



LUT9U-11326

LUT9

LUMINESCENCE SENSORS

SICK
Sensor Intelligence.



Ordering information

| Type | Part no. |
|-------------|----------|
| LUT9U-11326 | 1047053 |

Other models and accessories → www.sick.com/LUT9



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 (light emission) | Rectangular |
| Working range | 20 mm ... 70 mm |
| Light source | LED, Ultraviolet light ²⁾ |
| Wave length | 375 nm |
| Light emission | Long side |
| Light spot size | 5 mm x 15 mm |
| Light spot direction | Vertical |
| Receiving filters | RG 610 |
| Receiving range | 610 nm ... 750 nm |
| Adjustment | Teach-in button |
| Teach-in mode | Static 2-point teach-in with manual fine adjustment |
| Output function | Light switching ³⁾ |

¹⁾ From front edge of lens.

²⁾ Average service life: 100,000 h at T_J = +25 °C.

³⁾ L/D switching via teach-in.

Mechanics/electronics

| | |
|-----------------------|-----------------------------------|
| Supply voltage | 10 V DC ... 30 V DC ¹⁾ |
| Ripple | < 5 V _{pp} ²⁾ |

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, without timer stage.

⁵⁾ Signal transit time with resistive load.

⁶⁾ Reference voltage DC 50 V.

| | |
|---|---|
| Current consumption | < 100 mA ³⁾ |
| Switching frequency | 0.5 kHz ⁴⁾ 2.5 kHz 6.5 kHz Adjustable |
| Response time | 1 ms ⁵⁾ 200 µs 75 µs |
| Switching output | PNP, NPN |
| Switching output (voltage) | PNP: HIGH = $V_S - \leq 2 \text{ V}$ / LOW approx. 0 V NPN: HIGH = approx. V_S / LOW $\leq 2 \text{ V}$ |
| Switching mode | Light switching |
| Analog output | 0 mA ... 13 mA |
| Output current I_{max} | 100 mA |
| Time delay | Switch-off delay, 0 ms / 10 ms / 20 ms, adjustable (0 ms = default) |
| Connection type | Male connector M12, 5-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, without timer stage.

⁵⁾ Signal transit time with resistive load.

⁶⁾ Reference voltage DC 50 V.

Communication interface

| | |
|--------------------------------|---|
| Communication interface | - |
|--------------------------------|---|

Ambient data

| | |
|--------------------------------------|------------------------|
| Ambient operating temperature | -10 °C ... +55 °C |
| Ambient storage temperature | -25 °C ... +75 °C |
| Shock load | According to IEC 60068 |

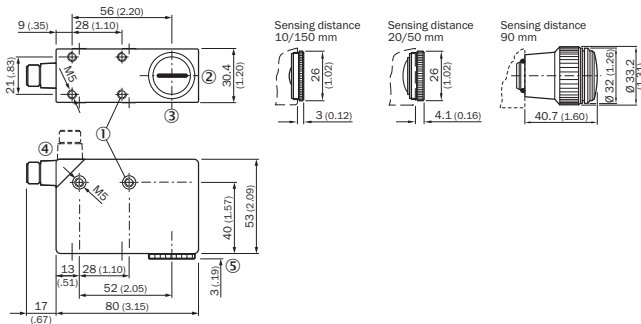
Classifications

| | |
|---------------------|----------|
| ECl@ss 5.0 | 27270908 |
| ECl@ss 5.1.4 | 27270908 |
| ECl@ss 6.0 | 27270908 |
| ECl@ss 6.2 | 27270908 |
| ECl@ss 7.0 | 27270908 |
| ECl@ss 8.0 | 27270908 |
| ECl@ss 8.1 | 27270908 |
| ECl@ss 9.0 | 27270908 |

| | |
|-----------------------|----------|
| ECl@ss 10.0 | 27270908 |
| ECl@ss 11.0 | 27270908 |
| ETIM 5.0 | EC001822 |
| ETIM 6.0 | EC001822 |
| ETIM 7.0 | EC001822 |
| UNSPSC 16.0901 | 39121528 |

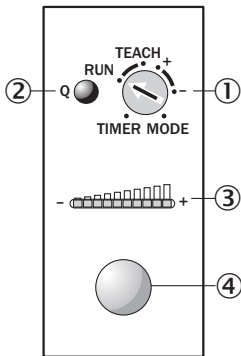
Dimensional drawing (Dimensions in mm (inch))

LUT9x-x1xxx, light Emission: Long side



- ① M5 threaded mounting hole, 5.5 mm deep
- ② Lens (light transmission), can be replaced by blind screw
- ③ Center of optical axis
- ④ Connector M12 (rotatable up to 90°)
- ⑤ See dimensional drawings of lenses
- ⑥ Blind screw can be replaced by lens

