



# HTE18-L5B1AH

SureSense

HYBRID PHOTOELECTRIC SENSORS

**SICK**  
Sensor Intelligence.



Illustration may differ



## Ordering information

| Type         | Part no. |
|--------------|----------|
| HTE18-L5B1AH | 1089850  |

Other models and accessories → [www.sick.com/SureSense](http://www.sick.com/SureSense)

## Detailed technical data

### Features

|  |   |                      |             |                     |                      |
|--|---|----------------------|-------------|---------------------|----------------------|
| <b>Device version</b>                  | Standard  |                      |             |                     |                      |
| <b>Sensor/ detection principle</b>     | Photoelectric proximity sensor, Energetic   |                      |             |                     |                      |
| <b>Dimensions (W x H x D)</b>          | 16.2 mm x 45.5 mm x 34.4 mm   |                      |             |                     |                      |
| <b>Housing design (light emission)</b> | Hybrid  |                      |             |                     |                      |
| <b>Thread diameter (housing)</b>       | M18   |                      |             |                     |                      |
| <b>Mounting system type</b>            | M18, nose / side (24.1 ... 25.4 mm)   |                      |             |                     |                      |
| <b>Housing color</b>                   | Blue  |                      |             |                     |                      |
| <b>Sensing range max.</b>              | 5 mm ... 1,000 mm <sup>1)</sup>   |                      |             |                     |                      |
| <b>Sensing range</b>                   | 10 mm ... 250 mm <sup>2)</sup>  |                      |             |                     |                      |
| <b>Type of light</b>                   | Infrared light  |                      |             |                     |                      |
| <b>Light source</b>                    | LED <sup>3)</sup>   |                      |             |                     |                      |
| <b>Light spot size (distance)</b>      | 110 mm (800 mm)   |                      |             |                     |                      |
| <b>Wave length</b>                     | 850 nm  |                      |             |                     |                      |
| <b>Adjustment</b>                      | <table border="0"> <tr> <td>Potentiometer, right</td> <td>Sensitivity</td> </tr> <tr> <td>Potentiometer, left</td> <td>Light/dark switching</td> </tr> </table> | Potentiometer, right | Sensitivity | Potentiometer, left | Light/dark switching |
| Potentiometer, right                   | Sensitivity   |                      |             |                     |                      |
| Potentiometer, left                    | Light/dark switching  |                      |             |                     |                      |
| <b>Special features</b>                | -   |                      |             |                     |                      |

<sup>1)</sup> Object with 90 % reflectance (referred to standard white, DIN 5033).

<sup>2)</sup> Object with 6 % reflectance (referred to standard black, DIN 5033).

<sup>3)</sup> Average service life: 100,000 h at T<sub>U</sub> = +25 °C.

## Mechanics/electronics

|                                       |  |
|---------------------------------------|--|
| <b>Supply voltage</b>                 | 21.6 V DC ... 250 V DC, 96 V AC ... 250 V AC <sup>1)</sup>   |
| <b>Current consumption</b>            | 10 mA <sup>2)</sup>  |
| <b>Switching output</b>               | MOSFET   |
| <b>Switching mode</b>                 | Light switching  |
| <b>Switching output detail</b>        |  |
| Switching output Q1                   | MOSFET, Light switching  |
| <b>Output current I<sub>max</sub></b> | ≤ 100 mA   |
| <b>Response time</b>                  | ≤ 0.5 ms <sup>3)</sup>   |
| <b>Switching frequency</b>            | 1,000 Hz <sup>4)</sup>   |
| <b>Connection type</b>                | Cable with connector, Micro (1/2"-20), 4-pin, 150 mm   |
| <b>Cable material</b>                 | PVC  |
| <b>Conductor cross-section</b>        | 0.2 mm <sup>2</sup>  |
| <b>Circuit protection</b>             | A <sup>5)</sup><br>B <sup>6)</sup><br>D <sup>7)</sup>  |
| <b>Protection class</b>               | II <sup>8)</sup>   |
| <b>Weight</b>                         | 18 g   |
| <b>Housing material</b>               | Plastic, VISTAL®   |
| <b>Optics material</b>                | Plastic, PMMA  |
| <b>Enclosure rating</b>               | IP67<br>IP69K  |
| <b>Items supplied</b>                 | Mounting nut (1x), M18, plastic, black, flat   |
| <b>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>  | -40 °C ... +70 °C  |
| <b>Ambient storage temperature</b>    | -40 °C ... +75 °C  |
| <b>UL File No.</b>                    | E189383  |

<sup>1)</sup> Above T<sub>a</sub> = 60 °C, max. supply voltage = 120 V.

