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DATA SHEET

# LUTS-UBF1E1115AA10

LUTS/LUTX
Luminescence sensors

SICK Sensor Intelligence




Illustration may differ

## LUMINESCENCE SENSORS

# LUTS-UBF1E1115AA10

### ORDERING INFORMATION

| Type | part no. |
|---|---|
| LUTS-UBF1E1115AA10 | 1144384 |

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

## DETAILED TECHNICAL DATA

### FEATURES

| | |
|---|---|
| Housing design | Middle |
| Dimensions (W x H x D) | 26 mm x 62 mm x 47.5 mm |
| Light source | LED, Ultraviolet light [1] |
| Light emission | Long side |
| Light spot size | 3.6 mm x 5.7 mm [2] |
| Light spot direction | Vertical [3] |
| Receiving filters | ≤ 420 nm [4] |
| Wave length | 365 nm |
| LED risk group marking | 1 |
| Working range | 5 mm ... 30 mm |
| Sensing distance | 10 mm ... 20 mm |
| Adjustment | Teach-in button, External teach-in, cable, IO-Link |
| Teach-in mode | Single value teach-in<br>Two Value Teach-in |
| Scaling | 0.5 / 1 / 2 / 4 |
| Output function | Light switching [5]<br>Dark switching |
| Switching threshold | Continuous: 1 ... 999 |

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

[2] Depends on the sensing distance.

[3] In relation to long side of housing.

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

[5] Factory setting.

## INTERFACES

| | |
|---|---|
| IO-Link | ✓ |
| Digital output | $Q_1$, $Q_2$ |
| Number | 2 |
| Digital input | $In_1$ |
| Number | 1 |

## ELECTRONICS

| | |
|---|---|
| Supply voltage | 10.8 V DC ... 30 V DC [1] |
| Ripple | ≤ 5 $V_{pp}$ [2] |
| Current consumption | < 110 mA [3] |
| Power consumption | < 1.2 W |
| Switching frequency | 16 kHz / 8 kHz / 2.5 kHz / 0.5 kHz / 0.25 kHz / adjustable (IO-Link) |
| Response time | 31 µs / 62 µs / 200 µs / 1,000 µs / 2,000 µs / adjustable (display) |
| Jitter | 15 µs / 31 µs / 100 µs / 500 µs / 1,000 µs |
| Switching output | Push-pull: PNP/NPN |
| Switching output (voltage) | Push-pull: PNP/NPN HIGH = $U_V$ - 3 V/LOW ≤ 3 V |
| Output current $I_{max.}$ | 100 mA [4] |
| Input, teach-in (ET) | $U_V$ ≥ 18 V, Teach-in: 15 V ≤ $U_{IN}$ ≤ $U_V$, Run: $U_{IN}$ ≤ 5 V<br>$U_V$ < 18 V, Teach-in: $U_{IN}$ > 0.83 * $U_V$, Run: $U_{IN}$ ≤ 0.28 V |
| Input, blanking input (AT) | $U_V$ ≥ 18 V, Blanked: 15 V ≤ $U_{IN}$ ≤ $U_V$, Free: $U_{IN}$ ≤ 5 V<br>$U_V$ < 18 V, Blanked: $U_{IN}$ > 0.83 * $U_V$, Free: $U_{IN}$ ≤ 0.28 V |
| Time delay | Switch-off delay, 0 ms ... 999 ms<br>Switch-off delay, 0 ms ... 30,000 ms via IO-Link (0 ms = default) |
| Protection class | III |
| Circuit protection | $U_V$ connections, reverse polarity protected<br>Output Q short-circuit protected<br>Interference pulse suppression |
| Connection type | Plug, M12, 5-pin |
| Pinouts for Supply voltage & I/O | |
| BN 1 | + (L+) |
| WH 2 | $Q_{Push-Pull}$ |
| BU 3 | - (M) |
| BK 4 | Q/C |
| GY 5 | $In_1$ |

[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] Total current of all Outputs.

