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DATA SHEET

LUT3-820

LUT3
Luminescence sensors

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Sensor Intelligence



Illustration may differ

LUMINESCENCE SENSORS

LUT3-820

ORDERING INFORMATION

Type	part no.
LUT3-820	1012868

Further device versions and accessories at www.sick.com/LUT3



DETAILED TECHNICAL DATA

FEATURES

Housing design	Large
Dimensions (W x H x D)	30.4 mm x 53 mm x 80 mm
Light source	LED, Ultraviolet light ¹⁾
Light spot size	3 mm x 9 mm
Receiving filters	≤ 420 nm ²⁾
Wave length	375 nm
Sensing distance	≤ 20 mm ³⁾
Receiving range	450 nm ... 750 nm
Adjustment	Potentiometer
Output function	Light switching

¹⁾ Average service life: 100,000 h at T_U = +25 °C.
²⁾ Filter blocks shorter wavelengths to blank out background luminescence.
³⁾ From leading edge of lens.

ELECTRONICS

Supply voltage	12 V DC ... 30 V DC ¹⁾
Ripple	< 2 V _{pp} ²⁾
Current consumption	< 60 mA ³⁾

¹⁾ Limit values when operated in short-circuit protected network: max. 8 A.
²⁾ May not fall below or exceed U_I tolerances.
³⁾ Without load.
⁴⁾ With light/dark ratio 1:1.
⁵⁾ Reference voltage DC 50 V.

Switching frequency	1.5 kHz ⁴⁾
Response time	350 µs
Switching output	PNP NPN
Switching output (voltage)	PNP: HIGH = $V_s - \leq 3 \text{ V}$ / LOW = approx. 0 V NPN: HIGH = approx. U_v / LOW $\leq 2 \text{ V}$
Switching mode	Light switching
Analog output	0.5 mA ... 10 mA
Output current I_{max}	100 mA
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

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³⁾ Without load.

⁴⁾ With light/dark ratio 1:1.

⁵⁾ Reference voltage DC 50 V.

MECHANICS

Housing material	Zinc diecast
Weight	400 g

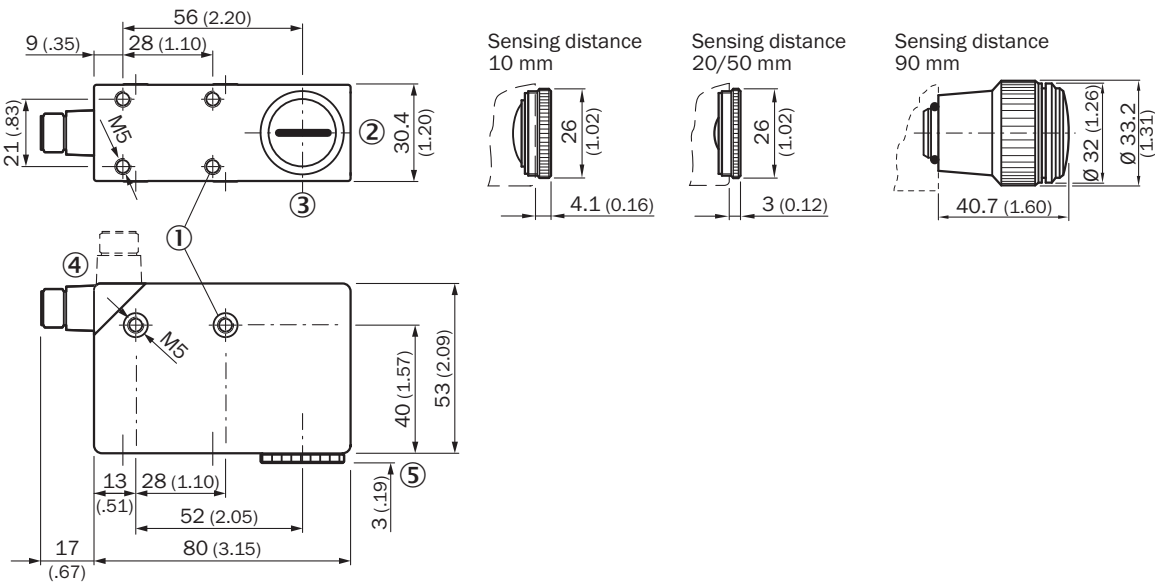
AMBIENT DATA

Ambient operating temperature	-10 °C ... +55 °C
Ambient temperature, storage	-25 °C ... +75 °C
Shock load	According to IEC 60068
Enclosure rating	IP67
UL File No.	NRKH.E181493 & NRKH7.E181493

CERTIFICATES

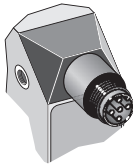
EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China RoHS	✓
China Compulsory Product Certification (CCC) exempt	✓
cULus certificate	✓
Photobiological safety (IEC EN 62471)	✓

DIMENSIONAL DRAWING

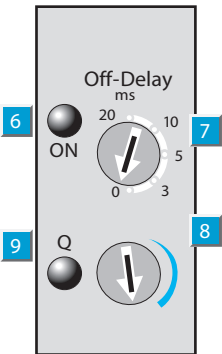


- Dimensions in mm (inch)
- ① M5 threaded mounting hole, 5.5 mm deep
 - ② Light spot direction
 - ③ Center of optical axis
 - ④ Connector M12 (rotatable up to 90°)
 - ⑤ see dimensional drawings of lenses

PINOUTS

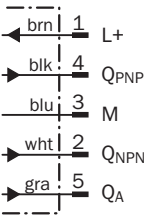


ADJUSTMENTS

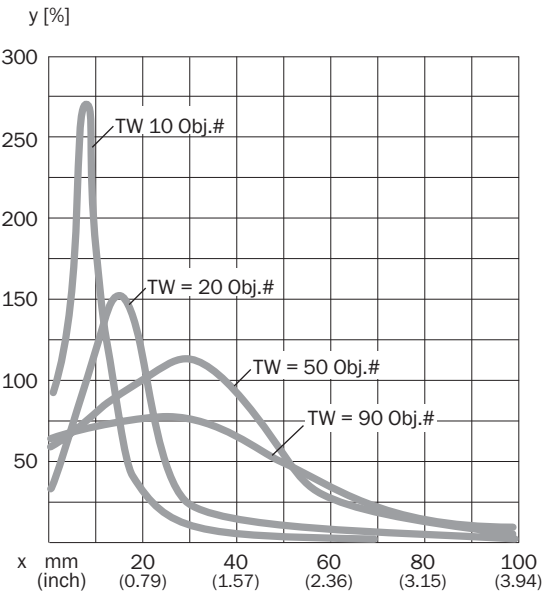


- ⑥ Operating indicator
- ⑦ time delay selector switch
- ⑧ sensitivity control
- ⑨ Output indicator

CONNECTION DIAGRAM



SENSING DISTANCE



Further information as well as suitable accessories, example applications and downloads such as CAD di-
mensional models, operating instructions and software can be found at www.sick.com/1012868



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SICK AT A GLANCE

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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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