



LUT3-650

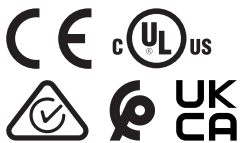
LUT3

LUMINESCENCE SENSORS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

Type	part no.
LUT3-650	1015398

Other models and accessories → 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 emission	Long side
Light spot size	5 mm x 15 mm
Light spot direction	Vertical
Receiving filters	≤ 420 nm ²⁾
Wave length	375 nm
Working range	30 mm ... 60 mm
Sensing distance	≤ 50 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 suppress background luminescence.

³⁾ From leading edge of lens.

Electronics

Supply voltage	12 V DC ... 30 V DC ¹⁾
Ripple	< 2 V _{pp} ²⁾

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

²⁾ May not fall below or exceed U_y tolerances.

³⁾ Without load.

⁴⁾ With light/dark ratio 1:1.

⁵⁾ Reference voltage DC 50 V.

Current consumption	< 60 mA ³⁾
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
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	Male connector M12, 4-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
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

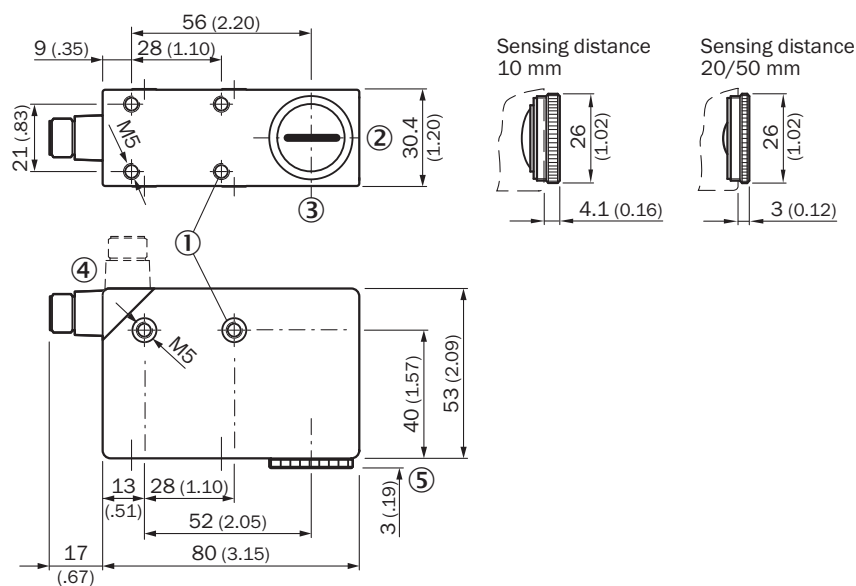
EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China RoHS	✓
cULus certificate	✓
Photobiological safety (IEC EN 62471)	✓

Classifications

ECLASS 5.0	27270908
ECLASS 5.1.4	27270908
ECLASS 6.0	27270908

ECLASS 6.2	27270908
ECLASS 7.0	27270908
ECLASS 8.0	27270908
ECLASS 8.1	27270908
ECLASS 9.0	27270908
ECLASS 10.0	27270908
ECLASS 11.0	27270908
ECLASS 12.0	27270908
ETIM 5.0	EC001822
ETIM 6.0	EC001822
ETIM 7.0	EC001822
ETIM 8.0	EC001822
UNSPSC 16.0901	39121528

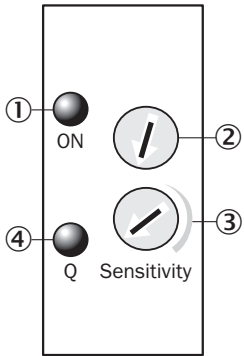
Dimensional drawing



Dimensions in mm (inch)

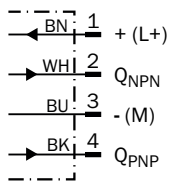
- ① M5 threaded mounting hole, 5.5 mm deep
- ② Light spot direction
- ③ Center of optical axis
- ④ Connector M12 (rotatable up to 90°)
- ⑤ see dimensional drawings of lenses

Adjustments



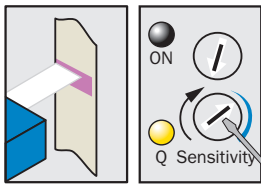
- ① Function signal indicator (green)
- ② Not assigned
- ③ sensitivity control
- ④ Function signal indicator (yellow), switching output

