



Photoelectric sensors
W24-2, Photoelectric retro-reflective sensor,
Standard optics

WL24-2R240



Model Name > [WL24-2R240](#)
Part No. > [1017858](#)



Illustration may differ

At a glance

- Metal housing that has been IP 69k tested
- Switch selectable PNP or NPN output
- Switch selectable Light or Dark operating mode
- Variants with DC voltage and universal AC/DC voltage with UL approval
- Optional test input, adjustable ON and OFF time delays, alarm output and front screen heating
- M12 or terminal chamber connection: 90° rotatable

Your benefits

- Metal housing that has been IP 69K tested provides reliability and a long service life
- High operating reserve at a long sensing range reduces downtime
- Alarm output signals marginal operation to provide an early warning
- Test input provides diagnostic feedback for example misalignment
- Selectable output type, operating mode, and adjustable time delays makes integration easier and reduce the number of devices needed
- Ensuring reliable operation in environments with temperatures fluctuation due to standard or high-power front lens heating (prevention and reduction of condensation water on the front lens)
- Variants with DC voltage and universal AC/DC voltage provide installation flexibility
- Red light provides easy alignment, which saves time



Features

Sensor/detection principle:	Photoelectric retro-reflective sensor, Standard optics
Dimensions (W x H x D):	27 mm x 87.5 mm x 65 mm
Housing design (light emission):	Rectangular
Sensing range max.:	0 m ... 22 m ¹⁾
Sensing range:	0 m ... 15 m ²⁾
Type of light:	Visible red light ³⁾
Light source:	LED ³⁾
Light spot diameter (distance):	Ø 250 mm (15 m)
Sensitivity adjustment:	Sensitivity adjustment
Time type:	Switch on delay time delay off
Delay time:	Adjustable via time delay selector switch: 0.5 ... 10 s

