



# HSE18L-A1G5AB

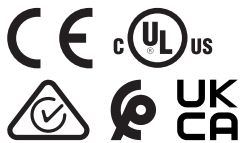
H18 Sure Sense

PHOTOELECTRIC SENSORS

**SICK**  
Sensor Intelligence.



Illustration may differ



### Ordering information

Type	part no.
HSE18L-A1G5AB	1098799

Other models and accessories → [www.sick.com/H18\\_Sure\\_Sense](http://www.sick.com/H18_Sure_Sense)

### Detailed technical data

#### Features

<b>Functional principle</b>	Through-beam photoelectric sensor
<b>Dimensions (W x H x D)</b>	16.2 mm x 45.5 mm x 31.8 mm
<b>Housing design (light emission)</b>	Hybrid
<b>Thread diameter (housing)</b>	M18
<b>Mounting system type</b>	M18, head/side (24.1 ... 25.4 mm)
<b>Housing color</b>	Blue
<b>Sensing range max.</b>	0 m ... 60 m
<b>Sensing range</b>	0 m ... 50 m
<b>Type of light</b>	Visible red light
<b>Light source</b>	Laser <sup>1)</sup> <sup>2)</sup>
<b>Light spot size (distance)</b>	2 mm (1.5 m)
<b>Wave length</b>	655 nm
<b>Laser class</b>	I <sup>3)</sup>
<b>Adjustment</b>	
	Potentiometer, right
	Potentiometer, left
<b>Special applications</b>	Detecting small objects
<b>Special features</b>	-

<sup>1)</sup> Average service life: 50,000 h at T<sub>U</sub> = +25 °C.

<sup>2)</sup> 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.

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

## Mechanics/electronics

<b>Supply voltage</b>	10 V DC ... 30 V DC
<b>Ripple</b>	$< 5 V_{pp}$ <sup>1)</sup>
<b>Current consumption</b>	$\leq 20 \text{ mA}$ <sup>2)</sup>
<b>Switching output</b>	PNP, NPN
<b>Switching mode</b>	Dark switching
<b>Switching output detail</b>	
Switching output Q1	PNP, Dark switching
Switching output Q2	NPN, Dark switching
<b>Output current <math>I_{max}</math></b>	$\leq 100 \text{ mA}$
<b>Response time</b>	$\leq 0.5 \text{ ms}$ <sup>3)</sup>
<b>Switching frequency</b>	1,000 Hz <sup>4)</sup>
<b>Connection type</b>	Cable open end, 2,000 mm
<b>Cable material</b>	Plastic, PVC
<b>Conductor cross section</b>	0.2 mm <sup>2</sup>
<b>Circuit protection</b>	A <sup>5)</sup> B <sup>6)</sup> D <sup>7)</sup>
<b>Protection class</b>	III
<b>Weight</b>	18 g
<b>Housing material</b>	Plastic, VISTAL®
<b>Optics material</b>	Plastic, PMMA
<b>Enclosure rating</b>	IP67 IP69K
<b>Items supplied</b>	Fastening nut (1x), M18, plastic, black, flat
<b>Electromagnetic compatibility (EMC)</b>	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.)
<b>Ambient operating temperature</b>	$-30 \text{ °C} \dots +55 \text{ °C}$ <sup>8)</sup>
<b>Ambient temperature, storage</b>	$-40 \text{ °C} \dots +70 \text{ °C}$
<b>UL File No.</b>	E189383

<sup>1)</sup> May not fall below or exceed  $U_y$  tolerances.

<sup>2)</sup> Without signal strength light bar and load.

<sup>3)</sup> Signal transit time with resistive load.

<sup>4)</sup> With light/dark ratio 1:1.

<sup>5)</sup> A =  $V_S$  connections reverse-polarity protected.

<sup>6)</sup> B = inputs and output reverse-polarity protected.

<sup>7)</sup> D = outputs overcurrent and short-circuit protected.