Connection diagram Cd-086



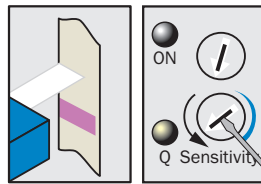
Concept of operation Potentiometer

1. Position mark



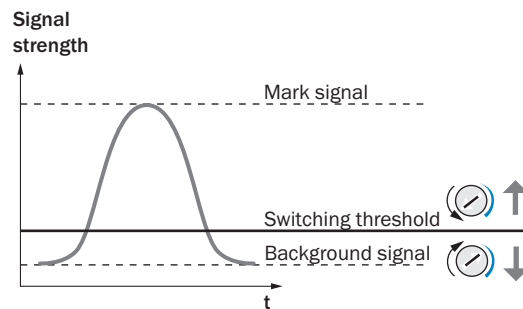
Turn "Sensitivity" rotary switch clockwise until yellow LED illuminates.

2. Position background



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

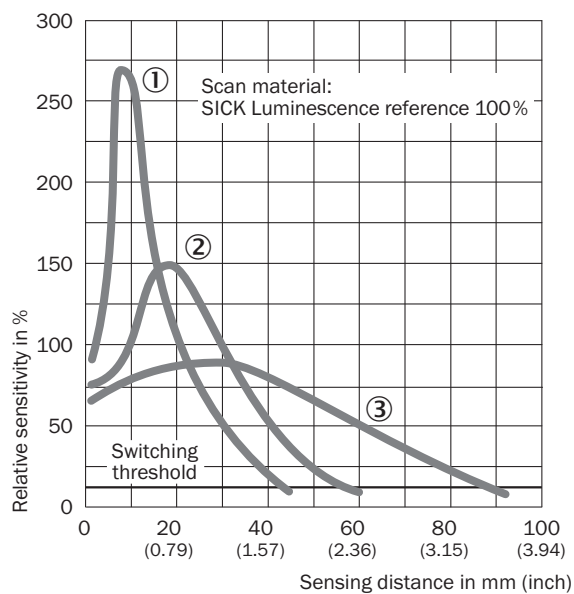
Sensitivity setting



Note

Adjustments are intended for luminescence background suppression.

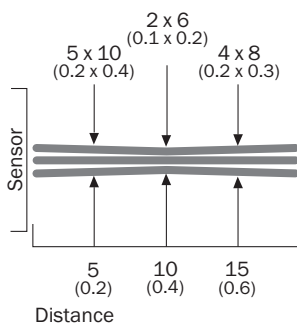
Sensing distance



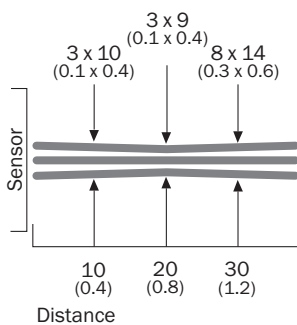
- ① Sensing distance 10 mm
- ② Sensing distance 20 mm
- ③ Sensing distance 50 mm

Light spot size

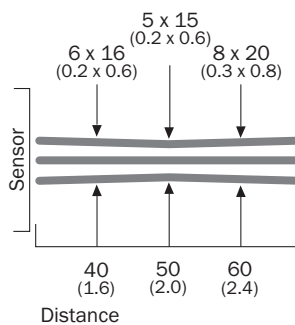
Sensing distance 10 mm



Sensing distance 20 mm









Sensing distance 50 mm





Recommended accessories

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

	Brief description	Type	part no.
Mounting systems			
	<ul style="list-style-type: none"> Description: Plate G for universal clamp bracket Material: Steel Details: Steel, zinc coated Items supplied: Universal clamp (2022726), mounting hardware Usable for: W34, LUT3, KT5-2, KT10, CS8, W24-2, KT8, KT8 	BEF-KHS-G01	2022464
	<ul style="list-style-type: none"> Description: Plate K for universal clamp bracket Material: Steel Details: Steel, zinc coated Items supplied: Universal clamp (2022726), mounting hardware Usable for: W11-2, W12-3, W14-2, W18-3, W23-2, W24-2, W27-3, W30, W32, W34, W36, PL50A, PL80A, P250, UC12, LUT3, KT2, KT5-2, KT8, CS8, DT2, DS30, DS40, W12-2 Laser, W16, W26, KT5 	BEF-KHS-K01	2022718
Commissioning aids and test equipment			
	<ul style="list-style-type: none"> Description: Writing chalk, red fluorescence 	LUM-KLK	1002959
	<ul style="list-style-type: none"> Description: Thick chalk, red fluorescent, 12 units 	LUM-FT	1004460
reflectors and optics			
	<ul style="list-style-type: none"> Description: Lens, 10 mm sensing distance 	OBJ-LUT3-10	2016348
	<ul style="list-style-type: none"> Description: Lens, 20 mm sensing distance 	OBJ-LUT3-20	2016349
	<ul style="list-style-type: none"> Description: Lens, 50 mm sensing distance 	OBJ-LUT3-50	2016350

