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Product data sheet



LUT3-650

LUT3

LUMINESCENCE SENSORS

SICK
Sensor Intelligence.

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LUT3-650 | LUT3

LUMINESCENCE SENSORS



Illustration may differ

Ordering information

Type	Part no.
LUT3-650	1015398

Other models and accessories → www.sick.com/LUT3

Detailed technical data

Features

Dimensions (W x H x D)	30.4 mm x 53 mm x 80 mm
Sensing distance	≤ 50 mm [1]
Housing design	Large
Working range	30 mm ... 60 mm
Light source	LED, UV [2]
Wave length	375 nm
Light emission	Long side
Light spot size	5 mm x 15 mm
Light spot direction	Vertical
Receiving filters	KV 418 (standard)
Receiving range	450 nm ... 750 nm
Adjustment	Potentiometer
Output function	Light switching

[1] From leading edge of lens.
[2] Average service life: 100,000 h at T_U = +25 °C.

Mechanics/electronics

Supply voltage	12 V DC ... 30 V DC [1]
Ripple	< 2 V_{pp} [2]
Current consumption	< 60 mA [3]
Switching frequency	1.5 kHz [4]

[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] Reference voltage DC 50 V.

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Response time	350 µs [5]
Switching output	PNP, NPN
Switching output (voltage)	PNP: HIGH = V_S– ≤ 3 V / LOW = approx. 0 V NPN: HIGH = approx. U_V / LOW ≤ 2 V
Switching mode	Light switching
Output current $I_{max.}$	100 mA
Connection type	Male connector M12, 4-pin
Protection class	II [6]
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] Reference voltage DC 50 V.

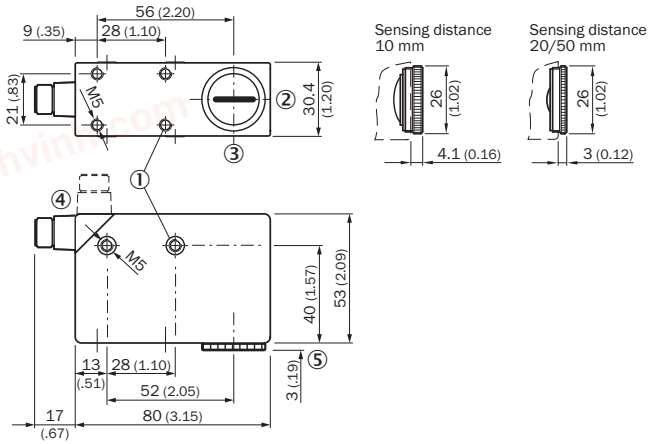
Ambient data

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

Classifications

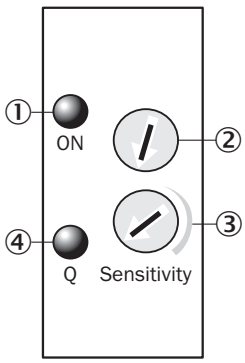
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eCl@ss 5.1.4	27270908
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eCl@ss 6.2	27270908
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eCl@ss 11.0	27270908
eCl@ss 12.0	27270908
ETIM 5.0	EC001822
ETIM 6.0	EC001822
ETIM 7.0	EC001822
ETIM 8.0	EC001822
UNSPSC 16.0901	39121528

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

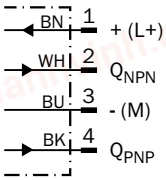
Adjustments



① Function signal indicator (green)
② Not assigned
③ Sensitivity control
④ Function signal indicator (yellow), switching output

Connection diagram

Cd-086

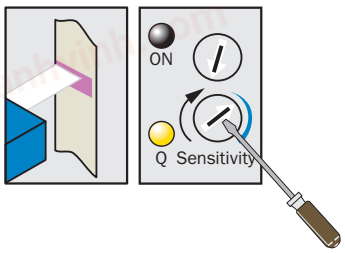


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Concept of operation

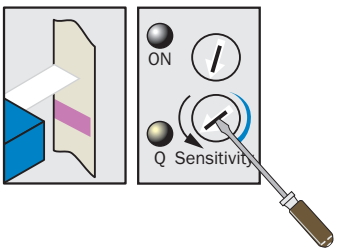
Potentiometer

1. Position mark



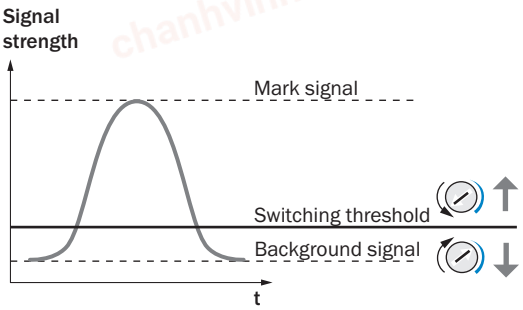
Turn “Sensitivity” rotary switch clockwise until yellow LED illuminates.

