



Photoelectric sensors
W12-3, Photoelectric retro-reflective sensor,
autocollimation

WL12C-3P2432



Type > [WL12C-3P2432](#)
Part No. > [1067774](#)



Illustration may differ

At a glance

- Retro-reflective with autocollimation principle
- Rugged housing designed to withstands harsh environments
- PinPoint LED technology with highly visible light spot
- Rugged die-cast zinc housing, optional Teflon® coating
- Dovetail mounting - mounting holes and oblong holes
- Highly visible status LEDs
- Sensing range adjustment via potentiometer

Your benefits

High immunity to ambient light and crosstalk ensures fewer false readings and less downtime

Quick and easy setup due to highly visible PinPoint LED light spot

Highly visible status LEDs simplify sensitivity adjustments and reduce installation time

Rugged metal housing (optional Teflon® coating available) requires fewer maintenance costs due to its resistance to high-pressure cleaning

Increased reliability in harsh wash down environments

Easy installation using SICK accessories



Features

Sensor/detection principle:	Photoelectric retro-reflective sensor, autocollimation
Dimensions (W x H x D):	15.6 mm x 48.5 mm x 42 mm
Housing design (light emission):	Rectangular
Sensing range max.:	0 m ... 5 m ¹⁾
Sensing range:	0 m ... 4 m ²⁾
Type of light:	Visible red light
Light source:	PinPoint LED ³⁾
Wave length:	640 nm
Angle of dispersion:	Ca. 1.5 °
Adjustment:	Single teach-in button
Light spot size (distance):	Ø 100 mm (3 m)
IO-Link functions:	Standard functions
Gen. Response Time:::	IOL: 550 µs ⁴⁾ 900 µs ⁵⁾ 6) SIO Direct: 250 µs ... 350 µs, SIO Logic: 550 µs ... 700 µs

Gen. max. switching frequency:: IOL: 1000 Hz, SIO Direct: 1.500 Hz, SIO Logic: 1200 Hz ^{7) 8) 9)}
 Gen. Repeatability:: IOL: 300 µs, SIO Direct: 100 µs, SIO Logic: 100 µs ^{10) 11) 12)}
 1) 2) PL80A ³⁾ Average service life: 100,000 h at T_U = +25 °C ^{4) 7) 10)} SIO Direct: Sensor operation in standard I/O mode without IO-Link communication and without usage of sensor-internal logic or timing parameters (set to "direct"/"deactivated"). ^{5) 8) 11)} SIO Logic: Sensor operation in standard I/O mode without IO-Link communication. Sensor-internal logic or timing parameters plus Automation Functions used. ^{6) 9) 12)} IOL: Sensor operation with full IO-Link communication and usage of logic, timing and Automation Function parameters.

