LUTM-UP81162P

LUTM

LUMINESCENCE SENSORS

SICK
Sensor Intelligence.

LUTM-UP81162P | LUTM

LUMINESCENCE SENSORS

Illustration may differ

Ordering information

Type	part no.
LUTM-UP81162P	1067295

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

Detailed technical data

Features

Dimensions (W x H x D)	12 mm x 31.5 mm x 21 mm
Sensing distance	≤ 12.5 mm [1]
Housing design	Small
Working range	8 mm ... 20 mm
Light source	LED, UV [2]
Wave length	370 nm
Light emission	Long side
Light spot size	2 mm x 2.5 mm [3]
Light spot direction	Vertical
Receiving range	450 nm ... 750 nm
Adjustment	Teach-in button
Teach-in mode	2-point teach-in static/dynamic
Output function	Light/dark switching [4]

[1] From leading edge of lens.

[2] Average service life: 100,000 h at T_U = +25 °C.

[3] At sensing distance.

[4] L/D switching via teach-in.

Mechanics/electronics

Supply voltage	12 V DC ... 24 V DC [1]
Ripple	≤ 5 V_{pp} [2]
Current consumption	≤ 50 mA [3]
Switching frequency	6 kHz [4]
Response time	80 µs [5]
Jitter	40 µs
Switching output	PNP
Switching output (voltage)	PNP: HIGH = U_V ≤ 2 V / LOW approx. 0 V
Switching mode	Light/dark switching
Output current $I_{max.}$	< 100 mA [6]
Input, teach-in (ET)	PNP Teach: U = 10 V ... < U_V Run: U < 2 V
Connection type	Cable with M12 male connector, 4-pin, 0.2 m
Protection class	III
Circuit protection	U_V connections, reverse polarity protected Output Q short-circuit protected Interference pulse suppression
Enclosure rating	IP67
Weight	70 g
Housing material	ABS

[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] Signal transit time with resistive load.

[6] At supply voltage > 24 V, I_{max} = 30 mA. I_{max} is consumption count of all Q_n.

Ambient data

Ambient operating temperature	–10 °C ... +55 °C
Ambient temperature, storage	–20 °C ... +75 °C
Shock load	According to IEC 60068
UL File No.	NRKH.E348498 & NRKH7.E348498

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
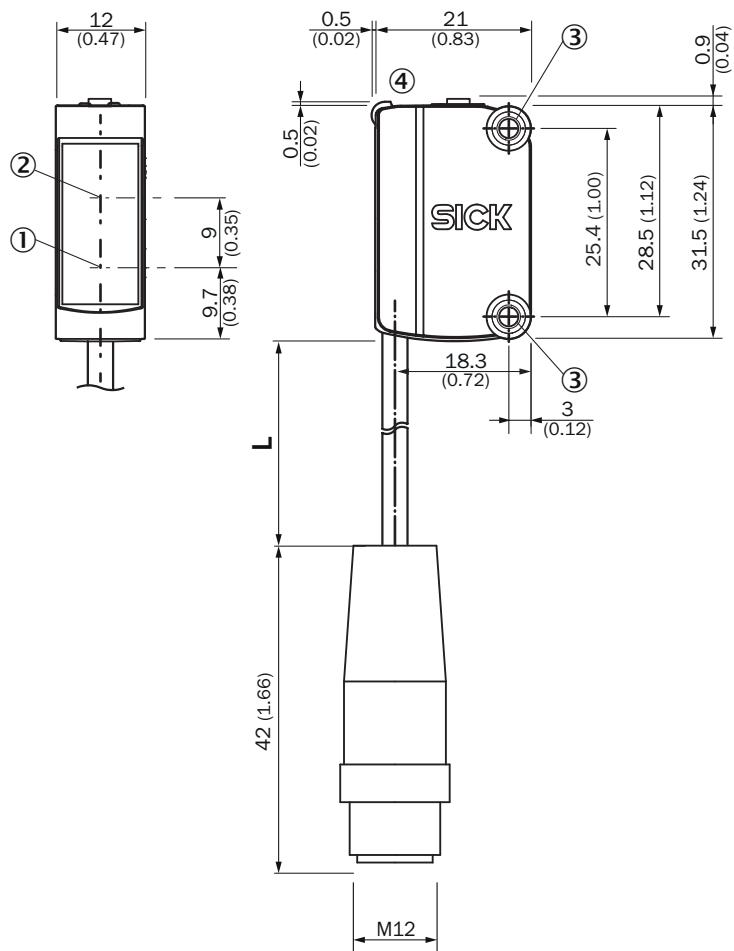
Dimensions in mm (inch)
For length of cable (L), see technical data
① Center of optical axis, sender
② Center of optical axis, receiver
③ Mounting holes M3
④ display and adjustment elements

display and adjustment elements
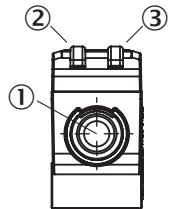
① Teach-in button
② LED yellow
③ LED green

Connection diagram Cd-092

BN	1	+ (L+)
WH	2	Teach
BU	3	- (M)
BK	4	Q
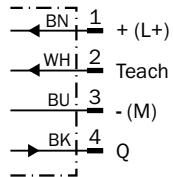
Setting the switching threshold (dynamic)

1. Position background	**2. Move at least the fluorecent mark and background using the light spot.**		
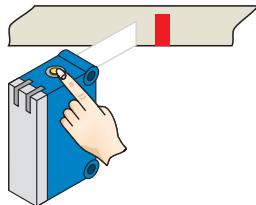
Press the teach-in button and keep it pressed. LED flashing slowly.
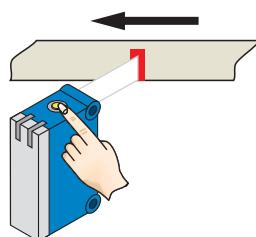
Keep the teach-in button > 3 < 30 s pressed.
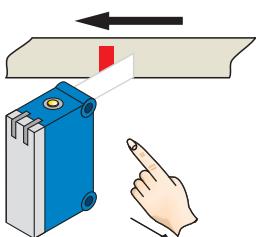
Release the teach-in button.
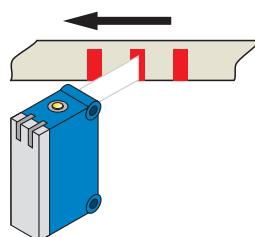
Yellow LED will illuminate, when emitted light is on the fluorecent mark.

