



Photoelectric sensors
W2SG-2, Photoelectric retro-reflective sensor,
autocollimation

WL2SG-2E1135



Model Name > [WL2SG-2E1135](#)
Part No. > [1065930](#)



Illustration may differ

At a glance

- Extremely high sensor size to sensing distance ratio
- High switching point accuracy
- Teach-in functions enable reliable settings
- Automatic switching threshold adaption
- Single-lens autocollimation for visibility through apertures and drill holes
- Flexible sensor settings, monitoring, advanced diagnostics, and display thanks to IO-Link

Your benefits

- Machine design flexibility: the ultra-compact sensors offer above-average sensing distances and provide space-saving installation
- Remote setup: sensors installed in confined spaces can be set and monitored remotely via IO-Link.
- High operational reliability and system throughput: all familiar, highly-transparent objects are reliably detected
- Precise switching characteristics and a high detection quality guarantee an universal object detecting
- Universal use: conventional mounting and housing design
- The precise light spot of the PinPoint 2.0 LED enables the use of very small reflectors and reflector surfaces



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
Special features:	Clear material detection
Adjustment:	Cable
Light spot size (distance):	Ø 12 mm (250 mm)

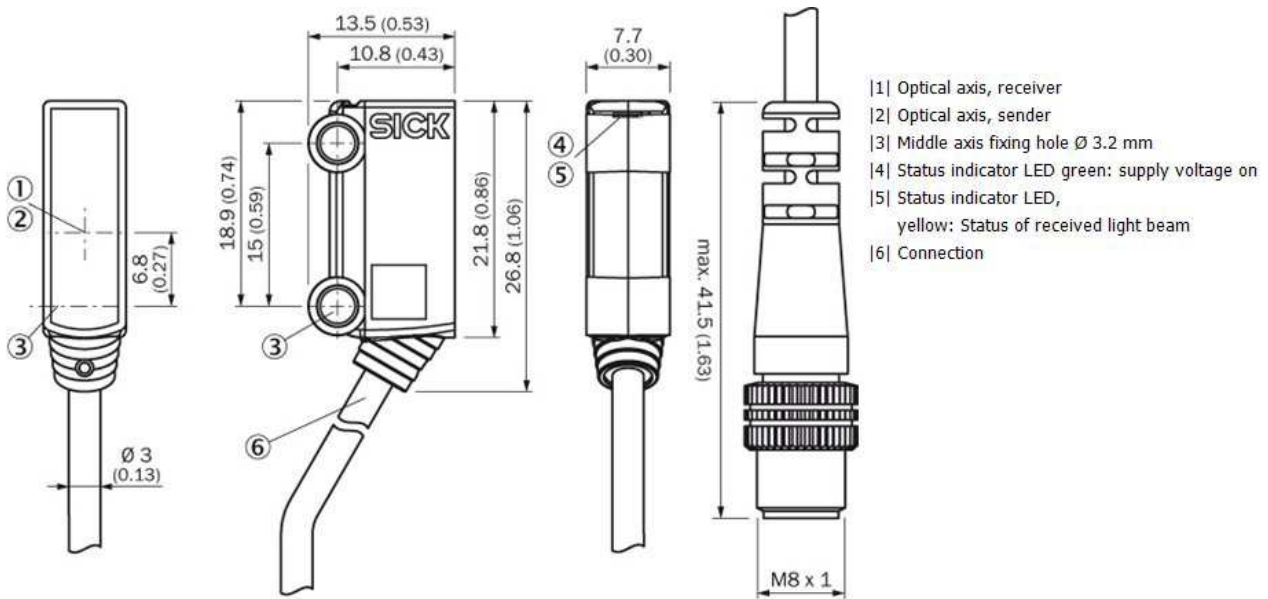
^{1) 2)} P250F ³⁾ Average service life of 100,000 h at T_A = +25 °C

