



# LUT9

The new standard for high-performance luminescence sensors

LUMINESCENCE SENSORS

**SICK**  
Sensor Intelligence.



### Technical data overview

|                                    |   |
|------------------------------------|---|
| <b>Sensing distance</b>            | 10 mm <sup>1)</sup><br>40 mm <sup>1)</sup><br>50 mm <sup>1)</sup><br>90 mm <sup>1)</sup><br>150 mm <sup>1)</sup><br>20 mm <sup>1)</sup> |
| <b>Type of light</b>               | LED, Ultraviolet light <sup>2)</sup><br>LED, blue <sup>2)</sup>   |
| <b>Light emission</b>              | Long side / Long and short side, exchangeable (depending on type)   |
| <b>Switching frequency</b>         | 0.5 kHz <sup>3)</sup><br>2.5 kHz<br>6.5 kHz   |
| <b>Response time</b>               | 1 ms / 200 µs / 75 µs <sup>4)</sup>   |
| <b>Analog output Q<sub>A</sub></b> | 0 mA ... 13 mA  |
| <b>Adjustment</b>                  | Static 2-point teach-in with manual fine adjustment   |
| <b>Connection type</b>             | Male connector M12, 5-pin / male connector M12, 4-pin (depending on type)   |

<sup>1)</sup> From front edge of lens.

<sup>2)</sup> Average service life: 100,000 h at T<sub>U</sub> = +25 °C.

<sup>3)</sup> With light/dark ratio 1:1, without timer stage.

<sup>4)</sup> Signal transit time with resistive load.

### Product description

The LUT9 luminescence sensor offers a long sensing distance and remote monitoring capabilities via IO-Link. With a sensing distance of up to 250 mm, the LUT9 sets a new standard for luminescence sensors. Due to the long distances possible between the sensor and the object, marks on lumber with varying thicknesses, for example, can be reliably detected without mechanical adjustment of the sensors. In addition, the teach function and manual fine adjustment allow for maximum process reliability. The LUT9 version with IO-Link can actively be integrated into the machine control logic, configured/monitored from the controller, and used for process data collection. Especially helpful is a bar graph display on the device indicating the luminescence intensity.

### 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.

## Ordering information

Other models and accessories → [www.sick.com/LUT9](http://www.sick.com/LUT9)

- **Communication interface:** -
- **Light source:** LED, Ultraviolet light (Average service life: 100,000 h at  $T_U = +25\text{ °C}$ .)

| Sensing distance | Switching output | Light spot size | Connection type Detail    | Type        | Part no. |
|------------------|------------------|-----------------|---------------------------|-------------|----------|
| ≤ 10 mm          | PNP, NPN         | 2 mm x 6 mm     | Male connector M12, 5-pin | LUT9U-11106 | 1047049  |
| ≤ 20 mm          | PNP, NPN         | 3 mm x 9 mm     | Male connector M12, 5-pin | LUT9U-11216 | 1082039  |
|                  |                  |                 |                           | LUT9U-12206 | 1046749  |
| ≤ 40 mm          | PNP, NPN         | 3 mm x 9 mm     | Male connector M12, 5-pin | LUT9U-11206 | 1047050  |
| ≤ 50 mm          | PNP, NPN         | 5 mm x 15 mm    | Male connector M12, 5-pin | LUT9U-11306 | 1046712  |
|                  |                  |                 |                           | LUT9U-11316 | 1047052  |
|                  |                  |                 |                           | LUT9U-11326 | 1047053  |
|                  |                  |                 |                           | LUT9U-11336 | 1047054  |
| LUT9U-12306      | 1047055          |                 |                           |             |          |
| ≤ 90 mm          | PNP, NPN         | 12 mm x 12 mm   | Male connector M12, 5-pin | LUT9U-11406 | 1047051  |
| ≤ 150 mm         | PNP, NPN         | 5 mm x 12 mm    | Male connector M12, 5-pin | LUT9U-11606 | 1047414  |

- **Communication interface:** -
- **Light source:** LED, blue (Average service life: 100,000 h at  $T_U = +25\text{ °C}$ .)

| Sensing distance | Switching output | Light spot size | Connection type Detail    | Type        | Part no. |
|------------------|------------------|-----------------|---------------------------|-------------|----------|
| ≤ 150 mm         | PNP, NPN         | 5 mm x 12 mm    | Male connector M12, 5-pin | LUT9B-11626 | 1047056  |

- **Communication interface:** IO-Link
- **Light source:** LED, Ultraviolet light (Average service life: 100,000 h at  $T_U = +25\text{ °C}$ .)

| Sensing distance | Switching output | Light spot size | Connection type Detail    | Type        | Part no. |
|------------------|------------------|-----------------|---------------------------|-------------|----------|
| ≤ 20 mm          | NPN              | 3 mm x 9 mm     | Male connector M12, 4-pin | LUT9U-N120L | 1046189  |
|                  | PNP              | 3 mm x 9 mm     | Male connector M12, 4-pin | LUT9U-P120L | 1046188  |
|                  |                  |                 |                           | LUT9U-P124L | 1079119  |
| ≤ 50 mm          | NPN              | 5 mm x 15 mm    | Male connector M12, 4-pin | LUT9U-N130L | 1046190  |
|                  | PNP              | 5 mm x 15 mm    | Male connector M12, 4-pin | LUT9U-P130L | 1045606  |

## 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](http://www.sick.com)