SICK.COM

DATA SHEET

KT8W-P121C

KT8
Contrast sensors

SICK Sensor Intelligence

Illustration may differ

CONTRAST SENSORS

KT8W-P121C

ORDERING INFORMATION

Type	part no.
KT8W-P121C	1043689

Further device versions and accessories at www.sick.com/KT8

DETAILED TECHNICAL DATA

FEATURES

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	640 nm, 525 nm, 470 nm
Sensing distance	≤ 20 mm [3]
Sensing distance tolerance	± 3 mm
Adjustment	Teach-in button
Teach-in mode	Static 2-point teach-in Dynamic teach-in (min/max)
Function	Automatic drift correction, Deactivation delay, 10 ms / 20 ms / 40 ms, adjustable, CAN interface

[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] Reference voltage DC 32 V.

Current consumption	< 120 mA [3]
Switching frequency	22.5 kHz [4]
Response time	22 µs
Jitter	< 11 µs
Switching output	PNP
Switching output (voltage)	PNP: HIGH = U_V ≤ 2 V / LOW approx. 0 V
Output current $I_{max.}$	100 mA
Input, teach-in (ET)	PNP Teach: U = 10 V ... < U_V Run: U < 2 V
Retention time (ET)	25 ms, non-volatile memory
Time delay	None
Protection class	II [5]
Circuit protection	U_V connections, reverse polarity protected Output Q short-circuit protected Interference pulse suppression
Connection type	Male connector M12, 8-pin

[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] Reference voltage DC 32 V.

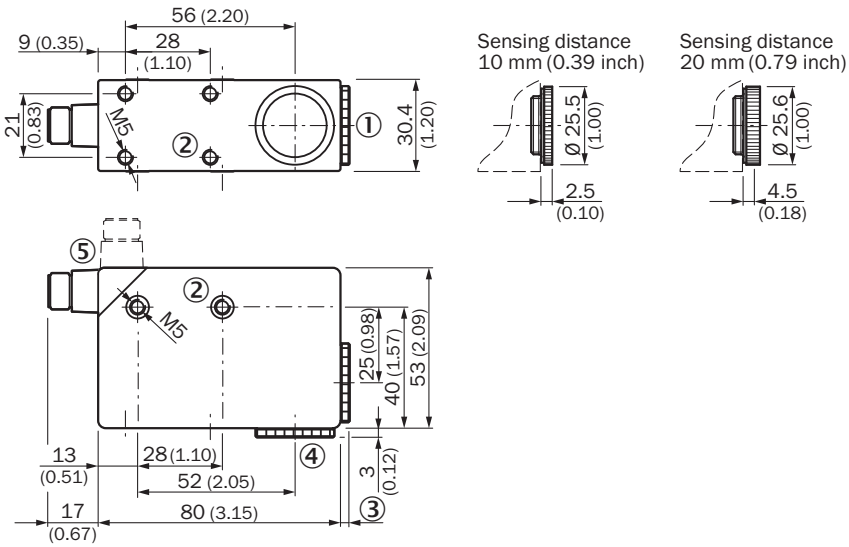
MECHANICS

Housing material	Zinc diecast
Weight	400 g

AMBIENT DATA

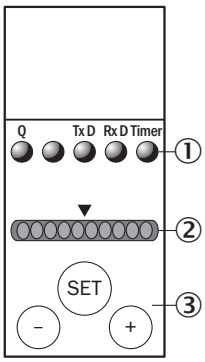
Ambient operating temperature	–10 °C ... +55 °C
Ambient temperature, storage	–10 °C ... +75 °C
Shock load	According to IEC 60068
Enclosure rating	IP67
UL File No.	NRKH.E181493 & NRKH7.E181493

DIMENSIONAL DRAWING KT8 CAN



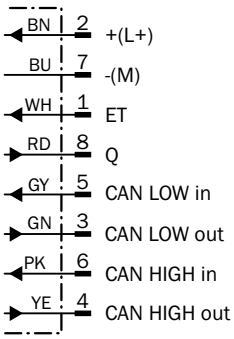
Dimensions in mm (inch)
① Lens (light transmission), can be exchanged for pos. 4
② M5 threaded mounting hole, 5.5 mm deep
③ see dimensional drawings of lenses
④ Blind screw can be replaced by pos. 1
⑤ Connector M12 (rotatable up to 90°)

