



VTB18-4N1212S01 V18

PHOTOELECTRIC SENSORS





Ordering information

Туре	part no.
VTB18-4N1212S01	6037542

Other models and accessories → 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 _B	10 V DC 30 V DC ¹⁾
Ripple	± 10 % ²⁾
Current consumption	30 mA ³⁾
Switching output	NPN ⁴⁾
Switching mode	Light/dark switching ⁴⁾
Output current I _{max.}	≤ 100 mA
Response time	\leq 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
Special device	✓
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.

Certificates

EU declaration of conformity	✓
UK declaration of conformity	✓
Moroccan declaration of conformity	✓
China RoHS	✓
cRUus certificate	✓

²⁾ May not fall below or exceed U_V tolerances.

³⁾ Without load.

⁴⁾ PIN 4 light switching, PIN 2 dark switching.

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.

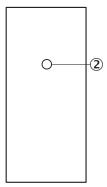
 $^{^{10)}}$ C = interference suppression.

 $^{^{11)}}$ D = outputs overcurrent and short-circuit protected.

Classifications

ECLASS 5.0	27270904
ECLASS 5.1.4	27270904
ECLASS 6.0	27270904
ECLASS 6.2	27270904
ECLASS 7.0	27270904
ECLASS 8.0	27270904
ECLASS 8.1	27270904
ECLASS 9.0	27270904
ECLASS 10.0	27270904
ECLASS 11.0	27270904
ECLASS 12.0	27270903
ETIM 5.0	EC002719
ETIM 6.0	EC002719
ETIM 7.0	EC002719
ETIM 8.0	EC002719
UNSPSC 16.0901	39121528

Adjustments



 $\ \ \,$ Sensing range adjustment: potentiometer, 270 $\mbox{^\circ}$

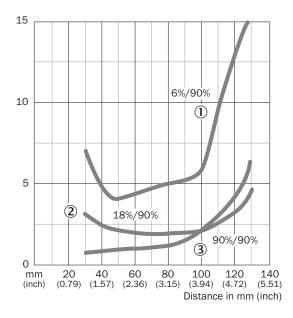
Connection type



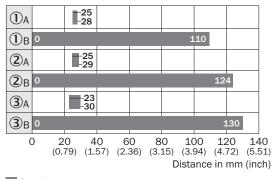
Connection diagram Cd-094



Characteristic curve



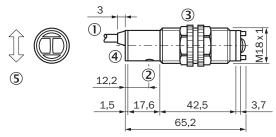
Sensing range diagram



Sensing range

- ① Sensing range on black, 6 % remission
- $\ensuremath{\mathfrak{D}}$ Sensing range on gray, 18 % remission
- $\ensuremath{\mathfrak{3}}$ 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

Recommended accessories

Other models and accessories → www.sick.com/V18

	Brief description	Туре	part no.	
Mounting systems				
40	 Description: Mounting bracket for M18 sensors Material: Steel Details: Steel, zinc coated Items supplied: Without mounting hardware Suitable for: GR18, V180-2, V18, W15, Z1, Z2 	BEF-WN-M18	5308446	
connectors and cables				
	 Connection type head A: Male connector, M12, 4-pin, straight, A-coded Description: Unshielded Connection systems: Screw-type terminals Permitted cross-section: ≤ 0.75 mm² 	STE-1204-G	6009932	

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SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

We have extensive experience in a wide range of industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

For us, that is "Sensor Intelligence."

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