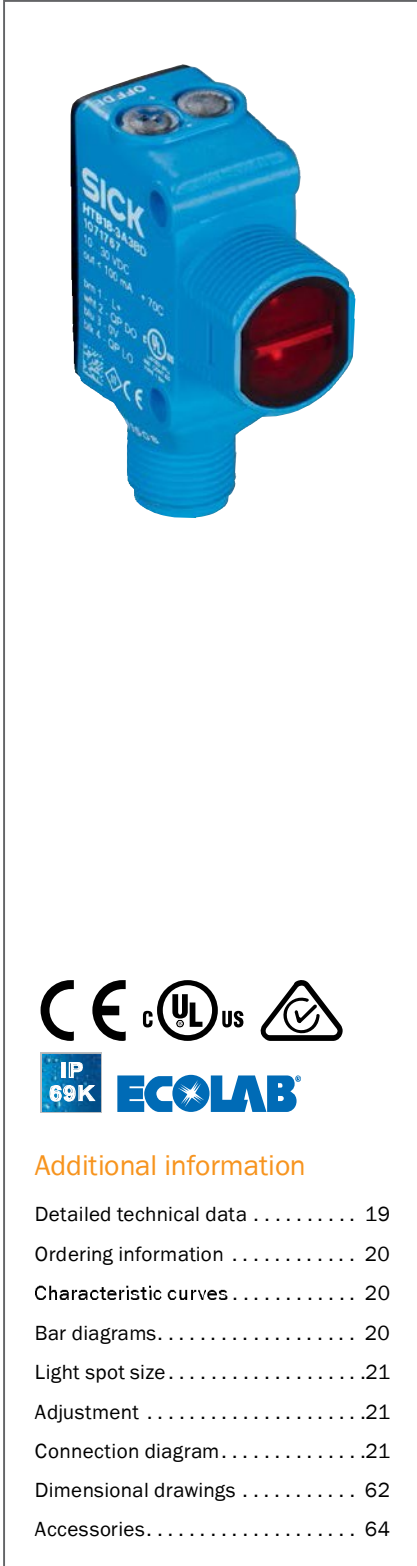


THE SURE WAY TO DETECT ANY OBJECT



Product description

Designed to streamline your sensor selection, the SureSense laser photoelectric proximity sensors with background suppression are available with an extensive range of options, connections and configurations (light /dark switch and

time delays) all within an identical hybrid housing style. Additionally, SureSense is available with a signal strength light bar, which provides immediate feedback to improve sensing reliability during adjustment.

At a glance

- Intuitive signal strength light bar
- Precise laser light spot
- Best-in-class background suppression
- Long sensing ranges 125 mm
- VISTAL “tough as steel” housing
- Multiple connection and configuration options with identical housing design

Your benefits

- Light bar optimizes adjustment and sensing reliability
- Precise detection of small objects, features and holes
- Reliably detect multiple colors, objects with minimal black /white shift
- VISTAL reduces replacement costs and downtime from damage during installation or use
- Reduce costs by standardizing sensor mounting, accessories and setup procedures



Additional information

Detailed technical data	19
Ordering information	20
Characteristic curves	20
Bar diagrams	20
Light spot size	21
Adjustment	21
Connection diagram	21
Dimensional drawings	62
Accessories	64

→ www.mysick.com/en/HTB18L

For more information, just enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.



Detailed technical data

Features

Sensor principle	Photoelectric proximity sensor
Detection principle	Background suppression
Dimensions (W x H x D)	16.2 mm x 45.5 mm x 31.8 mm (Cable) 16.2 mm x 44.9 mm x 31.8 mm (M8) 16.2 mm x 48.5 mm x 31.8 mm (M12) (depending on type)
Housing design (light emission)	Hybrid
Thread diameter (housing)	M18
Sensing range max. ¹⁾	30 mm ... 125 mm
Sensing range ²⁾	30 mm ... 120 mm
Type of light	Visible red light
Light source ^{3) 4)}	Laser
Light spot size (distance)	Ø 2 mm (120 mm)
Wave length	655 nm
Laser class	I
Adjustment	Potentiometer (depending on type)
Time delay ⁵⁾	On delay / Off delay (depending on type)
Special features	Light/dark switching selection switch Signal strength light bar (depending on type)

