



KT5W-2N2116D

KT5

CONTRAST SENSORS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

Type	Part no.
KT5W-2N2116D	1026583

Other models and accessories → www.sick.com/KT5

Detailed technical data

Features

Dimensions (W x H x D)	30.4 mm x 53 mm x 80 mm
Sensing distance	≤ 10 mm ¹⁾
Housing design	Rectangular
Light source	LED, RGB ²⁾
Wave length	470 nm, 525 nm, 640 nm
Light emission	Long and short side of housing, exchangeable
Light spot size	1.2 mm x 4.2 mm
Light spot direction	Horizontal ³⁾
Adjustment	Teach-in button
Teach-in mode	Static 2-point teach-in with manual fine adjustment

¹⁾ From leading edge of lens.

²⁾ Average service life: 100,000 h at T_J = +25 °C.

³⁾ In relation to long side of housing.

Mechanics/electronics

Supply voltage	10 V DC ... 30 V DC ¹⁾
Ripple	≤ 5 V _{pp} ²⁾
Current consumption	< 130 mA ³⁾
Switching frequency	10 kHz ⁴⁾
Response time	50 μs ⁵⁾

¹⁾ Limit values when operated in short-circuit protected network: max. 8 A.

²⁾ May not exceed or fall below U_V tolerances.

³⁾ Without load.

⁴⁾ With light/dark ratio 1:1.

⁵⁾ Signal transit time with resistive load.

⁶⁾ Short-circuit-proof.

⁷⁾ Reference voltage DC 50 V.

Switching output	NPN
Switching output (voltage)	NPN: HIGH = approx. U_V / LOW ≤ 2 V
Output current I_{max}	100 mA ⁶⁾
Input, teach-in (ET)	NPN Teach: $U < 2$ V Run: $U = 10$ V ... $< U_V$
Retention time (ET)	25 ms, non-volatile memory
Connection type	Male connector M12, 5-pin
Protection class	II ⁷⁾
Circuit protection	U_V connections, reverse polarity protected Output Q short-circuit protected Interference pulse suppression
Enclosure rating	IP67
Weight	400 g
Housing material	Metal, zinc diecast

1) Limit values when operated in short-circuit protected network: max. 8 A.

2) May not exceed or fall below U_V tolerances.

3) Without load.

4) With light/dark ratio 1:1.

5) Signal transit time with resistive load.

6) Short-circuit-proof.

7) Reference voltage DC 50 V.

Ambient data

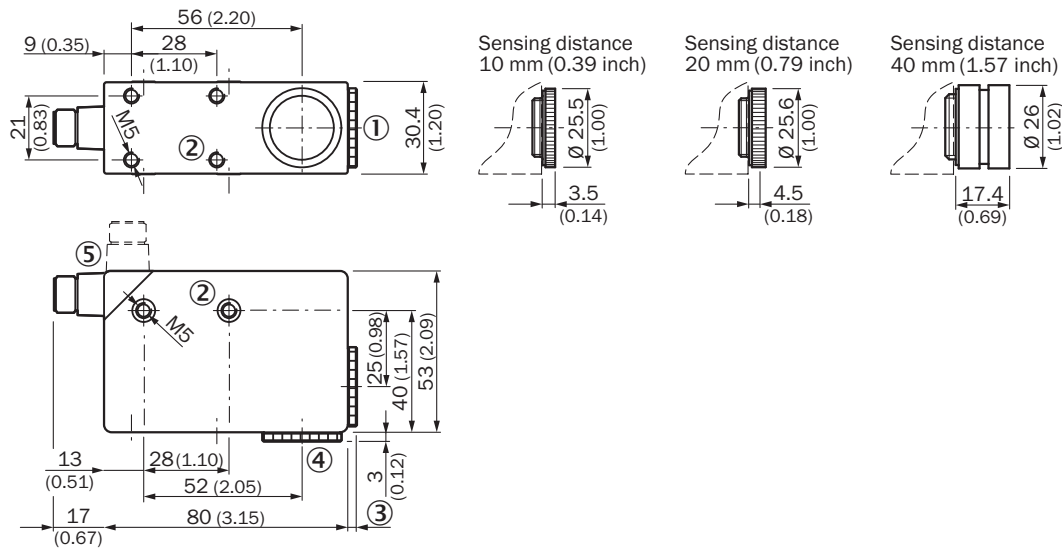
Ambient operating temperature	-10 °C ... +55 °C
Ambient temperature, storage	-25 °C ... +75 °C
Shock load	According to IEC 60068

Classifications

eCl@ss 5.0	27270906
eCl@ss 5.1.4	27270906
eCl@ss 6.0	27270906
eCl@ss 6.2	27270906
eCl@ss 7.0	27270906
eCl@ss 8.0	27270906
eCl@ss 8.1	27270906
eCl@ss 9.0	27270906
eCl@ss 10.0	27270906
eCl@ss 11.0	27270906
eCl@ss 12.0	27270906
ETIM 5.0	EC001820
ETIM 6.0	EC001820
ETIM 7.0	EC001820
ETIM 8.0	EC001820
UNSPSC 16.0901	39121528

