



Contrast sensors  
KT5, KT5-2 Potentiometer

KT5G-2P1251S29



**Model Name** > [KT5G-2P1251S29](#)  
**Part No.** > [1023002](#)



**At a glance**

- Tough, metal housing
- Manual switching threshold adjustment with optical adjustment indicator
- Green or white LED technology
- Analog output
- Switching frequency of 10 kHz
- Sensing distances of 120 mm up to 200 mm
- M12 plug can be rotated 90°

**Your benefits**

- Multiple contrast evaluation possible
- Individual evaluation by analogue output
- Large sensing distance with high contrast resolution



**Features**

Sensing distance <sup>1)</sup> :	200 mm
Light source <sup>2)</sup> :	LED
Wave length:	520 nm
Light emission:	Long and short side of housing, exchangeable
Light spot size:	10 mm x 35 mm
Light spot direction <sup>3)</sup> :	Vertical
Output function:	Light/dark switching
Type of light:	Visible green light
Dimensions (W x H x D):	30.4 mm x 53 mm x 80 mm
Housing design (light emission):	Rectangular
Teach-in mode:	Manual adjustment, potentiometer

<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> In relation to long side of housing

**Mechanics/electronics**

Ripple <sup>1)</sup> :	≤ 5 Vpp
Current consumption <sup>2)</sup> :	< 80 mA
Switching frequency <sup>3)</sup> :	10 kHz
Response time <sup>4)</sup> :	50 µs
Output type:	PNP: HIGH = VS- ≤ 2 V / LOW approx. 0 V
Switching mode:	PNP
Analog output QA:	2 mA ... 10 mA

Connection type:	Connector M12, 4-pin
Protection class <sup>5)</sup> :	II
Circuit protection:	Output Q short-circuit protected, Interference suppression, VS connections reverse-polarity protected
Enclosure rating:	IP 67
Weight:	400 g
Housing material:	Metal, Zinc diecast
Output current I <sub>max.</sub> :	100 mA
Supply voltage:	10 V DC ... 30 V DC <sup>6)</sup>
Fieldbus interface:	-

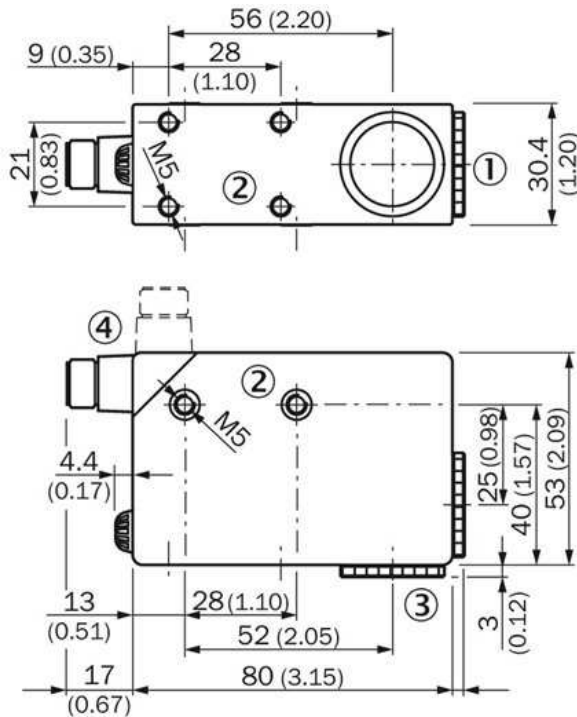
1) May not exceed or fall short of  $V_S$  tolerances 2) Without load 3) With light/dark ratio 1:1 4) Signal transit time with resistive load 5) Reference voltage DC 50 V 6)