## MECHANICS

| | |
|---|---|
| Housing material | VISTAL® |
| Optics material | Glass |
| Weight | Approx. 68 g |

## AMBIENT DATA

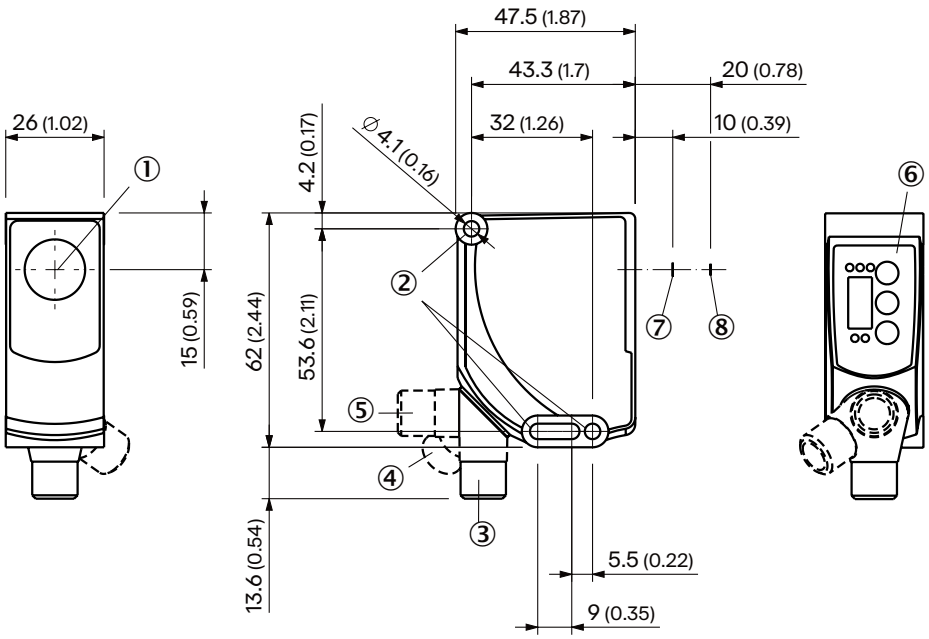
| | |
|---|---|
| Ambient operating temperature | –20 °C ... +60 °C |
| Ambient temperature, storage | –25 °C ... +75 °C |

| | |
|---|---|
| Shock load | According to IEC 60068-2-27 (30 g/11 ms) |
| Enclosure rating | IP67 |
| UL File No. | 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 | ✓ |
| IO-Link certificate | ✓ |
| 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, SENSOR

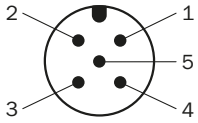



Dimensions in mm (inch)
① Optical axis
② fixing hole
③ M12 male connector, delivery state
④ M12 male connector, end stop right
⑤ M12 male connector, end stop left
⑥ display and adjustment elements
⑦ light spot size at sensing distance 10 mm
⑧ light spot size at sensing distance 20 mm

| Light spot size (sensing distance) | | |
|---|---|---|
| Device variant | Light spot size at sensing distance 10 mm | Light spot size at sensing distance 20 mm |
| LUTx-Uxx1Exxxxxxxx | 3.6 mm x 5.7 mm | 2.4 mm x 6.5 mm |

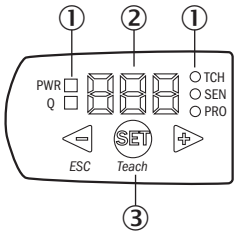
| Light spot size (sensing distance) | | |
|---|---|---|
| LUTx-**U**xx**4E**xxxxxxxx | Ø 3,7 mm | Ø 3.1 mm |

**PINOUTS, SEE TABLE TECHNICAL DATA: ELECTRONICS**




Male connector, M12, 5-pin, A-coded

**DISPLAY AND ADJUSTMENT ELEMENTS**




① LEDs (status display)
② 7-segment display
③ Plus/minus button

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/1144384

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