



## Luminescence sensors LUT9

LUT9U-P120L



**Model Name** > **LUT9U-P120L**  
**Part No.** > **1046188**



**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 <sup>1)</sup> :	20 mm
Operating range:	10 mm 40 mm
Light source <sup>2)</sup> :	LED
Type of light:	Ultraviolet light
Wave length:	375 nm
Light emission:	Long side
Light spot size:	3 mm x 9 mm
Light spot direction:	Vertical
Receiving filters:	KV 418 (standard)
Receiving range:	450 nm ... 750 nm
Adjustment:	IO-Link (optional)

Output function <sup>3)</sup>: Light switching  
 Dimensions (W x H x D): 30.4 mm x 53 mm x 80 mm  
 Housing design (light emission): Rectangular  
 IO-Link functions: Standard functions

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

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Ripple <sup>1)</sup>: < 5 Vpp  
 Power consumption <sup>2)</sup>: < 100 mA  
 Switching frequency <sup>3)</sup>: 0.5 kHz, 2.5 kHz, 6.5 kHz, Adjustable  
 Response time <sup>4)</sup>: 1 ms  
 200  $\mu$ s  
 75  $\mu$ s  
 Output type: PNP: HIGH = VS-  $\leq$  2 V/LOW approx. 0 V  
 Switching mode: PNP  
 Analog output QA: 0 mA ... 13 mA  
 Output current I<sub>max.</sub>: 100 mA  
 Time delay: 0 ms/10 ms/20 ms, Adjustable  
 Connection type: Connector M12, 4-pin  
 Protection class <sup>5)</sup>: 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 <sup>6)</sup>  
 Fieldbus interface: IO-Link

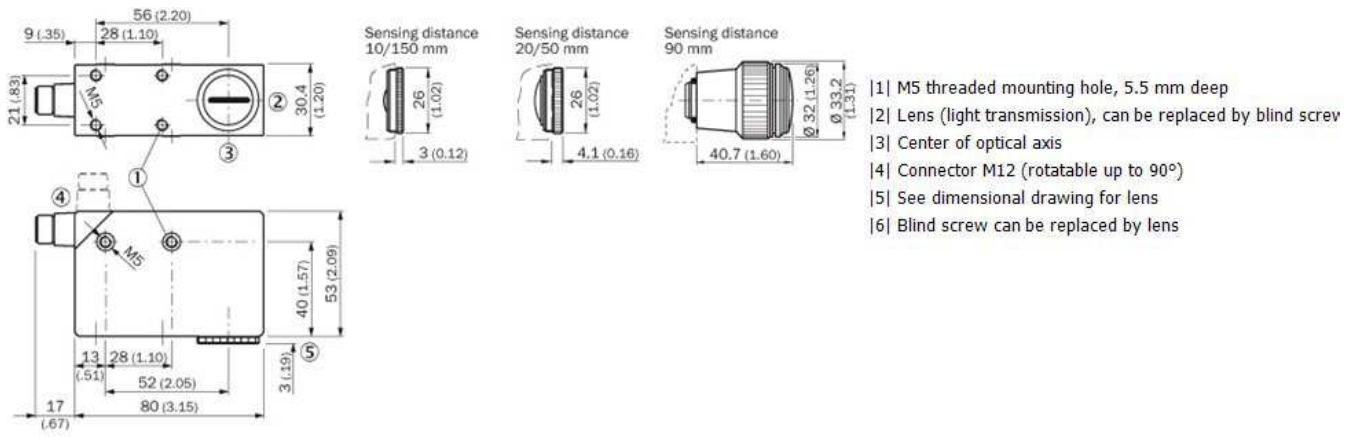
1) May not exceed or fall short of  $V_S$  tolerances 2) Without load 3) With light/dark ratio 1:1, no time delay 4) Signal transit time with resistive load 5) Reference voltage  
 DC 50 V <sup>6)</sup> Limit values; operation in short-circuit protected network max. 8 A

