SICK.COM

DATA SHEET

GTB6-P7441S56

G6
Photoelectric sensors

SICK Sensor Intelligence

Illustration may differ

PHOTOELECTRIC SENSORS

GTB6-P7441S56

ORDERING INFORMATION

Type	part no.
GTB6-P7441S56	1077541

Further device versions and accessories at www.sick.com/G6

DETAILED TECHNICAL DATA

FEATURES

Functional principle	Photoelectric proximity sensor
Functional principle detail	Background suppression
Sensing range max.	5 mm ... 500 mm [1]
Sensing range	50 mm ... 450 mm
Emitted beam	
Light source	LED [2]
Type of light	Infrared light
Light spot size (distance)	Ø 9 mm (100 mm)
Key LED figures	
Wave length	850 nm
Adjustment	Mechanical spindle, 5 turns, non-sealed

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

[2] Average service life: 100,000 h at T_U = +25 °C.

ELECTRONICS

Supply voltage U_B	10 V DC ... 30 V DC [1]
Ripple	± 10 % [2]
Current consumption	30 mA [3]
Protection class	III
Digital output	
Type	PNP
Switching mode	Light switching
Signal voltage PNP HIGH/LOW	V_S - (≤ 3 V) / approx. 0 V
Output current $I_{max.}$	≤ 100 mA [4]
Response time	< 1 ms [5]
Switching frequency	500 Hz [6]
Circuit protection	A [7] B [8] D [9]

[1] Limit values when operated in short-circuit protected network: max. 8 A.

[2] May not fall below or exceed U_v tolerances.

[3] Without load.

[4] At Uv > 24 V, IA max. = 50 mA.

[5] Signal transit time with resistive load.

[6] With light/dark ratio 1:1.

[7] A = V_s connections reverse-polarity protected.

[8] B = inputs and output reverse-polarity protected.

[9] D = outputs overcurrent and short-circuit protected.

MECHANICS

Housing	Rectangular
Dimensions (W x H x D)	12 mm x 31.5 mm x 21 mm
Connection	Cable with plug, M12, 4-pin, 300 mm [1]
Connection detail	
Conductor size	0.14 mm²
Length of cable (L)	300 mm [1]
Material	
Housing	Plastic, ABS/PC
Front screen	Plastic, PMMA
Cable	Plastic, PVC
Weight	20 g

[1] Do not bend below 0 °C.

AMBIENT DATA

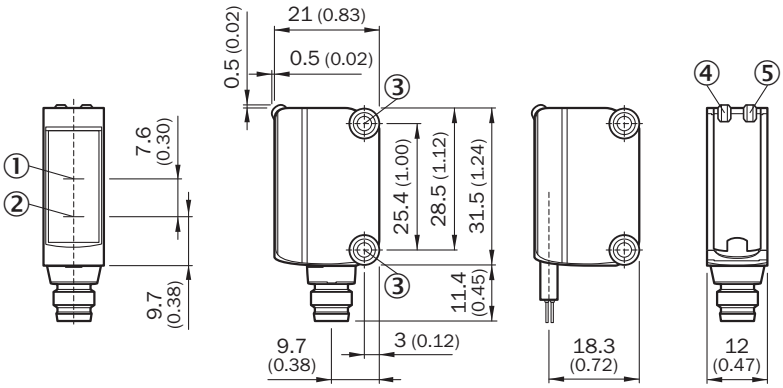
Enclosure rating	IP67
Ambient operating temperature	–25 °C ... +55 °C [1]
Ambient temperature, storage	–40 °C ... +70 °C
UL File No.	NRKH.E348498 & NRKH7.E348498

[1] Temperature stability following adjustment +/-10 °C.

CERTIFICATES

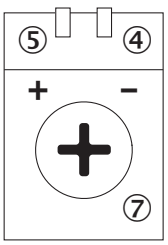
EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China RoHS	✓
China Compulsory Product Certification (CCC) exempt	✓
cULus certificate	✓
Photobiological safety (DIN EN 62471) certificate	✓

DIMENSIONAL DRAWING



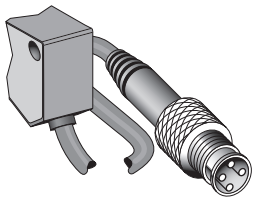
Dimensions in mm (inch)
① Optical axis, receiver
② Optical axis, sender
③ Mounting holes M3
④ LED indicator green: Supply voltage active
⑤ LED indicator yellow: Status of received light beam

ADJUSTMENTS ADJUSTMENT POSSIBILITY

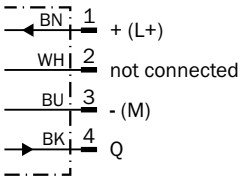


④ LED indicator green: Supply voltage active
⑤ LED indicator yellow: Status of received light beam
⑦ Sensitivity control: potentiometer

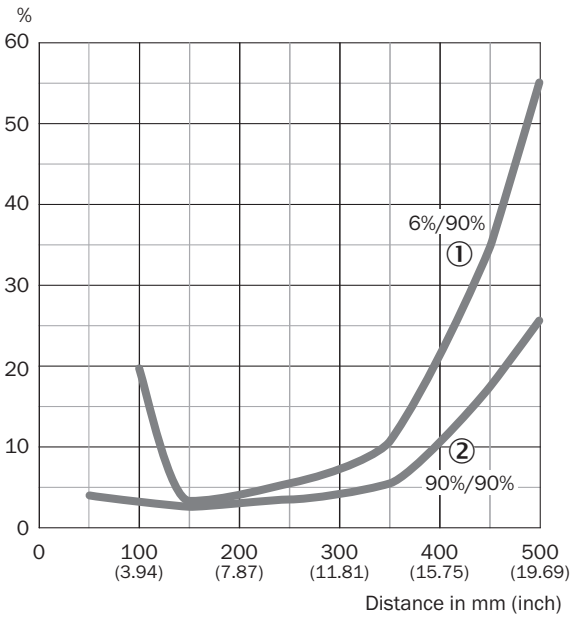
CONNECTION TYPE



CONNECTION DIAGRAM CD-066

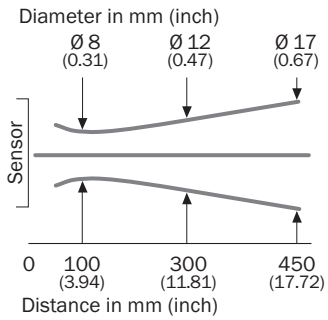


CHARACTERISTIC CURVE

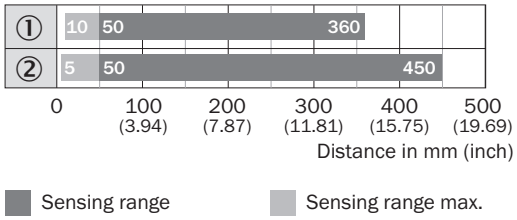


① Sensing range on black, 6% remission factor
② Sensing range on white, 90% remission factor

LIGHT SPOT SIZE



SENSING RANGE DIAGRAM



① Sensing range on black, 6% remission factor
② Sensing range on white, 90% remission factor

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/1077541

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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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