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DATA SHEET

HTE18-P4A2BB

H18 Sure Sense
Photoelectric sensors

SICK Sensor Intelligence



Illustration may differ

PHOTOELECTRIC SENSORS

HTE18-P4A2BB

ORDERING INFORMATION

Type	part no.
HTE18-P4A2BB	1074755

Further device versions and accessories at www.sick.com/H18_Sure_Sense

DETAILED TECHNICAL DATA

FEATURES

Functional principle	Photoelectric proximity sensor
Functional principle detail	Energetic
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.	5 mm ... 600 mm [1]
Sensing range	10 mm ... 200 mm [2]
Type of light	Visible red light
Light source	PinPoint LED [3]
Light spot size (distance)	10 mm x 18 mm (500 mm)
Wave length	631 nm
Adjustment	
Potentiometer, right	Sensitivity
Potentiometer, left	None
Special features	Signal strength light bar

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

[2] Object with 6% remission factor (based on standard black, DIN 5033).

[3] 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
Cable material	Plastic, PVC
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.

SAFETY-RELATED PARAMETERS

$MTTF_D$	681.6 years
DC_{avg}	0 %

CONNECTION TYPE/PINOUTS

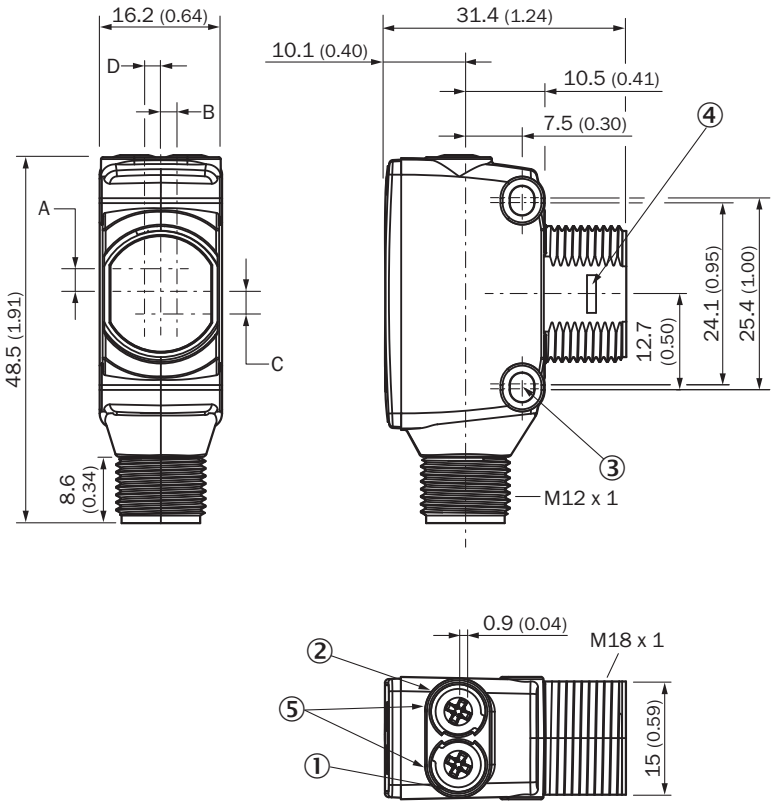
Connection type	Male connector M12, 4-pin
Connection type Detail	

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

CERTIFICATES

EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China RoHS	✓
cULus certificate	✓

DIMENSIONAL DRAWING

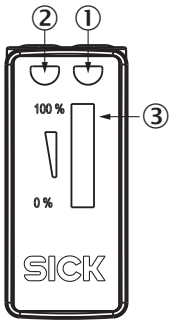


Dimensions in mm (inch)
① LED indicator yellow: Status of received light beam
② LED indicator green: power on
③ M3 mounting hole
④ Snap Connection for flush ring (sold seperatly)
⑤ Potentiometer (if selected) or LED Indicators

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)

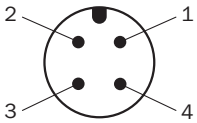
Dimensions in mm (inch)	Receiver		Sender	
HTB18L / HTF18L / HL18L / HSE18L	2.5 (0.1)	0.0 (0.0)	3.5 (0.14)	0.0 (0.0)

