



DATA SHEET

WS/WE160-F440

Photoelectric sensors

SICK

Sensor Intelligence



Illustration may differ

PHOTOELECTRIC SENSORS

WS/WE160-F440

ORDERING INFORMATION

Type	part no.
WS/WE160-F440	6022758

Further device versions and accessories at www.sick.com/

DETAILED TECHNICAL DATA

FEATURES

Functional principle	Through-beam photoelectric sensor
Dimensions (W x H x D)	11 mm x 38 mm x 23 mm
Housing design (light emission)	Rectangular
Sensing range max.	15 mm
Sensing range	0 m ... 11 m ¹⁾
Type of light	Visible red light
Light source	LED
Wave length	680 nm

¹⁾ Object with 90% remission (based on standard white, DIN 5033).

MECHANICS/ELECTRONICS

Supply voltage	10 V DC ... 30 V DC
Ripple	± 10 %
Current consumption	25 mA ¹⁾
Switching output	PNP
Switching mode	Light/dark switching
Switching mode selector	Selectable via light/dark rotary switch
Response time	≤ 0.5 ms ²⁾
Connection type	Male connector M8, 4-pin
Housing material	Plastic, PBT
Optics material	Plastic, PMMA
Enclosure rating	IP67
Ambient operating temperature	-25 °C ... +55 °C

¹⁾ Without load.

²⁾ Signal transit time with resistive load.

Ambient temperature, storage	-40 °C ... +70 °C
UL File No.	NRNT2.E128350 & NRNT8.E128350

¹⁾ Without load.
²⁾ Signal transit time with resistive load.

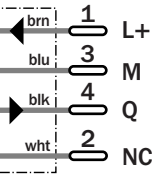
SAFETY-RELATED PARAMETERS

MTTF ₀	1,137 years
DC _{avg}	0 %

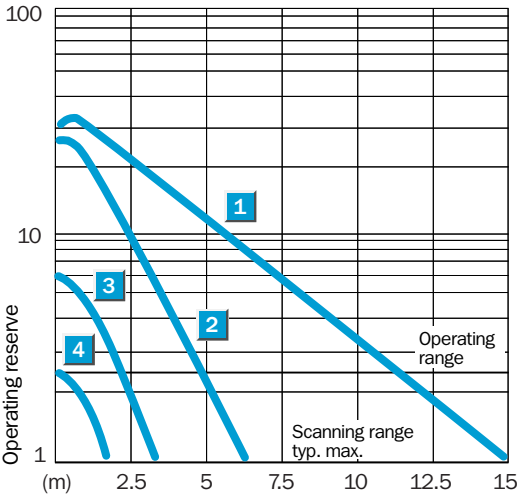
CONNECTION TYPE



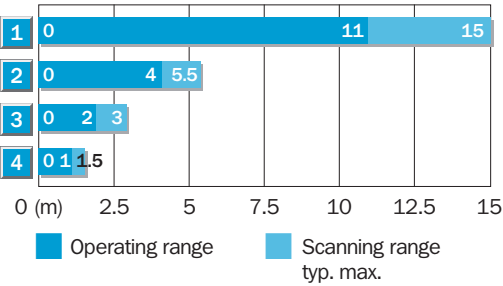
CONNECTION DIAGRAM



CHARACTERISTIC CURVE

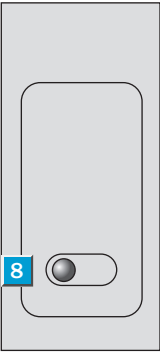


SENSING RANGE DIAGRAM



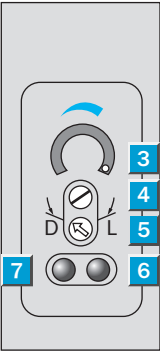
1	Without slotted mask
2	With slotted mask 2 mm, BL-160-SK
3	With slotted mask 1 mm, BL-160-SK
4	With slotted mask 0.5 mm, BL-160-SK

ADJUSTMENTS



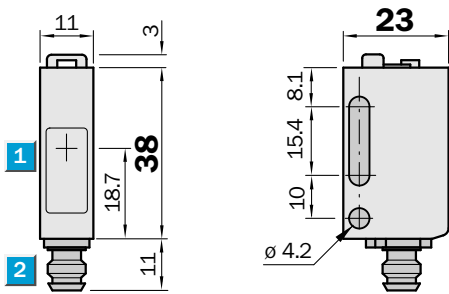
⑧ red LED: sender active

ADJUSTMENTS



- ③ sensitivity control
- ④ Scaling 270°
- ⑤ Light/ dark rotary switch: L = light switching, D = dark switching
- ⑥ Orange LED indicator : switching output active
- ⑦ Green LED indicator: light reception with operating reserve >1.1 and < 0.9

DIMENSIONAL DRAWING



Dimensions in mm (inch)

- ① Center of optical axis
- ② Connection

Further information as well as suitable accessories, example applications and downloads such as CAD dimensional models, operating instructions and software can be found at www.sick.com/6022758



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SICK AT A GLANCE

SICK is a leading global technology company for intelligent sensors and integrated solutions in industrial automation. Our technologies set benchmarks, making your industrial processes more efficient, safer and more sustainable – both in logistics and manufacturing operations.

SICK combines sensor intelligence with industry expertise and certified consulting services. We provide the ideal foundation for scalable as well as tailor-made automation solutions and create added value along the entire value chain. Our close partnerships with our customers are more than just a promise: Together, we optimize productivity, improve quality, protect health and safety, and help build a sustainable future. All with empathy and trust.

Since 1946, we have been developing innovative technologies with passion and a pioneering spirit. With a global network in around 40 countries, SICK has a global presence and is always close by. The company's headquarters are located in Waldkirch near Freiburg, Germany. Our customers benefit from our understanding of both local and global requirements, which enables us to deliver tailor-made solutions

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