



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

WL15-F1133



**Model Name** > **WL15-F1133**  
**Part No.** > **1046150**



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 <sup>1)</sup>
Sensing range:	0.035 m ... 3.5 m
Type of light:	Visible red light
Light source:	LED <sup>2)</sup>
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)

<sup>1)</sup> PL80A <sup>2)</sup> Average service life of 100,000 h at T<sub>A</sub> = +25 °C

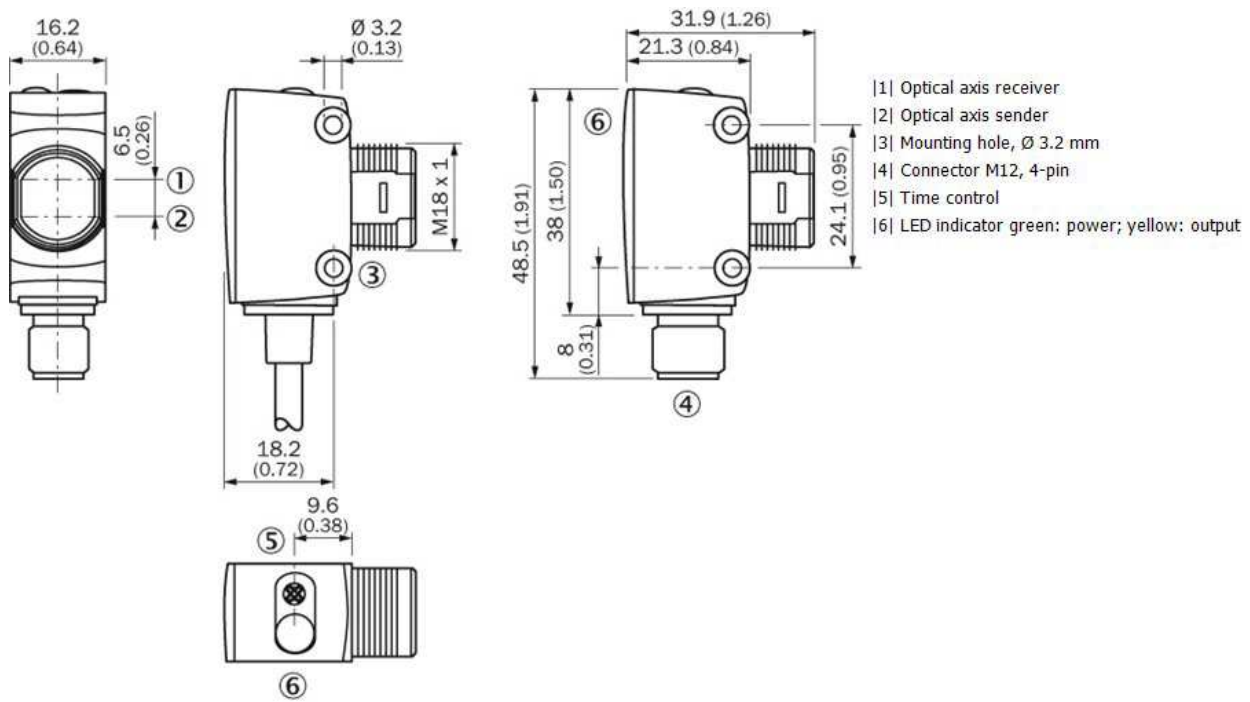
**Mechanics/electronics**

Supply voltage:	10 V DC ... 30 V DC <sup>1)</sup>
Ripple:	≤ 5 Vpp <sup>2)</sup>

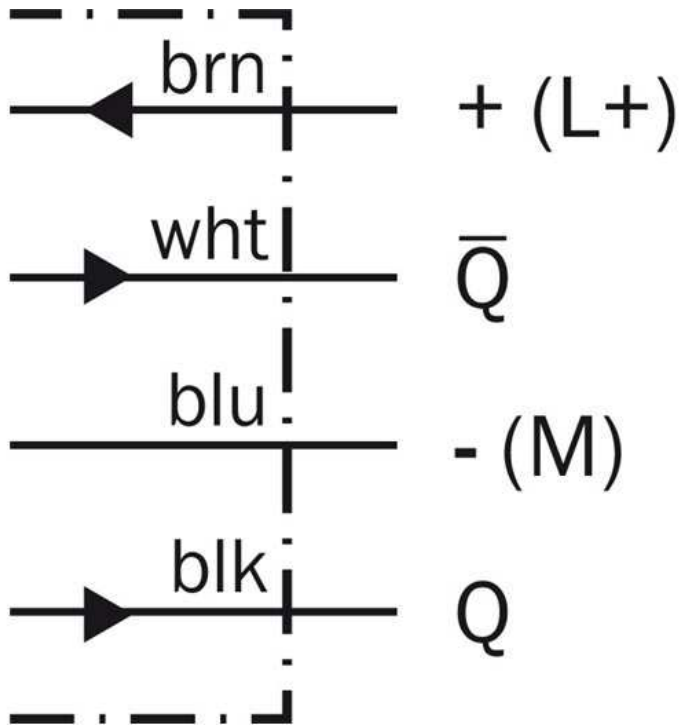
Power consumption:	≤ 30 mA <sup>3)</sup>
Output type:	PNP
Output function:	Complementary
Switching mode:	Light/dark switching
Output current I <sub>max</sub> :	≤ 100 mA
Response time:	≤ 1.25 ms <sup>4)</sup>
Switching frequency:	400 Hz <sup>5)</sup>
Connection type:	Cable, 4-wire, 2 m <sup>6)</sup>
Cable material:	PUR
Conductor cross-section:	0.14 mm <sup>2</sup>
Circuit protection:::	A, B, D <sup>7) 8) 9)</sup>
Protection class:	II <sup>10)</sup>
Weight:	20 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

