



Luminescence sensors LUT9

LUT9U-11406



Model Name > **LUT9U-11406**
Part No. > **1047051**



At a glance

- Simple teach-in
- Operating range up to 250 mm
- Version with IO-Link for remote monitoring
- Bar graph display provides information about the luminescence intensity
- High speed (6.5 kHz), standard (2.5 kHz), high resolution (500 Hz) models
- Additional optical filters suppress background luminescence
- Fiber-optic cable connection (with 20 mm lens)
- Switching and analog output

Your benefits

- Simple sensitivity adjustment via teach-in for optimum adaptation to the application
- Long sensing distance tolerance leads to less mechanical height adjustments of the sensor on the machine
- Using IO-Link, the sensor can be configured and monitored by the central control system, enabling simple, cost-effective diagnostics and data collection
- Bar graph display provides continual process control through easy visualization of the luminescence intensity
- Filters ensure that background luminescence is reliably suppressed, ensuring greater process reliability
- Interchangeable lenses for different sensing distances and the second light exit provide flexibility
- High detection reliability ensures the process and reduces downtime
- Select speed or high resolution, making it ideal for any application.



Features

Sensing distance ¹⁾ :	90 mm
Operating range:	30 mm 110 mm
Light source ²⁾ :	LED
Type of light:	Ultraviolet light
Wave length:	375 nm
Light emission:	Long side
Light spot size:	12 mm x 12 mm
Light spot direction:	Vertical
Receiving filters:	KV 418 (standard)
Receiving range:	450 nm ... 750 nm
Adjustment:	Static 2-point teach-in with manual fine adjustment

Output function ³⁾: Light switching
 Dimensions (W x H x D): 30.4 mm x 53 mm x 80 mm
 Housing design (light emission): Rectangular

¹⁾ From front edge of lens ²⁾ Average service life of 100,000 h at $T_A = +25\text{ °C}$ ³⁾ L/D switching via teach-in or IO-Link

Mechanics/electronics

Ripple ¹⁾: < 5 Vpp
 Power consumption ²⁾: < 100 mA
 Switching frequency ³⁾: 0.5 kHz, 2.5 kHz, 6.5 kHz, Adjustable
 Response time ⁴⁾: 1 ms
 200 μs
 75 μs

Output type: NPN: HIGH = approx. VS / LOW ≤ 2 V
 PNP: HIGH = VS- ≤ 2 V / LOW approx. 0 V

Switching mode: PNP/NPN

Analog output QA: 0 mA ... 13 mA

Output current I_{max.}: 100 mA

Time delay: 0 ms / 10 ms / 20 ms, Adjustable

Connection type: Connector M12, 5-pin

Protection class ⁵⁾: II

Circuit protection: Output Q short-circuit protected
 Interference suppression
 VS connections reverse-polarity protected

Enclosure rating: IP 67

Weight: 400 g

Housing material: Metal, Zinc diecast

Supply voltage: 10 V DC ... 30 V DC ⁶⁾

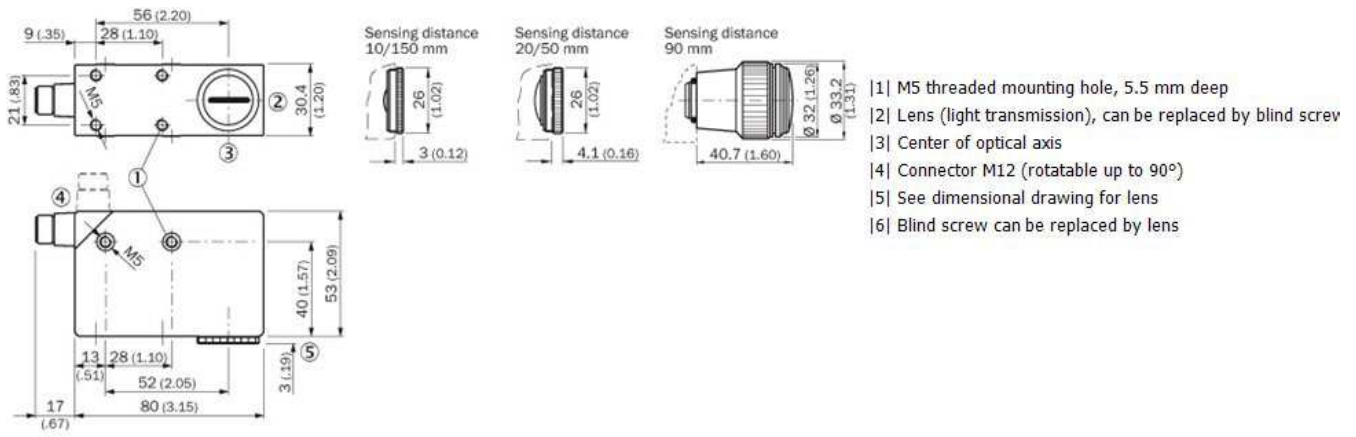
Fieldbus interface: -

¹⁾ May not exceed or fall short of V_S tolerances ²⁾ Without load ³⁾ With light/dark ratio 1:1, no time delay ⁴⁾ Signal transit time with resistive load ⁵⁾ Reference voltage
⁶⁾ DC 50 V Limit values; operation in short-circuit protected network max. 8 A