### Ambient data

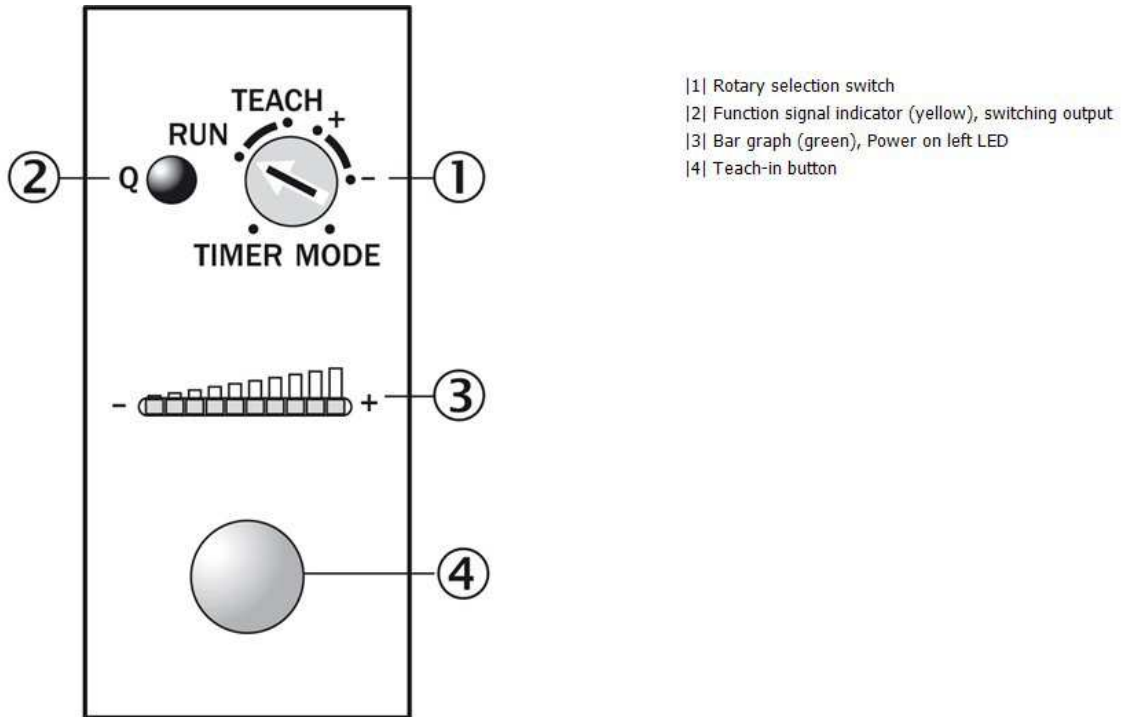
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Shock load: According to IEC 60068  
 Ambient operating temperature: -10 °C ... +55 °C  
 Ambient storage temperature: -25 °C ... +75 °C

## Dimensional drawing

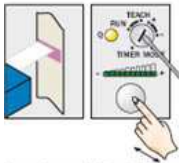


## Adjustments



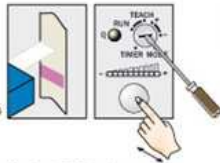
## Bedienhinweis

### 1. Position mark



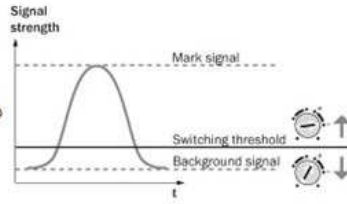
Turn rotary switch to "+" position and press and hold teach-in button until yellow light goes out (more green LEDs illuminate on the bar display).

### 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

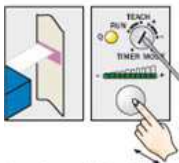


#### Note for all settings

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.

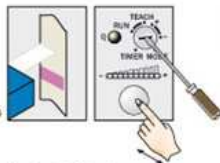
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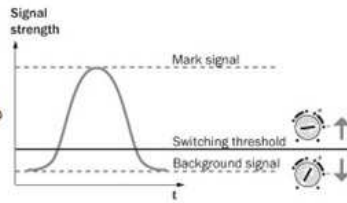
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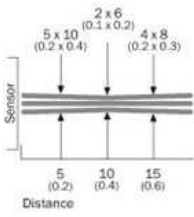


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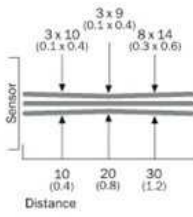
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## Light spot size

