



ZTB18-2GZ1G1D02

Z18 Simple Sense

HYBRID PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

Type	Part no.
ZTB18-2GZ1G1D02	1139360

Included in delivery: BEF-MU-M18*1 (1)

Other models and accessories → www.sick.com/Z18_Simple_Sense

Detailed technical data

Features

Functional principle	Photoelectric proximity sensor
Functional principle detail	Background suppression
Dimensions (W x H x D)	13.6 mm x 34.8 mm x 21.9 mm
Housing design (light emission)	Hybrid
Mounting system type	M18, head/side (24.1 ... 25.4 mm)
Housing color	Blue
Sensing range max.	5 mm ... 50 mm ¹⁾
Sensing range	5 mm ... 50 mm ²⁾
Type of light	Infrared light
Light source	PinPoint LED
Light spot size (distance)	Ø 8 mm (100 mm)
Wave length	850 nm

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

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

Mechanics/electronics

Supply voltage U_B	10 V DC ... 30 V DC
Ripple	< 10 %
Current consumption	≤ 15 mA ¹⁾
Switching output	NPN

¹⁾ Without load.

²⁾ Open Collector.

³⁾ Signal transit time with resistive load.

⁴⁾ With light/dark ratio 1:1.

⁵⁾ A = V_S connections reverse-polarity protected.

⁶⁾ B = inputs and output reverse-polarity protected.

⁷⁾ D = outputs overcurrent and short-circuit protected.

Switching mode	Light switching
Switching output detail	
Switching output Q1	NPN, Light switching ²⁾
Switching output Q2	Not connected
Output current I_{max.}	100 mA
Response time	≤ 1 ms ³⁾
Switching frequency	500 kHz ⁴⁾
Connection type	Cable open end, 4-wire, 2,000 mm
Cable material	Plastic, PVC
Conductor cross section	0.13 mm ²
Circuit protection	A ⁵⁾ B ⁶⁾ D ⁷⁾
Protection class	III
Weight	4.54 g
Housing material	Plastic, ABS
Optics material	Plastic, PMMA
Enclosure rating	IP67
Ambient operating temperature	-40 °C ... +55 °C
Ambient temperature, storage	-40 °C ... +70 °C
UL File No.	E189383

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²⁾ Open Collector.

³⁾ Signal transit time with resistive load.

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Connection type/pinouts

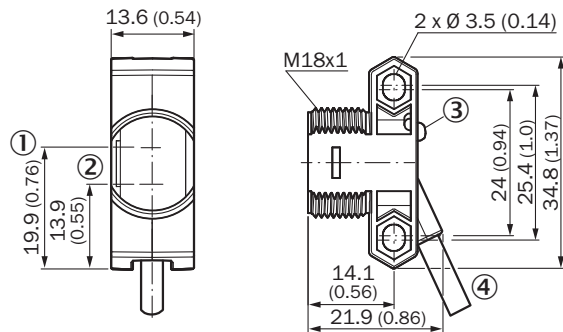
Connection type	Cable open end, 4-wire, 2,000 mm
Connection type Detail	
Conductor cross section	0.13 mm ²
Cable material	Plastic
Pinouts	
BN	+ (L+)
WH	Q ₂
BU	- (M)
BK	Q ₁

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	27270903
ETIM 5.0	EC002719
ETIM 6.0	EC002719
ETIM 7.0	EC002719
ETIM 8.0	EC002719
UNSPSC 16.0901	39121528

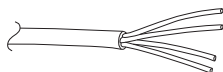
Dimensional drawing (Dimensions in mm (inch))



- ① Optical axis, sender
- ② Optical axis, receiver
- ③ LED status indicator
- ④ Connection

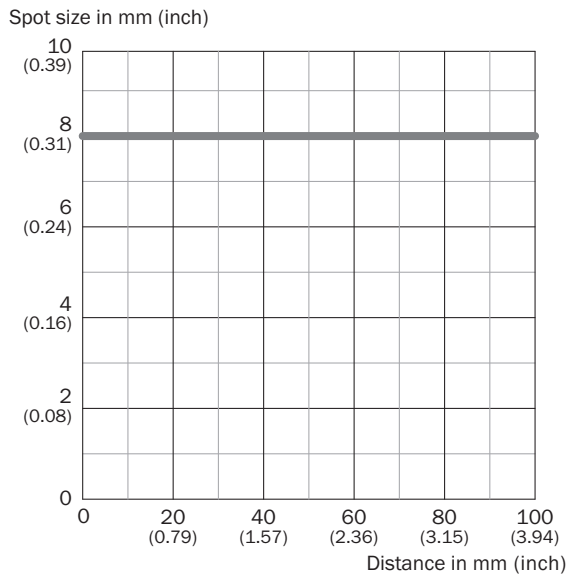
Connection type

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



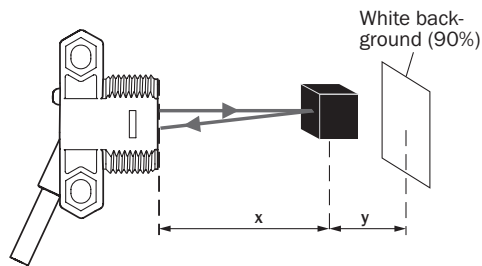
Cable with flying leads, 4-wire, AWG26 0.15 mm²

Light spot size



Functions

Sensing range on black, 6% remission factor



- ZTB18-xxxxxD02: x = 47 mm / y = 4 mm
- ZTB18-xxxxxD04: x = 93 mm / y = 8 mm
- ZTB18-xxxxxD06: x = 139 mm / y = 12 mm

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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:

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