



LUT2-2N1116

LUT2

LUMINESCENCE SENSORS

SICK
Sensor Intelligence.



Illustration may differ

Ordering information

Type	part no.
LUT2-2N1116	1048506

Other models and accessories → www.sick.com/LUT2

Detailed technical data

Features

Housing design	Small
Dimensions (W x H x D)	12 mm x 40 mm x 22 mm
Light source	LED, Ultraviolet light ¹⁾
Light emission	Long side
Light spot size	2 mm x 2.5 mm ²⁾
Light spot direction	Vertical
Receiving filters	≤ 420 nm ³⁾
Wave length	370 nm
Working range	8 mm ... 20 mm
Sensing distance	≤ 12.5 mm ⁴⁾
Receiving range	450 nm ... 750 nm
Adjustment	Teach-in button
Teach-in mode	Static 2-point teach-in
Output function	Light/dark switching ⁵⁾

¹⁾ Average service life: 100,000 h at T_U = +25 °C.

²⁾ At sensing distance.

³⁾ Filter blocks shorter wavelengths to suppress background luminescence.

⁴⁾ From leading edge of lens.

⁵⁾ L/D switching via teach-in.

Electronics

Supply voltage	12 V DC ... 24 V DC ¹⁾
Ripple	≤ 5 V _{pp} ²⁾

¹⁾ Limit values: DC 12 V (-10 %) ... DC 24 V (+20 %). Operation 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.

Current consumption	≤ 30 mA ³⁾
Switching frequency	0.5 kHz ⁴⁾ 2 kHz Depending on the mark intensity
Response time	1 ms 250 μs
Switching output	NPN
Switching output (voltage)	NPN: HIGH = approx. U_V / LOW ≤ 2 V
Switching mode	Light/dark switching
Output current I_{max}	≤ 100 mA
Input, teach-in (ET)	NPN Teach: $U < 2 V$ Run: $U = 10 V \dots < U_V$
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: DC 12 V (-10 %) ... DC 24 V (+20 %). Operation 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	ABS
Weight	11 g

Ambient data

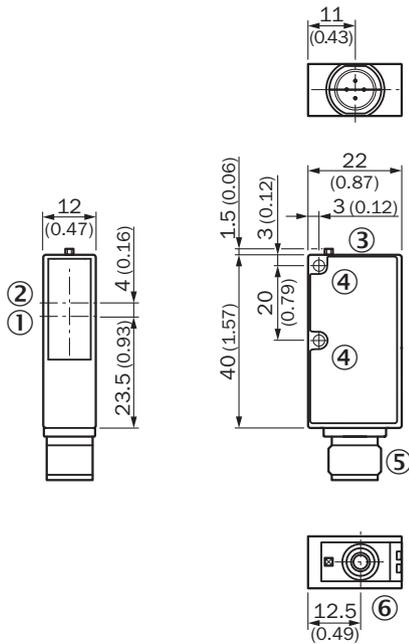
Ambient operating temperature	-10 °C ... +55 °C
Ambient temperature, storage	-25 °C ... +75 °C
Shock load	According to IEC 60068
Enclosure rating	IP67
UL File No.	NRKH.E181493 & NRKH7.E181493

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

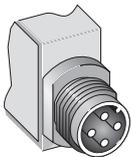
Dimensional drawing



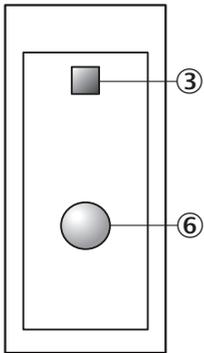
Dimensions in mm (inch)

- ① Center of optical axis, sender
- ② Center of optical axis, receiver
- ③ LED signal strength indicator
- ④ Mounting hole, Ø 3 mm
- ⑤ Male connector M12
- ⑥ Teach-in button

Pinouts

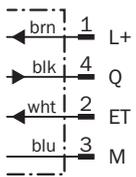


Adjustments



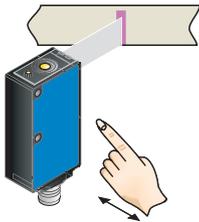
- ③ LED signal strength indicator
- ⑥ Teach-in button

