



Photoelectric sensors
W2S-2, Photoelectric retro-reflective sensor,
autocollimation

WL2S-2N3030S05



Type > [WL2S-2N3030S05](#)
Part No. > [1074791](#)



Illustration may differ

At a glance

- Sensing ranges of up to 1.2 m
- Reliable use on reflective tape with a high operating reserve
- No blind spots even at short distances thanks to autocollimation
- Reliable, universal object detection thanks to polarization filter
- Immune to optical interference

Your benefits

- Space-saving integration and extremely small reflectors in rails, joints and gaps
- Increased productivity due to highly repeatable switching points
- PinPoint 2.0 technology for a bright, small, and precise light spot, enabling quick and easy sensor alignment
- Simple and cost-effective machine design since the sensor can see through small drill holes and reflective tape can be used
- High reliability and long-term use in machines thanks to a rugged housing and a 45° cable outlet



Features

Sensor/detection principle:	Photoelectric retro-reflective sensor, autocollimation
Dimensions (W x H x D):	7.7 mm x 21.8 mm x 13.5 mm
Housing design (light emission):	Rectangular
Sensing range max.:	0 m ... 1.2 m ¹⁾
Sensing range:	0 m ... 0.55 m ²⁾
Type of light:	Visible red light
Light source:	PinPoint LED ³⁾
Wave length:	640 nm
Light spot size (distance):	X Ø 12 mm (250 mm)

^{1) 2)} P250F ³⁾ Average service life: 100,000 h at T_U = +25 °C

Mechanics/electronics

Supply voltage:	10 V DC ... 30 V DC ¹⁾
Ripple:	≤ 5 V _{pp} ²⁾
Current consumption:	≤ 20 mA ³⁾
Output type:	NPN
Switching mode:	Light/dark switching
Output current I _{max} ..:	< 50 mA

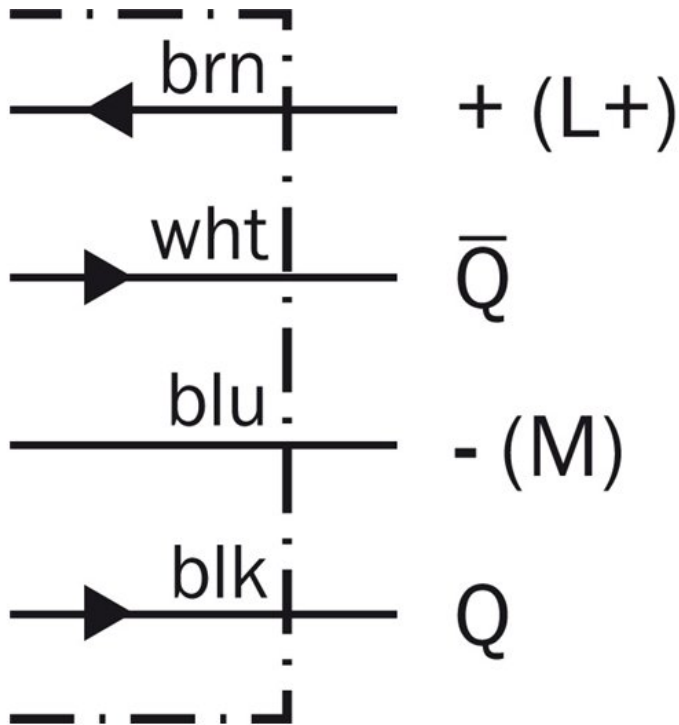
Response time:	< 0.5 ms ⁴⁾
Switching frequency:	1,000 Hz ⁵⁾
Connection type:	Cable with special connector 3M, 4-wire, 560 mm ⁶⁾
Cable material:	PVC
Circuit protection:::	A, B, D ^{7) 8) 9)}
Polarisation filter:	✓
Special device:	-
Optics material:	PMMA
Enclosure rating:	IP 67
Ambient operating temperature:	-25 °C ... +50 °C
Ambient storage temperature:	-40 °C ... +75 °C
UL File No.:	NRKH.E181493
Housing material:	ABS/PC, Plastic

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⁾ Do not bend below 0 °C ⁷⁾ A = V_S connections reverse-polarity protected ⁸⁾ B = output reverse-polarity protected ⁹⁾ D = outputs overcurrent and short-circuit protected

