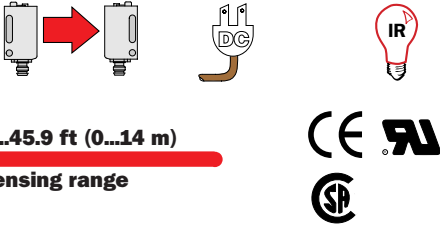


WS/WE 160

Through Beam Sensors



0...45.9 ft (0...14 m)
sensing range

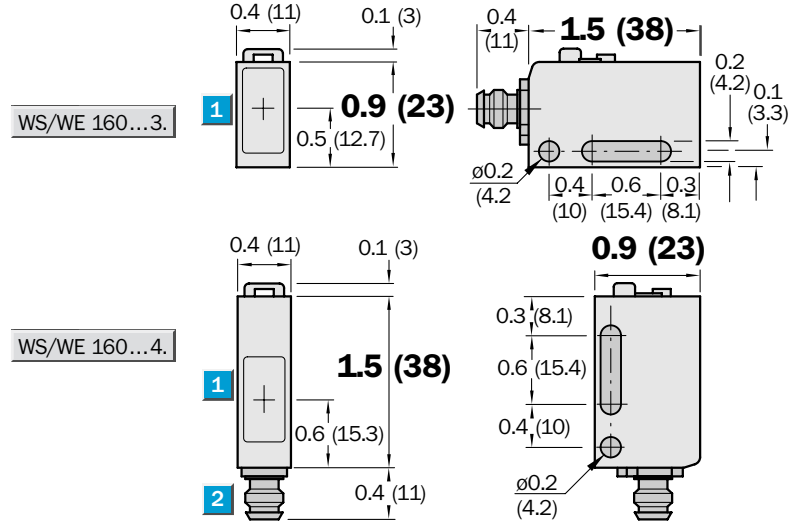
WS/WE 160



Highlights

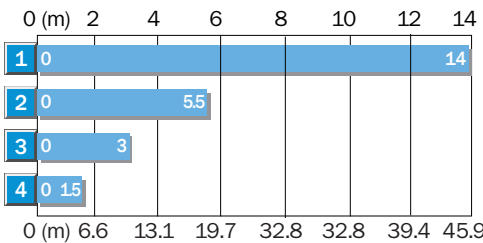
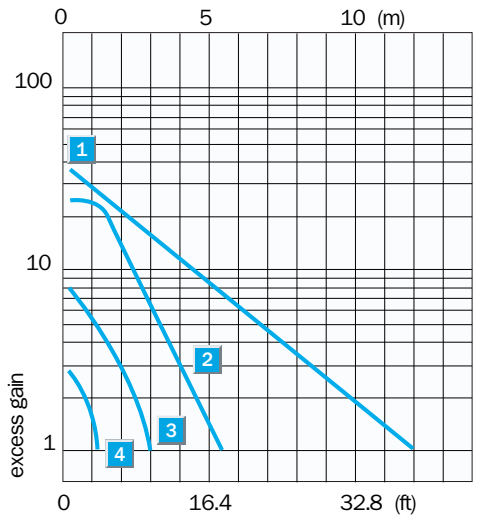
- Rugged plastic housing
- Horizontal or vertical housing
- Signal strength indicator
- Sensitivity adjustment
- Easy mounting with included bracket
- Cable or M8 quick disconnect versions

Dimensional Drawing



dimensions in inches (mm)

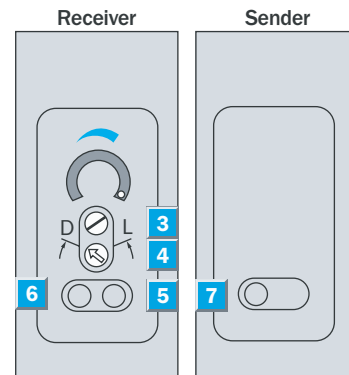
Excess Gain



- 1 Without slotted mask
- 2 With slotted mask 2 mm, BL-160-SK
- 3 With slotted mask 1 mm, BL-160-SK
- 4 With slotted mask 0.5 mm, BL-160-SK

