



WT23L-F430

W23 Laser

COMPACT PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Ordering information

| Type | Part no. |
|------------|----------|
| WT23L-F430 | 1045643 |

Other models and accessories → www.sick.com/W23_Laser

Illustration may differ



Detailed technical data

Features

| | |
|--|--|
| Sensor/ detection principle | Photoelectric proximity sensor, Background suppression |
| Dimensions (W x H x D) | 24.6 mm x 80 mm x 53.5 mm |
| Housing design (light emission) | Rectangular |
| Sensing range max. | 50 mm ... 800 mm |
| Type of light | Visible red light |
| Light source | Laser ¹⁾ |
| Light spot size (distance) | Ø 2 mm (400 mm) |
| Wave length | 650 nm |
| Laser class | 1 (IEC 60825-1) |
| Adjustment | Potentiometer |
| Special applications | Detecting small objects |

¹⁾ Average service life: 50,000 h at T_U = +25 °C.

Mechanics/electronics

| | |
|--------------------------|-----------------------------------|
| Supply voltage | 10 V DC ... 30 V DC ¹⁾ |
| Ripple | ≤ 5 V _{pp} ²⁾ |
| Power consumption | 35 mA ³⁾ |

¹⁾ Limit values.

²⁾ May not exceed or fall below U_V tolerances.

³⁾ Without load.

⁴⁾ Signal transit time with resistive load.

⁵⁾ With light/dark ratio 1:1.

⁶⁾ A = V_S connections reverse-polarity protected.

⁷⁾ C = interference suppression.

⁸⁾ D = outputs overcurrent and short-circuit protected.

⁹⁾ Reference voltage: 50 V DC.

| | |
|---|---|
| Switching output | PNP |
| Output function | Complementary |
| Switching mode | Light/dark switching |
| Output current I_{\max} | $\leq 100 \text{ mA}$ |
| Response time | $\leq 25 \text{ ms}^{4)}$ |
| Switching frequency | $50 \text{ Hz}^{5)}$ |
| Connection type | Male connector M12, 4-pin |
| Circuit protection | A ⁶⁾ C ⁷⁾ D ⁸⁾ |
| Protection class | II ⁹⁾ |
| Weight | 100 g |
| Housing material | Plastic, ABS |
| Optics material | Plastic, PMMA |
| Enclosure rating | IP65 |
| Ambient operating temperature | $-10 \text{ °C} \dots +45 \text{ °C}$ |
| Ambient storage temperature | $-10 \text{ °C} \dots +75 \text{ °C}$ |
| UL File No. | NRKH.E181493 & NRKH7.E181493 |

1) Limit values.

2) May not exceed or fall below U_V tolerances.

3) Without load.

4) Signal transit time with resistive load.

5) With light/dark ratio 1:1.

6) A = V_S connections reverse-polarity protected.

7) C = interference suppression.

8) D = outputs overcurrent and short-circuit protected.

9) Reference voltage: 50 V DC.

Safety-related parameters

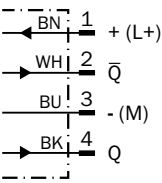
| | |
|-------------------------|-----------|
| MTTF_D | 404 years |
| DC_{avg} | 0% |

Classifications

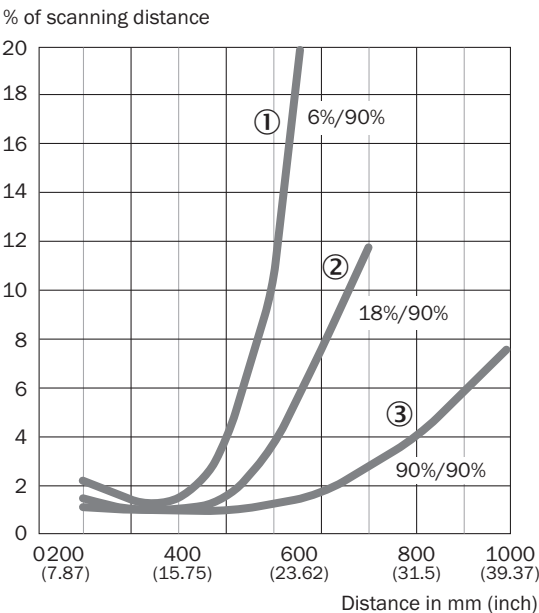
| | |
|-----------------------|----------|
| ECI@ss 5.0 | 27270904 |
| ECI@ss 5.1.4 | 27270904 |
| ECI@ss 6.0 | 27270904 |
| ECI@ss 6.2 | 27270904 |
| ECI@ss 7.0 | 27270904 |
| ECI@ss 8.0 | 27270904 |
| ECI@ss 8.1 | 27270904 |
| ECI@ss 9.0 | 27270904 |
| ETIM 5.0 | EC002719 |
| ETIM 6.0 | EC002719 |
| UNSPSC 16.0901 | 39121528 |

