HTB18L-V4A5BB

H18 Sure Sense

HYBRID PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.

HTB18L-V4A5BB | H18 Sure Sense
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Illustration may differ

Ordering information

Type	Part no.
HTB18L-V4A5BB	1095545

Other models and accessories ➜ www.sick.com/H18_Sure_Sense

Detailed technical data

Features

Functional principle	Photoelectric proximity sensor
Functional principle detail	Background suppression
Dimensions (W x H x D)	16.2 mm x 48.5 mm x 31.8 mm
Housing design (light emission)	Hybrid
Thread diameter (housing)	M18
Mounting system type	M18, head/side (24.1 ... 25.4 mm)
Housing color	Blue
Sensing range max.	30 mm ... 300 mm [1]
Sensing range	30 mm ... 250 mm [2]
Type of light	Visible red light
Light source	Laser [3] [4]
Light spot size (distance)	2 mm (120 mm)
Wave length	655 nm
Laser class	1
Adjustment	
Potentiometer, right	Sensing range
Potentiometer, left	None
Special applications	Detecting small objects

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

[2] Object with 6 % reflectance (referred to standard black, DIN 5033).

[3] Average service life: 50,000 h at T_U = +25 °C.

[4] CLASS 1 LASER PRODUCT EN60825-1:2014, IEC60825-1:2014, Maximum pulse power < 2,5 mW, Pulse length: 4 μs, Wavelength: 650 ... 670 nm, Complies with 21 CFR 1040.10 and 1040.11 except for deviations pursuant to Laser Notice No. 50, dated June 24, 2007.

Special features	Signal strength light bar

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Mechanics/electronics

Supply voltage	10 V DC ... 30 V DC
Ripple	< 5 V_{pp} [1]
Current consumption	≤ 20 mA [2]
Switching output	PNP
Switching mode	Light switching
Switching output detail	
Switching output Q1	PNP, Light switching
Switching output Q2	PNP, Health output
Output current I$_{max.}$	≤ 100 mA
Response time	≤ 0.5 ms [3]
Switching frequency	1,000 Hz [4]
Connection type	Male connector M12, 4-pin
Circuit protection	A [5] B [6] D [7]
Protection class	III
Weight	18 g
Housing material	Plastic, VISTAL®
Optics material	Plastic, PMMA
Enclosure rating	IP67 IP69K
Items supplied	Fastening nut (1x), M18, plastic, black, flat
Electromagnetic compatibility (EMC)	EN 60947-5-2 (The sensor complies with the Radio Safety Requirements (EMC) for the industrial sector (Radio Safety Class A). It may cause radio interference if used in a residential area.)
Ambient operating temperature	–30 °C ... +55 °C [8]
Ambient temperature, storage	–40 °C ... +70 °C
UL File No.	E189383

[1] May not fall below or exceed U_V tolerances.

[2] Without signal strength light bar and load.

[3] Signal transit time with resistive load.

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

[5] A = V_S connections reverse-polarity protected.

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

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

[8] Below Ta = –10 °C, sensor must be turned on at Ta > –10 °C. Sensor cannot be turned on below Ta= –10 °C.

Connection type/pinouts

Connection type	Male connector M12, 4-pin

Pinouts

BN 1	+ (L+)
WH 2	Q_2
BU 3	- (M)
BK 4	Q_1

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	27270904
ETIM 5.0	EC002719
ETIM 6.0	EC002719
ETIM 7.0	EC002719
ETIM 8.0	EC002719
UNSPSC 16.0901	39121528

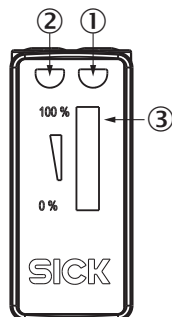## Dimensional drawing (Dimensions in mm (inch))

① LED indicator yellow: Status of received light beam
② LED indicator green: power on
③ M3 mounting hole
④ Snap Connection for flush ring (sold seperatly)
⑤ Potentiometer (if selected) or LED Indicators

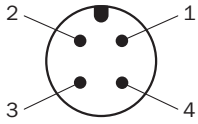| Dimensions in mm (inch)	Receiver		Sender	
	A	B	C	D
HTB18 / HTF18	- 1.1 (0.04)	1.1 (0.04)	4.7 (0.19)	0.6 (0.02)
HTE18 / HL18 / HSE18	2.5 (0.1)	0.0 (0.0)	4.0 (0.16)	0.0 (0.0)
HTB18L / HTF18L / HL18L / HSE18L	2.5 (0.1)	0.0 (0.0)	3.5 (0.14)	0.0 (0.0)

