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DATA SHEET

KT5W-2N1216D

KT5
Contrast sensors

SICK Sensor Intelligence

Illustration may differ

CONTRAST SENSORS

KT5W-2N1216D

ORDERING INFORMATION

Type	part no.
KT5W-2N1216D	1026580

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	1.5 mm x 5.5 mm
Light spot direction	Vertical [2]
Wave length	470 nm, 525 nm, 640 nm
Sensing distance	≤ 20 mm [3]
Adjustment	Teach-in button
Teach-in mode	Static 2-point teach-in with manual fine adjustment

[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]
Ripple	≤ 5 V_{pp} [2]

[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.

Current consumption	< 130 mA [3]
Switching frequency	10 kHz [4]
Response time	50 µs
Switching output	NPN
Switching output (voltage)	NPN: HIGH = approx. U_V / LOW ≤ 2 V
Output current $I_{max.}$	100 mA [5]
Input, teach-in (ET)	NPN Teach: U < 2 V Run: U = 10 V ... < U_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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[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.

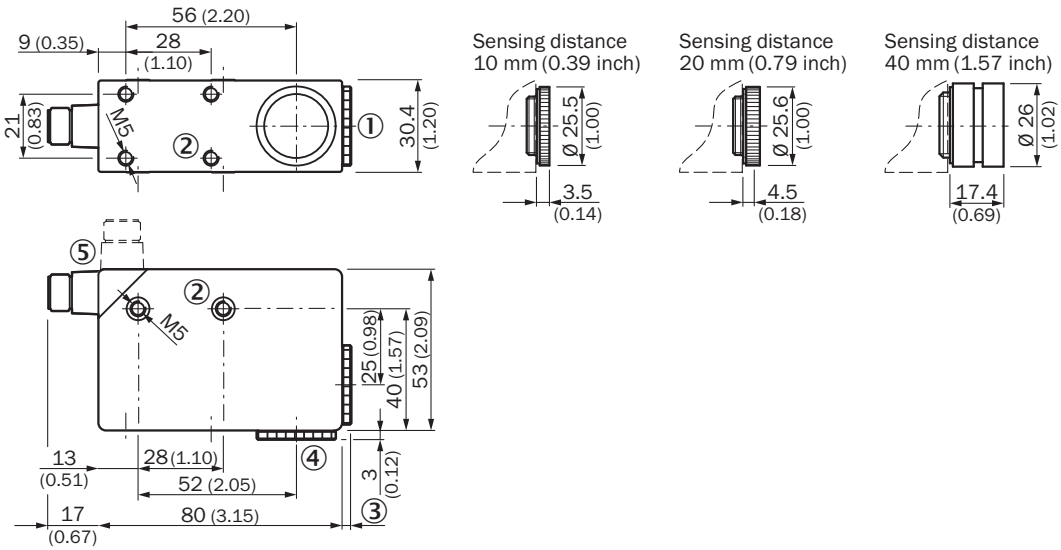
MECHANICS

Housing material	Zinc diecast
Weight	400 g

AMBIENT DATA

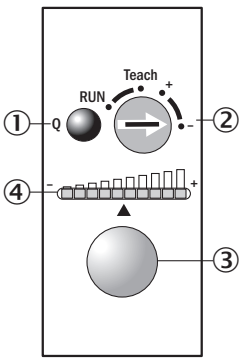
Ambient operating temperature	–10 °C ... +55 °C
Ambient temperature, storage	–25 °C ... +75 °C
Shock load	According to IEC 60068
Enclosure rating	IP67

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



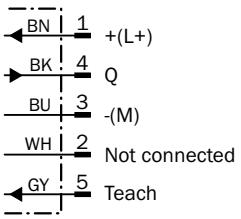
Dimensions in mm (inch)
① Lens (light transmission), can be exchanged for pos. 4
② M5 threaded mounting hole, 5.5 mm deep
③ see dimensional drawings of lenses
④ Blind screw can be replaced by pos. 1
⑤ Connector M12 (rotatable up to 90°)

ADJUSTMENTS KT5-2 DISPLAY



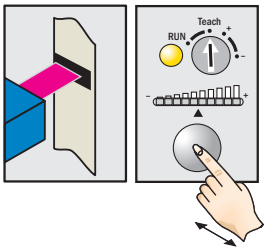
① Function signal indicator (yellow)
② Pre-selection switch
③ Teach-in button
④ Bar graph (green)

CONNECTION DIAGRAM CD-323



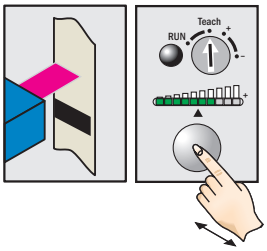
CONCEPT OF OPERATION KT5-2 DISPLAY, TEACH-IN STATIC

1. Position mark

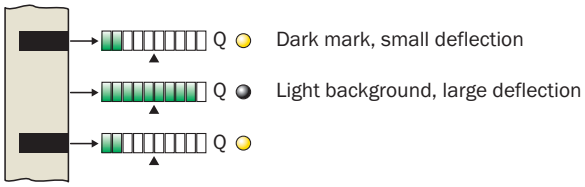


Turn rotary switch to “Teach” position. Press and hold teach-in button > 1 s.
Red emitted light and yellow LED flash.

2. Position background



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

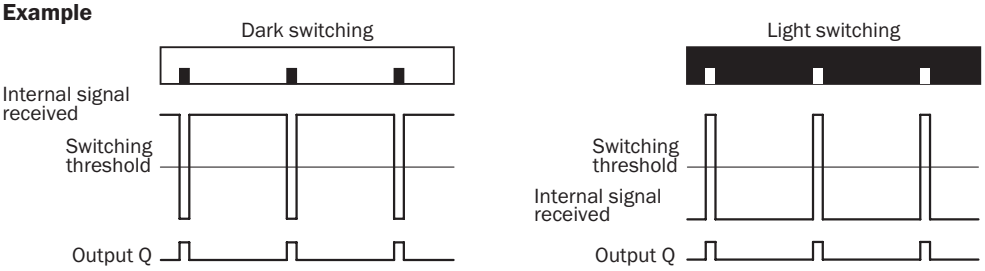


Fine adjustment possible using the “+”/“–” buttons.

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

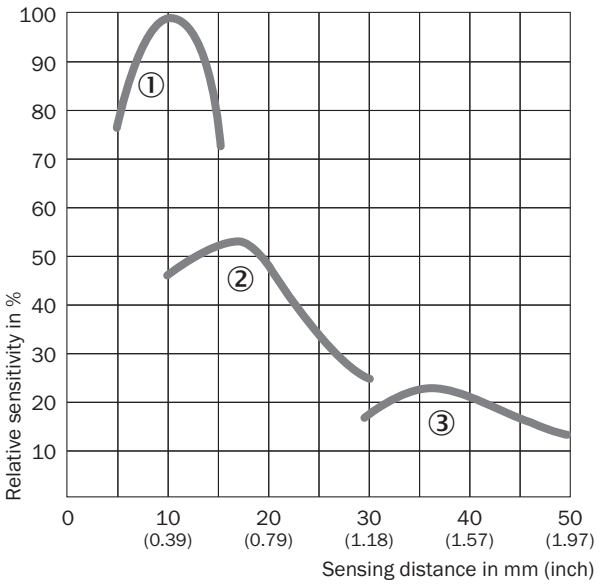
Example



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/1026580

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SICK AT A GLANCE

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