



HSE18L-A4A5AB

H18 Sure Sense

PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.

HSE18L-A4A5AB | H18 Sure Sense

PHOTOELECTRIC SENSORS



Illustration may differ



Ordering information

Type	part no.
HSE18L-A4A5AB	1098800

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 ... 60 m
Sensing range	0 m ... 50 m
Type of light	Visible red light
Light source	Laser ¹⁾ ²⁾
Light spot size (distance)	2 mm (1.5 m)
Wave length	655 nm
Laser class	I ³⁾
Adjustment	
Potentiometer, right	Sensitivity
Potentiometer, left	None
Special applications	Detecting small objects
Special features	-

¹⁾ Average service life: 50,000 h at T_U = +25 °C.

²⁾ 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.

³⁾ Do not intentionally look into the laser beam. Never point the laser beam at people's eyes.

Mechanics/electronics

Supply voltage	10 V DC ... 30 V DC
Ripple	< 5 V _{pp} ¹⁾
Current consumption	≤ 20 mA ²⁾
Switching output	PNP, NPN
Switching mode	Dark switching
Switching output detail	
Switching output Q1	PNP, Dark switching
Switching output Q2	NPN, 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	-30 °C ... +55 °C ⁸⁾
Ambient temperature, storage	-40 °C ... +70 °C
UL File No.	E189383

¹⁾ May not fall below or exceed U_y 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 T_a = -10 °C, sensor must be turned on at T_a > -10 °C. Sensor cannot be turned on below T_a = -10 °C.

Connection type/pinouts

Connection type	Male connector M12, 4-pin
Connection type Detail	
Cable material	Plastic
Pinouts Sender	
BN 1	+ (L+)

Pinouts Receiver	WH 2	Not connected
	BU 3	- (M)
	BK 4	Test IN
	BN 1	+ (L+)
	WH 2	Q ₂
	BU 3	- (M)
	BK 4	Q ₁

