



HTE18-P4A2AF

H18 Sure Sense

PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

Type	part no.
HTE18-P4A2AF	1081782

Other models and accessories → 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
	Potentiometer, left
	Sensitivity
	On delay, adjustable: 0 ... 2 s
Special features	-

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	$\leq 20 \text{ mA}^{2)}$
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}	$\leq 100 \text{ mA}$
Response time	$\leq 0.5 \text{ ms}^{3)}$
Switching frequency	$1,000 \text{ Hz}^{4)}$
Time functions	Switch-on delay
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	$-40 \text{ °C} \dots +70 \text{ °C}$
Ambient temperature, storage	$-40 \text{ °C} \dots +75 \text{ °C}$
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	857.9 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

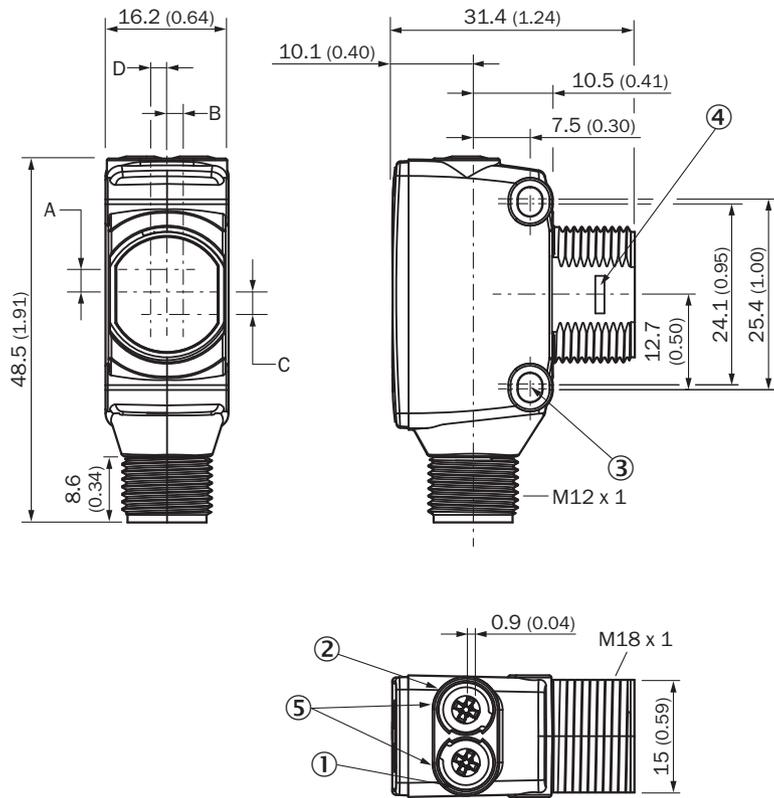
Certificates

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

Classifications

ECLASS 5.0	27270903
ECLASS 5.1.4	27270903
ECLASS 6.0	27270903
ECLASS 6.2	27270903
ECLASS 7.0	27270903
ECLASS 8.0	27270903
ECLASS 8.1	27270903
ECLASS 9.0	27270903
ECLASS 10.0	27270903
ECLASS 11.0	27270903
ECLASS 12.0	27270903
ETIM 5.0	EC002719
ETIM 6.0	EC002719
ETIM 7.0	EC002719
ETIM 8.0	EC002719
UNSPSC 16.0901	39121528

Dimensional drawing

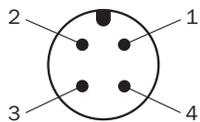


Dimensions in mm (inch)

- 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

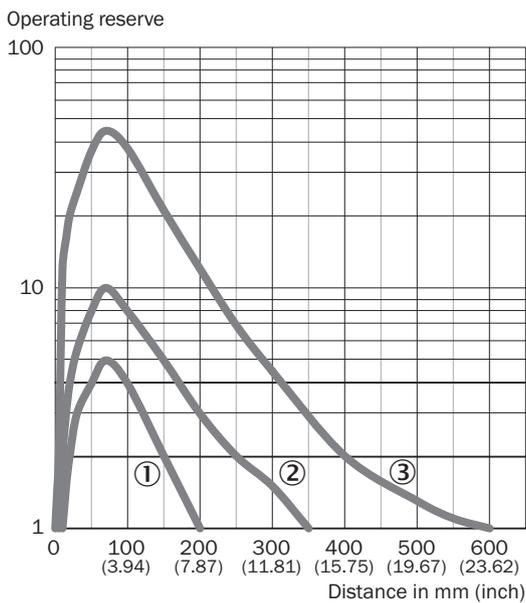
Dimensions in mm (inch)	Receiver		Sender	
	A	B	C	D
HTB18 / HTF18	- 1.1 (0.04)	1.1 (0.04)	4.7 (0.19)	0.6 (0.02)
HTE18 / HL18 / HSE18	2.5 (0.1)	0.0 (0.0)	4.0 (0.16)	0.0 (0.0)
HTB18L / HTF18L / HL18L / HSE18L	2.5 (0.1)	0.0 (0.0)	3.5 (0.14)	0.0 (0.0)

Pinouts, see table Technical data: Connection type/pinouts



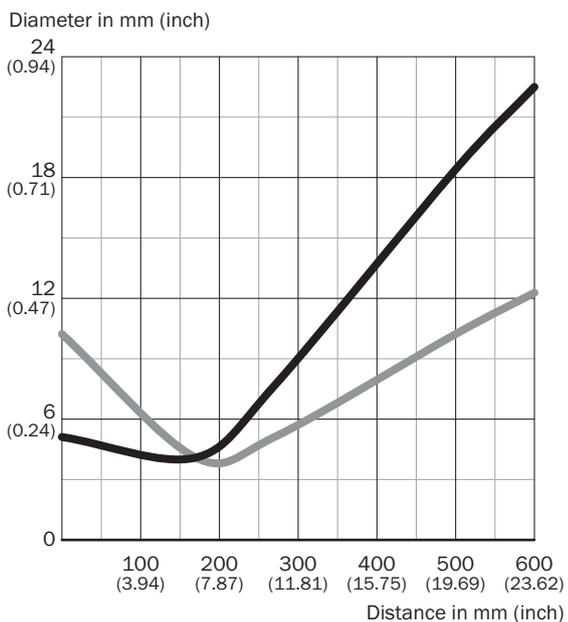
M12 male connector, 4-pin, A-coding

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

	Brief description	Type	part no.
connectors and cables			
	<ul style="list-style-type: none"> • 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: Uncontaminated zones, Zones with chemicals 	YF2A14-050VB3XLEAX	2096235
	<ul style="list-style-type: none"> • Description: Unshielded • Connection type head A: Male connector, M12, 4-pin, straight, A-coded • Connection systems: Screw-type terminals • Permitted cross-section: ≤ 0.75 mm² 	STE-1204-G	6009932
	<ul style="list-style-type: none"> • 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: Drag chain operation, 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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