VTB18-4N1212S01

V18

CYLINDRICAL PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.

VTB18-4N1212S01 | V18
CYLINDRICAL PHOTOELECTRIC SENSORS

Ordering information

Illustration may differ

Type	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	≤ 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 mm²
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.

[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.
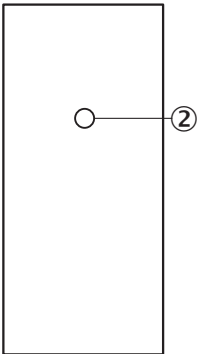
[10] C = interference suppression.

[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

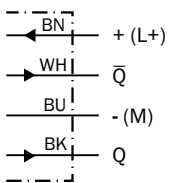|	
ECLASS 8.0	27270904
ECLASS 8.1	27270904
ECLASS 9.0	27270904
ECLASS 10.0	27270904
ECLASS 11.0	27270904
ECLASS 12.0	27270903
ETIM 5.0	EC002719
ETIM 6.0	EC002719
ETIM 7.0	EC002719
ETIM 8.0	EC002719
UNSPSC 16.0901	39121528

Adjustments

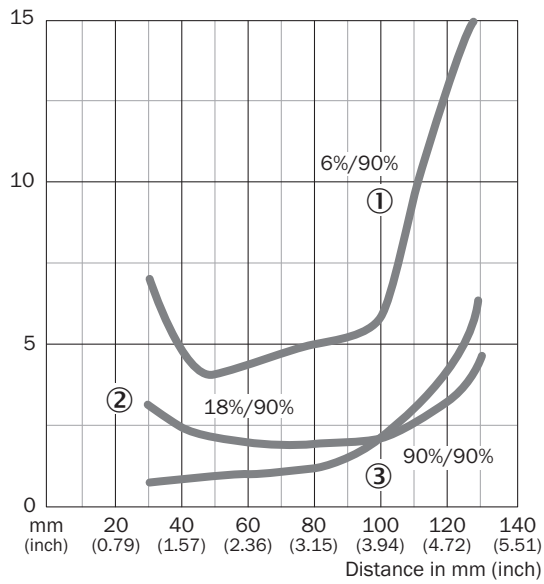② Sensing range adjustment: potentiometer, 270°
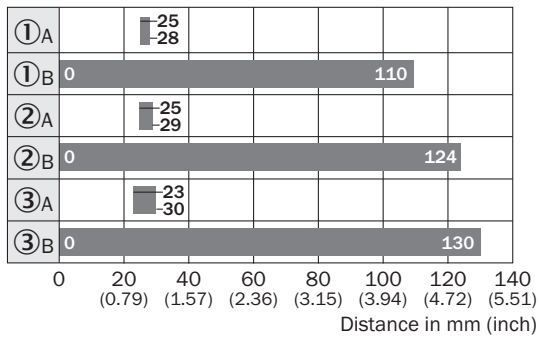
Connection type

Connection diagram

Cd-094

Characteristic curve
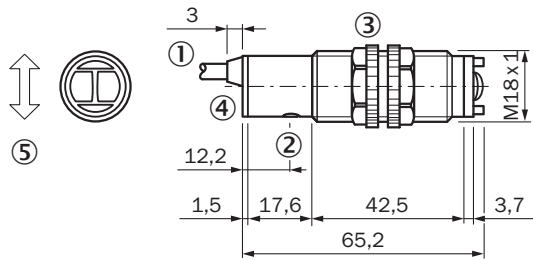

Sensing range diagram

■ 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;Lights continuously: output aktivNo light: output inactiveBlinks slowly: shot circuit detected
⑤ Standard direction of the material being detected

Recommended accessories

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

	Brief description	Type	Part no.
Mounting brackets and plates			
	Mounting bracket for M18 sensors, steel, zinc coated, without mounting hardware	BEF-WN-M18	5308446
Others			
	• **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

SICK AT A GLANCE

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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