¹⁾ Object with 90 % reflectance (referred to standard white, DIN 5033)

²⁾ Object with 6 % reflectance (referred to standard black, DIN 5033)

³⁾ Average service life 50,000 h at $T_A = +25 \text{ }^\circ\text{C}$

⁴⁾ CLASS 1 LASER PRODUCT EN60825-1:2008-05; IEC60825-1:2007-03; 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

⁵⁾ Adjustable: 0 ... 2 s

Mechanics/electronics

Supply voltage ^{1) 2)}	10 V DC ... 30 V DC
Ripple ³⁾	< 5 V _{pp}
Power consumption ⁴⁾	≤ 20 mA
Output type	NPN PNP PNP and NPN (depending on type)
Switching mode	Light switching Dark switching Light/dark switching (complementary) (depending on type)
Output current I_{max}	≤ 100 mA
Response time ⁵⁾	≤ 0.5 ms
Switching frequency ⁶⁾	1,000 Hz
Connection type	Cable, 4-wire ⁷⁾ Male M8, 4-pin Male M12, 4-pin Cable with male M8, 3-pin Cable with male M8, 4-pin Cable with male M12, 4-pin (depending on type)
Circuit protection	A ⁸⁾ , B ⁹⁾ , D ¹⁰⁾
Protection class	III ¹¹⁾

Weight	18 g
Housing material	VISTAL
Optics material	PMMA
Enclosure rating	IP 67, IP 69K
Ambient operating temperature ¹²⁾	-30 °C ... +55 °C
Ambient storage temperature	-40 °C ... +70 °C

- ¹⁾ Above T_a 50 °C, max. voltage = 24V and max. current = 50 mA.
- ²⁾ Limit values when operated in short-circuit protected network: max. ε A.
- ³⁾ May not exceed or fall below U_i tolerances.
- ⁴⁾ Without signal strength light bar and load.
- ⁵⁾ Signal transit time with resistive load.
- ⁶⁾ With light/dark ratio 1:1.
- ⁷⁾ Do not bend below 0 °C.
- ⁸⁾ A = V_s connections reverse-polarity protected.
- ⁹⁾ B = inputs and output reverse-polarity protected.
- ¹⁰⁾ D = outputs overcurrent and short-circuit protected.
- ¹¹⁾ Reference voltage: 50V DC.
- ¹²⁾ Below Ta = -10 °C, sensor must be turned on at Ta > -10 °C. Sensor cannot be turned on below Ta= -10 °C.

Ordering information

Products with the technical data listed above are available even if that specific part number is not defined in this document. See type code ordering matrix and availability rules on → page 10 for all possible combination of sensors that are available. Contact your local SICK sales representative or look on → www.mysick.com/en/HTB18L to request information on a part number not shown in this document.

HTB18L, DC, Signal strength light bar

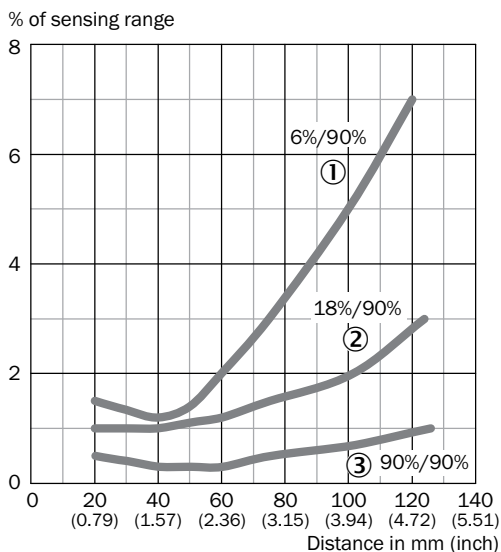
- **Type of light:** visible red light
- **Laser class:** I
- **Adjustment:** potentiometer (Sensing range)
- **Switching mode:** light/dark switching (Q1 = light switching.) (Q2 = dark switching.)

