



Contrast sensors  
KT5, KT5-2 Teach-in

KT5W-2P1316



**Model Name** > [KT5W-2P1316](#)  
**Part No.** > [1018961](#)



**At a glance**

- Tough, metal housing
- Various teach-in methods via control panel or control cable
- Maximum detection reliability due to 3-color RGB LED technology
- Switching frequency of 10 kHz
- Various sensing distances and light spot directions
- M12 plug can be rotated 90°

**Your benefits**

- All print marks and color combinations are reliably detected, ensuring high machine throughput
- 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**

Sensing distance <sup>1)</sup> :	40 mm
Sensing distance tolerance:	± 3 mm
Light source <sup>2)</sup> :	LED
Wave length:	470 nm, 525 nm, 640 nm
Light emission:	Long and short side of housing, exchangeable
Light spot size:	1.1 mm x 4.2 mm
Light spot direction <sup>3)</sup> :	Vertical
Type of light:	Visible blue light, Visible green light, Visible red light
Dimensions (W x H x D):	30.4 mm x 53 mm x 80 mm
Housing design (light emission):	Rectangular
Teach-in mode:	Static 2-point teach-in

<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
Input, teach-in (ET):	PNP.; Run: U < 2 V, Teach: U = 10 V ... < U <sub>V</sub>
Retention time (ET):	25 ms, non-volatile memory
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:	-

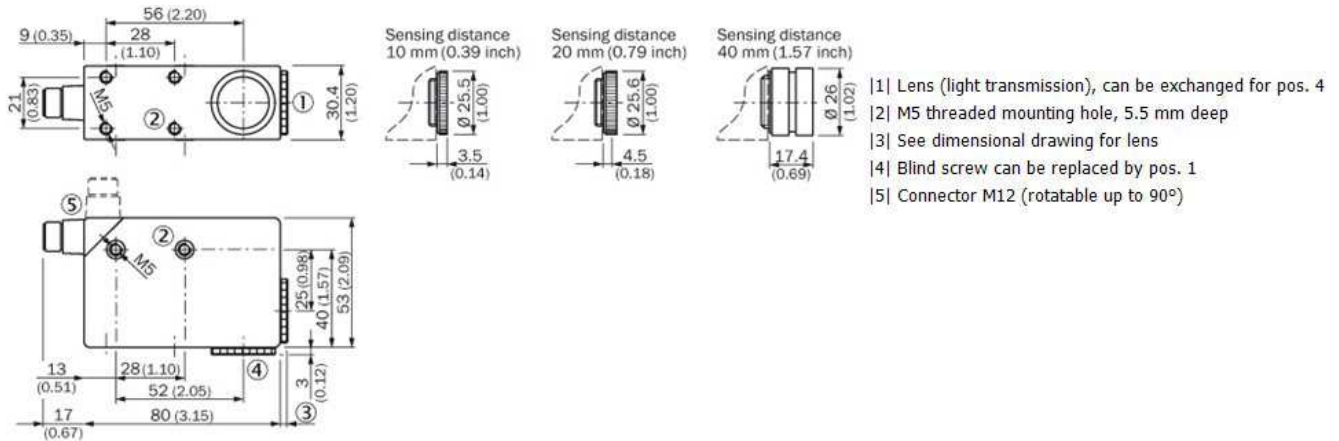
1) May not exceed or fall short of V<sub>S</sub> tolerances 2) Without load 3) With light/dark ratio 1:1 4) Signal transit time with resistive load 5) Reference voltage DC 50 V 6)