1) 2) PL80A 3) Average service life of 100,000 h at $T_A = +25\text{ °C}$

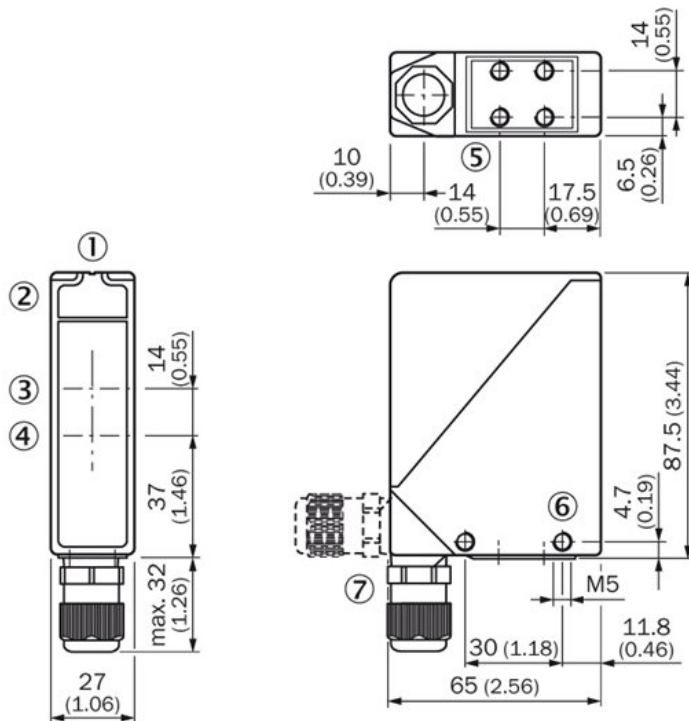
Mechanics/electronics

Supply voltage::	12 V DC ... 240 V DC ^{1) 2)} 24 V ... 240 V AC
Power consumption:	< 2 VA
Output type:	Relay, Light/dark-switching, selectable via light/dark selector, change-over contacts, electrically isolated
Output function:	Change-over contacts
Switching mode selector:	Selectable via light/dark selector
Switching current (switching voltage):	4 A (24 V DC), 4 A (250 V AC)
Response time:	≤ 10 ms
Switching frequency:	10 Hz ⁴⁾
Connection type:	Terminal connection with M16 gland ⁵⁾
Circuit protection::	A, C ^{6) 7)}
Protection class:	II ⁸⁾
Weight:	330 g
Polarisation filter:	✓
Front screen heating:	✓
Housing material:	Zinc diecast
Optics material:	PMMA
Enclosure rating:	IP 69K
Usage category:	AC-15, DC-13, According to EN 60947-1
Ambient operating temperature:	-40 °C ... 60 °C
Ambient storage temperature:	-40 °C ... 75 °C
UL File-No.:	UL No. NRKH.E181493 & cUL No. NRKH7.E181493
Switching mode characteristic:	Electrically isolated

Provide suitable spark suppression for inductive or capacitive loads;

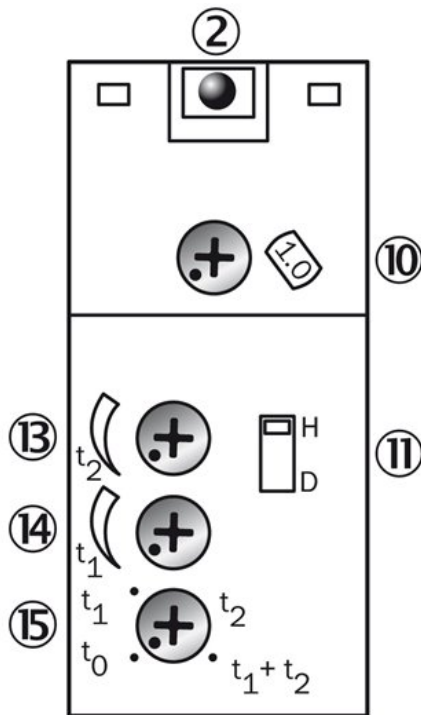
1) Limit values, operation in short-circuit protected network max. 8 A 2) +/- 10 % 3) Provide suitable spark suppression for inductive or capacitive loads 4) With light/dark ratio 1:1 5) Connection rotatable by 90° 6) $A = V_S$ connections reverse-polarity protected 7) C = interference suppression 8) Rated voltage 250 V AC/DC

Dimensional drawing



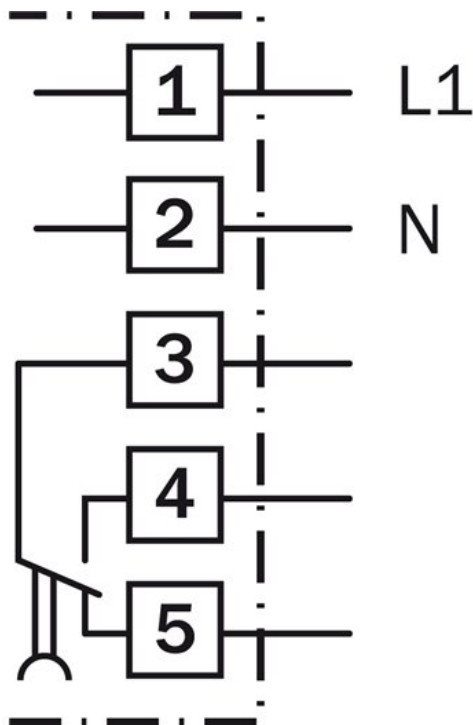
- |1| Alignment sight
- |2| LED signal strength indicator
- |3| Center of optical axis, sender
- |4| Center of optical axis, receiver
- |5| M5 threaded mounting hole, 6 mm deep
- |6| M5 threaded mounting hole, through-hole
- |7| M16 screw fixing and plug rotatable by 90°