Mechanics/electronics

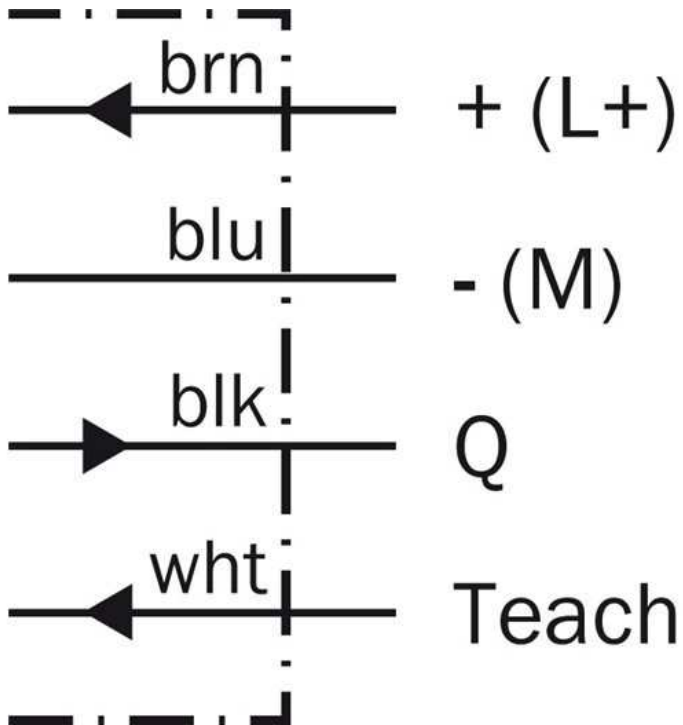
Supply voltage:	10 V DC ... 30 V DC ¹⁾
Ripple:	≤ 5 Vpp ²⁾
Power consumption:	≤ 20 mA ³⁾
Output type:	NPN
Switching mode:	Dark switching
Output current I _{max.} :	< 50 mA
Response time:	< 0.5 ms ⁴⁾
Switching frequency:	1,000 Hz ⁵⁾
Connection type:	Cable, 4-wire, 2 m ⁶⁾
Cable material:	PVC
Cable diameter:	$\varnothing 3$ mm
Circuit protection:::	A, B, D ⁷⁾ ⁸⁾ ⁹⁾
Polarisation filter:	✓
IO-Link:	-
Optics material:	PMMA
Enclosure rating:	IP 67
Special feature:	Detection of transparent objects
Ambient temperature operation:	-20 °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 short of V_S 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