<sup>1)</sup> Limit values, operation in short-circuit protected network max. 8 A <sup>2)</sup> May not exceed or fall short of  $V_S$  tolerances <sup>3)</sup> Without load <sup>4)</sup> Signal transit time with resistive load <sup>5)</sup> With light/dark ratio 1:1 <sup>6)</sup> Do not bend below 0 °C <sup>7)</sup> A =  $V_S$  connections reverse-polarity protected <sup>8)</sup> B = inputs and output reverse-polarity protected <sup>9)</sup> D = outputs overcurrent and short-circuit protected <sup>10)</sup> Reference voltage: 50 V DC

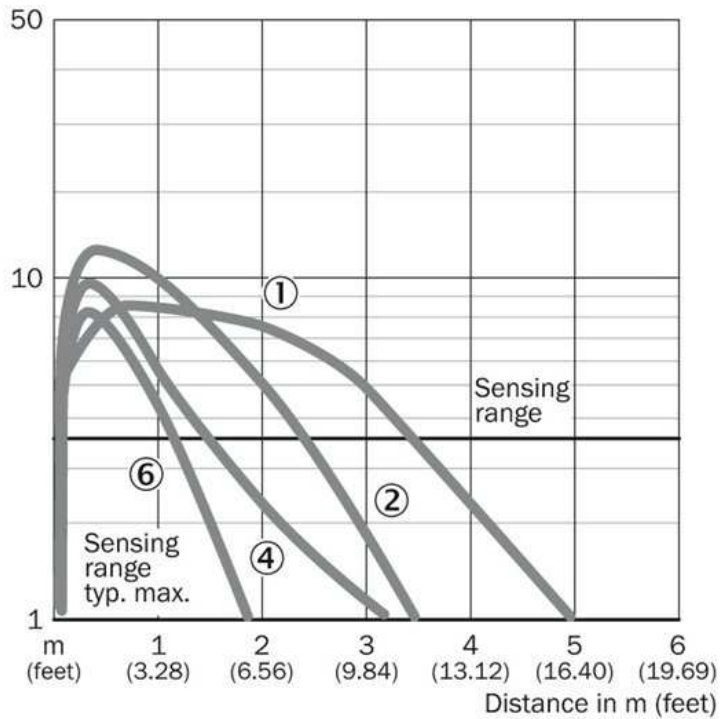
**Dimensional drawing**



**Connection diagram**

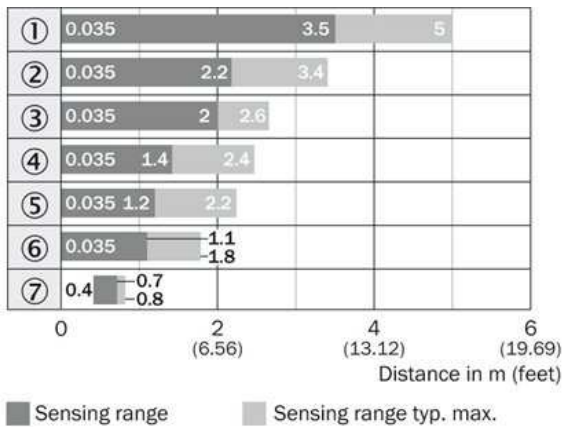


## Characteristic curve



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

## Sensing range diagram



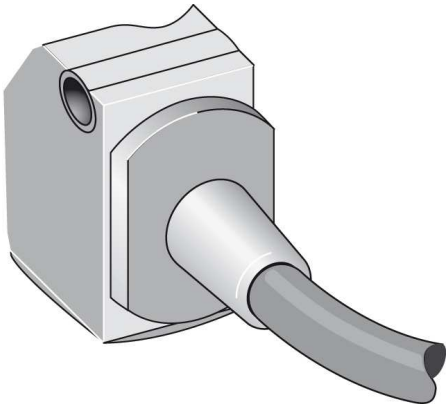
- |1| PL80A
- |2| P250
- |3| C110A
- |4| PL50A, PL40A
- |5| PL30A, PL31A
- |6| PL20A
- |7| Reflective tape REF-Plus

### 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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