Adjustments possible

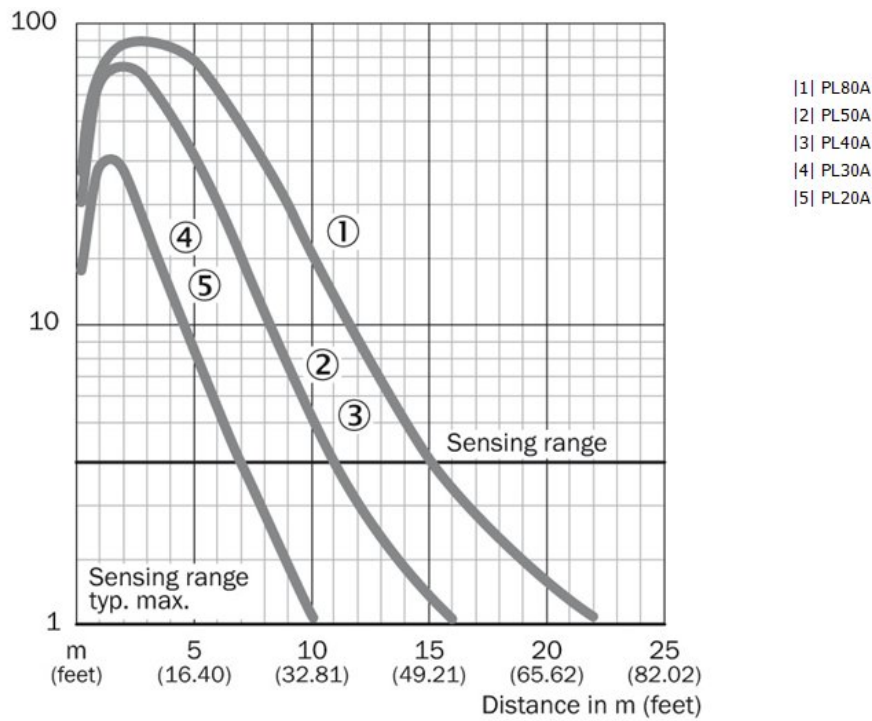


- |2| LED signal strength indicator
- |10| Adjustment sensing range (WT) / sensitivity (WL, WS/WE)
- |11| Light/dark selector
- |12| Time control t2=OFF-delay
- |13| Time control t1=ON-delay
- |14| time delay selector switch

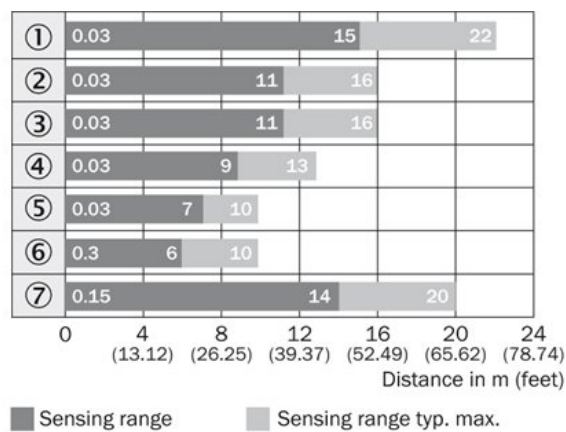
Connection diagram



Characteristic curve



Sensing range diagram

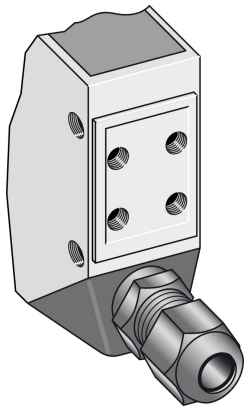


- |1| PL80A
- |2| PL50A
- |3| PL40A
- |4| PL30A
- |5| PL20A
- |6| Reflective tape Diamond Grade
- |7| C110A

Reflector type

- ① PL80A
- ② PL50A
- ③ PL40A
- ④ PL30A
- ⑤ PL20A
- ⑥ Diamond Grade
(20 cm x 20 cm)
- ⑦ C110

Connection type



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