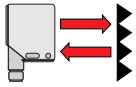


# WL 12-2

## Reflex/Retro-Reflective Sensors



**0...23 ft (0...7 m)**  
**sensing range**



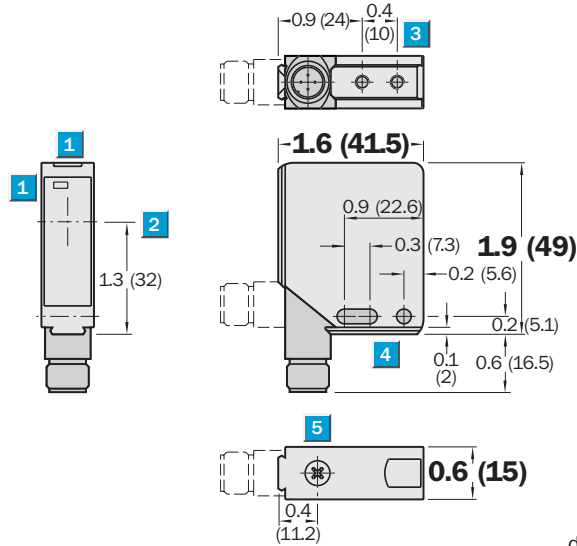
## Highlights

- Red light for easy alignment
- Insensitive to ambient light
- Sensitivity adjustment
- Signal strength indicator
- Crosstalk immunity
- Cable connections swivel 90° for easy installation
- Polarizing filters prevent false readings on shiny objects

## WL 12-2

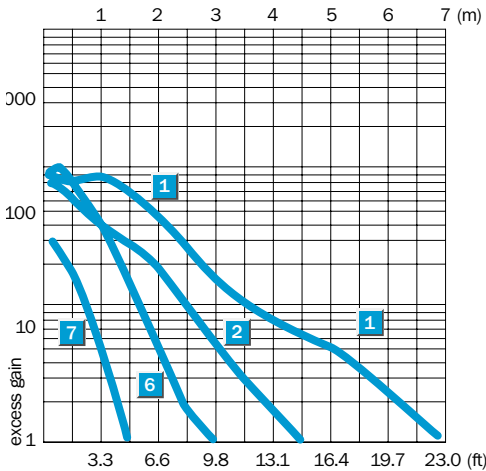


## Dimensional Drawing



dimensions in inches (mm)

## Excess Gain



## Adjustments

All types



- 1 LED signal strength indicator
- 2 Center of optical axis
- 3 M4 threaded mounting hole – 4 mm deep
- 4 Mounting holes Ø 4.2 mm
- 5 Sensitivity adjustment

Reflector Type	Sensing Range
1 PL 80 A	0...7.0 m
2 P 975	0...4.5 m
3 PL 50 A	0...5.0 m
4 PL 40 A	0...5.0 m
5 PL 30 A	0...4.0 m
6 PL 20 A	0...3.0 m
7 Reflective tape	0...1.5 m

Order Information	
Type	Part no.
WL 12-2P430	1 016 102
WL 12-2P130	1 016 096
WL 12-2N430	1 016 092
WL 12-2N130	1 016 085
WL 12-2P180	1 016 099
WL 12-2P480	1 016 106
WL 12-2N180	1 016 089
WL 12-2N480	1 016 093

Accessories	page
Cables and connectors	909
Mounting brackets	921, 922
Clamps*	921, 922
Reflectors	936

\* 2 pieces included with delivery

Technical Data		WL 12-2-	P430	P130	N430	N130	P180	P480	N180	N480
<b>Sensing range</b>	0...23 ft (0...7 m)									
Sensitivity	Adjustable									
<b>Light source<sup>1)</sup>, light type</b>	LED, red light, polarized									
	LED, red light, non-polarized									
Light spot diameter	3.1 in at 9.8 ft (80 mm at 3 m)									
<b>Supply voltage V<sub>S</sub></b>	10...30 V DC <sup>2)</sup>									
Ripple <sup>3)</sup>	≤ 5 V <sub>SS</sub>									
Current consumption <sup>4)</sup>	≤ 30 mA									
	≤ 40 mA									
<b>Switching outputs</b>	PNP, Q and $\bar{Q}$									
	NPN, Q and $\bar{Q}$									
Output current I <sub>A</sub> max.	≤ 100 mA									
Response time <sup>5)</sup>	≤ 330 μs									
Max. switching frequency <sup>6)</sup>	1500 Hz									
<b>Connection types</b>	Cable <sup>7)</sup> , 2 m									
	Plug, M12 4-pin									
<b>VDE protection class<sup>8)</sup></b>	<input type="checkbox"/>									
<b>Circuit protection<sup>9)</sup></b>	A, B, C									
<b>Enclosure rating</b>	IP 67/NEMA 6									
<b>Ambient temperature T<sub>A</sub></b>	Operation -40...140°F (-40...60°C)									
	Storage -40...167°F (-40...75°C)									
<b>Approximate weight</b>	4.2 oz (120 g)									
	7.1 oz (200 g)									
<b>Polarizing filter</b>										
<b>Housing material</b>	Die cast zinc									

1) Average service life 100,000 h at T<sub>A</sub> = 25°C  
 2) Limit values

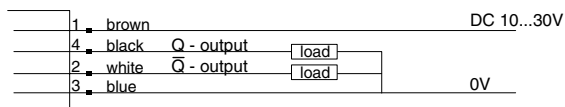
3) May not exceed or fall short of V<sub>S</sub> tolerances  
 4) Without load  
 5) Signal transit time with resistive load

6) With light/dark ratio 1:1  
 7) Do not bend below 0°C  
 8) Reference voltage 50 V DC

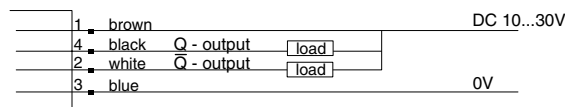
9) A = V<sub>S</sub> connections reverse-polarity protected  
 B = Output Q and  $\bar{Q}$  short-circuit protected  
 C = Interference pulse suppression

### Connection Diagram

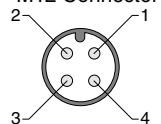
#### PNP Models



#### NPN Models



#### M12 Connector



wire colors refer to standard cable, not included with quick disconnect models