



Photoelectric sensors
W15, Photoelectric retro-reflective sensor,
Standard optics

WL15-F2433



Model Name > [WL15-F2433](#)
Part No. > [1043319](#)



Illustration may differ

At a glance

- Photoelectric retro-reflective sensor in hybrid design with 5 m sensing range
- Mounting flexibility: M18 front mount using plastic nut or snap ring, side assembly with 24.1 mm through holes
- Flush mounting possible using the snap ring
- Transparent back cover
- Highly visible sender LED
- Options with an adjustable delay of 0 - 2s

Your benefits

- Compatible with many competitor models, making it easy to install and commission
- Flush mounting reduces setup time and prevents obstructions to material flow on conveyor sections
- Clearly visible LED indicators reduce setup time and simplify troubleshooting
- Quick and easy alignment due to highly visible light spot



Features

Sensor/detection principle:	Photoelectric retro-reflective sensor, Standard optics
Dimensions (W x H x D):	16.2 mm x 48.5 mm x 31.9 mm
Housing design (light emission):	Hybrid
Thread diameter (housing):	M18 x 1
Sensing range max.:	0.035 m ... 5 m ¹⁾
Sensing range:	0.035 m ... 3.5 m
Type of light:	Visible red light
Light source:	LED ²⁾
Wave length:	650 nm
Time type:	Off delay, Adjustable via time control
Delay time:	0 s, 2 s
Angle of dispersion:	1.5 °
Light spot size (distance):	Ø 140 mm (3.5 m)