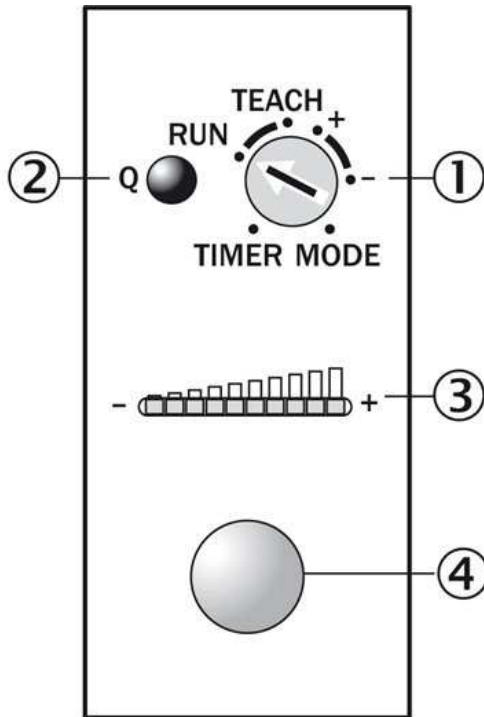
Ambient data

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

Dimensional drawing



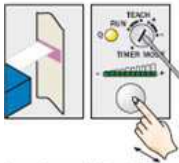
Adjustments



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

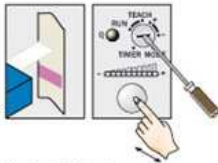
Bedienhinweis

1. Position mark



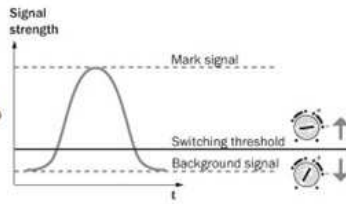
Turn rotary switch to "+" position and press and hold teach-in button until yellow light goes out (more green LEDs illuminate on the bar display).

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

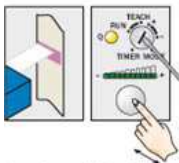


Note for all settings

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.

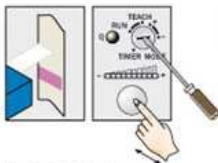
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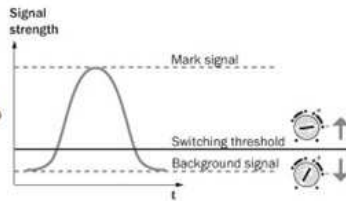
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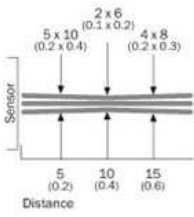


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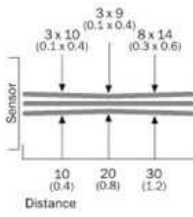
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Light spot size

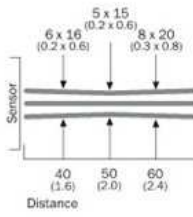
Sensing distance 10 mm



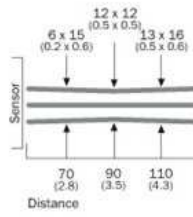
Sensing distance 20 mm



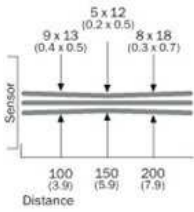
Sensing distance 50 mm



Sensing distance 90 mm

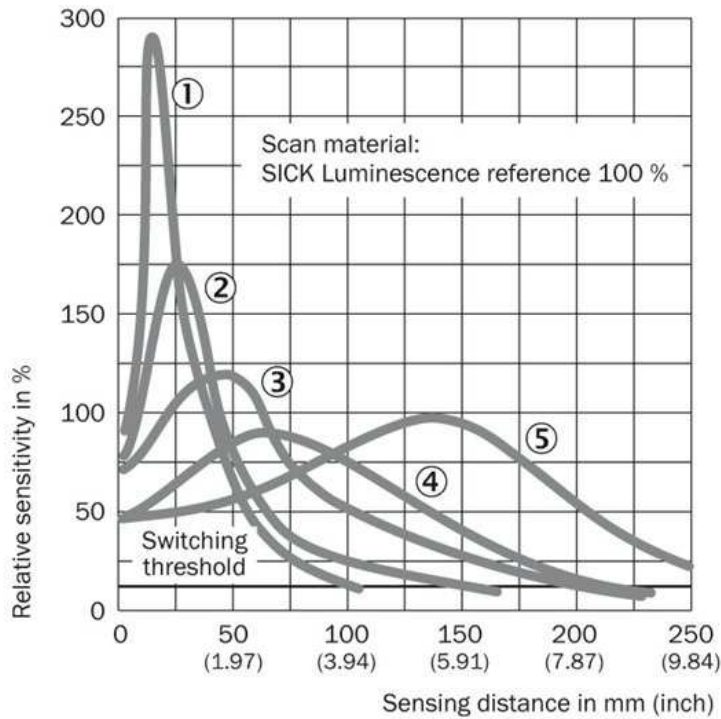


Sensing distance 150 mm



All dimensions in mm (inch)

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

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