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

WL23-2P2430P03
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W23-2, Photoelectric retro-reflective sensor, Standard optics

Model Name > WL23-2P2430P03
Part No. > 1042572

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 ... 10 m
1) 0.3 m ... 7 m
2)
Sensing range: 0.3 m ... 7 m
1) 2)
Type of light: Visible red light
Light source: LED
3)
Wave length: 660 nm
Angle of dispersion: 1.5 °
Light spot size (distance): Ø 45 mm (2.7 m)

1) 2) 3) Average service life of 100,000 h at TA = +25 °C

Mechanics/electronics
Supply voltage: 10 V DC ... 30 V DC
1) ≤ 35 mA
2) ≤ 100 mA
Power consumption:
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.:
Response time: \( \leq 2.5 \text{ ms} \) 3)  
Switching frequency: 200 Hz 4)  
Connection type: Connector M12, 4-pin  
Circuit protection: A, C, D 5) 6) 7)  
Protection class: II 8)  
Weight: 100 g  
Polarisation filter: ✓  
Special device: ✓  
Housing material: ABS, Plastic  
Optics material: PMMA  
Enclosure rating: IP 67  
Items supplied: Reflector P250, WL23-2P2430  
Ambient operating temperature: -25 °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) \( A = \frac{V_S}{S} \)  
6) Connections reverse-polarity protected  
7) D = outputs overcurrent and short-circuit protected  
8) Reference voltage 50 V DC

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Dimensional drawing

[Diagram of the sensor showing various dimensions and parts, with annotations detailing the dimensions and their corresponding parts.]

[1] Optical axis, sender  
[2] Optical axis, receiver  
[3] Mounting hole ø 5.2 mm  
[4] Status indicator LED green: power on  
[5] Status indicator LED, yellow: Status of received light beam
Connection diagram

Characteristic curve

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<th>Operating reserve</th>
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Scanning range, typ. max.

Distance in m (feet)

Operating range

[1] PL80A
[2] PL40A
[3] C110A
[4] PL20A
Sensing range diagram

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</table>

Distance in m (feet)

- Operating range
- Scanning range typ. max.

1. Reflector type PL80A
2. Reflector type PL40A
3. Reflector type C110
4. Reflector type PL20A

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