



HTB18-P1G2BLA00

H18 Sure Sense

HYBRID PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

Type	Part no.
HTB18-P1G2BLA00	1100040

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

Detailed technical data

Features

Functional principle	Photoelectric proximity sensor
Functional principle detail	Background suppression
Dimensions (W x H x D)	16.2 mm x 45.5 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.	5 mm ... 300 mm ¹⁾
Sensing range	5 mm ... 150 mm ²⁾
Type of light	Visible red light
Light source	PinPoint LED ³⁾
Light spot size (distance)	7 mm (300 mm)
Wave length	631 nm
Adjustment	
	Potentiometer, right Teach-in
	Potentiometer, left None

¹⁾ Object with 90% remission (based on standard white, DIN 5033).

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

³⁾ Average service life: 100,000 h at T_J = +25 °C.

Special features	Signal strength light bar
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²⁾ Object with 6 % reflectance (referred to standard black, DIN 5033).

³⁾ Average service life: 100,000 h at $T_U = +25 \text{ }^\circ\text{C}$.

Mechanics/electronics

Supply voltage	10 V DC ... 30 V DC
Ripple	$< 5 V_{pp} \text{ }^1$
Current consumption	$\leq 20 \text{ mA} \text{ }^2$
Switching output	PNP
Output function	Complementary
Switching mode	Light/dark switching
Switching output detail	
Switching output Q1	PNP, Light switching ³⁾
Switching output Q2	PNP, Dark switching
Output current I_{max}	$\leq 100 \text{ mA}$
Response time	$\leq 0.5 \text{ ms} \text{ }^4$
Switching frequency	$1,000 \text{ Hz} \text{ }^5$
Connection type	Cable open end, 2,000 mm
Cable material	Plastic, PVC
Conductor cross section	0.2 mm^2
Circuit protection	A ⁶⁾ B ⁷⁾ D ⁸⁾
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	$-40 \text{ }^\circ\text{C} \dots +65 \text{ }^\circ\text{C}$
Ambient temperature, storage	$-40 \text{ }^\circ\text{C} \dots +75 \text{ }^\circ\text{C}$
UL File No.	E189383

¹⁾ May not fall below or exceed U_y tolerances.

²⁾ Without signal strength light bar and load.

³⁾ Pin 4: This switching output must not be connected to another output.

⁴⁾ Signal transit time with resistive load.

⁵⁾ With light/dark ratio 1:1.

⁶⁾ A = V_S connections reverse-polarity protected.

⁷⁾ B = inputs and output reverse-polarity protected.

⁸⁾ D = outputs overcurrent and short-circuit protected.

Communication interface

IO-Link	✓, V1.1
Data transmission rate	38,4 kbit/s (COM2)
Cycle time	2.3 ms
Process data length	16 Bit
Process data structure A	Bit 0 = switching signal Q _{L1} Bit 1 = switching signal Q _{L2} Bit 2 ... 15 = empty
Process data structure B	Bit 0 = switching signal Q _{L1} Bit 0 = switching signal Q _{L1} Bit 2 ... 6 = empty Bit 7 = measuring value Bit 8 ... 14 = empty Bit 15 = measuring value

Connection type/pinouts

Connection type	Cable open end, 2,000 mm
Connection type Detail	
Conductor cross section	0.2 mm ²
Cable material	Plastic
Pinouts	
BN	+ (L+)
WH	Q ₂
BU	- (M)
BK	Q ₁ /C