Sensitivity setting

Signal strength

Mark signal — 1st press of button

Switching threshold

Background signal — 2nd press of button

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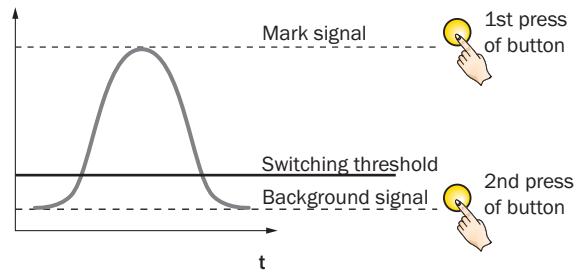
Switching characteristics

Static teach-in: light/dark setting is defined using teach-in sequence.
Dynamic teach-in: switching output active on fluorecent mark, if background is longer in the field of view during the teach-in. The switching threshold is set automatically between the background and the mark.

Teach-in can also be performed using an external control signal (only dynamic teach-in).

Keylock activation and deactivation: hold down teach-in button > 30 s.

Teach-in failure: yellow LED indicator and the transmitted light of the sensor flashing quickly.
For dynamic teach-in with ET signal (5 Hz) via switching output Q.

Setting the switching threshold (static)

1. Position fluorecent mark
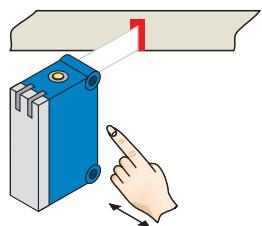
Press and hold teach-in
button > 1 < 3 s.
Yellow LED flashes slowly.

2. Position background
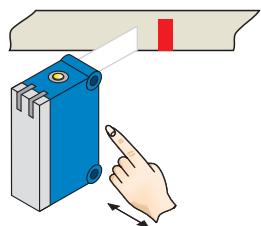
Press and hold teach-in
button < 3 s.
Yellow LED goes out.

Sensing distance

Relative sensitivity in %

Sensing distance in mm (inch)
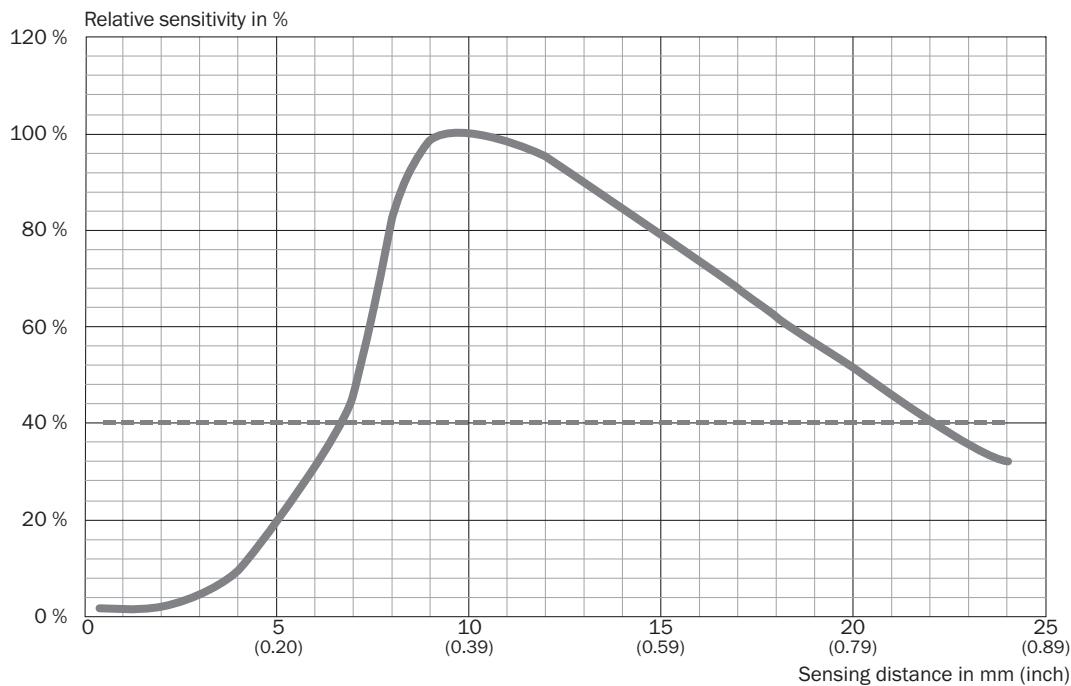
Recommended accessories

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

	Brief description	Type	part no.
Mounting systems			
	• **Material:** Stainless steel • **Details:** Stainless steel (1.4301) • **Suitable for:** W4S	BEF-WN-G6	2062909

Brief description	Type	part no.
connectors and cables		
• **Connection type head A:** Male connector, M12, 4-pin, straight, A-coded • **Description:** Unshielded • **Connection systems:** Screw-type terminals • **Permitted cross-section:** ≤ 0.75 mm²	STE-1204-G	6009932
• **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

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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