SICK.COM

DATA SHEET

LUT9U-P139LS06

LUT9
Luminescence sensors

SICK Sensor Intelligence

Illustration may differ

LUMINESCENCE SENSORS

LUT9U-P139LS06

ORDERING INFORMATION

Type	part no.
LUT9U-P139LS06	1135293

Further device versions and accessories at www.sick.com/LUT9

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	20 mm ... 70 mm
Sensing distance	50 mm [3]
Receiving range	420 nm ... 470 nm
Adjustment	Teach-in button, IO-Link (optional)
Output function	Light switching [4]

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

[2] Filter blocks shorter wavelengths to blank out background luminescence.

[3] From leading edge of lens.

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

INTERFACES

IO-Link	✓ , IO-Link V1.0
VendorID	26
DeviceID HEX	80000F
DeviceID DEC	8388623
Cycle time	2.3 ms
Process data structure	Bit 0 = switching signal Q_{L1} Bit 1 ... 5 = empty

	Bit 6 ... 15 = Analog Measurment Value

ELECTRONICS

Supply voltage	10 V DC ... 30 V DC [1]
Ripple	< 5 V_{pp} [2]
Current consumption	< 100 mA [3]
Switching frequency	0.5 kHz [4] 2.5 kHz 6.5 kHz
Response time	1 ms 200 µs 75 µs
Switching output	PNP
Switching output (voltage)	PNP: HIGH = U_V ≤ 2 V / LOW approx. 0 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)
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, without timer stage.

[5] Reference voltage DC 50 V.

MECHANICS

Housing material	Zinc diecast
Weight	400 g

AMBIENT DATA

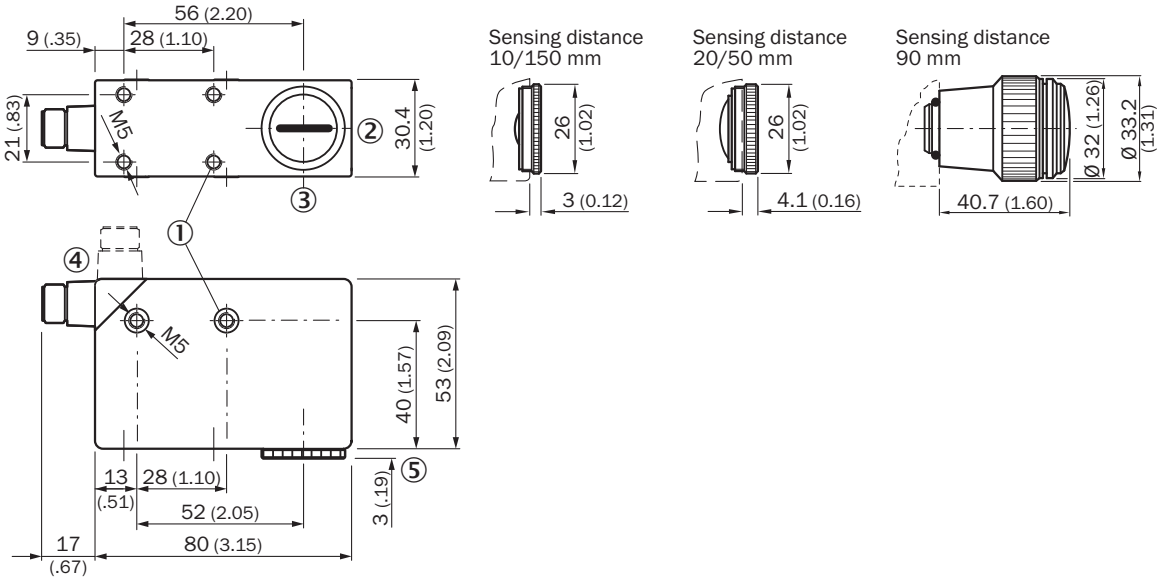
Ambient operating temperature	–10 °C ... +55 °C
Ambient temperature, storage	–25 °C ... +75 °C
Shock load	According to IEC 60068
Enclosure rating	IP67

