



DATA SHEET

VTB18-4P1212

V18
Photoelectric sensors

SICK Sensor Intelligence



Illustration may differ

PHOTOELECTRIC SENSORS

VTB18-4P1212

ORDERING INFORMATION

Type	part no.
VTB18-4P1212	6030188

Further device versions and accessories at www.sick.com/V18



DETAILED TECHNICAL DATA

FEATURES

Functional principle	Photoelectric proximity sensor
Functional principle detail	Background suppression
Dimensions (W x H x D)	18 mm x 18 mm x 65.2 mm
Housing design (light emission)	Cylindrical
Housing length	65.2 mm
Thread diameter (housing)	M18 x 1
Optical axis	Axial
Sensing range max.	25 mm ... 140 mm ¹⁾
Sensing range	30 mm ... 130 mm
Focus	Approx. 5°
Type of light	Visible red light
Light source	LED ²⁾
Light spot size (distance)	Ø 12 mm (130 mm)
Angle of dispersion	Approx. 5°
Wave length	660 nm
Adjustment	Potentiometer, 270° (Sensing range) Potentiometer, 270°

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

²⁾ Average service life: 100,000 h at T_u = +25 °C.

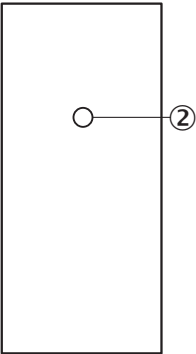
MECHANICS/ELECTRONICS

Supply voltage U_s	10 V DC ... 30 V DC ¹⁾
Ripple	$\pm 10\%$ 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
Output current $I_{\max}$	≤ 100 mA
Response time	≤ 0.5 ms ⁵⁾
Switching frequency	1,000 Hz ⁶⁾
Connection type	Cable, 4-wire, 2 m ⁷⁾
Cable material	Plastic, PVC
Conductor cross section	0.14 mm ²
Cable diameter	Ø 5 mm
Circuit protection	A ⁸⁾ B ⁹⁾ C ¹⁰⁾ D ¹¹⁾
Protection class	III
Weight	240 g
Housing material	Metal, Nickel-plated brass
Optics material	Plastic, PMMA
Enclosure rating	IP67
Ambient operating temperature	-25 °C ... +70 °C
Ambient temperature, storage	-55 °C ... +80 °C
UL File No.	NMFT2.E175606

¹⁾ Limit values.²⁾ May not fall below or exceed U_s 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_s connections reverse-polarity protected.⁹⁾ B = inputs and output reverse-polarity protected.¹⁰⁾ C = interference suppression.¹¹⁾ D = outputs overcurrent and short-circuit protected.**CERTIFICATES**

EU declaration of conformity	✓
UK declaration of conformity	✓
Moroccan declaration of conformity	✓
China RoHS	✓
China Compulsory Product Certification (CCC) exempt	✓
cRUus certificate	✓

ADJUSTMENTS

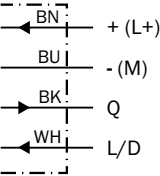


② Sensing range adjustment: potentiometer, 270°

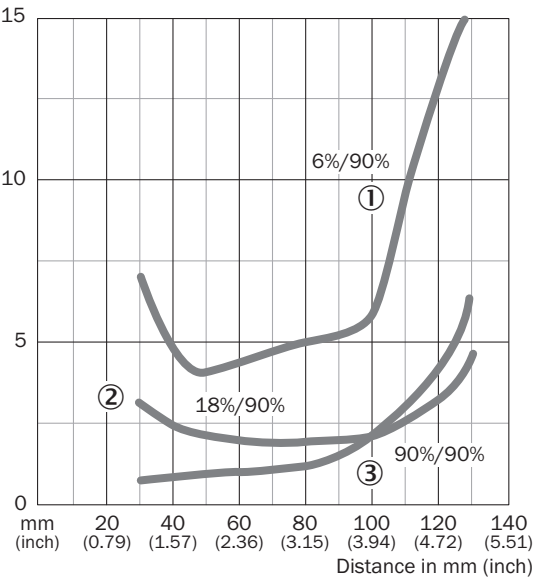
CONNECTION TYPE



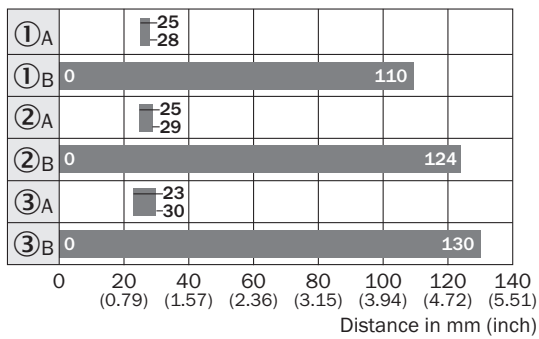
CONNECTION DIAGRAM CD-089



CHARACTERISTIC CURVE



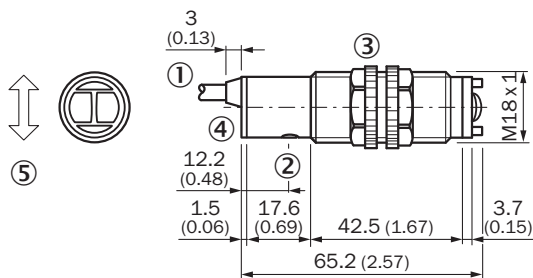
SENSING RANGE DIAGRAM



■ Sensing range

- ① Sensing range on black, 6 % remission
- ② Sensing range on gray, 18 % remission
- ③ Sensing range on white, 90 % remission
- A Sensing range adjuster on MIN
- B Sensing range adjuster on MAX

DIMENSIONAL DRAWING



Dimensions in mm (inch)

- ① Connection
- ② Adjustment of sensing range
- ③ Mounting nuts SW, 24
- ④ LED indicator yellow;
- ④ lights continuously: output aktiv
- ④ no light: output inactive
- ④ blinks slowly: shot circuit detected
- ⑤ Standard direction of the material being detected

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/6030188



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SICK AT A GLANCE

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