



DATA SHEET

KT5W-2P1116D

KT5
Contrast sensors

SICK

Sensor Intelligence



Illustration may differ

CONTRAST SENSORS

KT5W-2P1116D

ORDERING INFORMATION

Type	part no.
KT5W-2P1116D	1026538

Further device versions and accessories at www.sick.com/KT5

DETAILED TECHNICAL DATA

FEATURES

Housing design	Middle
Dimensions (W x H x D)	30.4 mm x 53 mm x 80 mm
Light source	LED, RGB ¹⁾
Light emission	Long and short side of housing, exchangeable
Light spot size	1.2 mm x 4.2 mm
Light spot direction	Vertical ²⁾
Wave length	470 nm, 525 nm, 640 nm
Sensing distance	≤ 10 mm ³⁾
Adjustment	Teach-in button
Teach-in mode	Static 2-point teach-in with manual fine adjustment
Special features	without timer

¹⁾ Average service life: 100,000 h at T_u = +25 °C.

²⁾ In relation to long side of housing.

³⁾ From leading edge of lens.

ELECTRONICS

Supply voltage	10 V DC ... 30 V DC ¹⁾
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¹⁾ Limit values when operated in short-circuit protected network: max. 8 A.

²⁾ May not fall below or exceed U_v tolerances.

³⁾ Without load.

⁴⁾ With light/dark ratio 1:1.

⁵⁾ Short-circuit-proof.

⁶⁾ Reference voltage DC 50 V.

Ripple	$\leq 5 \text{ V}_{pp}^{2)}$
Current consumption	$< 130 \text{ mA}^{3)}$
Switching frequency	$10 \text{ kHz}^{4)}$
Response time	$50 \mu\text{s}$
Switching output	PNP
Switching output (voltage)	PNP: HIGH = $U_v \leq 2 \text{ V}$ / LOW approx. 0 V
Output current I_{max}	$100 \text{ mA}^{5)}$
Input, teach-in (ET)	PNP Teach: $U = 10 \text{ V} \dots < U_v$ Run: $U < 2 \text{ V}$
Retention time (ET)	25 ms, non-volatile memory
Time delay	None
Protection class	II ⁶⁾
Circuit protection	U_v connections, reverse polarity protected Output Q short-circuit protected Interference pulse suppression
Connection type	Plug, M12, 5-pin

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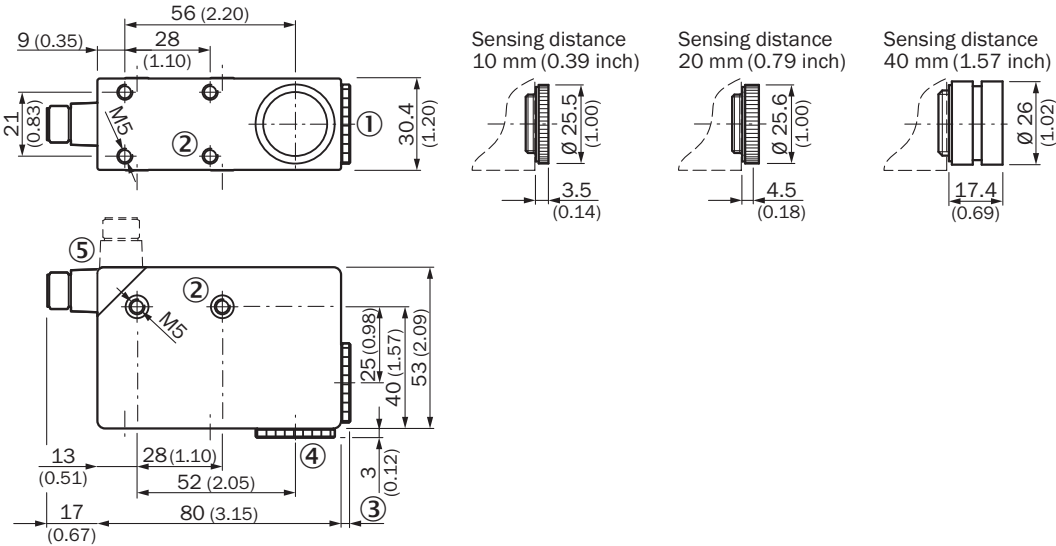
MECHANICS

Housing material	Zinc diecast
Weight	400 g

AMBIENT DATA

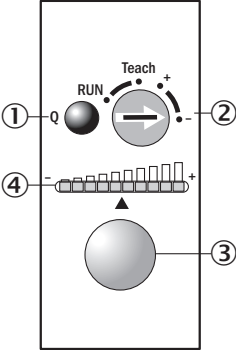
Ambient operating temperature	$-10 \text{ }^{\circ}\text{C} \dots +55 \text{ }^{\circ}\text{C}$
Ambient temperature, storage	$-25 \text{ }^{\circ}\text{C} \dots +75 \text{ }^{\circ}\text{C}$
Shock load	According to IEC 60068
Enclosure rating	IP67
UL File No.	NRKH.E181493 & NRKH7.E181493

