



# HTE18-A4A1BB

SureSense

CYLINDRICAL PHOTOELECTRIC SENSORS

**SICK**  
Sensor Intelligence.



Illustration may differ



## Ordering information

| Type         | Part no. |
|--------------|----------|
| HTE18-A4A1BB | 1071756  |

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

## Detailed technical data

### Features

|  |   |
|--|---|
| <b>Sensor/ detection principle</b>     | Photoelectric proximity sensor, energetic |
| <b>Dimensions (W x H x D)</b>          | 16.2 mm x 48.5 mm x 31.8 mm               |
| <b>Housing design (light emission)</b> | Hybrid                                    |
| <b>Thread diameter (housing)</b>       | M18                                       |
| <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>      | Ø 110 mm (800 mm)                         |
| <b>Wave length</b>                     | 850 nm                                    |
| <b>Adjustment</b>                      | Potentiometer (Sensitivity)               |
| <b>Special features</b>                | Signal strength light bar                 |

<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>J</sub> = +25 °C.

## Mechanics/electronics

|  |   |
|--|---|
| <b>Supply voltage</b>                  | 10 V DC ... 30 V DC <sup>1)</sup>                     |
| <b>Ripple</b>                          | < 5 V <sub>pp</sub> <sup>2)</sup>                     |
| <b>Power consumption</b>               | 20 mA <sup>3)</sup>                                   |
| <b>Switching output</b>                | PNP, NPN <sup>4)</sup>                                |
| <b>Switching mode</b>                  | Dark switching <sup>4)</sup>                          |
| <b>Output current I<sub>max.</sub></b> | ≤ 100 mA  |
| <b>Response time</b>                   | ≤ 0.5 ms <sup>5)</sup>                                |
| <b>Switching frequency</b>             | 1,000 Hz <sup>6)</sup>                                |
| <b>Connection type</b>                 | Male connector M12, 4-pin                             |
| <b>Circuit protection</b>              | A <sup>7)</sup><br>B <sup>8)</sup><br>D <sup>9)</sup> |
| <b>Protection class</b>                | III <sup>10)</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>EMC</b>                             | EN 60947-5-2 <sup>11)</sup>                           |
| <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> Limit values when operated in short-circuit protected network: max. 8 A.

<sup>2)</sup> May not exceed or fall below U<sub>v</sub> tolerances.

<sup>3)</sup> Without signal strength light bar and load.

<sup>4)</sup> Q1 = PNP; Q2 = NPN.

<sup>5)</sup> Signal transit time with resistive load.

<sup>6)</sup> With light/dark ratio 1:1.

<sup>7)</sup> A = V<sub>S</sub> connections reverse-polarity protected.

<sup>8)</sup> B = inputs and output reverse-polarity protected.

<sup>9)</sup> D = outputs overcurrent and short-circuit protected.

<sup>10)</sup> Reference voltage: 50 V DC.

<sup>11)</sup> 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.

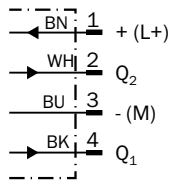
## Classifications

|                     |          |
|---------------------|----------|
| <b>ECl@ss 5.0</b>   | 27270903 |
| <b>ECl@ss 5.1.4</b> | 27270903 |
| <b>ECl@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>ETIM 5.0</b>       | EC001821 |
| <b>ETIM 6.0</b>       | EC001821 |
| <b>UNSPSC 16.0901</b> | 39121528 |

