

HTB18-P4A2AH

H18 Sure Sense

PHOTOELECTRIC SENSORS





Ordering information

Туре	part no.
HTB18-P4A2AH	1073295

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

Illustration may differ



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.	5 mm 300 mm ¹⁾
Sensing range	5 mm 150 mm ²⁾
Type of light	Visible red light
Light source	PinPoint LED ³⁾
Light spot size (distance)	7 mm (300 mm)
Wave length	631 nm
Adjustment	
Potentiometer, right	Sensing range
Potentiometer, left	Light/dark switching
Special features	-

 $^{^{1)}}$ 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: 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		\leq 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		\leq 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 temp	erature	-40 °C +65 °C
Ambient temperature, st	orage	-40 °C +75 °C
UL File No.		E189383

 $^{^{1)}}$ May not fall below or exceed U_{V} tolerances.

Safety-related parameters

MTTF _D	622.2 years
DC _{avg}	0 %

Connection type/pinouts

Connection type	
	Male connector M12, 4-pin

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.

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

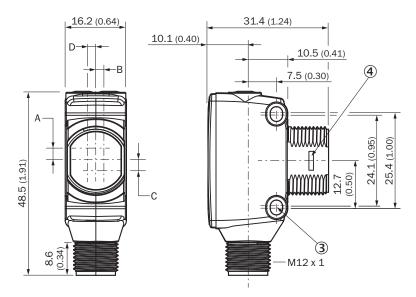
Certificates

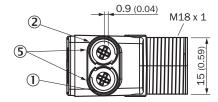
EU declaration of conformity	√
UK declaration of conformity	√
ACMA declaration of conformity	√
Moroccan declaration of conformity	√
China RoHS	√
cULus certificate	√

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



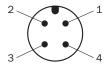


Dimensions in mm (inch)

- 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

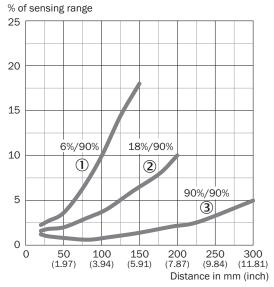
Dimensions in mm (inch)	Receiver		Sender	
-	A	В	С	D
HTB18 / HTF18	- 1.1 (0.04)	1.1 (0.04)	4.7 (0.19)	0.6 (0.02)
HTE18 / HL18 / HSE18	2.5 (0.1)	0.0 (0.0)	4.0 (0.16)	0.0 (0.0)
HTB18L / HTF18L / HL18L / HSE18L	2.5 (0.1)	0.0 (0.0)	3.5 (0.14)	0.0 (0.0)

Pinouts, see table Technical data: Connection type/pinouts



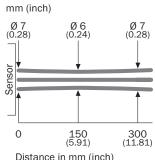
M12 male connector, 4-pin, A-coding

Characteristic curve



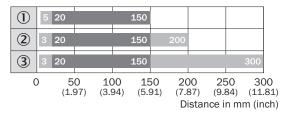
- ① Sensing range on black, 6% remission factor
- ② Sensing range on gray, 18% remission factor
- 3 Sensing range on white, 90% remission factor

Light spot size



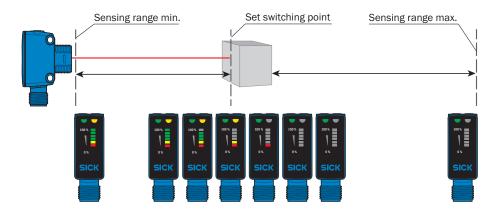
Distance in mm (inch)

Sensing range diagram



- 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



Recommended accessories

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

	Brief description	Туре	part no.			
Mounting syst	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			
	 Description: Plate N11N for universal clamp bracket Material: Stainless steel Details: Stainless steel 1.4571 (sheet), Stainless steel 1.4408 (clamp) Items supplied: Universal clamp (5322627), mounting hardware Usable for: DeltaPac, Glare, WTD20E 	BEF-KHS-N11N	2071081			
connectors ar	nd cables					
	 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			
1	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, PUR, halogen-free Description: Sensor/actuator cable, unshielded Application: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation	YF2A14-050UB3XLEAX	2095608			

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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