CERTIFICATES

EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China RoHS	✓
China Compulsory Product Certification (CCC) exempt	✓

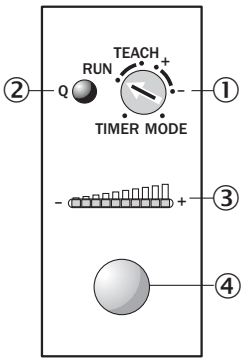
Photobiological safety (IEC EN 62471)	✓
Optical radiation safety (GB 44703:2024) declaration of manufacturer (low risk)	✓
Information according to Art. 3 of Data Act (Regulation EU 2023/2854)	✓

DIMENSIONAL DRAWING LUT9X-X1XXX, LIGHT EMISSION: LONG SIDE



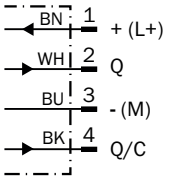
Dimensions in mm (inch)
① M5 threaded mounting hole, 5.5 mm deep
② Lens (light transmission), can be replaced by blind screw
③ Center of optical axis
④ Connector M12 (rotatable up to 90°)
⑤ see dimensional drawings of lenses
⑥ Blind screw can be replaced by lens

ADJUSTMENTS



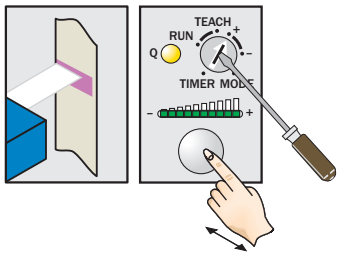
① Rotary selection switch
② Function signal indicator (yellow), switching output
③ bar graph (green), power-on left-hand LED
④ Teach-in button

CONNECTION DIAGRAM CD-309



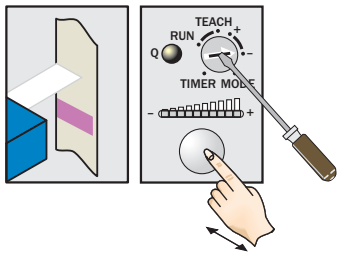
CONCEPT OF OPERATION BUTTON +/-

1. Position mark



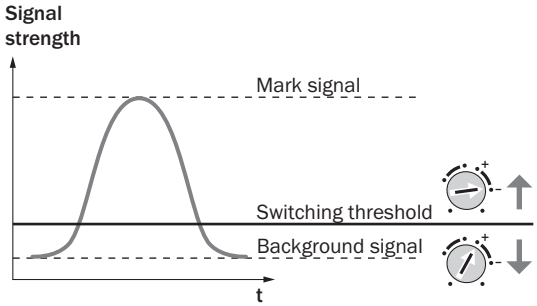
Turn rotary switch to “+” position and press and hold teach-in button until yellow light goes out (more green LEDs illuminate on the bar display).

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

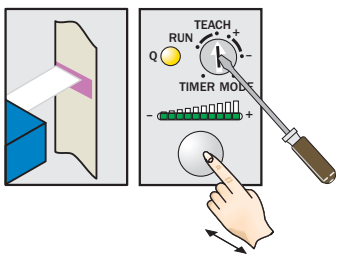


Note for all settings

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 intendend for luminescence background suppression.

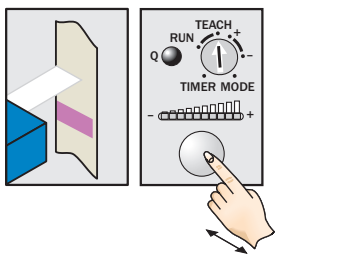
CONCEPT OF OPERATION TEACH-IN STATIC

1. Position mark



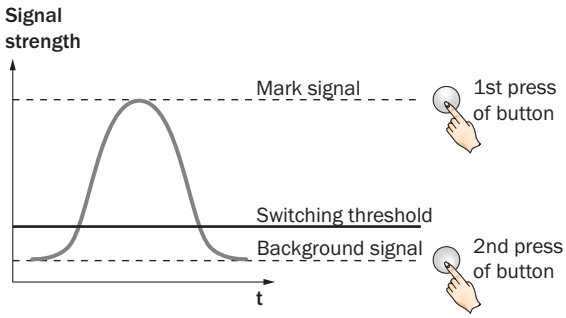
Turn rotary switch to “TEACH” position and press and hold teach-in button > 1 s.
Yellow LED flashes slowly.

