SICK.COM



DATA SHEET

# LUT3-620

LUT3
Luminescence sensors

SICK
Sensor Intelligence



Illustration may differ

# LUMINESCENCE SENSORS

# LUT3-620

## ORDERING INFORMATION

| Type | part no. |
|---|---|
| LUT3-620 | 1015397 |

Further device versions and accessories at www.sick.com/LUT3

## 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 | 3 mm x 9 mm |
| Light spot direction | Vertical |
| Receiving filters | ≤ 420 nm [2] |
| Wave length | 375 nm |
| Working range | 10 mm ... 35 mm |
| Sensing distance | ≤ 20 mm [3] |
| Receiving range | 450 nm ... 750 nm |
| Adjustment | Potentiometer |
| Output function | Light switching |

[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.

### ELECTRONICS

| | |
|---|---|
| Supply voltage | 12 V DC ... 30 V DC [1] |

[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.

[5] Reference voltage DC 50 V.

| | |
|---|---|
| Ripple | < 2 $V_{pp}$ [2] |
| Current consumption | < 60 mA [3] |
| Switching frequency | 1.5 kHz [4] |
| Response time | 350 µs |
| Switching output | PNP<br>NPN |
| Switching output (voltage) | PNP: HIGH = $V_S$– ≤ 3 V / LOW = approx. 0 V<br>NPN: HIGH = approx. $U_V$ / LOW ≤ 2 V |
| Switching mode | Light switching |
| Output current $I_{max.}$ | 100 mA |
| Protection class | II [5] |
| Circuit protection | $U_V$ connections, reverse polarity protected<br>Output Q short-circuit protected<br>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.

[5] Reference voltage DC 50 V.

## MECHANICS

| | |
|---|---|
| Housing material | Zinc diecast |
| Weight | 400 g |

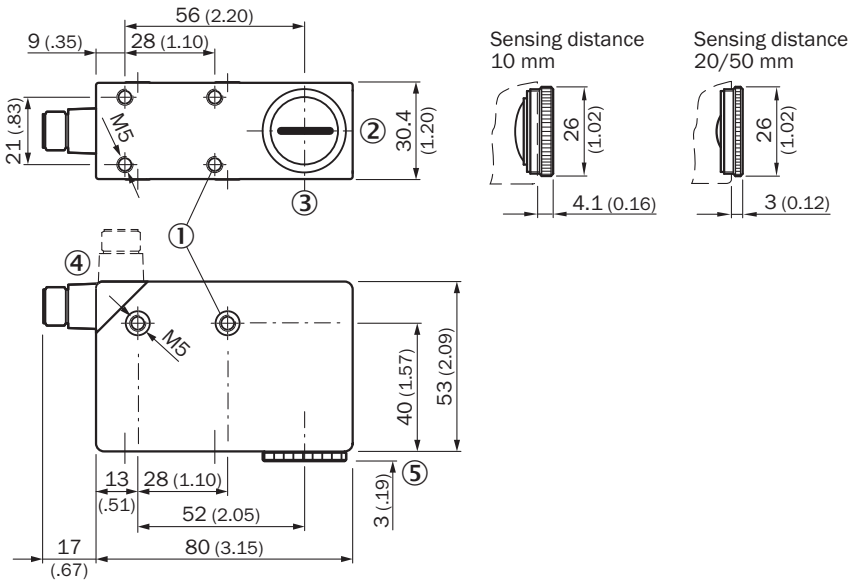
## AMBIENT DATA

| | |
|---|---|
| Ambient operating temperature | –10 °C ... +55 °C |
| Ambient temperature, storage | –25 °C ... +75 °C |
| Shock load | According to IEC 60068 |
| Enclosure rating | IP67 |
| UL File No. | NRKH.E181493 & NRKH7.E181493 |

## CERTIFICATES

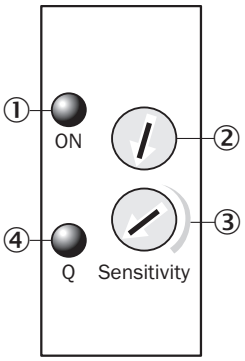
| | |
|---|---|
| EU declaration of conformity | ✓ |
| UK declaration of conformity | ✓ |
| ACMA declaration of conformity | ✓ |
| Moroccan declaration of conformity | ✓ |
| China RoHS | ✓ |
| China Compulsory Product Certification (CCC) exempt | ✓ |
| cULus certificate | ✓ |
| Photobiological safety (IEC EN 62471) | ✓ |

## DIMENSIONAL DRAWING



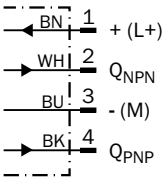

Dimensions in mm (inch)
① M5 threaded mounting hole, 5.5 mm deep
② Light spot direction
③ Center of optical axis
④ Connector M12 (rotatable up to 90°)
⑤ see dimensional drawings of lenses