<sup>8)</sup> Below  $T_a = -10 \text{ °C}$ , sensor must be turned on at  $T_a > -10 \text{ °C}$ . Sensor cannot be turned on below  $T_a = -10 \text{ °C}$ .

## Connection type/pinouts

<b>Connection type</b>	Cable open end, 2,000 mm
<b>Connection type Detail</b>	
Cable material	Plastic
Conductor cross section	0.2 mm <sup>2</sup>

Pinouts <small>Sender</small>	
BN	+ (L+)
WH	Not connected
BU	- (M)
BK	Test IN
Pinouts <small>Receiver</small>	
BN	+ (L+)
WH	Q <sub>2</sub>
BU	- (M)
BK	Q <sub>1</sub>

### Certificates

<b>EU declaration of conformity</b>	✓
<b>UK declaration of conformity</b>	✓
<b>ACMA declaration of conformity</b>	✓
<b>Moroccan declaration of conformity</b>	✓
<b>China RoHS</b>	✓
<b>cULus certificate</b>	✓

### Classifications

<b>ECLASS 5.0</b>	27270901
<b>ECLASS 5.1.4</b>	27270901
<b>ECLASS 6.0</b>	27270901
<b>ECLASS 6.2</b>	27270901
<b>ECLASS 7.0</b>	27270901
<b>ECLASS 8.0</b>	27270901
<b>ECLASS 8.1</b>	27270901
<b>ECLASS 9.0</b>	27270901
<b>ECLASS 10.0</b>	27270901
<b>ECLASS 11.0</b>	27270901
<b>ECLASS 12.0</b>	27270901
<b>ETIM 5.0</b>	EC002716
<b>ETIM 6.0</b>	EC002716
<b>ETIM 7.0</b>	EC002716
<b>ETIM 8.0</b>	EC002716
<b>UNSPSC 16.0901</b>	39121528

Dimensional drawing

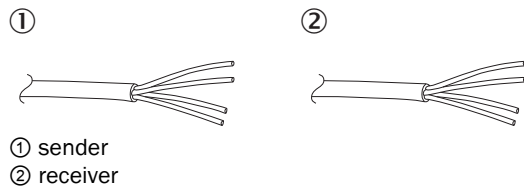


Dimensions in mm (inch)

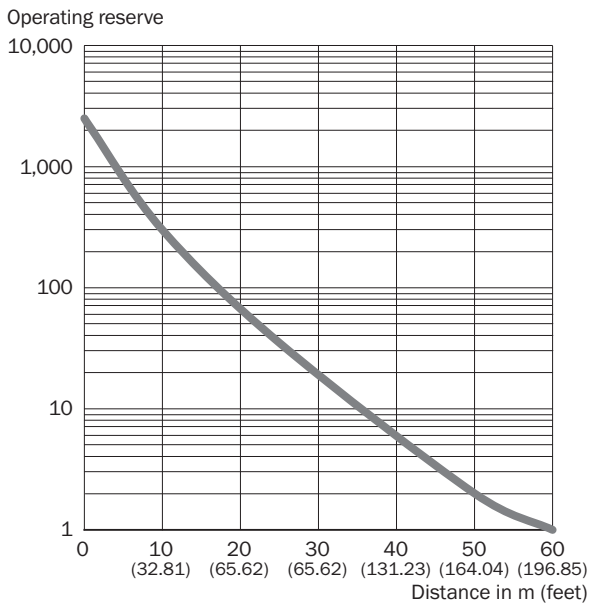
- ① LED indicator yellow: Status of received light beam
- ② LED indicator green: power on
- ③ M3 mounting hole
- ④ Snap Connection for flush ring (sold seperatly)
- ⑤ Potentiometer (if selected) or LED Indicators

