Photoelectric sensors
W23-2, Photoelectric retro-reflective sensor,
Standard optics

WL23-2P2460
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Model Name > WL23-2P2460
Part No. > 1044165

At a glance
• Two variants available: without sensitivity adjustment or with teach button
• Polarizing filter ensures reliable detection, even with shiny targets
• Model with PinPoint for intense, consistent red light spot
• 360° visibility of indicating LEDs

Your benefits
• Adjustability removed to prevent operator tampering and to reduce downtime
• Model with teach-in pushbutton enables quick setup
• Durable housing with reinforced mounting holes withstands harsh conditions
• 360° LEDs provide device status indication from multiple angles
• Polarizing filter ensures reliable detection, even with shiny targets
• Less downtime due to ASIC chip technology by SICK
• High level of mechanical and electronic reliability in industrial environments

Features
Sensor/detection principle: Photoelectric retro-reflective sensor, Standard optics
Dimensions (W x H x D): 24.6 mm x 80.6 mm x 54 mm
Housing design (light emission): Rectangular
Sensing range max.: 0.1 m ... 12 m 1)
Sensing range: 0.3 m ... 9 m 2)
Type of light: Visible red light
Light source: PinPoint LED 3)
Wave length: 660 nm
Angle of dispersion: 1.5 °
Light spot size (distance): Ø 45 mm (2.7 m)

Mechanics/electronics
Supply voltage: 10 V DC ... 30 V DC 1)
Power consumption: ≤ 35 mA 2)
Output type: PNP
Output function: Complementary
Switching mode: Light/dark-switching
Signal voltage PNP HIGH/LOW: Approx. VS - 2.5 V / 0 V
Output current Imax.: ≤ 100 mA

1) 2) PL80A 3) Average service life of 100,000 h at TA = +25 °C
Response time: \( \leq 2.5 \text{ ms} \)
Switching frequency: \( 200 \text{ Hz} \)
Connection type: Connector M12, 4-pin
Circuit protection: A, C, D
Protection class: II

Weight:

Polarisation filter:

Special device:

Housing material: ABS, Plastic
Optics material: PMMA
Enclosure rating: IP 67
Ambient operating temperature: -30 °C ... 60 °C
Ambient storage temperature: -40 °C ... 70 °C
UL File No.: NRKH.E181493 & NRKH7.E181493

1) Limit values, operation in short-circuit protected network max. 8 A
2) Without load
3) Signal transit time with resistive load
4) With light/dark ratio 1:1
5) \( A = \frac{V}{S} \)
6) C = interference suppression
7) D = outputs overcurrent and short-circuit protected
8) Reference voltage 50 V DC

**Dimensional drawing**

[Diagram showing the dimensions of the device with labels for each part.

- Optical axis, sender
- Optical axis, receiver
- Mounting hole ø 5.2 mm
- Status indicator LED green: power on
- Status indicator LED, yellow: Status of received light beam]
Connection diagram

Characteristic curve

Operating reserve

Operating range

Scanning range, max. typ.

Distance in m (feet)
Sensing range diagram

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Distance in m (feet)

- Operating range
- Scanning range max. typ.

1. Reflector type PL80A
2. Reflector type PL40A
3. Reflectcor type C110
4. Reflector type PL20A
5. Reflector type P250
6. Reflective tape Diamond Grade

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