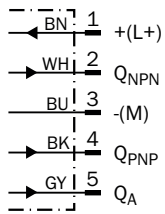
Adjustments



- ① Rotary selection switch
- ② Function signal indicator (yellow), switching output
- ③ Bar graph (green), power-on left-hand LED
- ④ Teach-in button

Connection diagram

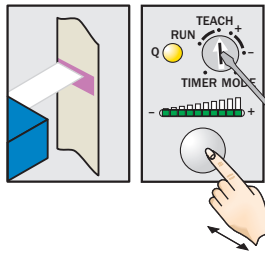
Cd-312



Concept of operation

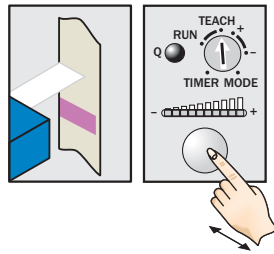
Teach-in static

1. Position mark



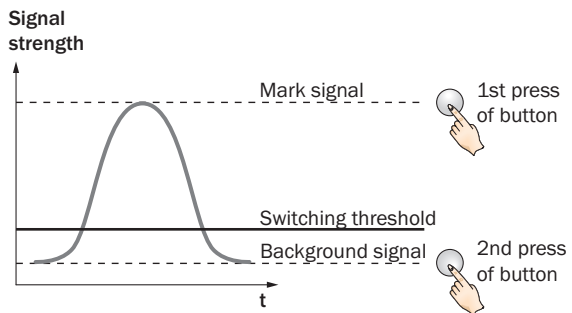
Turn rotary switch to "TEACH" position and press and hold teach-in button > 1 s. Yellow LED flashes slowly.

2. Position background



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

Sensitivity setting

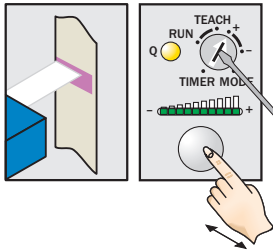


Note

The bar graph display shows detection reliability. The more LEDs that illuminate, the better the teach-in.

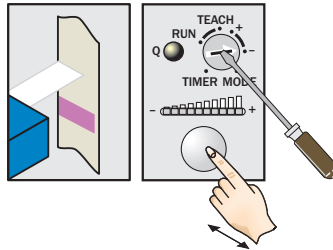
Button +/-

1. Position mark



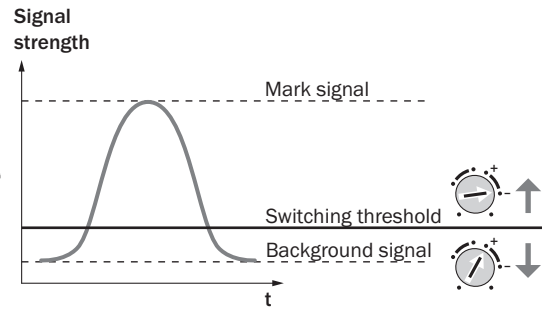
Turn rotary switch to “+” position and press and hold teach-in button until yellow light goes out (more green LEDs illuminate on the bar display).

2. Position background



If yellow LED illuminates, turn rotary switch to “-” position and press and hold teach-in button until yellow light just goes out (green LEDs go out on the bar display).

Sensitivity setting

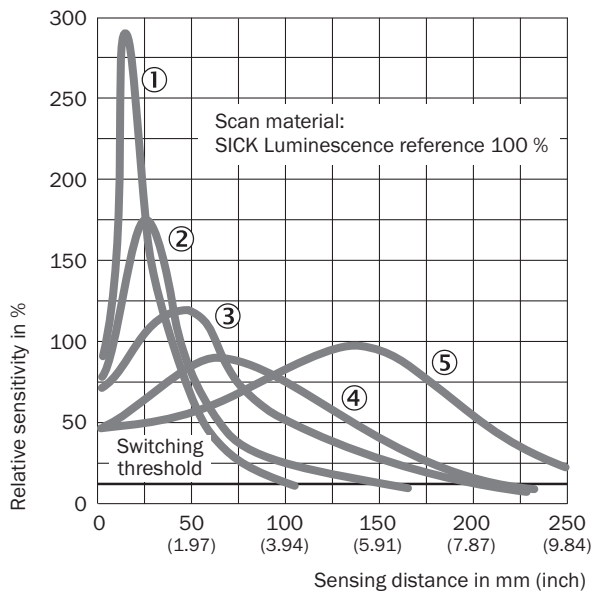


Note for all settings

Once configuration is complete, turn the rotary switch to the “RUN” position. The bar display then shows the luminescence intensity (regardless of switching threshold setting). Adjustments are intended for luminescence background suppression.