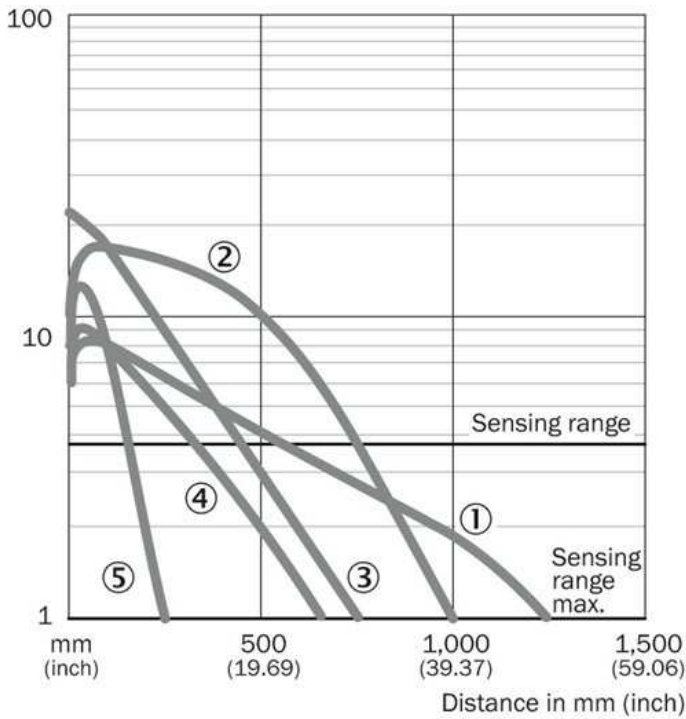
Dimensional drawing



Connection diagram



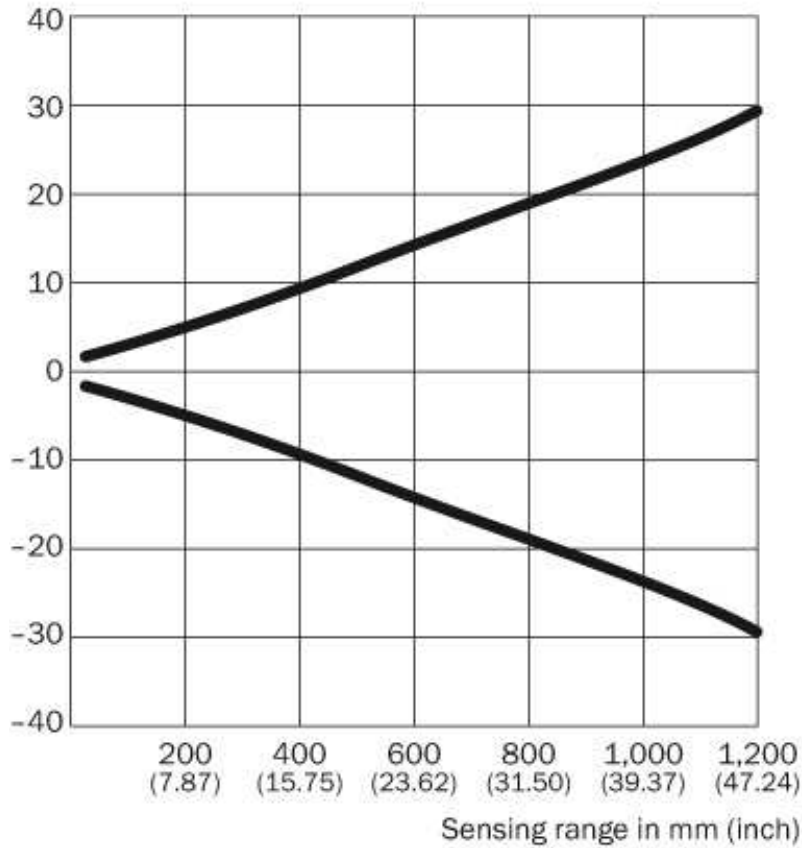
Characteristic curve



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

Light spot size

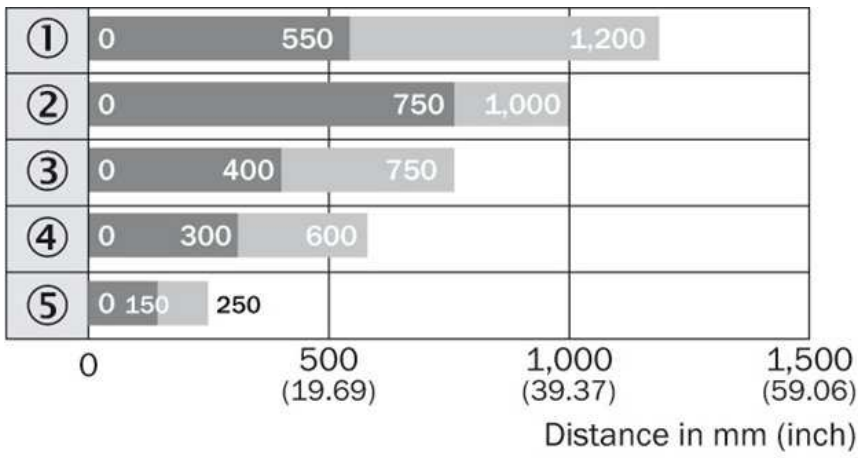
Spot diameter in mm (inch)



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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