2. Position background



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

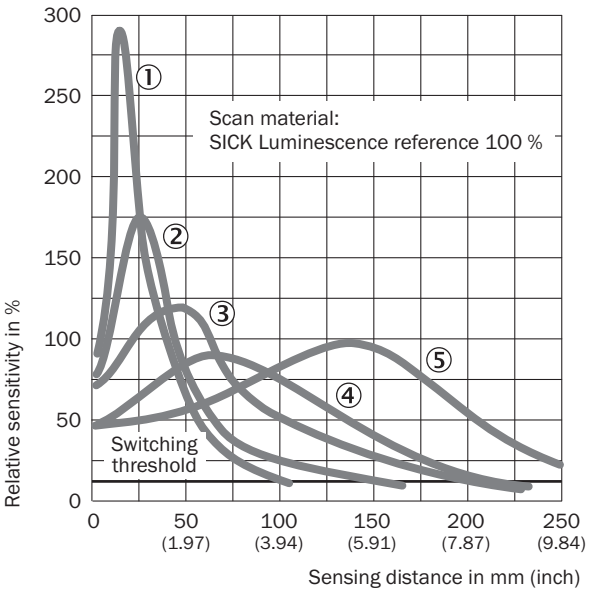
Sensitivity setting



Note

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

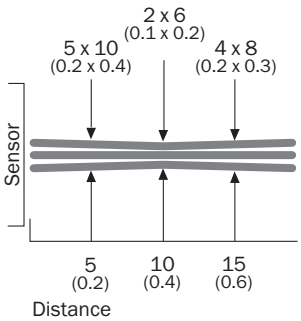
SENSING DISTANCE



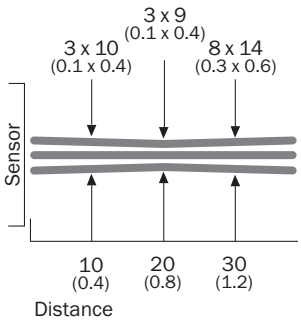
① Sensing distance 10 mm
② Sensing distance 20 mm
③ Sensing distance 50 mm
④ Sensing distance 90 mm
⑤ Sensing distance 150 mm

LIGHT SPOT SIZE

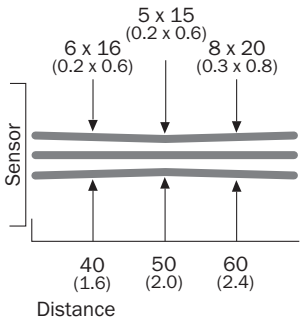
Sensing distance 10 mm



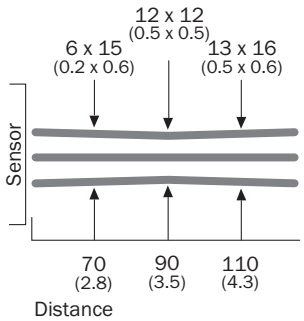
Sensing distance 20 mm



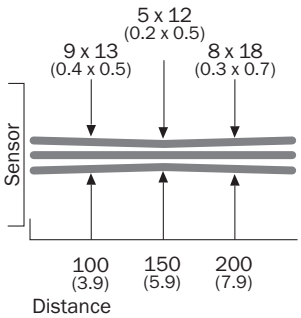
Sensing distance 50 mm



Sensing distance 90 mm



Sensing distance 150 mm



All dimensions in mm (inch)

Further information as well as suitable accessories, example applications and downloads such as CAD dimensional models, operating instructions and software can be found at www.sick.com/1135293

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SICK AT A GLANCE

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