Adjustments

① LED indicator yellow: Status of received light beam
② LED indicator green: power on
③ Signal strength light bar

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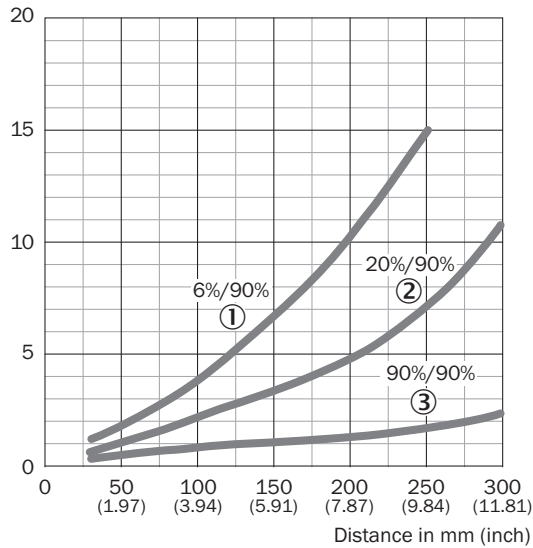
Connection type

Pinouts, see table Technical data: **Connection type/pinouts**

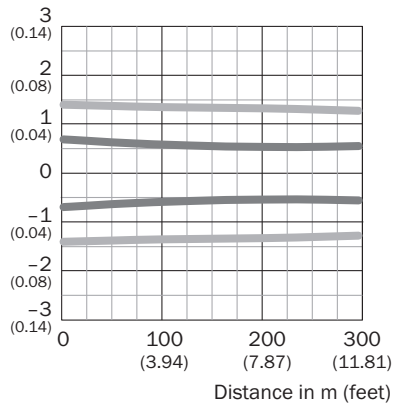M12 male connector, 4-pin, A-coding

Characteristic curve

% of sensing range

① Sensing range on black, 6% remission factor
② Sensing range on gray, 20 % remission
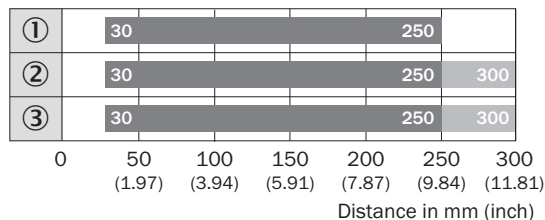③ Sensing range on white, 90% remission factor
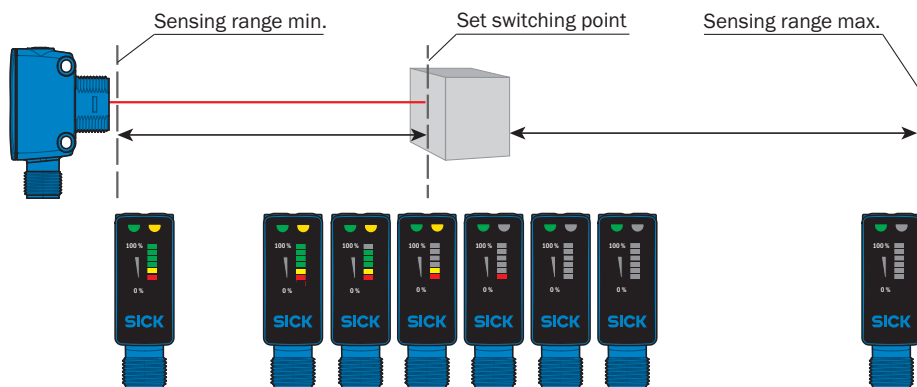
Light spot size

mm (inch)

horizontal
vertical

Sensing range diagram

①	30	250	
②	30	250	300
③	30	250	300

0   50   100   150   200   250   300
(1.97) (3.94) (5.91) (7.87) (9.84) (11.81)
Distance in mm (inch)

■ Sensing range   ■ Sensing range max.

① Sensing range on black, 6% remission factor
② Sensing range on gray, 20 % remission
③ Sensing range on white, 90% remission factor

Functions

Recommended accessories

Other models and accessories ➜ www.sick.com/H18_Sure_Sense

	Brief description	Type	Part no.
Others			
	• **Connection type head A:** Female connector, M12, 4-pin, straight, A-coded • **Connection type head B:** Flying leads • **Signal type:** Sensor/actuator cable • **Cable:** 5 m, 4-wire, PVC • **Description:** Sensor/actuator cable, unshielded • **Application:** Zones with chemicals, Uncontaminated zones	YF2A14-050VB3XLEAX	2096235
	• **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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