<sup>2)</sup> Without load. The output load and sensor must use the same power source.

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

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

<sup>5)</sup> A = V<sub>S</sub> 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> Reference voltage: 250 V AC, overvoltage category 2.

## Safety-related parameters

|                         |             |
|-------------------------|-------------|
| <b>MTTF<sub>D</sub></b> | 476.7 years |
| <b>DC<sub>avg</sub></b> | 0%          |

## Classifications

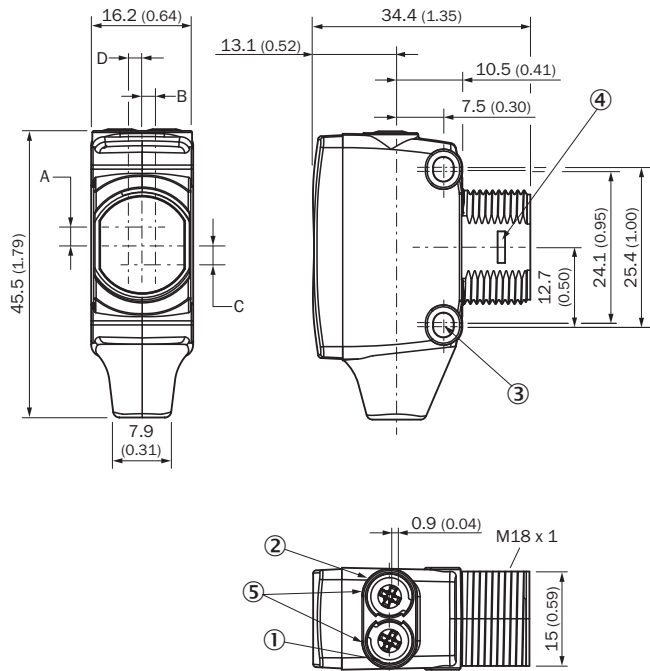
|                     |          |
|---------------------|----------|
| <b>ECI@ss 5.0</b>   | 27270903 |
| <b>ECI@ss 5.1.4</b> | 27270903 |
| <b>ECI@ss 6.0</b>   | 27270903 |

|                       |          |
|-----------------------|----------|
| <b>ECl@ss 6.2</b>     | 27270903 |
| <b>ECl@ss 7.0</b>     | 27270903 |
| <b>ECl@ss 8.0</b>     | 27270903 |
| <b>ECl@ss 8.1</b>     | 27270903 |
| <b>ECl@ss 9.0</b>     | 27270903 |
| <b>ECl@ss 10.0</b>    | 27270903 |
| <b>ECl@ss 11.0</b>    | 27270903 |
| <b>ETIM 5.0</b>       | EC002719 |
| <b>ETIM 6.0</b>       | EC002719 |
| <b>ETIM 7.0</b>       | EC002719 |
| <b>UNSPSC 16.0901</b> | 39121528 |

### Connection/PIN assignment

|                               |  |                     |
|-------------------------------|--|---------------------|
| <b>Connection type</b>        | Cable with connector, Micro (1/2"-20), 4-pin, 150 mm |                     |
| <b>Connection type Detail</b> |  |                     |
|                               | Cable material                                       | PVC                 |
|                               | Conductor cross-section                              | 0.2 mm <sup>2</sup> |
| <b>PIN assignment</b>         |  |                     |
|                               | RD/BK 1  | L1                  |
|                               | RD/WH 2  | N                   |
|                               | RD 3   | Q                   |
|                               | GN/YE 4  | Not connected       |