## ADJUSTMENTS



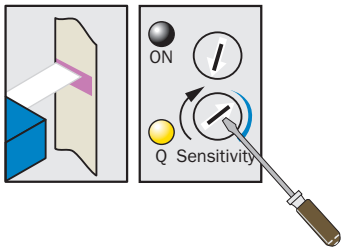

① Function signal indicator (green)
② Not assigned
③ sensitivity control
④ Function signal indicator (yellow), switching output

## CONNECTION DIAGRAM CD-086



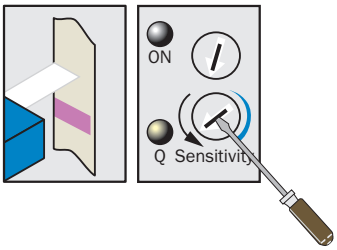
## CONCEPT OF OPERATION POTENTIOMETER

### 1. Position mark



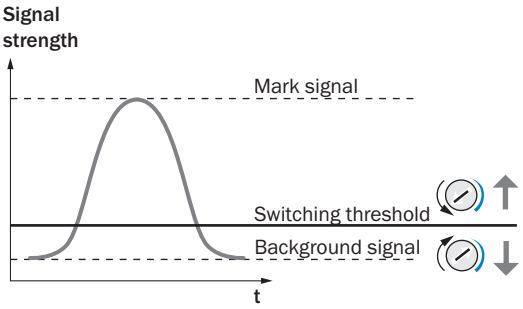

Turn “Sensitivity” rotary switch clockwise until yellow LED illuminates.

### 2. Position background



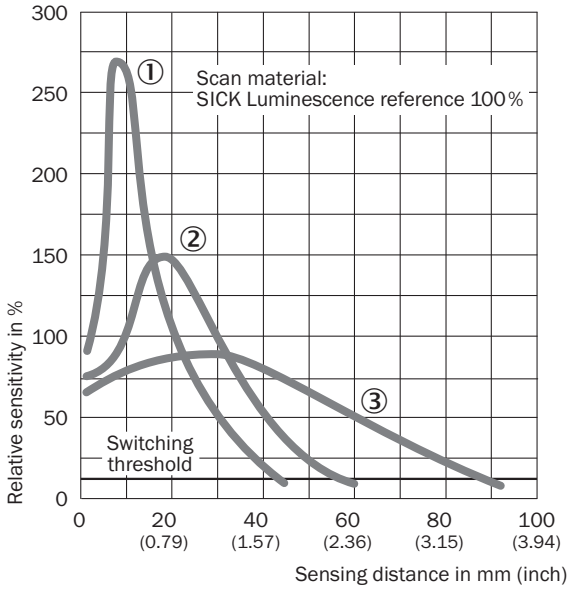

If yellow LED illuminates, turn “Sensitivity” rotary switch counter-clockwise until the yellow LED just goes out.

### Sensitivity setting




**Note**
Adjustments are intendend for luminescence background suppression.

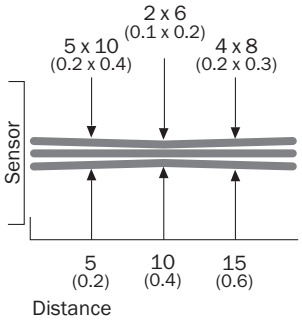
## SENSING DISTANCE



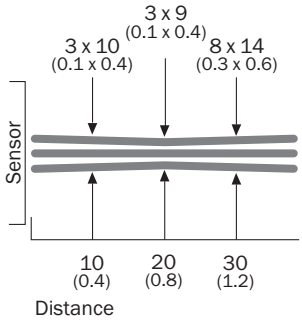

① Sensing distance 10 mm
② Sensing distance 20 mm
③ Sensing distance 50 mm

## LIGHT SPOT SIZE

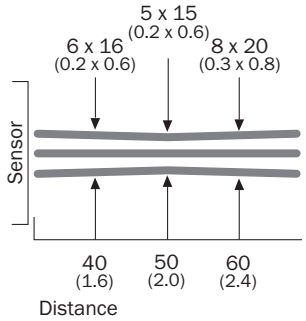
**Sensing distance 10 mm**




**Sensing distance 20 mm**




**Sensing distance 50 mm**




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/1015397

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SICK combines sensor intelligence with industry expertise and certified consulting services. We provide the ideal foundation for scalable as well as tailor-made automation solutions and create added value along the entire value chain. Our close partnerships with our customers are more than just a promise: Together, we optimize productivity, improve quality, protect health and safety, and help build a sustainable future. All with empathy and trust.

Since 1946, we have been developing innovative technologies with passion and a pioneering spirit. With a global network in around 40 countries, SICK has a global presence and is always close by. The company's headquarters are located in Waldkirch near Freiburg, Germany. Our customers benefit from our understanding of both local and global requirements, which enables us to deliver tailor-made solutions

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