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

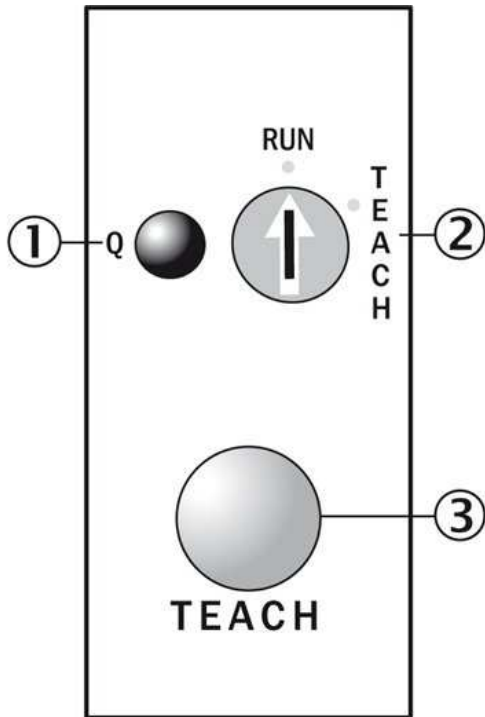
### Ambient data

Shock load:	According to IEC 60068
Ambient operating temperature:	-10 °C ... +55 °C
Ambient storage temperature:	-25 °C ... +75 °C

### Dimensional drawing

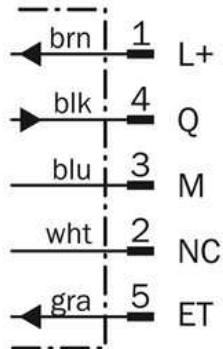


## Adjustments



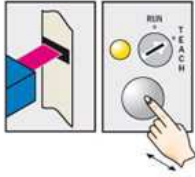
- |1| Function signal indicator (yellow)
- |2| Pre-selection switch
- |3| Teach-in button

## Connection type and diagram



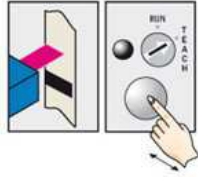
## Bedienhinweis

### 1. Position mark



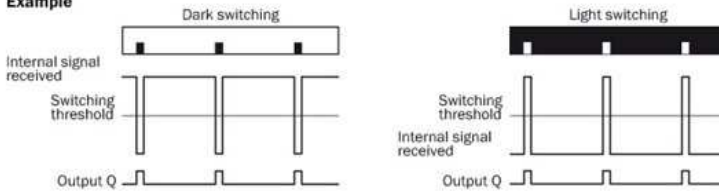
Turn rotary switch to "Teach" position. Press and hold teach-in button > 1 s. Red emitted light and yellow LED flash.

### 2. Position background



Press and hold teach-in button > 1 s. Yellow LED goes out.

### Example



### Switching characteristics

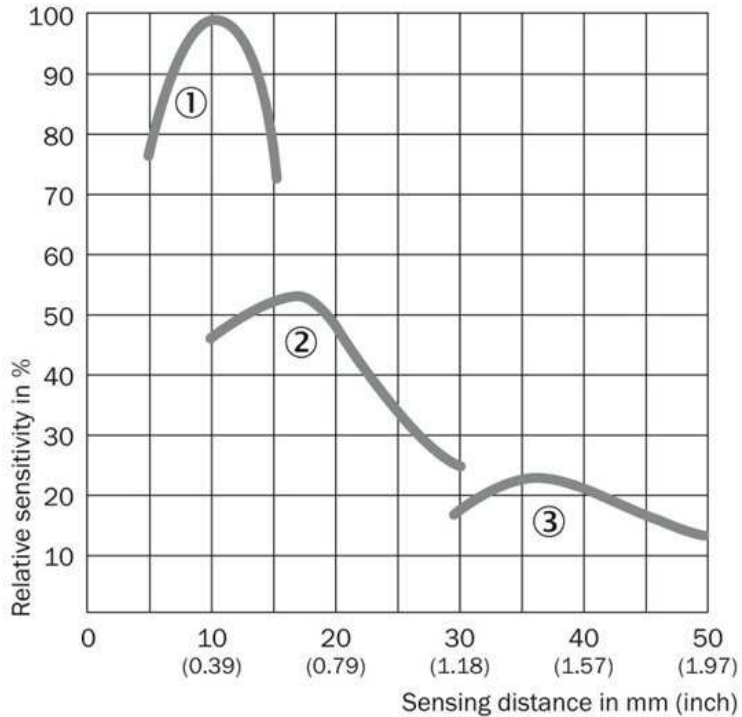
The optimum emitted light is selected automatically.

Light/dark setting is defined using teach-in sequence.

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

Teach-in can also be performed using an external control signal.

## Sensing distance



|1| Sensing distance 10 mm

|2| Sensing distance 20 mm

|3| Sensing distance 40 mm

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