ADJUSTMENTS



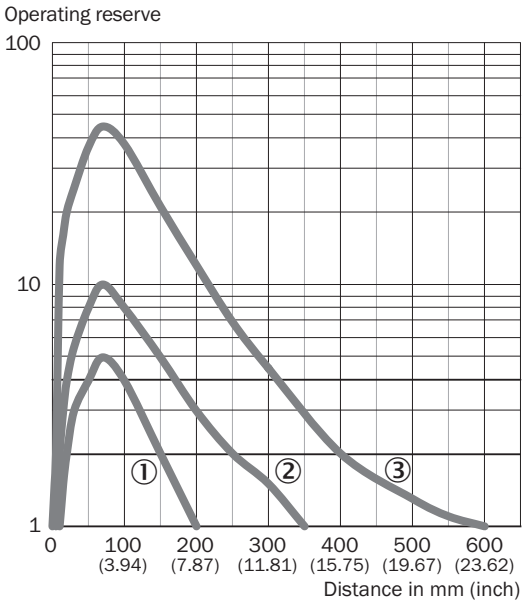
① LED indicator yellow: Status of received light beam
② LED indicator green: power on
③ Signal strength light bar

PINOUTS, SEE TABLE TECHNICAL DATA: CONNECTION TYPE/PINOUTS



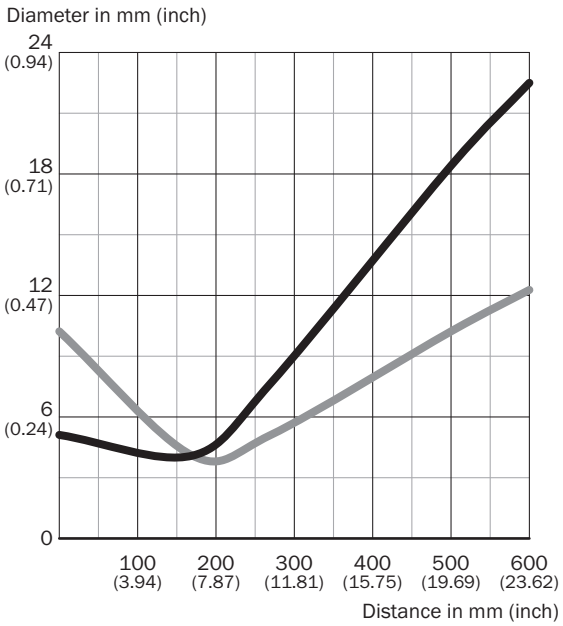
M12 male connector, 4-pin, A-coding

CHARACTERISTIC CURVE RED LIGHT



① Sensing range on black, 6% remission factor
② Sensing range on gray, 18% remission factor
③ Sensing range on white, 90% remission factor

LIGHT SPOT SIZE RED LIGHT

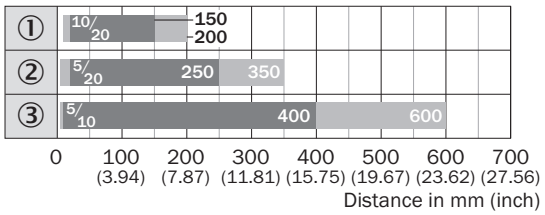


Dimensions in mm (inch)

Sensing range	Vertical	Horizontal
170 **(6.69)**	4 (0.16)	4 (0.16)
270 **(10.63)**	7.5 (0.30)	5 (0.20)
500 **(19.69)**	18 (0.71)	10 (0.39)
600 **(23.62)**	22 (0.87)	12 (0.47)

Vertical
Horizontal

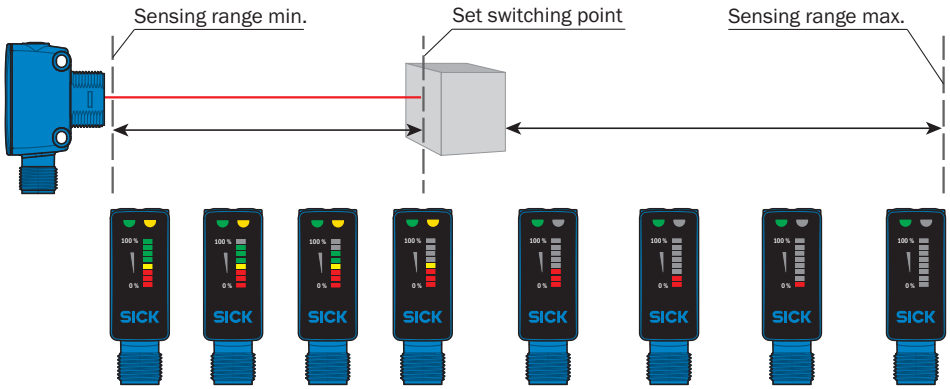
SENSING RANGE DIAGRAM RED LIGHT



Sensing range
Sensing range max.

① Sensing range on black, 6% remission factor
② Sensing range on gray, 18% remission factor
③ Sensing range on white, 90% remission factor

FUNCTIONS



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/1074755

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SICK AT A GLANCE

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