SICK.COM



DATA SHEET

KT8L-N3656

KT8
Contrast sensors

SICK Sensor Intelligence



Illustration may differ

CONTRAST SENSORS

KT8L-N3656

ORDERING INFORMATION

Type	part no.
KT8L-N3656	1041263

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

DETAILED TECHNICAL DATA

FEATURES

Housing design	Large
Dimensions (W x H x D)	30.4 mm x 53 mm x 80 mm
Light source	Laser, visible red light [1]
Light emission	Long side of housing
Light spot size	Ø 0.3 mm [2]
Light spot direction	Round
Wave length	655 nm
Laser class	II (EN 60825-1:2014), IEC 60825-1:2014 [3]
Operating distance	30 mm ... 800 mm [4]
Sensing distance	≤ 150 mm [5]
Sensing distance tolerance	- 120 mm / + 650 mm
Adjustment	Teach-in button
Teach-in mode	Static 2-point teach-in Dynamic teach-in (min/max)
Function	Automatic drift correction

[1] Average service life: 50,000 h at T_u = +25 °C.

[2] At focal point = sensing distance 150 mm.

[3] Do not intentionally look into the laser beam. Never point the laser beam at people's eyes.

[4] With respect to black-white contrast 6 % / 90 %.

[5] From leading edge of lens.

ELECTRONICS

Supply voltage	10 V DC ... 30 V DC [1]
Ripple	≤ 5 V_{pp} [2]
Current consumption	< 80 mA [3]
Switching frequency	17 kHz [4]
Response time	30 µs
Jitter	< 15 µs
Switching output	NPN
Switching output (voltage)	NPN: HIGH = approx. U_V / LOW ≤ 2 V
Analog output	0.3 mA ... 20 mA
Output current $I_{max.}$	100 mA
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	Deactivation delay 20 ms, shiftable
Protection class	II [5]
Circuit protection	U_V connections, reverse polarity protected Output Q short-circuit protected Interference pulse suppression
Connection type	 Plug, M12, 5-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 50 V.

MECHANICS

Housing material	Zinc diecast
Optics material	Glass
Weight	+ 400 g

AMBIENT DATA

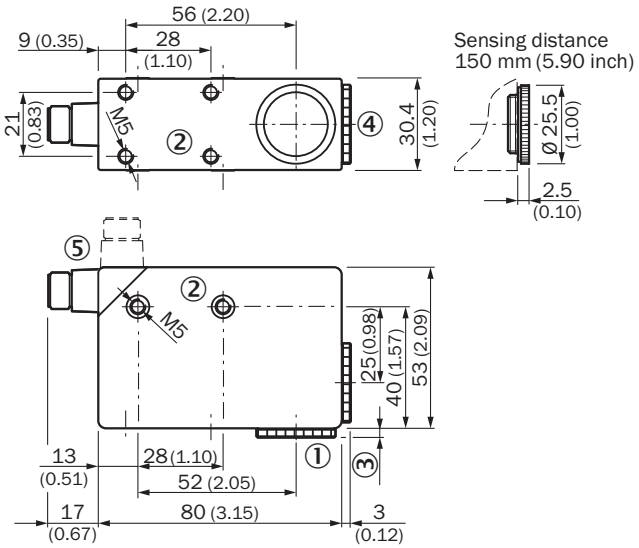
Ambient operating temperature	–10 °C ... +45 °C
Ambient temperature, storage	–10 °C ... +75 °C
Shock load	According to IEC 60068
Enclosure rating	IP67
UL File No.	242368, CDRH-conform

CERTIFICATES

EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China RoHS	✓

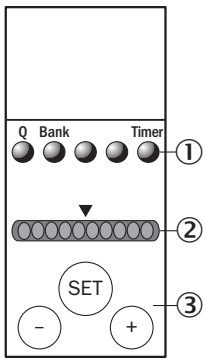
China Compulsory Product Certification (CCC) exempt	✓
cULus certificate	✓
Laser safety (IEC 60825-1) declaration of manufacturer	✓
Optical radiation safety (GB 44703:2024) declaration of manufacturer (low risk)	✓

DIMENSIONAL DRAWING KT8L LASER



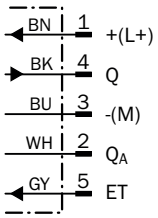
Dimensions in mm (inch)
① Lens (light transmission), cannot be exchanged for pos. 4
② M5 threaded mounting hole, 5.5 mm deep
③ See dimensional drawing of lens
④ Blind screw cannot be replaced by pos. 1
⑤ Connector M12 (rotatable up to 90°)