Connection diagram

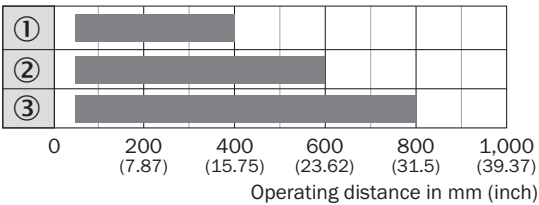
Cd-083



Characteristic curve

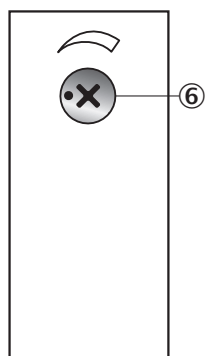


Sensing range diagram



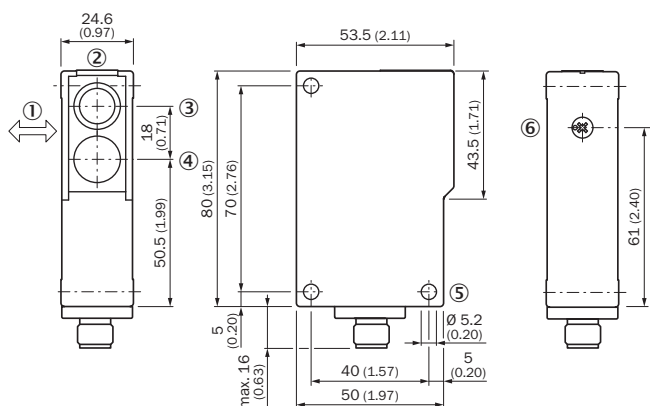
- ① Scanning distance on black, 6 % remission
- ② Scanning distance on grey, 18 % remission
- ③ Scanning distance on white, 90 % remission

Adjustments possible



⑥ Sensing range adjustment: potentiometer



Dimensional drawing (Dimensions in mm (inch))





- ① Standard direction of the material being detected
- ② LED indicator, power on and status of received light beam
- ③ Optical axis, sender
- ④ Optical axis, receiver
- ⑤ Mounting hole, Ø 5.2 mm
- ⑥ Sensing range adjustment: potentiometer

Recommended accessories

Other models and accessories → www.sick.com/W23_Laser

| | Brief description | Type | Part no. |
|---|---|-------------|----------|
| Universal bar clamp systems | | | |
|  | Plate N04 for universal clamp, steel, Zinc plated steel (sheet), Zinc die cast (clamping bracket), Universal clamp (5322626), mounting hardware | BEF-KHS-N04 | 2051610 |
| Mounting brackets and plates | | | |
|  | Mounting bracket, steel, zinc coated, mounting hardware included | BEF-WN-W23 | 2019085 |

| | Brief description | Type | Part no. |
|---|---|--------------------|----------|
| Plug connectors and cables | | | |
|  | Head A: female connector, M12, 4-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 2 m | YF2A14-020VB3XLEAX | 2096234 |
| | Head A: female connector, M12, 4-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 5 m | YF2A14-050VB3XLEAX | 2096235 |
|  | Head A: male connector, M12, 4-pin, straight Head B: - Cable: unshielded | STE-1204-G | 6009932 |

SICK AT A GLANCE

SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

We have extensive experience in a wide range of industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

For us, that is “Sensor Intelligence.”

WORLDWIDE PRESENCE:

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