¹⁾ PL80A ²⁾ Average service life of 100,000 h at T_A = +25 °C

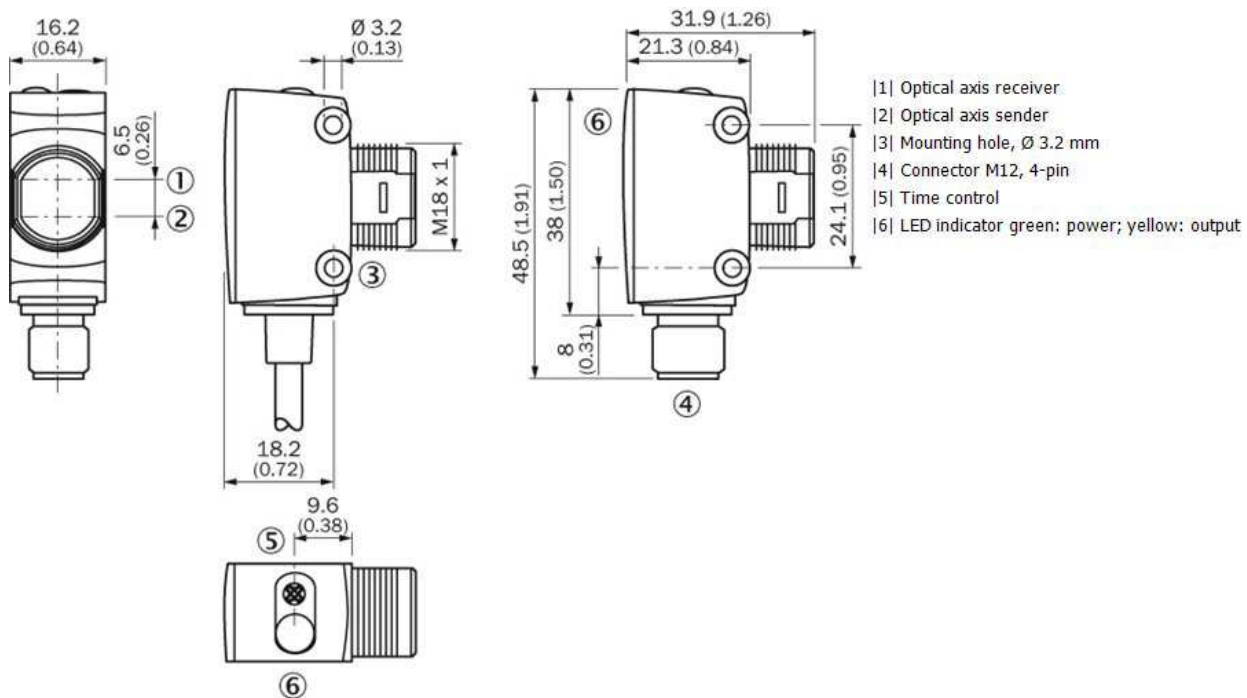
Mechanics/electronics

Supply voltage:	10 V DC ... 30 V DC ¹⁾
Ripple:	≤ 5 Vpp ²⁾

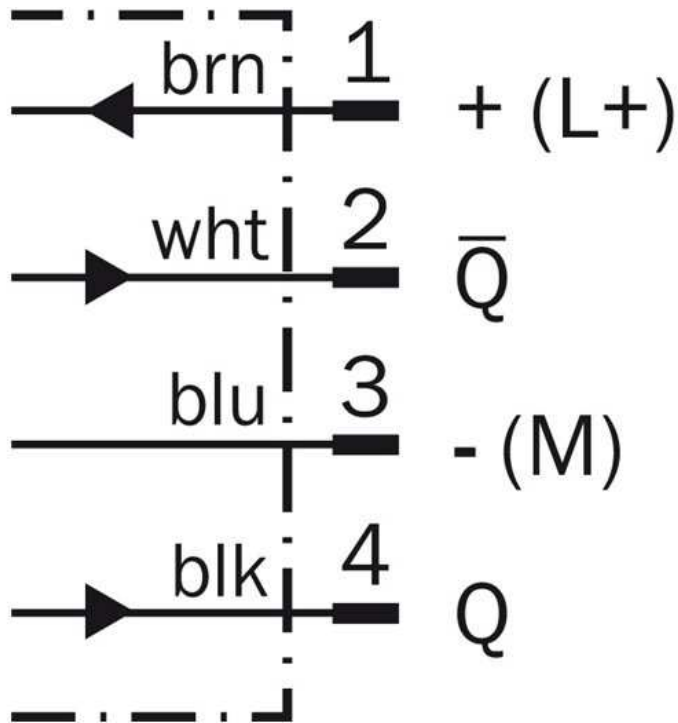
Power consumption:	≤ 30 mA ³⁾
Output type:	PNP
Output function:	Complementary
Switching mode:	Light/dark switching
Output current I _{max} :	≤ 100 mA
Response time:	≤ 1.25 ms ⁴⁾
Switching frequency:	400 Hz ⁵⁾
Connection type:	Connector M12, 4-pin
Circuit protection:::	A, B, D ^{6) 7) 8)}
Protection class:	II ⁹⁾
Weight:	10 g
Polarisation filter:	✓
Special device:	-
Optics material:	PMMA
Enclosure rating:	IP 67
Items supplied:	Snap-ring and M18 nut
Ambient operating temperature:	-25 °C ... +55 °C
Ambient storage temperature:	-25 °C ... +70 °C
UL File No.:	NRKH.E189383 & NRKH7.E189383
Housing material:	ABS, Plastic

1) Limit values, operation in short-circuit protected network max. 8 A 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) A = V_S connections reverse-polarity protected 7) B = inputs and output reverse-polarity protected 8) D = outputs overcurrent and short-circuit protected 9) Reference voltage: 50 V DC

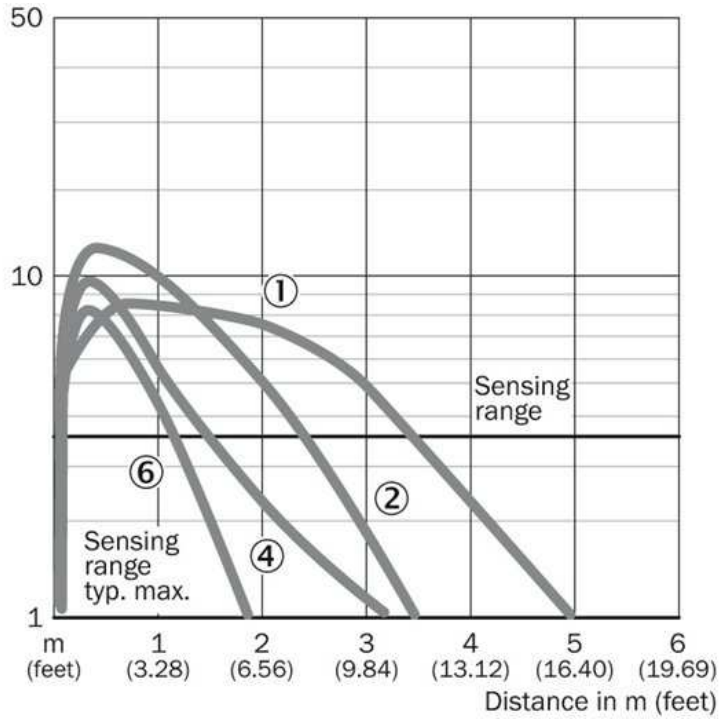
Dimensional drawing



Connection diagram

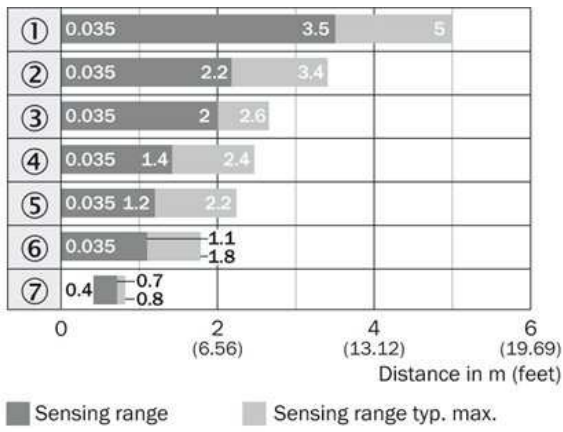


Characteristic curve



- [1] PL80A
- [2] P250
- [3] C110A
- [4] PL50A, PL40A
- [5] PL30A, PL31A
- [6] PL20A
- [7] Reflective tape REF-Plus

Sensing range diagram

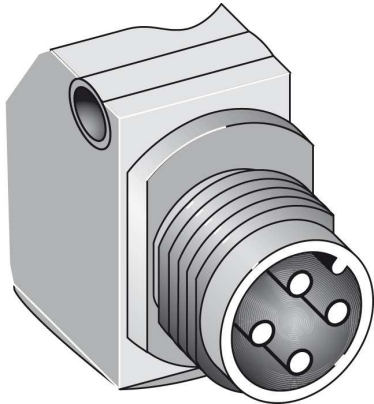


- |1| PL80A
- |2| P250
- |3| C110A
- |4| PL50A, PL40A
- |5| PL30A, PL31A
- |6| PL20A
- |7| Reflective tape REF-Plus

Reflector type

- ① PL80A
- ② P250
- ③ C110
- ④ PL50A/PL40A
- ⑤ PL30A/PL31A
- ⑥ PL20A
- ⑦ Reflective tape REF-Plus

Connection type



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