ADJUSTMENTS KT8L LASER



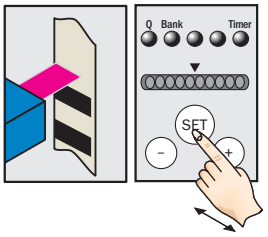
① Function signal indicators (yellow)
② Bar graph (green)
③ teach-in pushbutton / +/– pushbutton

CONNECTION DIAGRAM CD-329



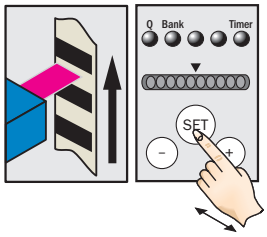
CONNECTION TYPE AND DIAGRAM

1. Position background

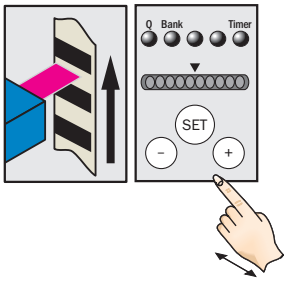


Press and hold SET button.
Emitted light turns white.

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



Hold down SET button.

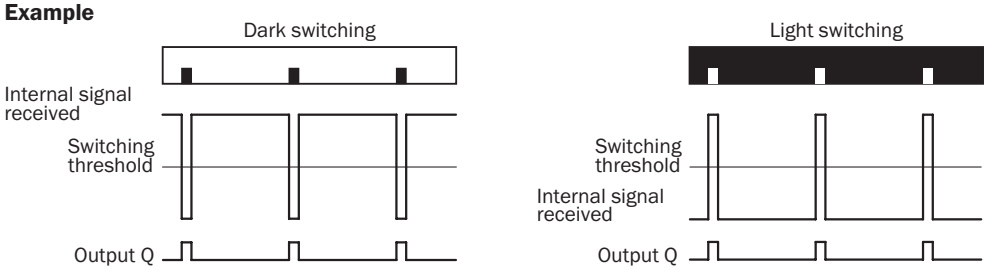


Release SET button.

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

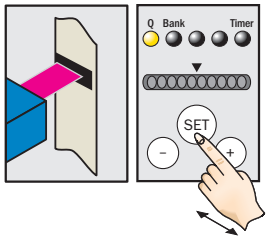


Switching characteristics

Light/dark setting is defined using teach-in sequence or menu, cf. operating instructions.
The switching threshold is set in the center between the background and the mark.
Teach-in and the light/dark setting can also be configured using an external control signal.
Configuration only possible via CAN (see operating instruction).

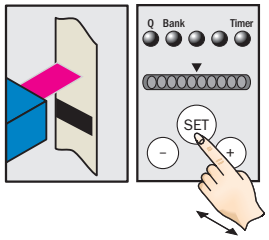
CONNECTION TYPE AND DIAGRAM

1. Marke positionieren



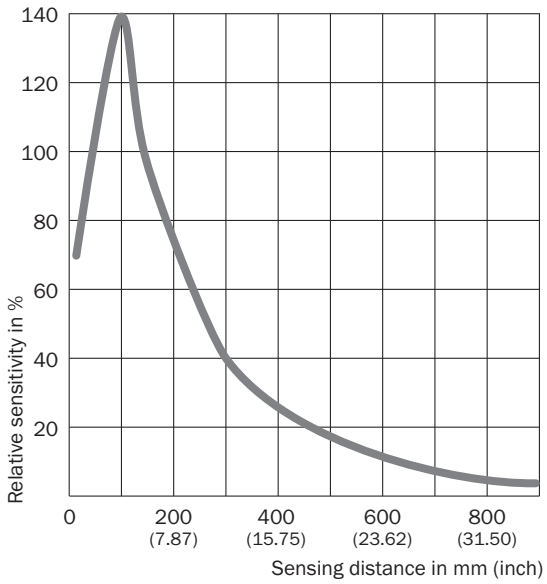
SET-Taste > 1 s drücken.
Gelbe LED blinkt.

2. Untergrund positionieren



SET-Taste > 1 s drücken.
Gelbe LED erlischt.

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/1041263

SICK AG
WALDKIRCH
GERMANY
SICK.COM

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

SICK

Sensor Intelligence