SICK.COM

DATA SHEET

# WL170-P420

## Photoelectric sensors

SICK Sensor Intelligence

Illustration may differ

## PHOTOELECTRIC SENSORS

# WL170-P420

### ORDERING INFORMATION

| Type | part no. |
|---|---|
| WL170-P420 | 6010186 |

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

## DETAILED TECHNICAL DATA

### FEATURES

| | |
|---|---|
| Functional principle | Photoelectric retro-reflective sensor |
| Dimensions (W x H x D) | 12 mm x 37 mm x 28.6 mm |
| Housing design (light emission) | Rectangular |
| Sensing range max. | 0.1 m ... 0.8 m [1] |
| Sensing range | 0.1 m ... 0.6 m [2] |
| Type of light | Visible red light |
| Light source | LED |

[1] Reflector PL80A.

[2] Reflector P250.

### MECHANICS/ELECTRONICS

| | |
|---|---|
| Supply voltage | 10 V DC ... 30 V DC |
| Ripple | ± 10 % |
| Current consumption | 30 mA [1] |
| Switching output | PNP |
| Switching mode | Light/dark switching |
| Switching mode selector | Selectable via L/D control cable |
| Response time | ≤ 0.7 ms [2] |
| Attenuation along light beam | ≥ 20 % |
| Connection type | Male connector M8, 4-pin |
| Housing material | Stainless steel, Stainless steel/ABS |
| Optics material | Plastic, PC |
| Enclosure rating | IP67 |

[1] Without load.

[2] Signal transit time with resistive load.

| | |
|---|---|
| Ambient operating temperature | –25 °C ... +55 °C |
| Ambient temperature, storage | –40 °C ... +70 °C |
| UL File No. | NRNT2.E128350 & NRNT8.E128350 |

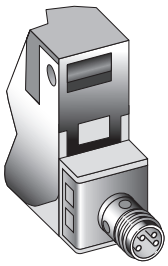
[1] Without load.

[2] Signal transit time with resistive load.

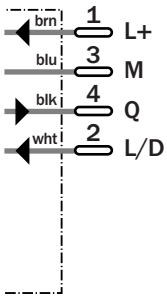
## SAFETY-RELATED PARAMETERS

| | |
|---|---|
| $MTTF_D$ | 1,524 years |
| $DC_{avg}$ | 0 % |

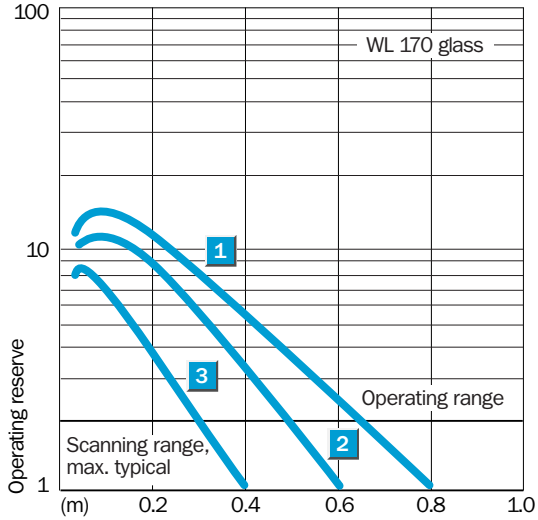
## CONNECTION TYPE



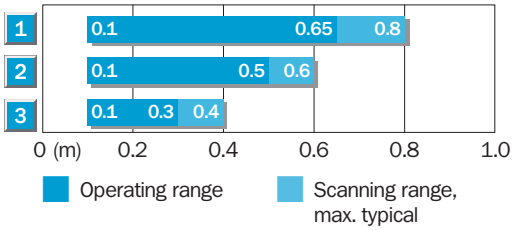
## CONNECTION DIAGRAM




## CHARACTERISTIC CURVE

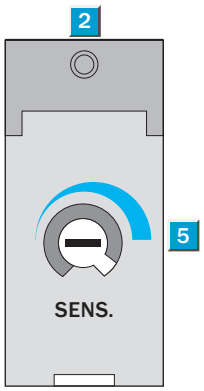


## SENSING RANGE DIAGRAM



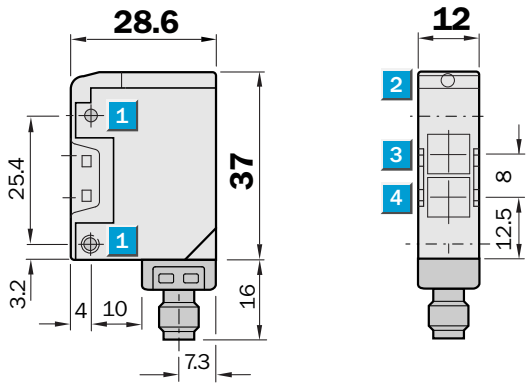

| | Reflector type | Operating range |
|---|---|---|
| 1 | PL 80 A | 0.1 ... 0.65 m |
| 2 | P 250 | 0.1 ... 0.5 m |
| 3 | PL 20 A | 0.1 ... 0.3 m |

## ADJUSTMENTS




② Mounting hole, Ø 3 mm with integrated M3 thread
⑤ Sensitivity control (potentiometer, 270°)

## DIMENSIONAL DRAWING




Dimensions in mm (inch)
① Mounting hole, Ø 3 mm with integrated M3 thread
② LED signal strength indicator, red:
② light received>=switching threshold
③ Center of optical axis, receiver
④ Center of optical axis, sender

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/6010186

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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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