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DATA SHEET

# WS/WE34-V230

W34
Photoelectric sensors

SICK Sensor Intelligence



Illustration may differ

# PHOTOELECTRIC SENSORS

# WS/WE34-V230

## ORDERING INFORMATION

| Type | part no. |
|---|---|
| WS/WE34-V230 | 1019253 |

Further device versions and accessories at www.sick.com/W34

## DETAILED TECHNICAL DATA

### FEATURES

| | |
|---|---|
| Functional principle | Through-beam photoelectric sensor |
| Dimensions (W x H x D) | 27 mm x 92 mm x 70 mm |
| Housing design (light emission) | Rectangular |
| Sensing range max. | 0 m ... 60 m |
| Sensing range | 0 m ... 60 m |
| Focus | Approx. 1° |
| Type of light | Visible red light |
| Light source | LED [1] |
| Light spot size (distance) | Ø 700 mm (50 m) |
| Angle of dispersion | Approx. 1° |
| Wave length | 660 nm |
| Adjustment | Potentiometer |
| Alarm output | ✓ |
| Part number of individual components | 2022809 WE34-V230 2022817 WS34-D230 |

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

## MECHANICS/ELECTRONICS

| | |
|---|---|
| Supply voltage $U_B$ | 10 V DC ... 30 V DC [1] |
| Ripple | < 5 $V_{pp}$ [2] |
| Power consumption, sender | 50 mA |
| Power consumption, receiver | 40 mA |
| Switching output | NPN, PNP |
| Switching mode | Light switching, Dark switching |
| Switching mode selector | Selectable via PNP/NPN selector, selectable via light/dark selector |
| Output current $I_{max.}$ | ≤ 100 mA |
| Response time | ≤ 500 µs [3] |
| Switching frequency | 1,000 Hz [4] |
| Angle of reception | Approx. 2.5° |
| Connection type | Terminal connection with M16 gland |
| Circuit protection | A [5]<br>C [6]<br>D [7] |
| Protection class | II [8] |
| Weight | 280 g |
| Housing material | Plastic, ABS |
| Enclosure rating | IP67 |
| Test input sender off | TE to 0 V |
| Ambient operating temperature | –40 °C ... +60 °C |
| Ambient temperature, storage | –40 °C ... +75 °C |
| UL File No. | NRKH.E181493 & NRKH7.E181493 |
| Part number of individual components | 2022809 WE34-V230 2022817 WS34-D230 |

[1] Limit values.

[2] May not fall below or exceed $U_V$ tolerances.

[3] Signal transit time with resistive load.

[4] With light/dark ratio 1:1.

[5] A = $V_S$ connections reverse-polarity protected.

[6] C = interference suppression.

[7] D = outputs overcurrent and short-circuit protected.

[8] Reference voltage: 50 V DC.

## SAFETY-RELATED PARAMETERS

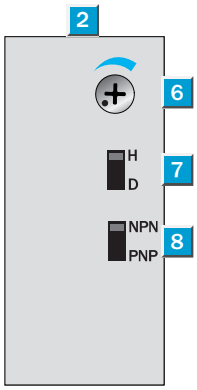
| | |
|---|---|
| $MTTF_D$ | 378 years |
| $DC_{avg}$ | 0 % |
| $T_M$ (mission time) | 20 years |

## CERTIFICATES

| | |
|---|---|
| EU declaration of conformity | ✓ |
| UK declaration of conformity | ✓ |
| ACMA declaration of conformity | ✓ |
| Moroccan declaration of conformity | ✓ |
| China RoHS | ✓ |

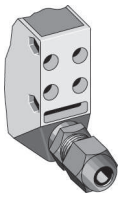
| | |
|---|---|
| China Compulsory Product Certification (CCC) exempt | ✓ |
| cULus certificate | ✓ |
| Photobiological safety (DIN EN 62471) certificate | ✓ |

## ADJUSTMENTS

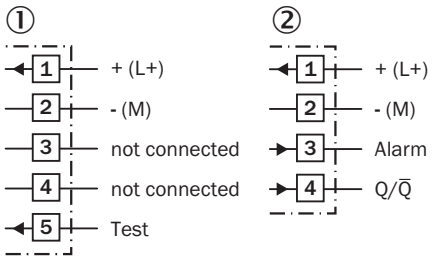



② LED signal strength indicator
⑥ sensitivity control
⑦ Light/dark selector

## CONNECTION TYPE

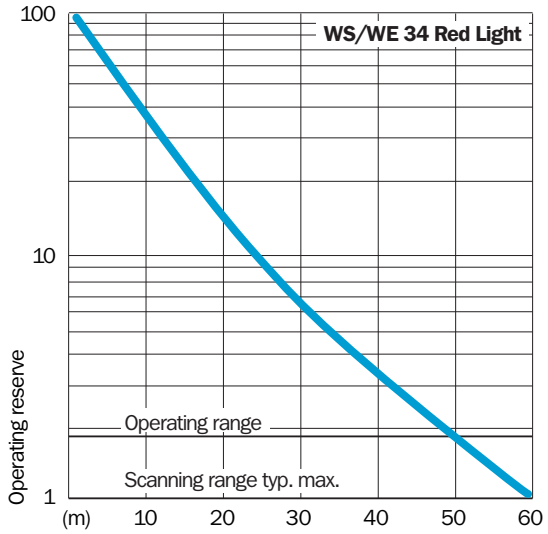


## CONNECTION DIAGRAM CD-160

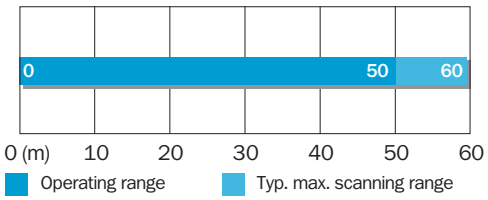



① sender
② receiver

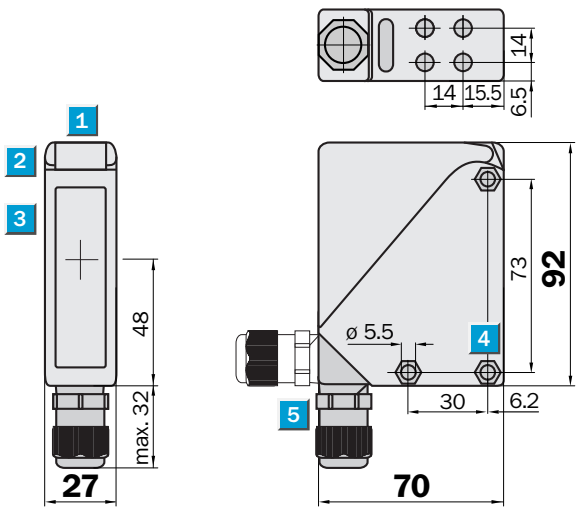
## CHARACTERISTIC CURVE




## SENSING RANGE DIAGRAM




## DIMENSIONAL DRAWING




Dimensions in mm (inch)
① Alignment sight
② LED signal strength indicator
③ Center of optical axis
④ Mounting hole ø 5.5 mm, for M5 hexagon nuts on both sides
⑤ M16 screw fixing rotatable by 90°

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/1019253

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# SICK AT A GLANCE

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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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