Data sheet



ZTB18-2PZ3E2D06

Z18 Simple Sense

PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Illustration may differ

Ordering information

Type	part no.
ZTB18-2PZ3E2D06	1146870

Included in delivery: BEF-MU-M18*1 (2)

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 ... 150 mm [1]
Sensing range	5 mm ... 150 mm [2]
Type of light	Visible red light
Light source	PinPoint LED
Light spot size (distance)	Ø 8 mm (100 mm)
Wave length	625 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]

[1] Without load.
[2] Signal transit time with resistive load.
[3] With light/dark ratio 1:1.
[4] A = V_S connections reverse-polarity protected.
[5] B = inputs and output reverse-polarity protected.
[6] D = outputs overcurrent and short-circuit protected.

Switching output	PNP
Switching mode	Light switching
Switching output detail	
Switching output Q1	PNP, Light switching
Switching output Q2	Not connected
Output current $I_{max.}$	100 mA
Response time	≤ 1 ms [2]
Switching frequency	500 kHz [3]
Connection type	Cable with M8 male connector, 4-pin, 1 m
Cable material	Plastic, PVC
Conductor cross section	0.13 mm²
Circuit protection	A [4] B [5] D [6]
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

[1] Without load.
[2] Signal transit time with resistive load.
[3] With light/dark ratio 1:1.
[4] A = V_S connections reverse-polarity protected.
[5] B = inputs and output reverse-polarity protected.
[6] D = outputs overcurrent and short-circuit protected.

Connection type/pinouts

Connection type	Cable with M8 male connector, 4-pin, 1 m
Connection type Detail	
Conductor cross section	0.13 mm²
Cable material	Plastic
Pinouts	
BN 1	+ (L+)
WH 2	Not connected
BU 3	- (M)
BK 4	Q_1

Certificates

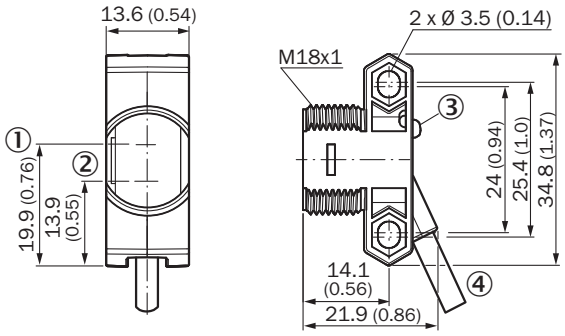
EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓

Moroccan declaration of conformity	✓
China-RoHS	✓

Classifications

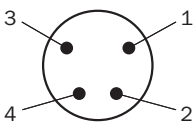
ECLASS 5.0	27270904
ECLASS 5.1.4	27270904
ECLASS 6.0	27270904
ECLASS 6.2	27270904
ECLASS 7.0	27270904
ECLASS 8.0	27270904
ECLASS 8.1	27270904
ECLASS 9.0	27270904
ECLASS 10.0	27270904
ECLASS 11.0	27270904
ECLASS 12.0	27270903
ETIM 5.0	EC002719
ETIM 6.0	EC002719
ETIM 7.0	EC002719
ETIM 8.0	EC002719
UNSPSC 16.0901	39121528

Dimensional drawing



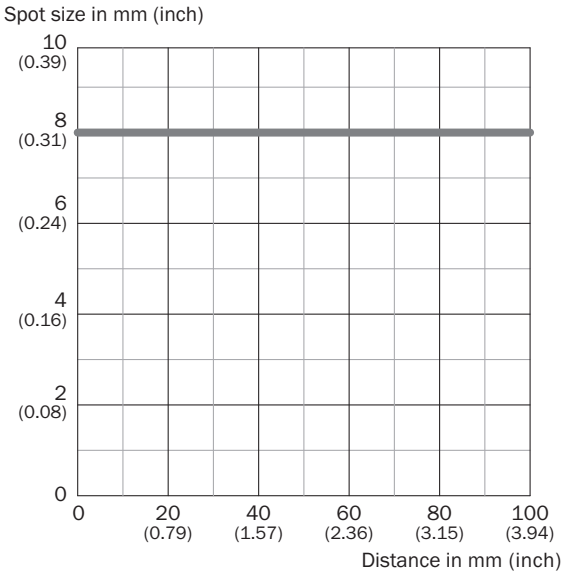
Dimensions in mm (inch)
① optical axis, sender
② optical axis, receiver
③ LED status indicator
④ Connection

Pinouts, see table Technical data: Connection type/pinouts

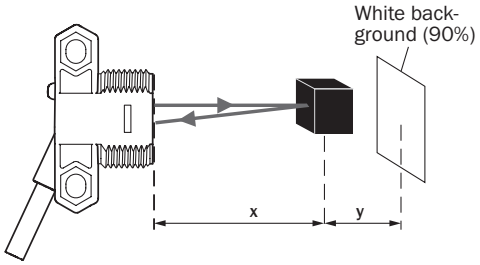


Male connector, M8, 4-pin, uncoded

Light spot size



Sensing range on black, 6% remission factor



ZTB18-xxxxx**D02**: x = 47 mm / y = 4 mm
ZTB18-xxxxx**D04**: x = 93 mm / y = 8 mm
ZTB18-xxxxx**D06**: 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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