Connection diagram



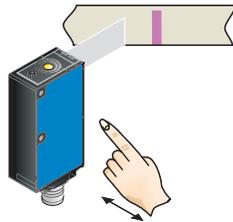
Concept of operation

1. Position mark



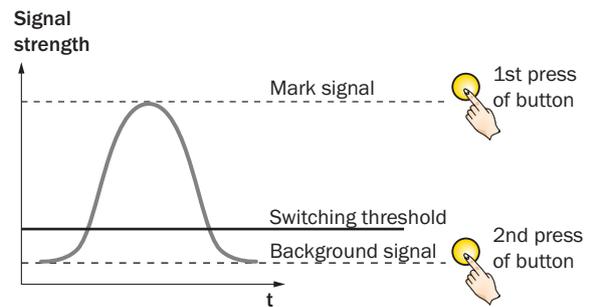
Press and hold teach-in button > 1 s. Yellow LED flashes slowly.

2. Position background



Press and hold teach-in button > 1 s. Yellow LED goes out.

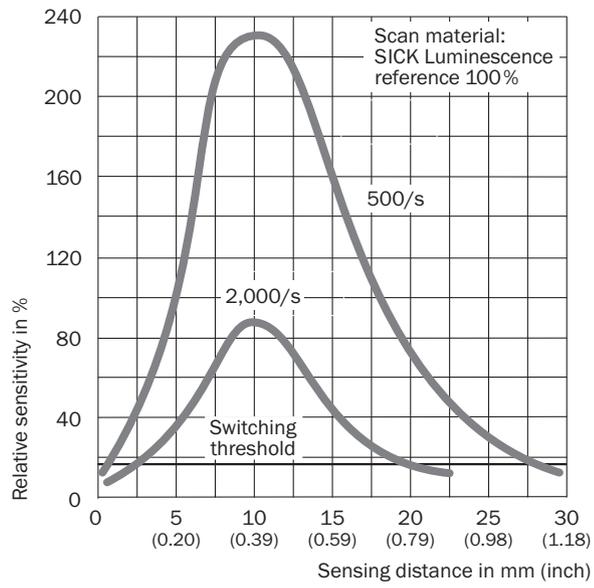
Sensitivity setting



Note

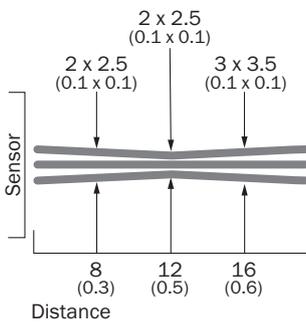
Adjustments are intended for luminescence background suppression.

Sensing distance



Light spot size

Sensing distance 12 mm



All dimensions in mm (inch)

Recommended accessories

Other models and accessories → www.sick.com/LUT2

	Brief description	Type	part no.
Mounting systems			
	<ul style="list-style-type: none"> Description: Mounting bracket Material: Steel Details: Steel, zinc coated Items supplied: Mounting hardware included Suitable for: W9-3 	BEF-WN-W9-2	2022855
	<ul style="list-style-type: none"> Description: Plate L for universal clamp bracket Material: Steel Details: Steel, zinc coated Items supplied: Universal clamp (2022726), mounting hardware Usable for: W8, W100, W140-2, W150, W160, W9-2, W250, P250, LUT2, KT3, CSM1, G6, W100-2, W250, LUT2, W9-3, W150, CSM, LUTM, G10, W8, P250, KTM Core, KTM Prime 	BEF-KHS-L01	2023057
reflectors and optics			
	<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

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

	Brief description	Type	part no.
	<ul style="list-style-type: none"> • Application: Zones with chemicals, Untaminated zones • 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 • Description: Sensor/actuator cable, unshielded • Application: Zones with chemicals, Untaminated zones 	YF2A14-C60VB3XLEAX	2145707
	<ul style="list-style-type: none"> • 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 • Description: Sensor/actuator cable, unshielded • Application: Zones with chemicals, Untaminated zones 	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.”

WORLDWIDE PRESENCE:

Contacts and other locations –www.sick.com