Sensing distance

Sensing distance

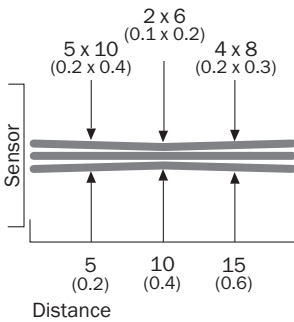


- ① Sensing distance 10 mm
- ② Sensing distance 20 mm
- ③ Sensing distance 50 mm
- ④ Sensing distance 90 mm
- ⑤ Sensing distance 150 mm

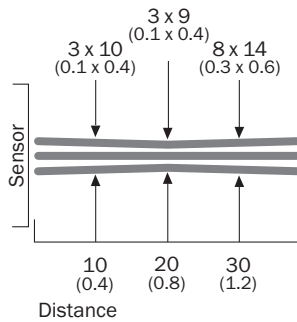
Light spot size

Light spot size

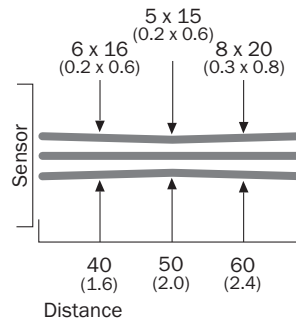
Sensing distance 10 mm



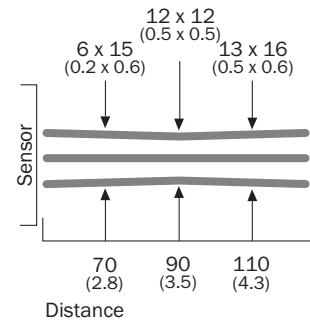
Sensing distance 20 mm



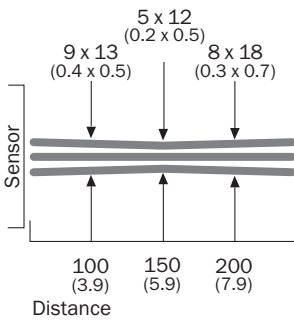
Sensing distance 50 mm



Sensing distance 90 mm







Sensing distance 150 mm



All dimensions in mm (inch)

Recommended accessories

Other models and accessories → www.sick.com/LUT9

| | Brief description | Type | Part no. |
|---|---|-------------|----------|
| Universal bar clamp systems | | | |
|  | Plate G for universal clamp bracket, steel, zinc coated, Universal clamp (2022726), mounting hardware | BEF-KHS-G01 | 2022464 |
|  | Plate K for universal clamp bracket, steel, zinc coated, Universal clamp (2022726), mounting hardware | BEF-KHS-K01 | 2022718 |
|  | Universal clamp bracket for rod mounting, steel, zinc coated, without mounting hardware | BEF-KHS-KH1 | 2022726 |
|  | Mounting bar, straight, 200 mm, steel, steel, zinc coated, without mounting hardware | BEF-MS12G-A | 4056054 |
| | Mounting bar, straight, 300 mm, steel, steel, zinc coated, without mounting hardware | BEF-MS12G-B | 4056055 |

| | Brief description | Type | Part no. |
|---|--|--------------------|-----------------|
|  | Mounting bar, L-shaped, 150 mm x 150 mm, steel, steel, zinc coated, without mounting hardware | BEF-MS12L-A | 4056052 |
| | Mounting bar, L-shaped, 250 x 250 mm, steel, steel, zinc coated, without mounting hardware | BEF-MS12L-B | 4056053 |
| Plug connectors and cables | | | |
|  | Head A: female connector, M12, 5-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 2 m | YF2A15-020VB5XLEAX | 2096239 |
| | Head A: female connector, M12, 5-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 5 m | YF2A15-050VB5XLEAX | 2096240 |
| | Head A: female connector, M12, 5-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 10 m | YF2A15-100VB5XLEAX | 2096241 |
|  | Head A: female connector, M12, 5-pin, angled, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 2 m | YG2A15-020VB5XLEAX | 2096215 |
| | Head A: female connector, M12, 5-pin, angled, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 5 m | YG2A15-050VB5XLEAX | 2096216 |
| | Head A: female connector, M12, 5-pin, angled, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 10 m | YG2A15-100VB5XLEAX | 2096217 |
|  | Head A: female connector, M12, 5-pin, straight Cable: unshielded | DOS-1205-G | 6009719 |
|  | Head A: female connector, M12, 5-pin, angled Head B: - Cable: unshielded | DOS-1205-W | 6009720 |
| Lenses and accessories | | | |
| | | OBJ-026 | 1001326 |
| | | OBJ-LUT3-10 | 2016348 |
| | | OBJ-LUT3-20 | 2016349 |
| | | OBJ-LUT3-50 | 2016350 |

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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Contacts and other locations –www.sick.com