Limit values; operation in short-circuit protected network max. 8 A

### Ambient data

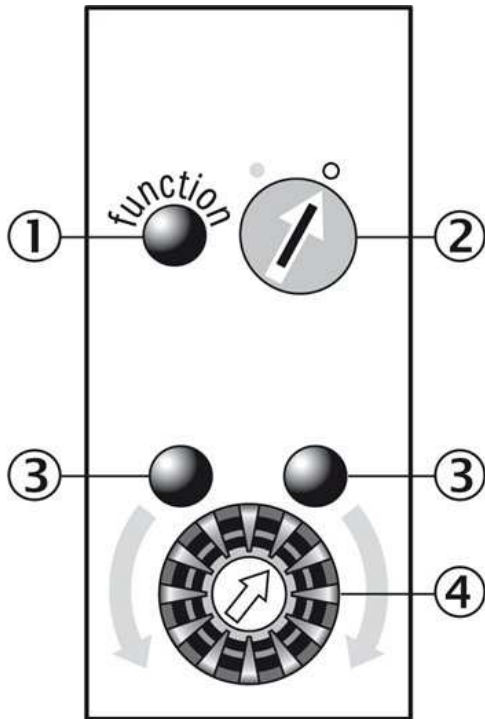
Shock load:	According to IEC 60068
UL File No.:	NRKH.E181493 & NRKH7.E181493
Ambient operating temperature:	-10 °C ... +55 °C
Ambient storage temperature:	-25 °C ... +75 °C

### Dimensional drawing



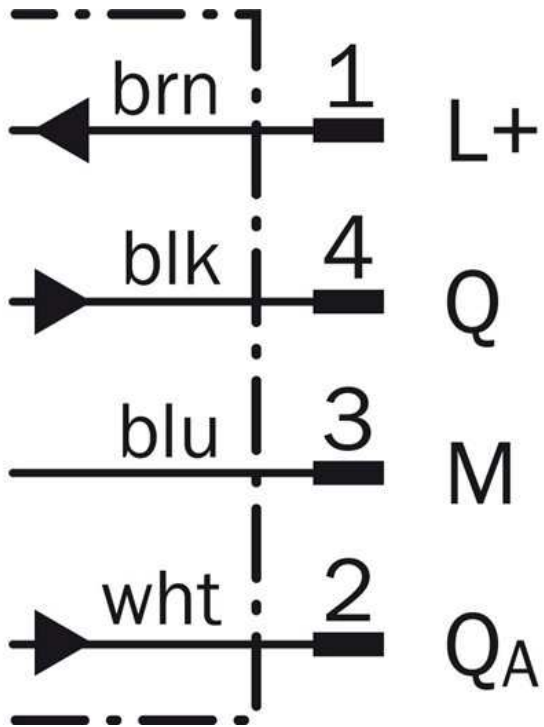
- [1] Lens (light transmission), can be exchanged for pos. 4
- [2] M5 threaded mounting hole, 5.5 mm deep
- [3] Blind screw can be replaced by pos. 1
- [4] Connector M12 (rotatable up to 90°)

## Adjustments



- |1| Function signal indicator (yellow)
- |2| Pre-selection switch (light/dark switching)
- |3| Switching threshold adjustment
- |4| Adjustment indicators (green)

## Connection diagram



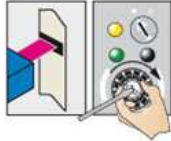
# Bedienhinweis

## 1. Select switching function (light/dark)



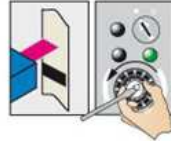
Turn the rotary switch to the desired position.  
○ = light switching  
● = dark switching

## 2. Position mark

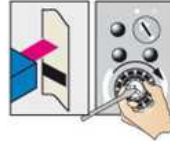


Turn potentiometer in the direction shown (green LED illuminates) until the yellow LED status changes and the green LED opposite illuminates.

## 3. Position background

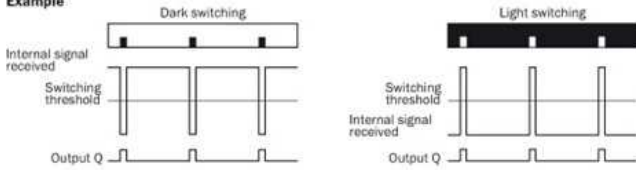


Gradually turn back the potentiometer (count the number of turns) until the yellow LED changes status again and illuminates.



Turn the potentiometer forward again by half the number of turns to ensure that the switching threshold is optimally set.

## Example



## Switching characteristics

The switching threshold is set in the center between the background and the mark.

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