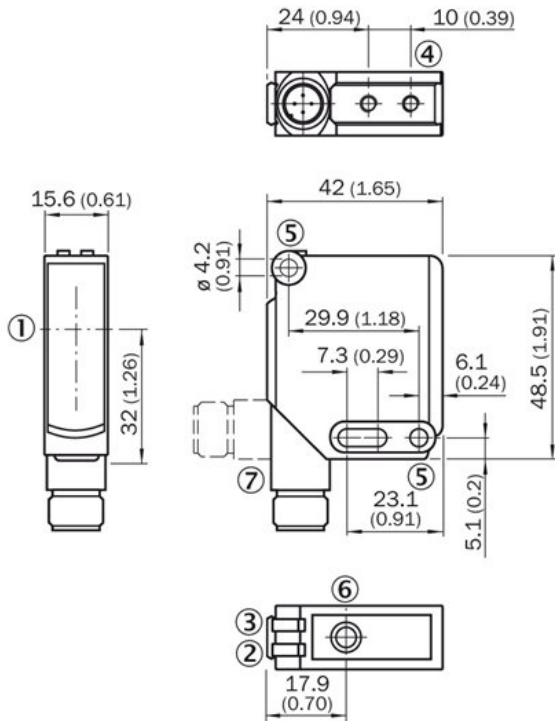
Mechanics/electronics

Supply voltage:	10 V DC ... 30 V DC ¹⁾
Ripple:	≤ 5 Vpp ²⁾
Power consumption:	≤ 30 mA ³⁾
Output type:	PNP
Switching mode:	Light/dark switching
Output current I _{max.} :	≤ 100 mA
Connection type:	M12, 4-pin male connector
Circuit protection::::	A, B, C, D ^{4) 5) 6) 7)}
Protection class:	II
Weight:	120 g
Polarisation filter:	✓
IO-Link:	✓
Special device:	-
Enclosure rating:	IP 66 IP 67
Ambient operating temperature:	-40 °C ... +60 °C
Ambient storage temperature:	-40 °C ... +75 °C
UL File No.:	NRKH.E181493 & NRKH7.E181493
Signal voltage PNP HIGH/LOW:	> U _v - 2,5 V / ca. 0 V
Housing material:	Metal
Response time Q/ on Pin 2::	250 µs ... 350 µs ^{8) 9)}
Switching frequency Q \ on Pin2:	≤ 1,500 Hz
Repeatability Q/ on Pin 2::	100 µs
Transmission rate:	COM2

With light/dark ratio 1:1, valid for Q \ on Pin2, if configured with software; Valid for Q \ on Pin2, if configured with software;

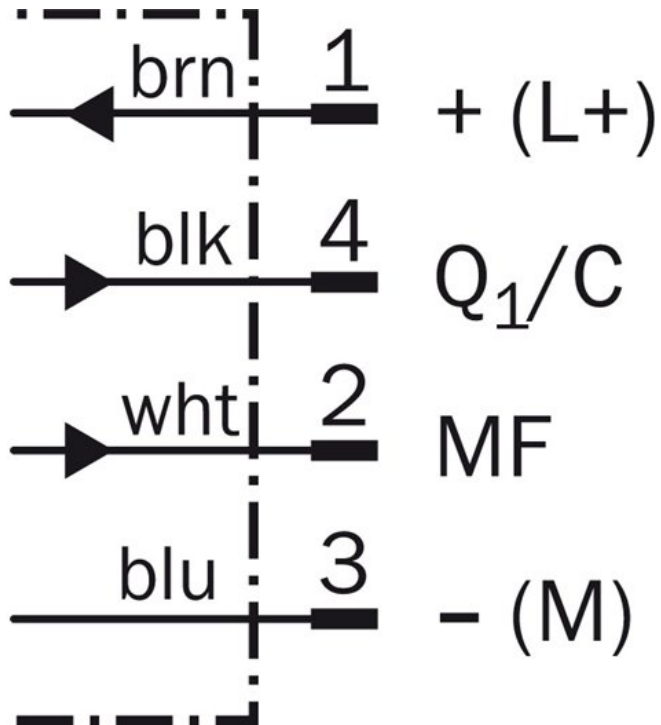
1) Limit values when operated in short-circuit protected network: max. 8 A ²⁾ May not exceed or fall below U_v tolerances ³⁾ Without load ⁴⁾ A = V_S connections reverse-polarity protected ⁵⁾ B = inputs and output reverse-polarity protected ⁶⁾ C = interference suppression ⁷⁾ D = outputs overcurrent and short-circuit protected ⁸⁾
 Signal transit time with resistive load ⁹⁾ Valid for Q \ on Pin2, if configured with software

Dimensional drawing



- |1| Optical axis
- |2| Status indicator LED,
yellow: Status of received light beam
- |3| Status indicator LED green: supply voltage on
- |4| M4 threaded mounting hole, 4 mm deep
- |5| Mounting hole, $\varnothing 4.2$ mm
- |6| Sensitivity setting: single teach-in button
- |7| Connection

Connection diagram



Characteristic curve

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Sensing range diagram

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