Dimensional drawing (Dimensions in mm (inch))

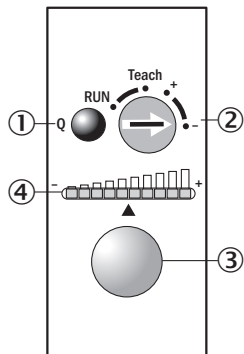
KT5-2 Teach-in, KT5-2 Display



- 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

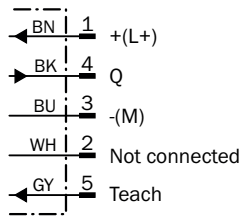
KT5-2 Display



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

Connection diagram

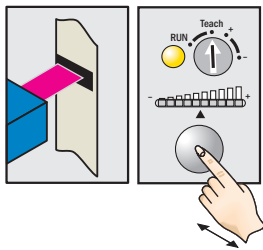
Cd-323



Concept of operation

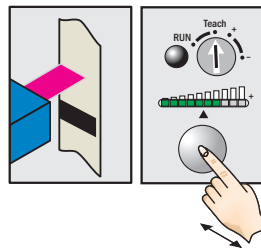
KT5-2 Display, Teach-in static

1. Position mark

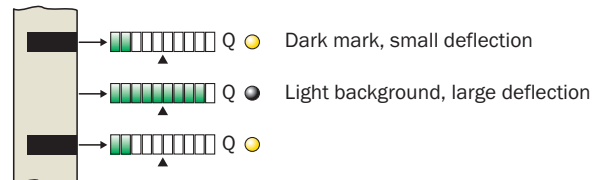


Turn rotary switch to "Teach" position. Press and hold teach-in button > 1 s. Red emitted light and yellow LED flash.

2. Position background



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



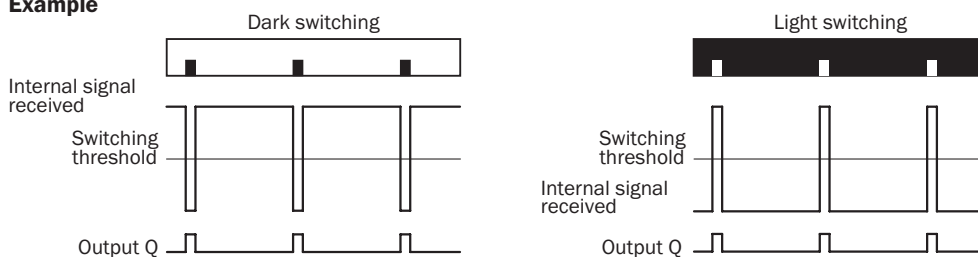
Fine adjustment possible using the "+" / "-" buttons.

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.

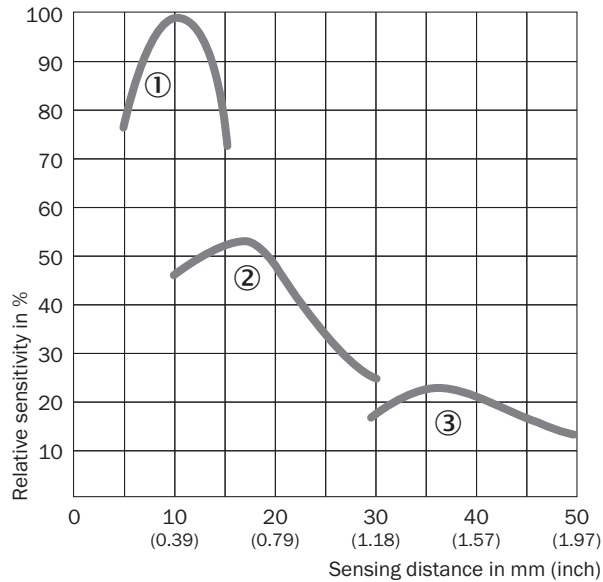
Light/dark setting is defined using teach-in sequence.

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









Sensing distance













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

Recommended accessories

Other models and accessories → www.sick.com/KT5

	Brief description	Type	Part no.
Lenses and accessories			
	Lens, 40 mm sensing distance, M20 x 0.75	OBJ-210	2010945
	Lens, 10 mm sensing distance, M20 x 0.75	OBJ-211	1004936
	Lens, 20 mm sensing distance, M20 x 0.75	OBJ-212	1011506
Universal bar clamp systems			
		BEF-KHS-G01	2022464
		BEF-KHS-K01	2022718
		BEF-KHS-KH1	2022726
		BEF-MS12G-A	4056054
		BEF-MS12G-B	4056055

	Brief description	Type	Part no.
		BEF-MS12L-A	4056052
		BEF-MS12L-B	4056053
Plug connectors and cables			
		YF2A15-020VB5XLEAX	2096239
		YF2A15-050VB5XLEAX	2096240
		YF2A15-100VB5XLEAX	2096241
		YG2A15-020VB5XLEAX	2096215
		YG2A15-050VB5XLEAX	2096216
		DOS-1205-G	6009719
		DOS-1205-W	6009720

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