

The SICK logo is displayed in a bold, blue, sans-serif font. It is centered within a white rectangular box, which is itself centered on a light gray background.

DATA SHEET

VT180-P142

V180
Photoelectric sensors

SICK Sensor Intelligence



Illustration may differ

PHOTOELECTRIC SENSORS

VT180-P142

ORDERING INFORMATION

Type	part no.
VT180-P142	6008791

Further device versions and accessories at www.sick.com/VT180

DETAILED TECHNICAL DATA

FEATURES

Functional principle	Photoelectric proximity sensor
Functional principle detail	Energetic
Dimensions (W x H x D)	18 mm x 18 mm x 63.3 mm
Housing design (light emission)	Cylindrical
Housing length	63.3 mm
Thread diameter (housing)	M18 x 1
Optical axis	Axial
Sensing range max.	0 mm ... 450 mm ¹⁾
Sensing range	0 mm ... 400 mm ²⁾
Type of light	Infrared light
Light source	LED ³⁾
Light spot size (distance)	Ø 30 mm (400 mm)
Wave length	920 nm
Adjustment	Potentiometer, 270° (Sensing range)

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

²⁾ With right-angle adapter, the sensing range is reduced from 400 mm to 280 mm.

³⁾ Average service life: 100,000 h at T_u = +25 °C.

MECHANICS/ELECTRONICS

Supply voltage U_B	10 V DC ... 30 V DC ¹⁾
Ripple	< 5 V _{pp} ²⁾
Current consumption	30 mA ³⁾
Switching output	PNP ⁴⁾
Switching mode	Light/dark switching ⁴⁾
Switching mode selector	Selectable via L/D control cable
Signal voltage PNP HIGH/LOW	Approx. VS - 1.0 V / 0 V
Output current I_{max}	≤ 100 mA
Response time	≤ 1.5 ms ⁵⁾
Switching frequency	333 Hz ⁶⁾
Connection type	Cable, 4-wire, 2 m ⁷⁾
Cable material	Plastic, PVC
Conductor cross section	0.34 mm ²
Cable diameter	Ø 5 mm
Circuit protection	A ⁸⁾ C ⁹⁾ D ¹⁰⁾
Protection class	III
Weight	125 g
Housing material	Metal, Nickel-plated brass, PBT/PC
Optics material	Plastic, PMMA
Enclosure rating	IP66
Items supplied	Fastening nuts (2 x)
Ambient operating temperature	-25 °C ... +55 °C
Ambient temperature, storage	-40 °C ... +70 °C
UL File No.	NRNT2.E128350 & NRNT8.E128350

¹⁾ Limit values.²⁾ May not fall below or exceed U_V tolerances.³⁾ Without load.⁴⁾ Control wire open: dark switching D.ON.⁵⁾ Signal transit time with resistive load.⁶⁾ With light/dark ratio 1:1.⁷⁾ Do not bend below 0 °C.⁸⁾ A = V_B connections reverse-polarity protected.⁹⁾ C = interference suppression.¹⁰⁾ D = outputs overcurrent and short-circuit protected.

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/6008791



SICK AG
WALDKIRCH
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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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