ADJUSTMENTS KT8 CAN



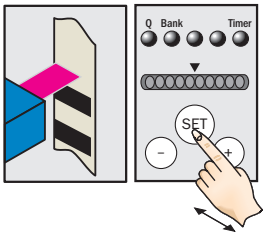
① Function signal indicators (yellow)
② Bar graph (green)
③ teach-in pushbutton / +/– pushbutton

CONNECTION DIAGRAM CD-328



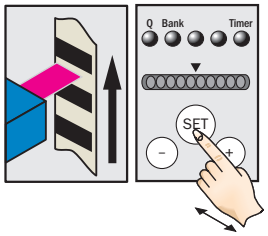
CONNECTION TYPE AND DIAGRAM

1. Position background

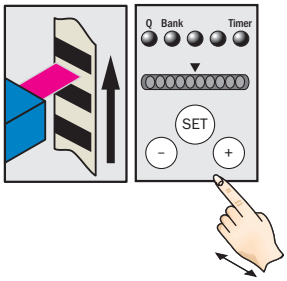


Press and hold SET button.
Emitted light turns white.

2. Move at least one repeat length using the light spot



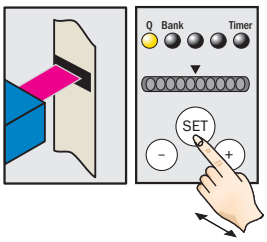
Hold down SET button.



Release SET button.

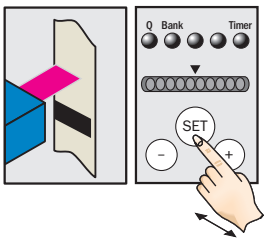
CONCEPT OF OPERATION KT8 CAN, TEACH-IN STATIC

1. Position mark



Press and hold SET button > 1 s.
Yellow LED flashes.

2. Position background

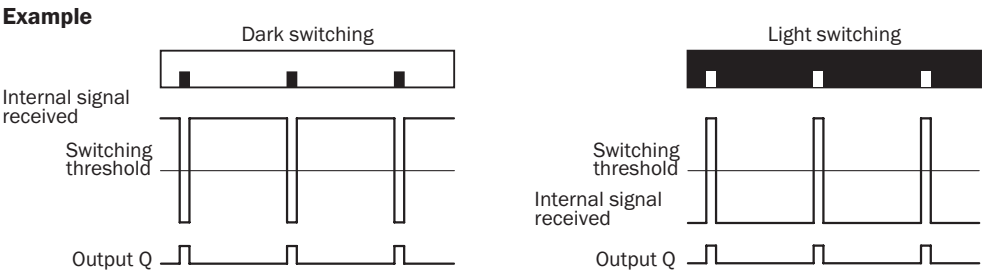


Press and hold SET button > 1 s.
Yellow LED goes out.

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

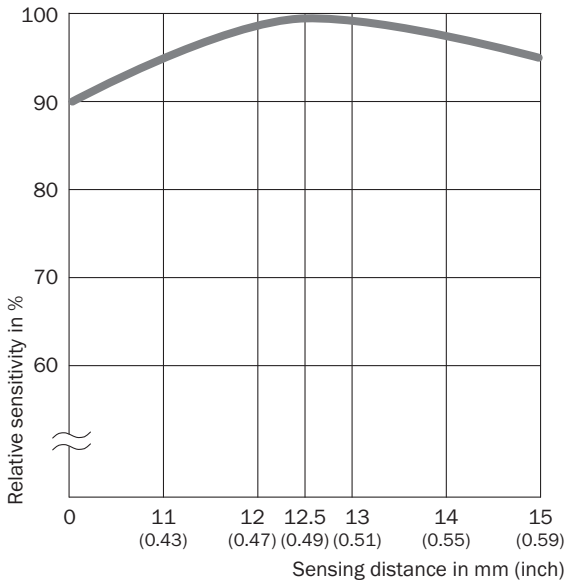
Example



Switching characteristics

Standard setting via control panel or CAN,
Device configuration only possible via CAN, cf. operating instructions.

SENSING DISTANCE



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/1043689

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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.

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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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