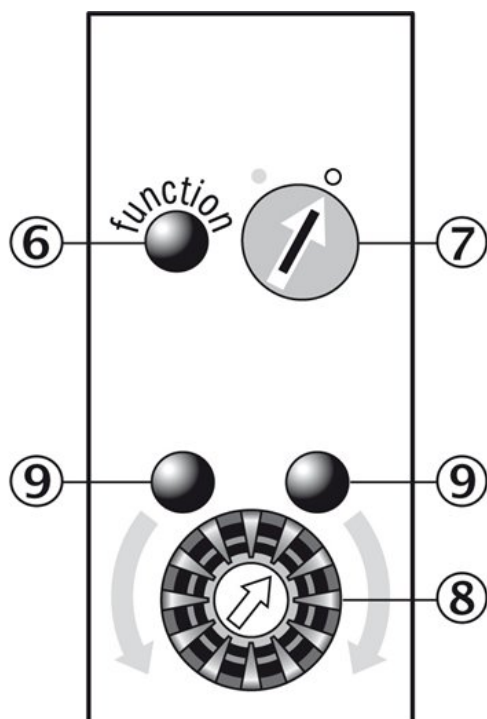
|                      |                                                  |
|----------------------|--------------------------------------------------|
| Ambient temperature: | Operation: -10 ... 55 °C, Storage: -25 ... 75 °C |
| Shock load:          | According to IEC 60068                           |
| UL File-No.:         | UL No. NRKH.E181493 & cUL No. NRKH7.E181493      |

## Dimensional drawing



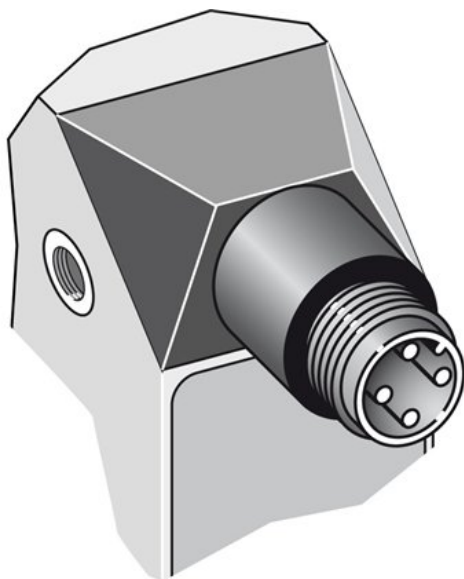
All dimensions in mm (inch)

## Adjustments

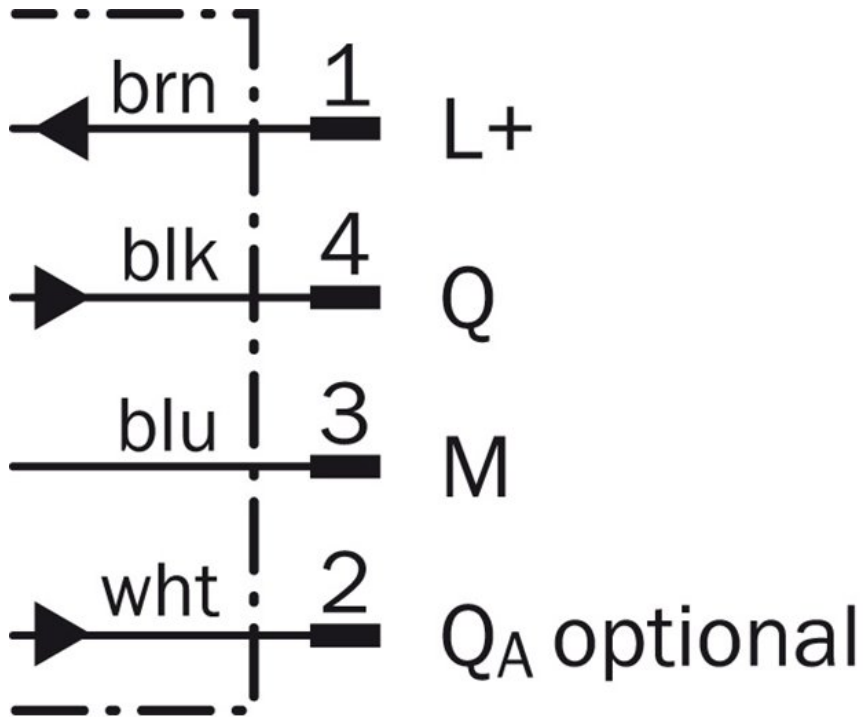


- |6| Function signal indicator (yellow)
- |7| Pre-selection switch (light/dark switching)
- |8| Switching threshold adjustment
- |9| Adjustment indicators (green)

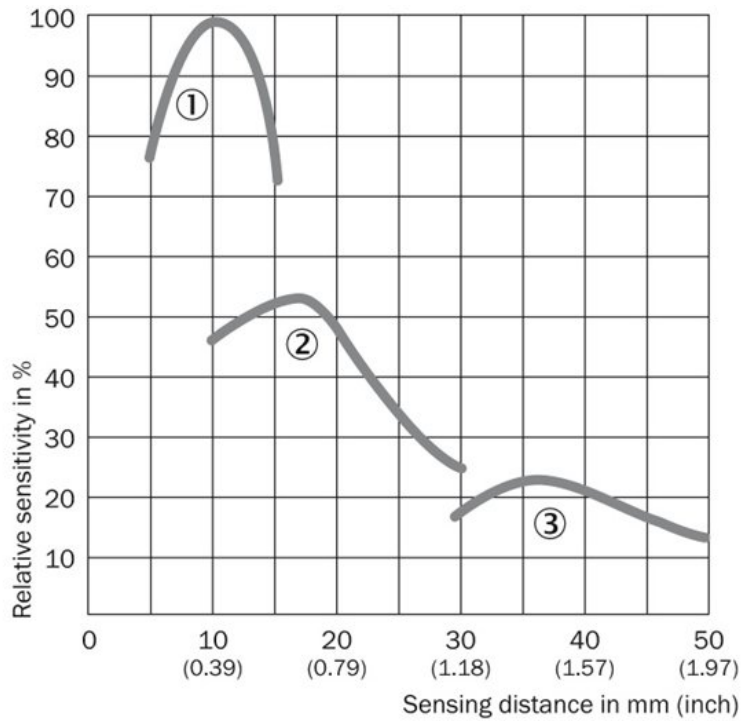
## Connection type



## Connection diagram



## Sensing distance



- |1| Sensing distance 10 mm
- |2| Sensing distance 20 mm
- |3| Sensing distance 40 mm

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