	Brief description	Type	part no.
connectors and cables			
	<ul style="list-style-type: none"> • Description: Unshielded • Connection type head A: Female connector, M12, 4-pin, straight, A-coded • Connection systems: Screw-type terminals • Permitted cross-section: ≤ 0.75 mm² 	DOS-1204-G	6007302
	<ul style="list-style-type: none"> • Description: Unshielded • Connection type head A: Female connector, M12, 4-pin, angled, A-coded • Connection systems: Screw-type terminals • Permitted cross-section: ≤ 0.75 mm² 	DOS-1204-W	6007303
	<ul style="list-style-type: none"> • Description: Sensor/actuator cable, unshielded • Connection type head A: Female connector, M12, 4-pin, straight, A-coded • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 2 m, 4-wire, PVC • Application: Uncontaminated zones, Zones with chemicals 	YF2A14-020VB3XLEAX	2096234
	<ul style="list-style-type: none"> • Description: Sensor/actuator cable, unshielded • Connection type head A: Female connector, M12, 4-pin, straight, A-coded • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 5 m, 4-wire, PVC • Application: Uncontaminated zones, Zones with chemicals 	YF2A14-050VB3XLEAX	2096235
	<ul style="list-style-type: none"> • Description: Sensor/actuator cable, unshielded • Connection type head A: Female connector, M12, 4-pin, straight, A-coded • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 10 m, 4-wire, PVC • Application: Uncontaminated zones, Zones with chemicals 	YF2A14-100VB3XLEAX	2096236
	<ul style="list-style-type: none"> • Description: Sensor/actuator cable, unshielded • Connection type head A: Female connector, M12, 4-pin, straight, A-coded • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 15 m, 4-wire, PVC • Application: Uncontaminated zones, Zones with chemicals 	YF2A14-150VB3XLEAX	2096237
	<ul style="list-style-type: none"> • Description: Sensor/actuator cable, unshielded • Connection type head A: Female connector, M12, 4-pin, angled, A-coded • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 2 m, 4-wire, PVC • Application: Uncontaminated zones, Zones with chemicals 	YG2A14-020VB3XLEAX	2095895
	<ul style="list-style-type: none"> • Description: Sensor/actuator cable, unshielded • Connection type head A: Female connector, M12, 4-pin, angled, A-coded • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 5 m, 4-wire, PVC • Application: Uncontaminated zones, Zones with chemicals 	YG2A14-050VB3XLEAX	2095897
	<ul style="list-style-type: none"> • Description: Sensor/actuator cable, unshielded • Connection type head A: Female connector, M12, 4-pin, angled, A-coded • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 10 m, 4-wire, PVC • Application: Uncontaminated zones, Zones with chemicals 	YG2A14-100VB3XLEAX	2095898
	<ul style="list-style-type: none"> • Description: Sensor/actuator cable, unshielded • Connection type head A: Female connector, M12, 4-pin, angled, A-coded • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 0.6 m, 4-wire, PVC • Application: Uncontaminated zones, Zones with chemicals 	YG2A14-C60VB3XLEAX	2145709
	<ul style="list-style-type: none"> • Description: Sensor/actuator cable, unshielded • Connection type head A: Female connector, M12, 4-pin, angled, A-coded • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 1 m, 4-wire, PVC 	YG2A14-010VB3XLEAX	2145710

	Brief description	Type	part no.
	<ul style="list-style-type: none"> • Application: Uncontaminated zones, Zones with chemicals • Description: Sensor/actuator cable, unshielded • Connection type head A: Female connector, M12, 4-pin, straight, A-coded • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 0.6 m, 4-wire, PVC • Application: Uncontaminated zones, Zones with chemicals 	YF2A14-C60VB3XLEAX	2145707
	<ul style="list-style-type: none"> • Description: Sensor/actuator cable, unshielded • Connection type head A: Female connector, M12, 4-pin, straight, A-coded • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 1 m, 4-wire, PVC • Application: Uncontaminated zones, Zones with chemicals 	YF2A14-010VB3XLEAX	2145708

SICK AT A GLANCE

SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

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.

Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

For us, that is “Sensor Intelligence.”

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