Product data sheet



HSE18-P4A2BA

H18 Sure Sense

HYBRID PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Illustration may differ

Ordering information

Type	Part no.
HSE18-P4A2BA	1080592

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

Detailed technical data

Features

Functional principle	Through-beam photoelectric sensor
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.	0 m ... 25 m
Sensing range	0 m ... 20 m
Type of light	Visible red light
Light source	PinPoint LED [1]
Light spot size (distance)	400 mm x 200 mm (10 m)
Wave length	631 nm
Adjustment	
Potentiometer, right	None
Potentiometer, left	None
Special features	Signal strength light bar

[1] Average service life: 100,000 h at T_U = +25 °C.

Mechanics/electronics

Supply voltage	10 V DC ... 30 V DC
Ripple	< 5 V_{pp} [1]
Current consumption	≤ 20 mA [2]
Switching output	PNP
Output function	Complementary
Switching mode	Light/dark switching
Switching output detail	
Switching output Q1	PNP, Light switching
Switching output Q2	PNP, Dark switching
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	–40 °C ... +70 °C
Ambient temperature, storage	–40 °C ... +75 °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.

Classifications

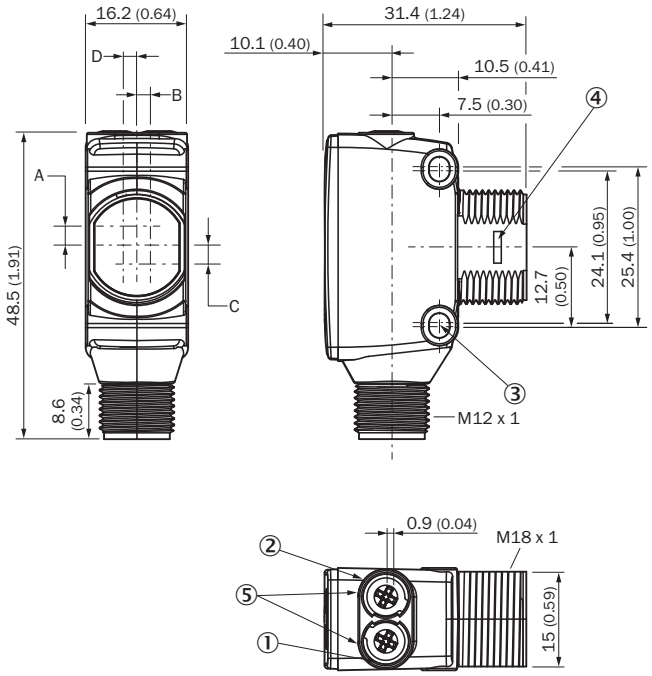
ECLASS 5.0	27270901
ECLASS 5.1.4	27270901
ECLASS 6.0	27270901
ECLASS 6.2	27270901
ECLASS 7.0	27270901
ECLASS 8.0	27270901

ECLASS 8.1	27270901
ECLASS 9.0	27270901
ECLASS 10.0	27270901
ECLASS 11.0	27270901
ECLASS 12.0	27270901
ETIM 5.0	EC002716
ETIM 6.0	EC002716
ETIM 7.0	EC002716
ETIM 8.0	EC002716
UNSPSC 16.0901	39121528

Connection type/pinouts

Connection type	Male connector M12, 4-pin
Pinouts $_{\text{Sender}}$	
BN 1	+ (L+)
WH 2	Not connected
BU 3	- (M)
BK 4	Test $_{\text{IN}}$
Pinouts $_{\text{Receiver}}$	
BN 1	+ (L+)
WH 2	Q_2
BU 3	- (M)
BK 4	Q_1

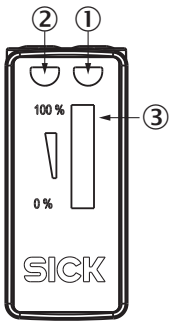
Dimensional drawing (Dimensions in mm (inch))



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)