Sensing range max. ¹⁾	Output type	Connection	Connection diagram	Type	Part no.
30 mm ... 125 mm	PNP	Cable, 4-wire, 2 m	Cd-297	HTB18L-P1G5BB	1074785
		M12, 4-pin	Cd-243	HTB18L-P4A5BB	1073611
	NPN	Cable, 4-wire, 2 m	Cd-297	HTB18L-N1G5BB	1074788
		M12, 4-pin	Cd-243	HTB18L-N4A5BB	1074782

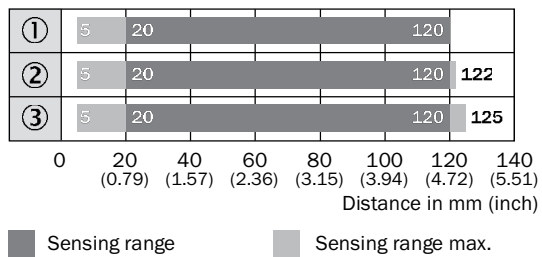
¹⁾ Object with 90 % reflectance (referred to standard white, DIN 5033)

Characteristic curves

Black / white shift

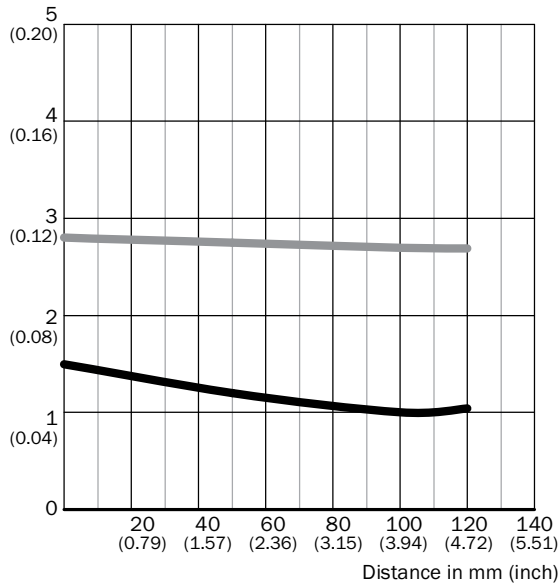


Bar diagrams



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

Light spot size

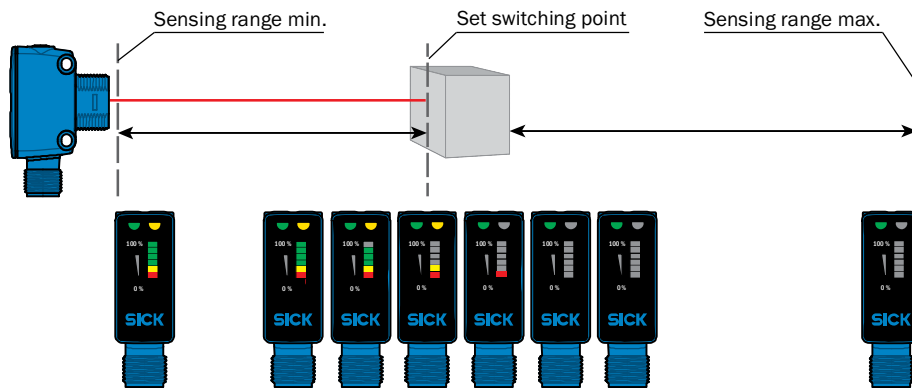


Dimensions in mm (inch)

Sensing range	Vertical	Horizontal
0 (0.00)	1.5 (0.06)	2.8 (0.11)
50 (1.97)	1.2 (0.05)	2.75 (0.11)
100 (3.94)	1.0 (0.04)	2.7 (0.11)
120 (4.72)	1.04 (0.04)	2.69 (0.11)

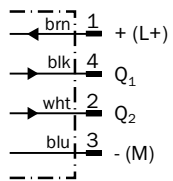
— Vertical
— Horizontal

Adjustment



Connection diagram

Cd-243



Cd-297