### Connection diagram

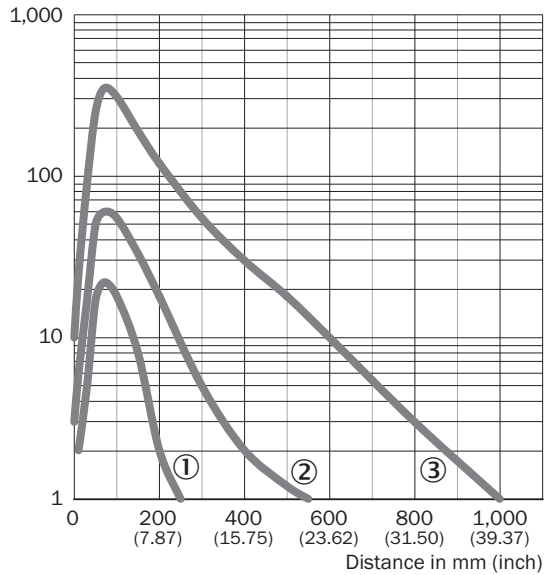
Cd-243



### Characteristic curve

Infrared light

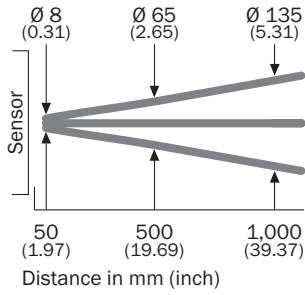
Operating reserve



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

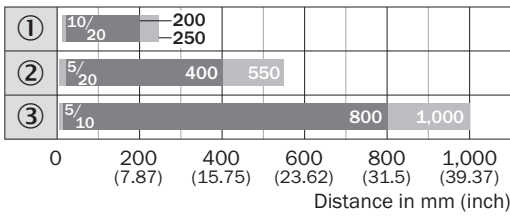
### Light spot size

Infrared light



### Sensing range diagram

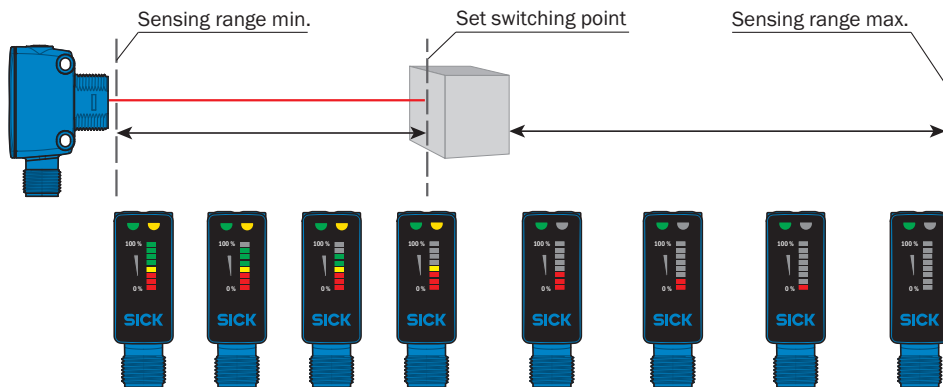
Infrared light



■ Sensing range      ■ Sensing range max.

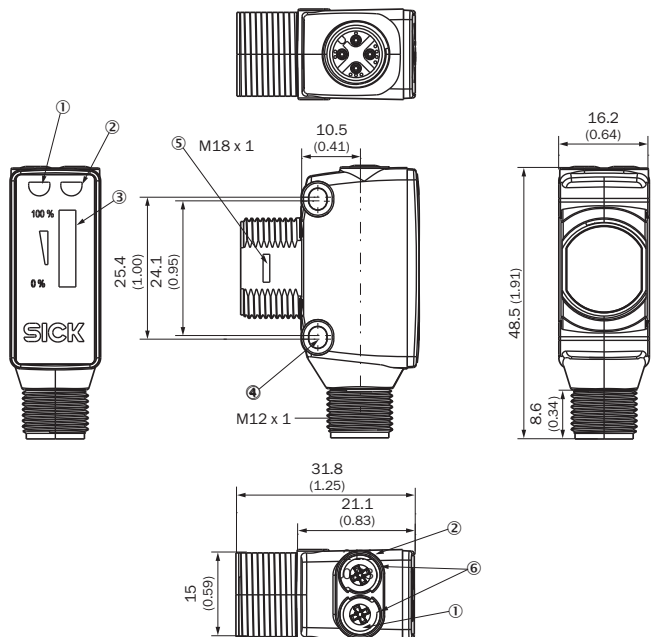
- ① Sensing range on black, 6% remission
- ② Sensing range on gray, 18 % remission
- ③ Sensing range on white, 90% remission

### Functions



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




H18, DC, male connector M12





- ① LED indicator green: power on
- ② LED indicator yellow: Status of received light beam
- ③ Signal strength light bar
- ④ M3 mounting hole
- ⑤ Snap Connection for flush ring (sold separately)
- ⑥ Potentiometer (if selected) or LED Indicators

### Recommended accessories

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

|   | Brief description  | Type         | Part no. |
|---|--|--------------|----------|
| <b>Mounting brackets and plates</b>   |  |              |          |
|  | Mounting plate for M18 sensors, steel, zinc coated, without mounting hardware  | BEF-WG-M18   | 5321870  |
|  | Mounting bracket for M18 sensors, steel, zinc coated, without mounting hardware  | BEF-WN-M18   | 5308446  |
|   | Bottom M18 mounting bracket SureSense sensors  | MB-M18-H18   | 2085820  |
| <b>Other mounting accessories</b>   |  |              |          |
|   | Spherical bearing M18  | Ball holder  | 4057409  |
|   | Mounting bracket   | MB-BS18MM-M4 | 2049694  |
| <b>Terminal and alignment brackets</b>  |  |              |          |
|  | Clamping block for round sensors M18, without fixed stop, plastic (PA12), glass-fiber reinforced, mounting hardware included | BEF-KH-M18   | 2051481  |

|   | <b>Brief description</b>  | <b>Type</b>   | <b>Part no.</b> |
|---|---|---------------|-----------------|
| <b>Plug connectors and cables</b>   |   |               |                 |
|  | Head A: female connector, M12, 4-pin, straight<br>Head B: Flying leads<br>Cable: PVC, unshielded, 2 m | DOL-1204-G02M | 6009382         |
|   | Head A: female connector, M12, 4-pin, straight<br>Head B: Flying leads<br>Cable: PVC, unshielded, 5 m | DOL-1204-G05M | 6009866         |
|  | Head A: female connector, M12, 4-pin, angled<br>Head B: Flying leads<br>Cable: PVC, unshielded, 2 m   | DOL-1204-W02M | 6009383         |
|   | Head A: female connector, M12, 4-pin, angled<br>Head B: Flying leads<br>Cable: PVC, unshielded, 5 m   | DOL-1204-W05M | 6009867         |

## 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)