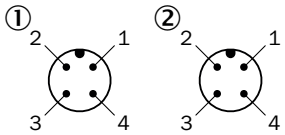
Adjustments



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

Connection type

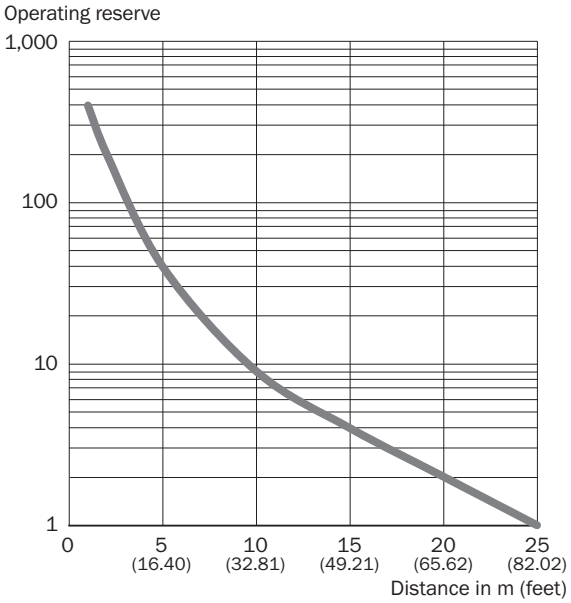
Pinouts, see technical data: **Connection type/pinouts**



① Sender
② Receiver

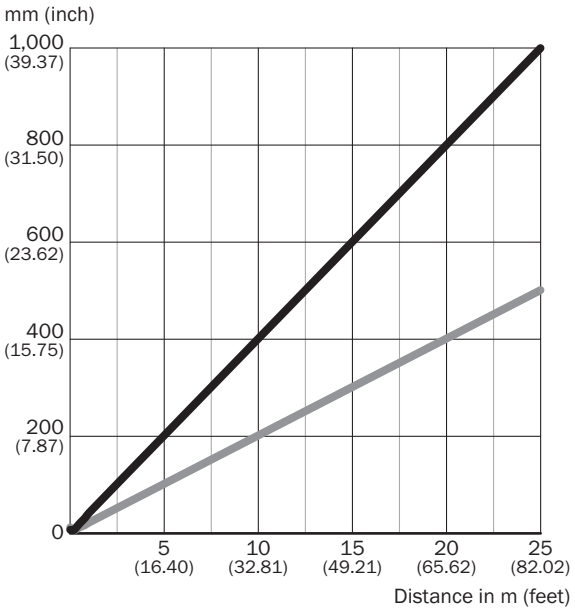
Characteristic curve

Red light



Light spot size

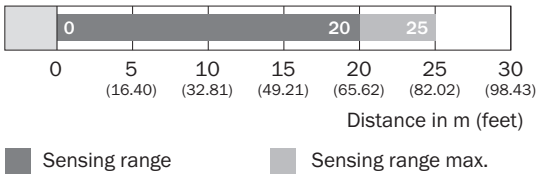
Red light



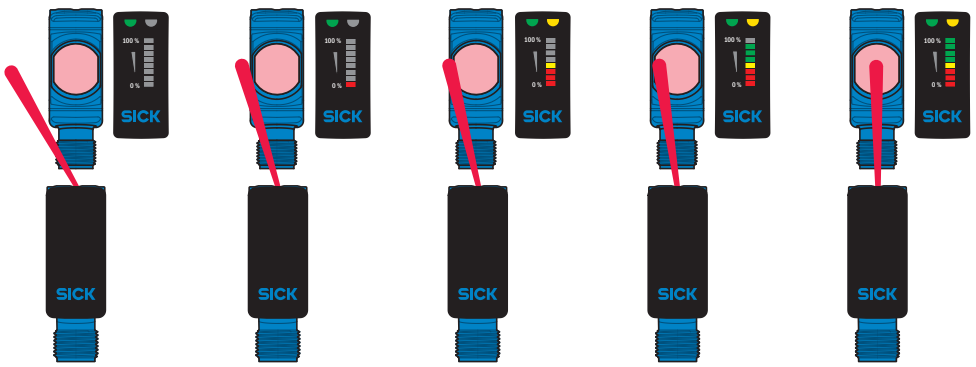
Dimensions in mm (inch)

Sensing range	Horizontal	Vertical
0.5 m (1.64 feet)	18 (0.71)	10 (0.39)
1 m (3.28 feet)	40 (1.57)	20 (0.79)
6.5 m (21.33 feet)	260 (10.24)	130 (5.12)
25 m (82.02 feet)	1,000 (39.37)	500 (19.67)

Sensing range diagram



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	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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Unikeyic Electronics

Global Electronic Components Distributor

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S30A-XXXXBA 1016857 1040755 2095791 DFS60B-BHPK10000 GL6-P1111 1040876 C4C-SA06030A10000 GSE6-P1212 L41E-33MA2A 1213222 WT150-P162 YF8U14-020UA3XLEAX SBO-02F12-SM1 1054695 2095780 2109288 GL6-N1112 PLV14-A 2107717 GL6-P6211 1041007 1068252 EN2-2EX1 / 6041096 IME12-08NPSZW2K 1040855 2106256 C4C-EA09030A10000 IME12-04BPSZW2S LFP2000-A4NMB