**Dimensional drawing** (Dimensions in mm (inch))

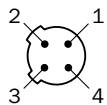


- ① LED indicator yellow: Status of received light beam
- ② LED indicator green: power on
- ③ M3 mounting hole
- ④ Snap Connection for flush ring (sold seperatly)
- ⑤ Potentiometer (if selected) or LED Indicators

| Dimensions in mm (inch)     | Receiver     |            | Sender     |            |
|-----------------------------|--------------|------------|------------|------------|
|                             | A            | B          | C          | D          |
| <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)  |

**Connection type**

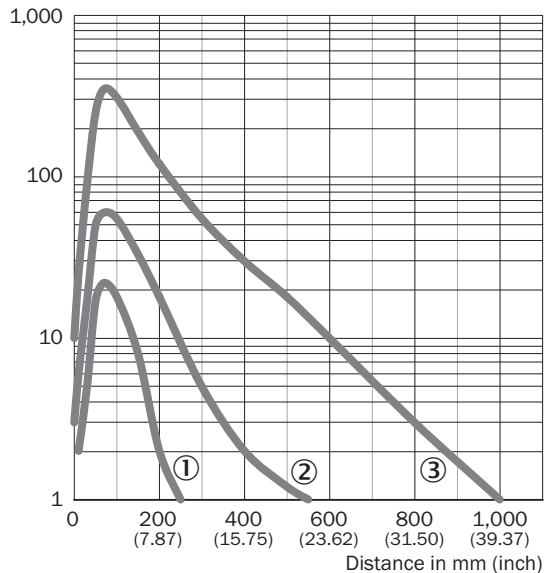
See table: Connection/PIN assignment



### Characteristic curve

Infrared light

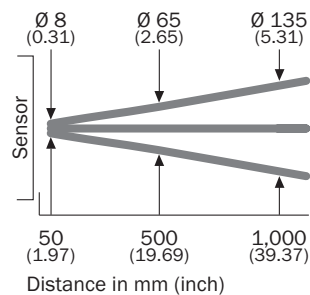
Operating reserve



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

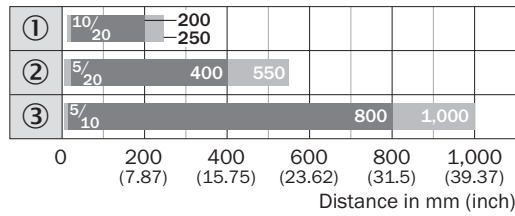
### Light spot size

Infrared light



### Sensing range diagram

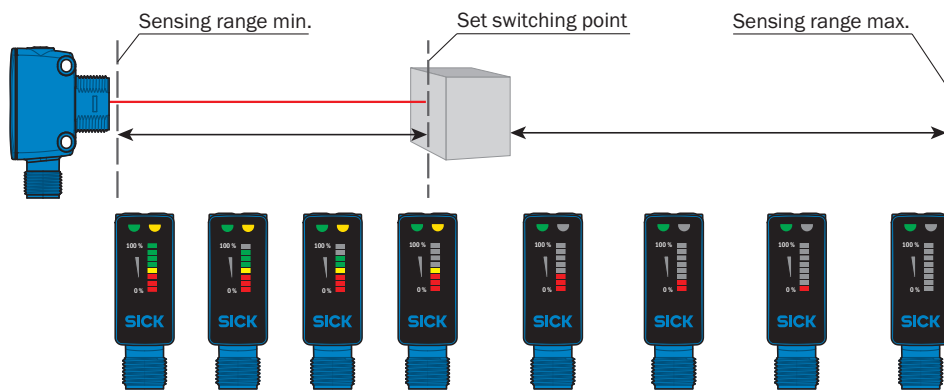
Infrared light



■ Sensing range      ■ Sensing range max.


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

### Functions



### Recommended accessories

Other models and accessories → [www.sick.com/SureSense](http://www.sick.com/SureSense)

|   | Brief description  | Type       | Part no. |
|---|--|------------|----------|
| Plug connectors and cables  |  |            |          |
|  | Head A: female connector, 1/2"-20, 4-pin, straight<br>Head B: Flying leads<br>Cable: Sensor/actuator cable, PVC, 2 m | KA24-SIF22 | 7023591  |

## 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)