2. Position background



If yellow LED illuminates, turn “Sensitivity” rotary switch counter-clockwise until the yellow LED just goes out.

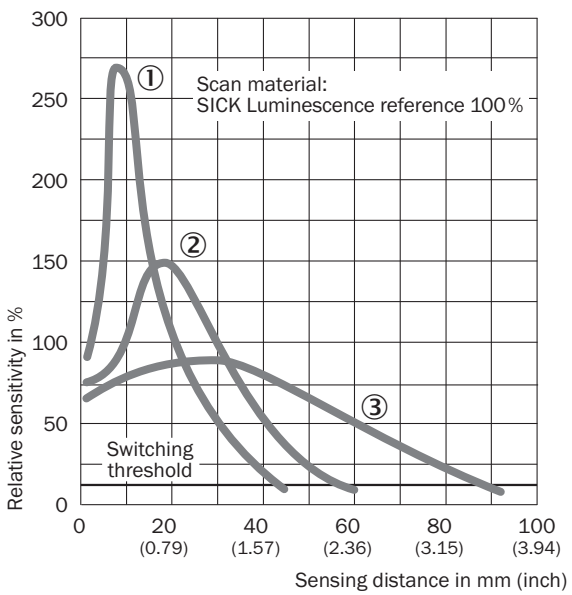
Sensitivity setting



Note
Adjustments are intendend for luminescence background suppression.

Sensing distance

Sensing distance

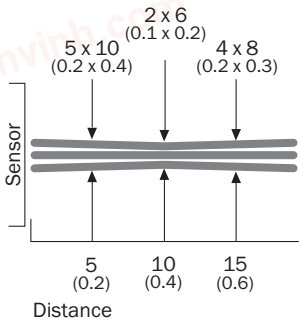


① Sensing distance 10 mm
② Sensing distance 20 mm
③ Sensing distance 50 mm

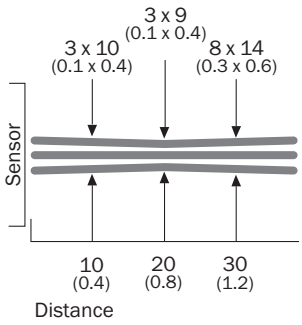
Light spot size

Light spot size

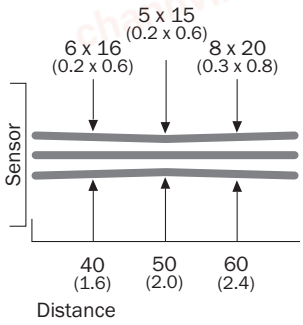
Sensing distance 10 mm



Sensing distance 20 mm



Sensing distance 50 mm



Recommended accessories

Other models and accessories ➜ www.sick.com/LUT3

	Brief description	Type	Part no.
Lenses and accessories			
	Lens, 10 mm sensing distance, M25 x 0.75	OBJ-LUT3-10	2016348
	Lens, 20 mm sensing distance, M25 x 0.75	OBJ-LUT3-20	2016349
	Lens, 50 mm sensing distance, M25 x 0.75	OBJ-LUT3-50	2016350
Reference materials			
		LUM-FT	1004460
		LUM-KLK	1002959
Universal bar clamp systems			
		BEF-KHS-G01	2022464
		BEF-KHS-K01	2022718
		BEF-KHS-KH1	2022726
		BEF-MS12G-A	4056054
		BEF-MS12G-B	4056055
		BEF-MS12L-A	4056052
		BEF-MS12L-B	4056053

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	Brief description	Type	Part no.
Plug connectors and cables			
		YF2A14-020VB3XLEAX	2096234
		YF2A14-050VB3XLEAX	2096235
		YF2A14-100VB3XLEAX	2096236
		YF2A14-150VB3XLEAX	2096237
		YG2A14-020VB3XLEAX	2095895
		YG2A14-050VB3XLEAX	2095897
		YG2A14-100VB3XLEAX	2095898
		DOS-1204-G	6007302
		DOS-1204-W	6007303

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We have extensive experience in a wide range of industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

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