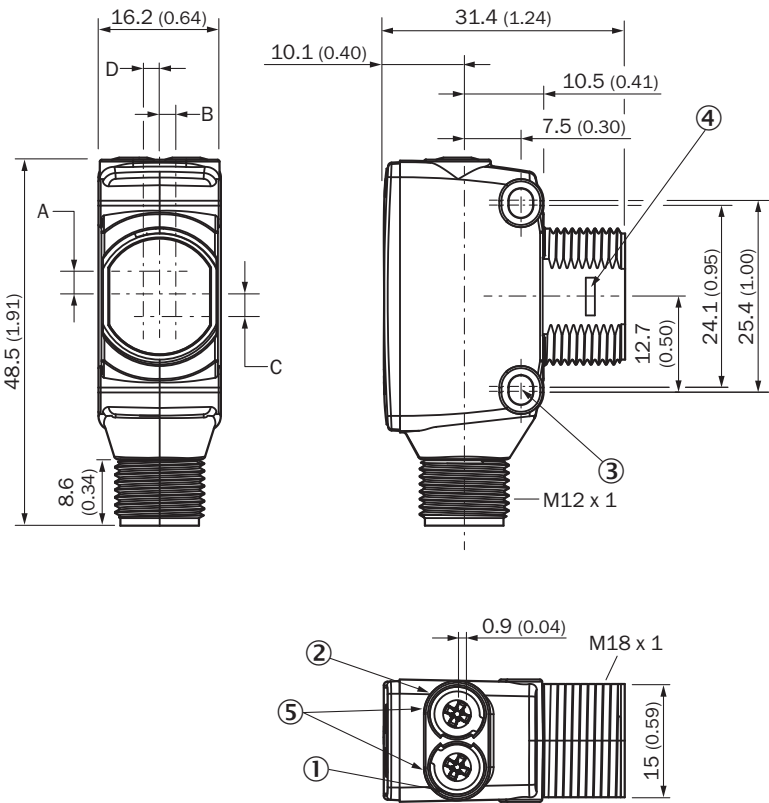
Certificates

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

Classifications

ECLASS 5.0	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

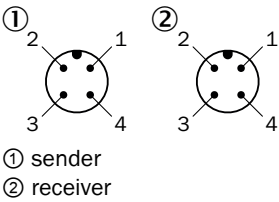
Dimensional drawing



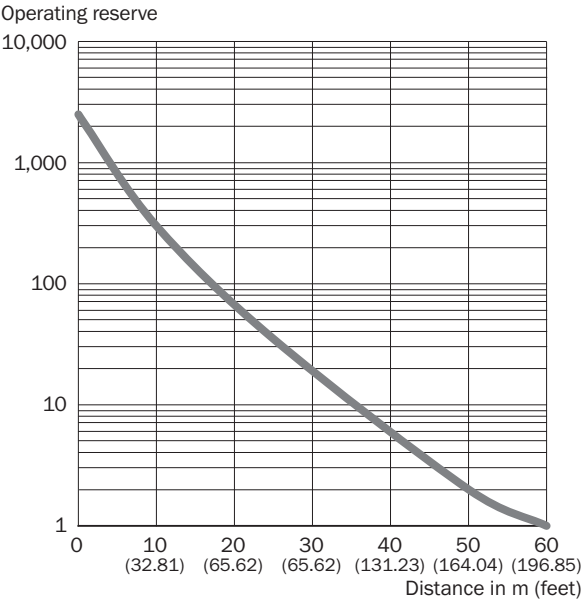
- Dimensions in mm (inch)
- ① LED indicator yellow: Status of received light beam
 - ② LED indicator green: power on
 - ③ M3 mounting hole
 - ④ Snap Connection for flush ring (sold seperatly)
 - ⑤ Potentiometer (if selected) or LED Indicators

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)

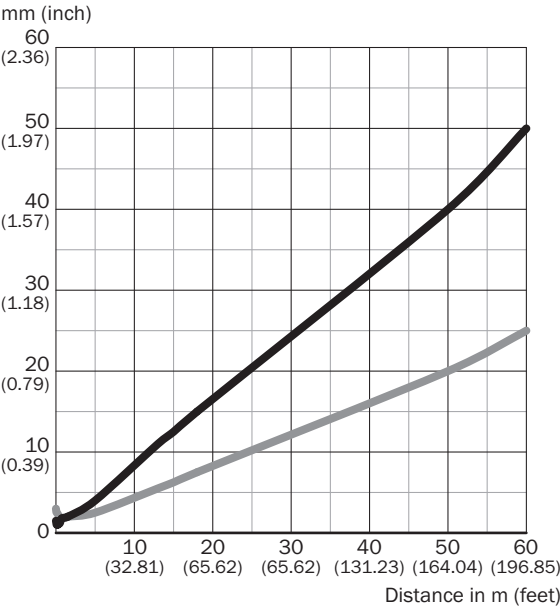
Pinouts, see table Technical data: Connection type/pinouts



Characteristic curve



Light spot size

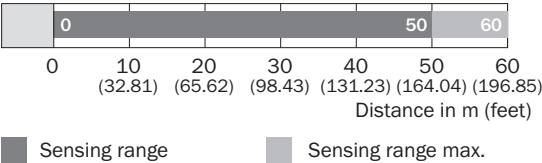


Dimensions in mm (inch)

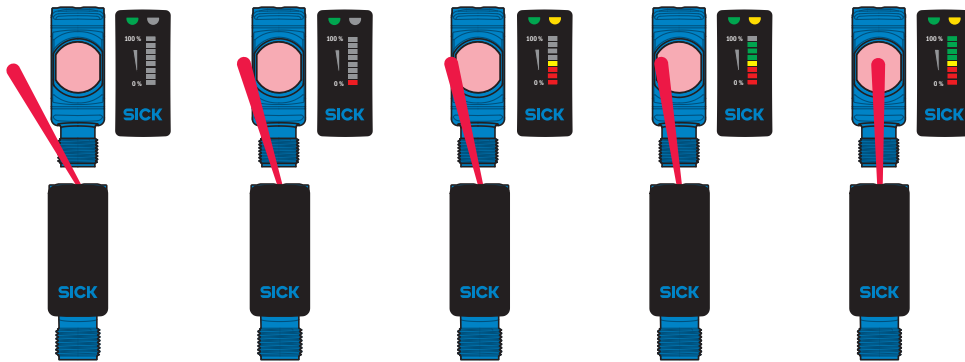
Sensing range	Vertical	Horizontal
0.3 m (0.98 feet)	1.2 (0.05)	2.2 (0.09)
1.5 m (4.92 feet)	2.0 (0.08)	2.0 (0.08)
18 m (59.06 feet)	15.0 (0.59)	7.5 (0.30)
60 m (196.85 feet)	50.0 (1.97)	25.0 (0.98)

— Vertical
— Horizontal

Sensing range diagram



Functions



Recommended accessories

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

	Brief description	Type	part no.
Mounting systems			
	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 and 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
	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.”

WORLDWIDE PRESENCE:

Contacts and other locations –www.sick.com