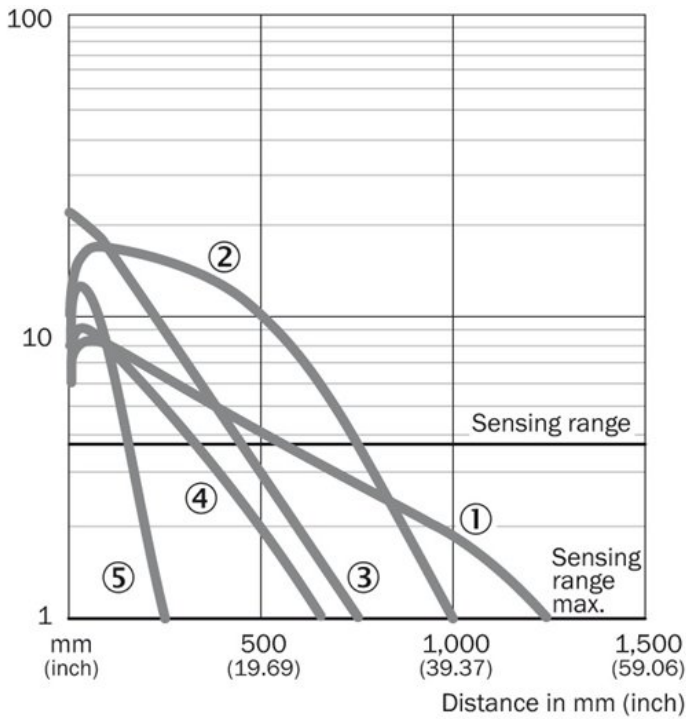
Dimensional drawing

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Connection diagram



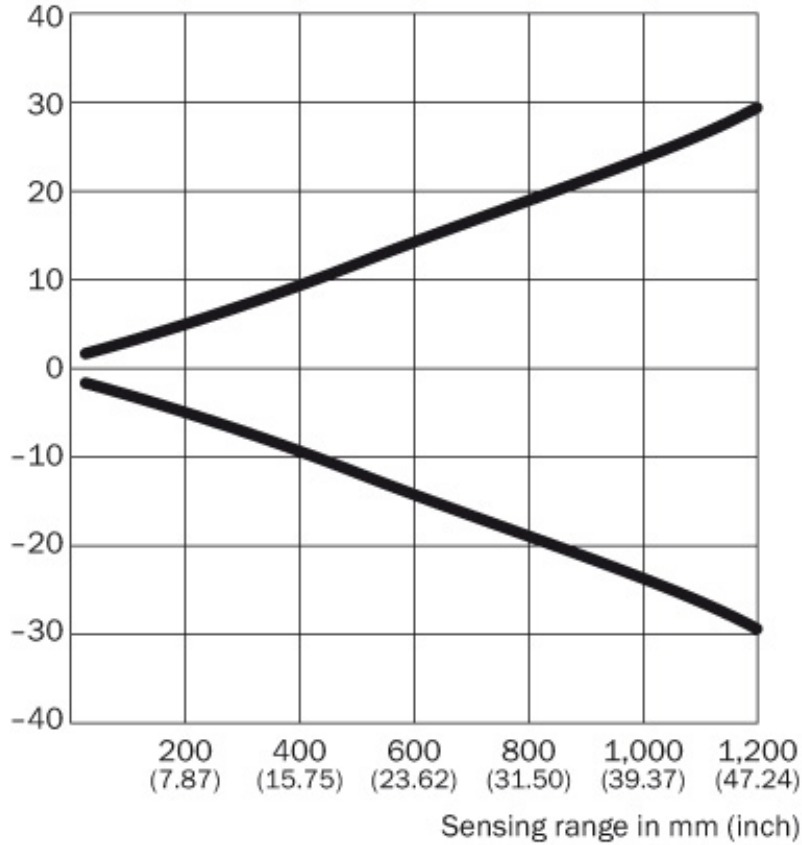
Characteristic curve



- [1] P250F
- [2] PL20F
- [3] REF-AC1000
- [4] PL10F
- [5] PL8FH

Light spot size

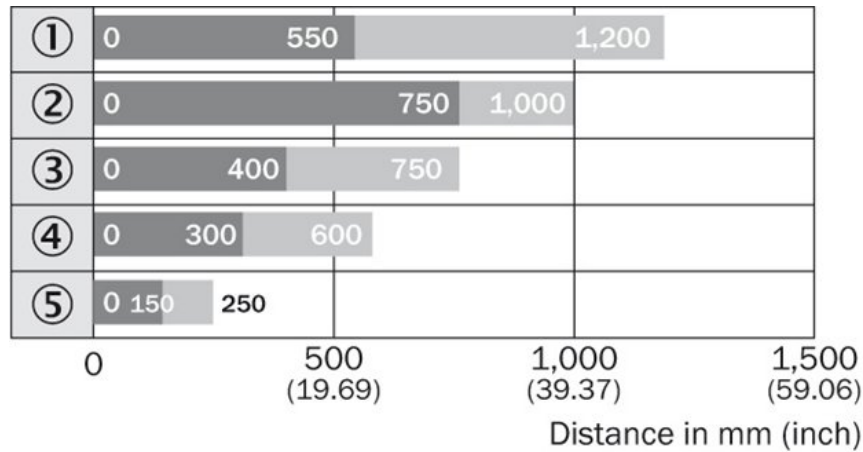
Spot diameter in mm (inch)



Dimensions in mm (inch)

Sensing range	Spot diameter
20 (0.79)	3.4 (0.13)
100 (3.94)	6.5 (0.26)
250 (9.84)	12.0 (0.47)
500 (19.69)	34.0 (1.34)
1,000 (39.37)	48.0 (1.89)
1,200 (47.24)	60.0 (2.36)

Sensing range diagram



- [1] P250F
- [2] PL20F
- [3] REF-AC1000
- [4] PL10F
- [5] PL8FH

■ Sensing range ■ Sensing range max.

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