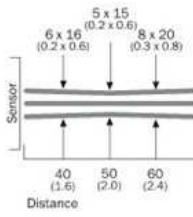
Sensing distance 10 mm



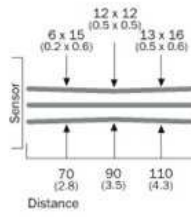
Sensing distance 20 mm



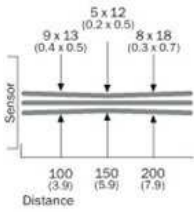
Sensing distance 50 mm



Sensing distance 90 mm

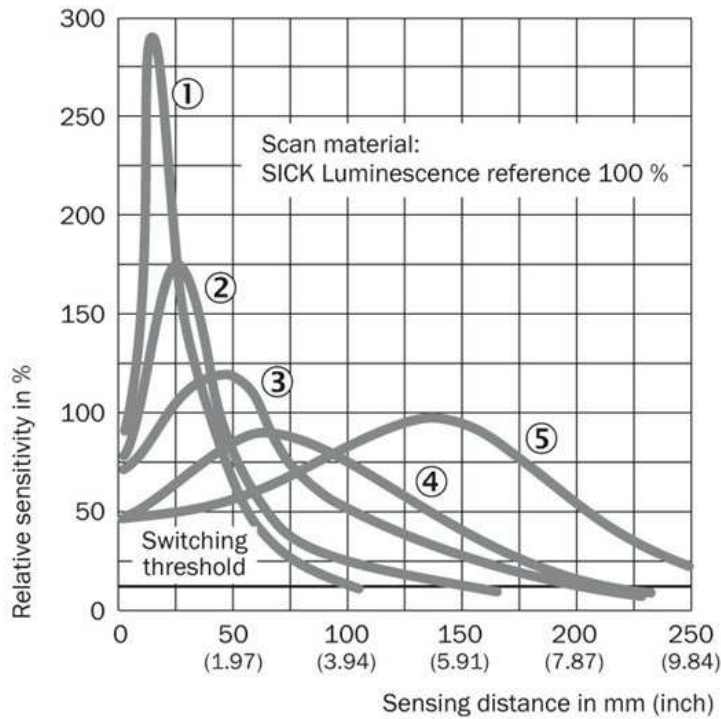


Sensing distance 150 mm



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

**Australia**

Phone +61 3 9457 0600  
1800 33 48 02 – tollfree  
E-Mail sales@sick.com.au

**Belgium/Luxembourg**

Phone +32 (0)2 466 55 66  
E-Mail info@sick.be

**Brasil**

Phone +55 11 3215-4900  
E-Mail marketing@sick.com.br

**Canada**

Phone +1 905 771 14 44  
E-Mail information@sick.com

**Česká republika**

Phone +420 2 57 91 18 50  
E-Mail sick@sick.cz

**China**

Phone +86 4000 121 000  
E-Mail info.china@sick.net.cn  
Phone +852-2153 6300  
E-Mail ghk@sick.com.hk

**Danmark**

Phone +45 45 82 64 00  
E-Mail sick@sick.dk

**Deutschland**

Phone +49 211 5301-301  
E-Mail info@sick.de

**España**

Phone +34 93 480 31 00  
E-Mail info@sick.es

**France**

Phone +33 1 64 62 35 00  
E-Mail info@sick.fr

**Great Britain**

Phone +44 (0)1727 831121  
E-Mail info@sick.co.uk

**India**

Phone +91-22-4033 8333  
E-Mail info@sick-india.com

**Israel**

Phone +972-4-6881000  
E-Mail info@sick-sensors.com

**Italia**

Phone +39 02 27 43 41  
E-Mail info@sick.it

**Japan**

Phone +81 (0)3 5309 2112  
E-Mail support@sick.jp

**Magyarország**

Phone +36 1 371 2680  
E-Mail office@sick.hu

**Nederland**

Phone +31 (0)30 229 25 44  
E-Mail info@sick.nl

**Norge**

Phone +47 67 81 50 00  
E-Mail sick@sick.no

**Österreich**

Phone +43 (0)22 36 62 28 8-0  
E-Mail office@sick.at

**Polska**

Phone +48 22 837 40 50  
E-Mail info@sick.pl

**România**

Phone +40 356 171 120  
E-Mail office@sick.ro

**Russia**

Phone +7-495-775-05-30  
E-Mail info@sick.ru

**Schweiz**

Phone +41 41 619 29 39  
E-Mail contact@sick.ch

**Singapore**

Phone +65 6744 3732  
E-Mail sales.gsg@sick.com

**Slovenija**

Phone +386 (0)1-47 69 990  
E-Mail office@sick.si

**South Africa**

Phone +27 11 472 3733  
E-Mail info@sickautomation.co.za

**South Korea**

Phone +82 2 786 6321/4  
E-Mail info@sickkorea.net

**Suomi**

Phone +358-9-25 15 800  
E-Mail sick@sick.fi

**Sverige**

Phone +46 10 110 10 00  
E-Mail info@sick.se

**Taiwan**

Phone +886 2 2375-6288  
E-Mail sales@sick.com.tw

**Türkiye**

Phone +90 (216) 528 50 00  
E-Mail info@sick.com.tr

**United Arab Emirates**

Phone +971 (0) 4 88 65 878  
E-Mail info@sick.ae

**USA/México**

Phone +1(952) 941-6780  
1 (800) 325-7425 – tollfree  
E-Mail info@sickusa.com

More representatives and agencies  
at [www.sick.com](http://www.sick.com)