

WS/WE 12-2

Through Beam Sensors

0...65.6 ft (0...20 m)

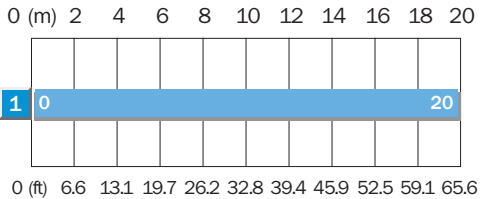
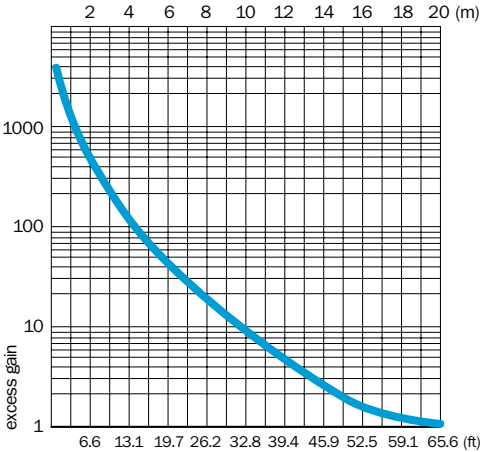
sensing range

CE UL

WS/WE 12-2



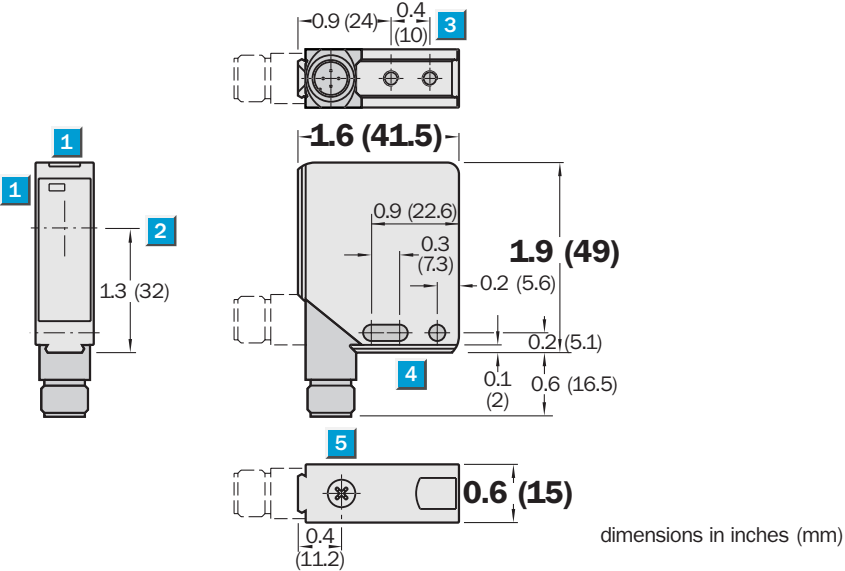
Excess Gain



Highlights

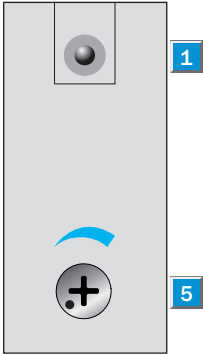
- Rugged die cast metal housing
- Red light for easy alignment
- Insensitive to ambient light
- Sensitivity adjustment
- Signal strength indicator
- Crosstalk immunity
- Test input
- Cable connections swivel 90° for easy installation

Dimensional Drawing



Adjustments

All types



Order Information

Type	Part no.
WS/WE 12-2P430	1 016 157
WS/WE 12-2P130	1 016 156
WS/WE 12-2N430	1 016 155
WS/WE 12-2N130	1 016 154

Accessories

Accessories	page
Cables and connectors	909
Mounting brackets	922
Clamps*	921
Masks	950

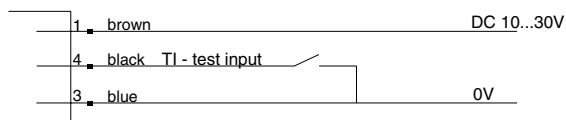
* 2 pieces included with delivery

Technical Data		WS/WE 12-2-	P430	P130	N430	N130					
Sensing range	0...65.6 ft (0...20 m)										
Sensitivity	Adjustable										
Sensing range with 2 mm mask	0...6.6 ft (0...2 m)										
Sensing range with 1.5 mm mask	0...4.9 ft (0...1.5 m)										
Sensing range with 1 mm mask	0...3.3 ft (0...1 m)										
Sensing range with 0.5 mm mask	0...0.02 in (0...0.5 mm)										
Light source¹⁾, light type	LED, red light										
Light spot diameter	Approx. 19.7 in at 49.2 ft (500 mm at 15 m)										
Angle of divergence	Approx. 1.5°										
Supply voltage V_S	10...30 V DC ²⁾										
Ripple ³⁾	$\leq 5 V_{SS}$										
Current consumption ⁴⁾											
sender	≤ 30 mA										
receiver	≤ 15 mA										
receiver	≤ 25 mA										
Switching output	PNP, Q and \bar{Q}										
	NPN, Q and \bar{Q}										
Output current I_A max.	100 mA										
Response time ⁵⁾	$\leq 330 \mu s$										
Max. switching frequency ⁶⁾	1500 Hz										
Test input "TE" for light sender											
Sender OFF	TE to 0 V										
Connection types	Plug, M12 4-pin										
	Cable ⁷⁾ , 2 m										
VDE protection class⁸⁾	<input type="checkbox"/>										
Circuit protection⁹⁾	A, B, C										
Enclosure rating	IP 67/NEMA 6										
Ambient temperature T_A	Operation -40...140°F (-40...60°C)										
	Storage -40...167°F (-40...75°C)										
Approximate weight	4.2 oz (120 g)										
	7.1 oz (200 g)										
Housing material	Die cast zinc										

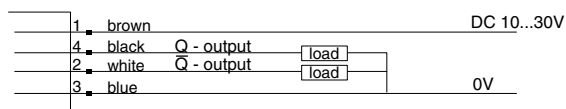
1) Average service life 100,000 h at $T_A = 25^\circ\text{C}$
2) Limit values
3) May not exceed or fall short of V_S tolerances
4) Without load
5) Signal transit time with resistive load
6) With light/dark ratio 1:1
7) Do not bend below 0°C
8) Reference voltage DC 50 V
9) A = V_S connections reverse-polarity protected
B = Output Q and \bar{Q} short-circuit protected
C = Interference pulse suppression

Connection Diagram

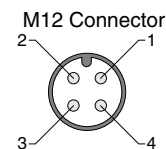
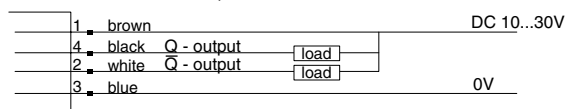
Sender, All Models



Receiver, PNP Models



Receiver, NPN Models



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