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

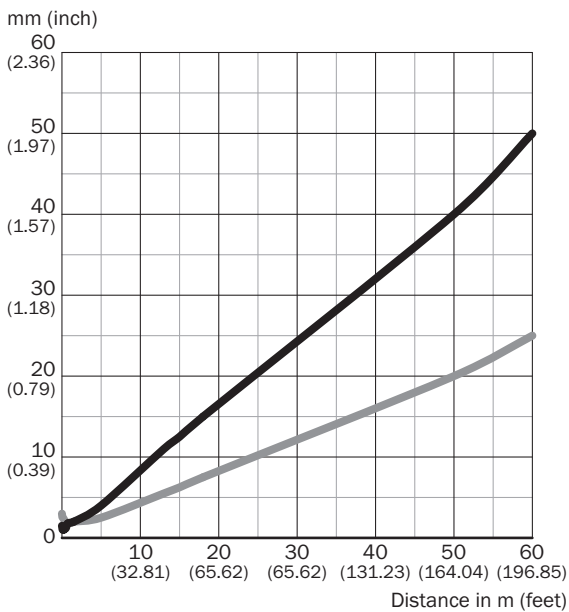
Pinouts, see table Technical data: Connection type/pinouts



### Characteristic curve



### Light spot size

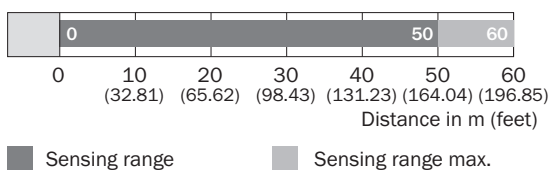


#### Dimensions in mm (inch)

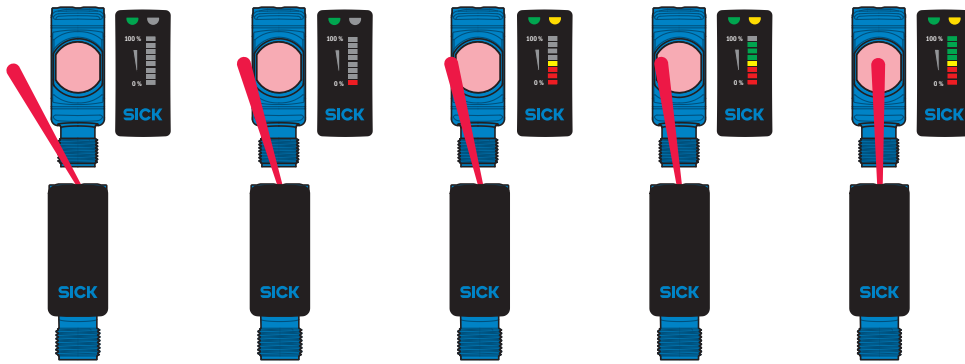
Sensing range	Vertical	Horizontal
<b>0.3 m</b> <b>(0.98 feet)</b>	1.2 (0.05)	2.2 (0.09)
<b>1.5 m</b> <b>(4.92 feet)</b>	2.0 (0.08)	2.0 (0.08)
<b>18 m</b> <b>(59.06 feet)</b>	15.0 (0.59)	7.5 (0.30)
<b>60 m</b> <b>(196.85 feet)</b>	50.0 (1.97)	25.0 (0.98)

Vertical  
 Horizontal

### Sensing range diagram




## Functions



## Recommended accessories

Other models and accessories → [www.sick.com/H18\\_Sure\\_Sense](http://www.sick.com/H18_Sure_Sense)

	Brief description	Type	part no.
Mounting systems			
	<ul style="list-style-type: none"> <li><b>Description:</b> Mounting bracket for M18 sensors</li> <li><b>Material:</b> Steel</li> <li><b>Details:</b> Steel, zinc coated</li> <li><b>Items supplied:</b> Without mounting hardware</li> <li><b>Suitable for:</b> GR18, V180-2, V18, W15, Z1, Z2</li> </ul>	BEF-WN-M18	5308446

## 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](http://www.sick.com)