DIMENSIONAL DRAWING KT5-2 TEACH-IN, KT5-2 DISPLAY



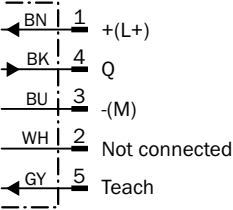
- Dimensions in mm (inch)
- ① Lens (light transmission), can be exchanged for pos. 4
 - ② M5 threaded mounting hole, 5.5 mm deep
 - ③ see dimensional drawings of lenses
 - ④ Blind screw can be replaced by pos. 1
 - ⑤ Connector M12 (rotatable up to 90°)

ADJUSTMENTS KT5-2 DISPLAY



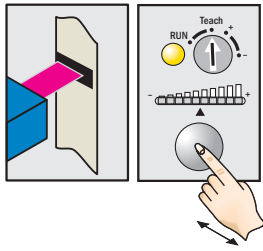
- ① Function signal indicator (yellow)
- ② Pre-selection switch
- ③ Teach-in button
- ④ Bar graph (green)

CONNECTION DIAGRAM CD-323



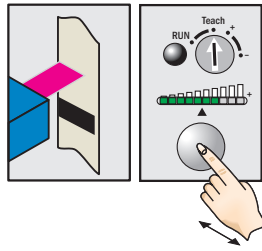
CONCEPT OF OPERATION KT5-2 DISPLAY, TEACH-IN STATIC

1. Position mark

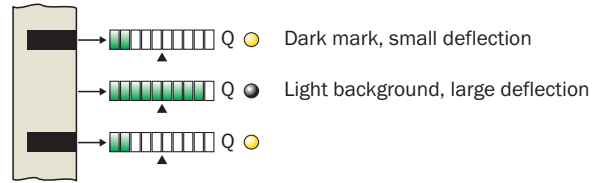


Turn rotary switch to "Teach" position. Press and hold teach-in button > 1 s. Red emitted light and yellow LED flash.

2. Position background



Press and hold teach-in button > 1 s. Yellow LED goes out. Optimum emitted light is selected.



Fine adjustment possible using the "+" / "-" buttons.

Note

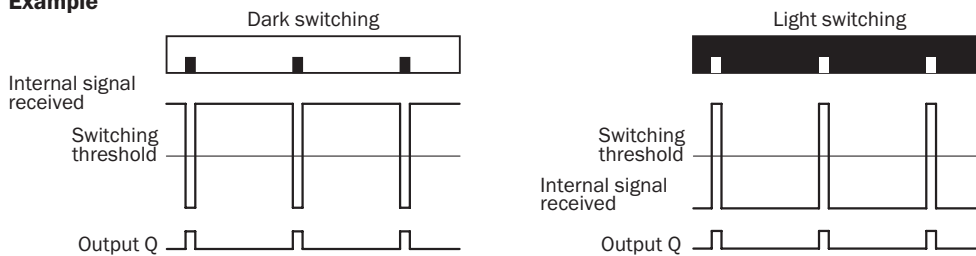
The bar display visualizes the detection reliability during teach-in. The more LEDs that illuminate, the better the teach-in:

1 LED illuminates = operation not reliable – contrast difference too low

≤ 4 LEDs illuminate = operation OK – sufficient contrast difference

> 4 LEDs illuminate = reliable operation – high contrast difference

Example



Switching characteristics

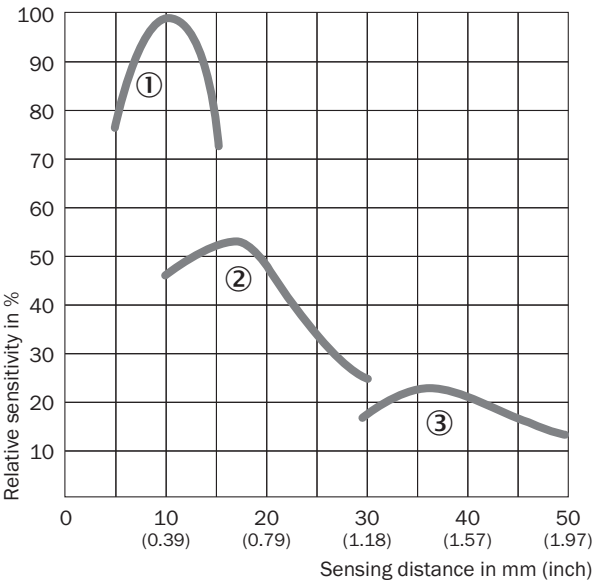
The optimum emitted light is selected automatically.

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

Further information as well as suitable accessories, example applications and downloads such as CAD dimensional models, operating instructions and software can be found at www.sick.com/1026538



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SICK AT A GLANCE

SICK is a leading global technology company for intelligent sensors and integrated solutions in industrial automation. Our technologies set benchmarks, making your industrial processes more efficient, safer and more sustainable – both in logistics and manufacturing operations.

SICK combines sensor intelligence with industry expertise and certified consulting services. We provide the ideal foundation for scalable as well as tailor-made automation solutions and create added value along the entire value chain. Our close partnerships with our customers are more than just a promise: Together, we optimize productivity, improve quality, protect health and safety, and help build a sustainable future. All with empathy and trust.

Since 1946, we have been developing innovative technologies with passion and a pioneering spirit. With a global network in around 40 countries, SICK has a global presence and is always close by. The company's headquarters are located in Waldkirch near Freiburg, Germany. Our customers benefit from our understanding of both local and global requirements, which enables us to deliver tailor-made solutions

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