Diagnosis

Device status	Yes
Quality of teach	Yes

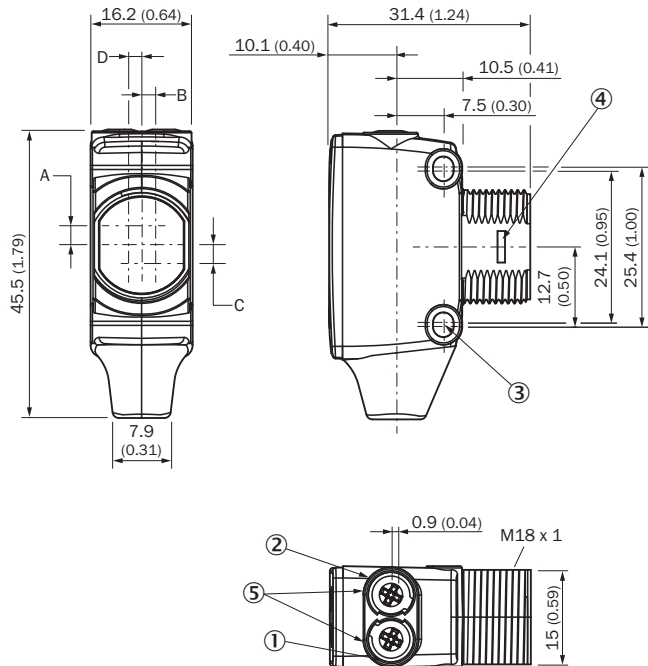
Classifications

ECLASS 5.0	27270904
ECLASS 5.1.4	27270904
ECLASS 6.0	27270904
ECLASS 6.2	27270904
ECLASS 7.0	27270904
ECLASS 8.0	27270904
ECLASS 8.1	27270904
ECLASS 9.0	27270904
ECLASS 10.0	27270904
ECLASS 11.0	27270904
ECLASS 12.0	27270904
ETIM 5.0	EC002719
ETIM 6.0	EC002719
ETIM 7.0	EC002719
ETIM 8.0	EC002719

UNSPSC 16.0901

39121528

Dimensional drawing (Dimensions in mm (inch))

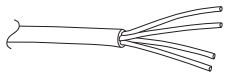


- ① LED indicator yellow: Status of received light beam
- ② LED indicator green: power on
- ③ M3 mounting hole
- ④ Snap Connection for flush ring (sold seperatly)
- ⑤ Potentiometer (if selected) or LED Indicators

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)

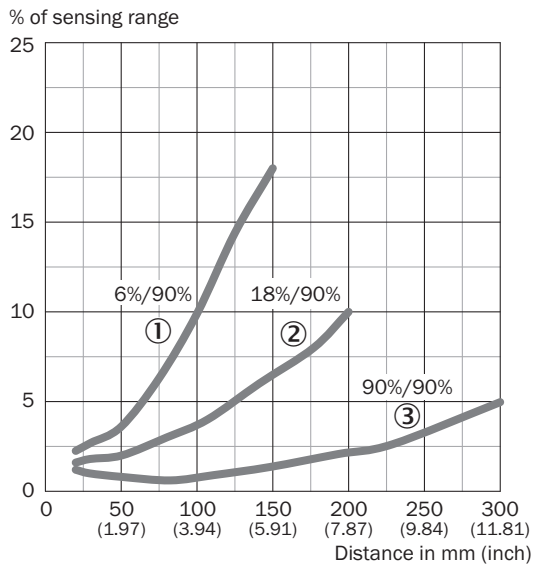
Connection type

Pinouts, see table Technical data: **Connection type/pinouts**



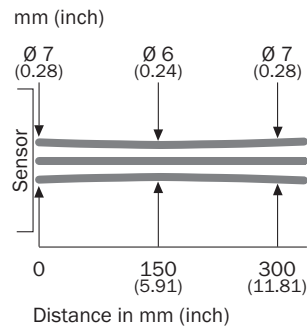
Cable with flying leads, 4-wire, AWG26 0.15 mm²

Characteristic curve

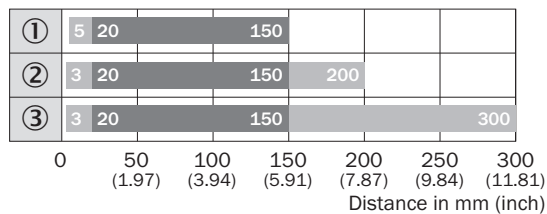


- ① Sensing range on black, 6% remission factor
- ② Sensing range on gray, 18% remission factor
- ③ Sensing range on white, 90% remission factor

Light spot size



Sensing range diagram



■ Sensing range ■ Sensing range max.

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

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.

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