Adjustments

All types



- 1 Center of optical axis sender/receiver
- 2 Plug, M8 4-pin or connection cable
- 3 Sensitivity adjustment
- 4 Light/dark rotary switch:
L = light switching
D = dark switching
- 5 Orange LED indicator (status output)
- 6 Green LED signal strength indicator (excess gain)
- 7 Output indicator, red (sender active)

Order Information

Type	Part no. ¹⁾
WS/WE160-F132	6 022 751
WS/WE160-F430	6 022 756
WS/WE160-F142	6 022 753
WS/WE160-F440	6 022 758
WS/WE160-E132	6 022 743
WS/WE160-E430	6 022 748
WS/WE160-E142	6 022 745
WS/WE160-E440	6 022 750

Accessories

Accessories	page
Cables and connectors	908
Mounting brackets*	919
Slotted mask	951

* included with delivery

Technical Data		WS/WE 160-	F132	F430	E132	E430	F142	F440	E142	E440
Housing design	Horizontal									
	Vertical									
Sensing range	0...45.9 ft (0...14 m)									
Adjustable sensitivity	Potentiometer, 2 turns with scaling 270°									
Light source¹⁾, light type	LED, infrared light									
Light spot diameter	Approx. 59 in at 32.8 ft (1500 mm at 10 m)									
Angle of divergence, sender	Approx. 3.3°									
Angle of reception, receiver	Approx. 15°									
Supply voltage V_S	10...30 V DC ²⁾									
Ripple ³⁾	± 10%									
Current consumption ⁴⁾	Sender ≤ 20 mA									
	Receiver ≤ 20 mA									
Switching outputs	PNP, open collector: Q									
	NPN, open collector: Q									
Output current I _A max.	100 mA									
Operation mode	Light/dark switching via switch									
Response time ^{5)/} max. switching freq. ⁶⁾	≤ 0.5 ms/1000 Hz									
Connection types	Cable, PVC, 2 m ⁸⁾									
	Sender WS, 2 x 0.2 mm ² , Ø 4.2 mm									
	Receiver WE, 3 x 0.2 mm ² , Ø 4.2 mm									
	Plug, M8 4-pin									
	Available in Plug, M8 4-pin upon request									
VDE protection class⁹⁾	<input type="checkbox"/>									
Circuit protection ¹⁰⁾	sender WS	A, B								
	receiver WE	A, B, C, D								
Enclosure rating	IP 67/NEMA 6									
Ambient temperature T_A	Operation -13...131°F (-25...55°C)									
	Storage -40...158°F (-40...70°C)									
Approximate weight	Sender/receiver each 2.1 oz (60 g)									
	Sender/receiver each 0.7 oz (20 g)									
Housing material	Glass fiber reinforced ABS									

- 1) Average service life 100,000 h at T_A = 25°C
- 2) Limit values
- 3) May not exceed or fall short of V_S tolerances
- 4) Without load

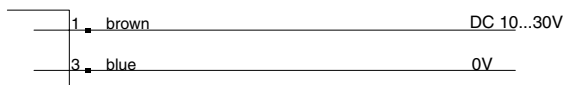
- 5) Signal transit time with resistive load
- 6) With light/dark ratio 1:1
- 7) TE not with plug model
- 8) Do not bend below 0°C
- 9) Reference voltage 50 V DC

- 10) A = V_S connections reverse-polarity protected
- B = Inputs and outputs reverse-polarity protected
- C = Interference pulse suppression
- D = Outputs overload and short-circuit protected

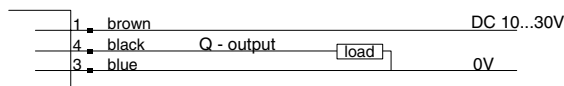
- 11) Part no. includes transmitter and receiver

Connection Diagram

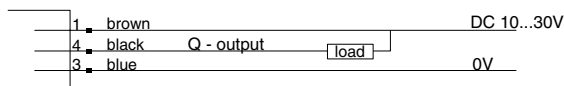
Sender



PNP Models

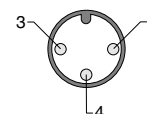


NPN Models

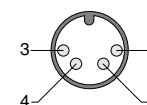


wire colors refer to standard cable, not included with quick disconnect models.

M8 Connector



M8 Connector



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