



ZTB18-APZ4B1D02

Z18 Simple Sense

PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.

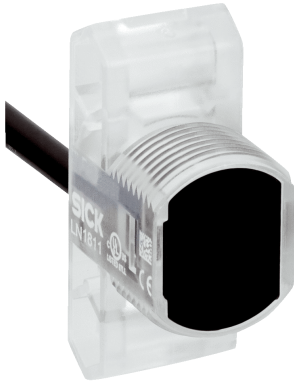


Illustration may differ



Ordering information

Type	part no.
ZTB18-APZ4B1D02	1100590

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 23 mm
Housing design (light emission)	Hybrid
Thread diameter (housing)	M18
Mounting system type	M18, head/side (24.1 ... 25.4 mm)
Housing color	Transparent
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 %

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.

Current consumption	≤ 15 mA ¹⁾
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 M12 male connector, 4-pin, 150 mm
Cable material	Plastic, PVC
Conductor cross section	0.13 mm ²
Circuit protection	A ⁴⁾ B ⁵⁾ D ⁶⁾
Protection class	III
Weight	3.63 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 M12 male connector, 4-pin, 150 mm
Connection type Detail		
Cable material		Plastic
Conductor cross section		0.13 mm ²
Pinouts		
BN 1		+ (L+)
WH 2		Not connected
BU 3		- (M)
BK 4		Q ₁

Certificates

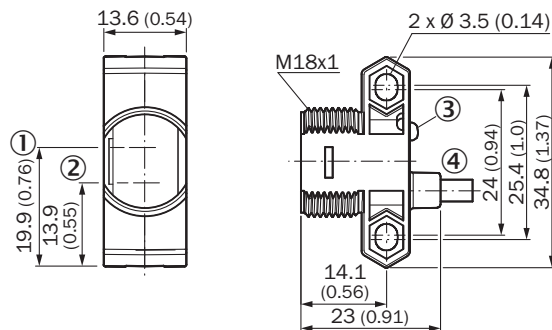
EU declaration of conformity	✓
-------------------------------------	---

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

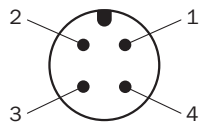
Dimensional drawing



Dimensions in mm (inch)

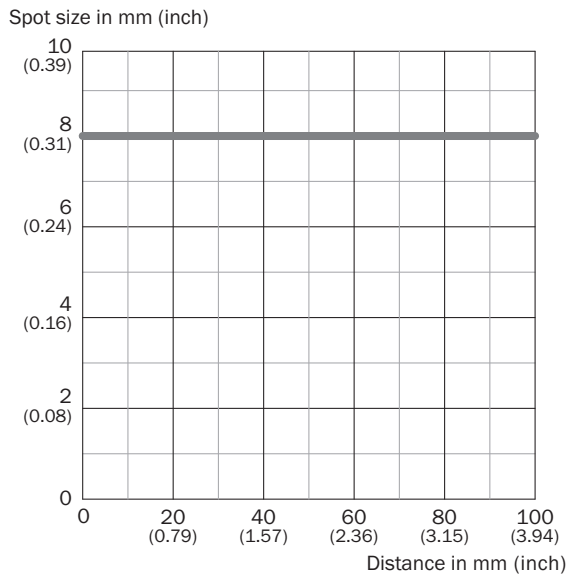
- ① optical axis, sender
- ② optical axis, receiver
- ③ LED status indicator
- ④ Connection

Pinouts, see table Technical data: Connection type/pinouts

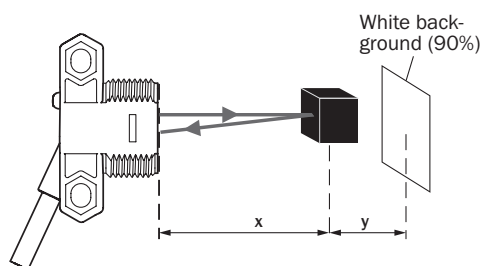


M12 male connector, 4-pin, A-coding

Light spot size








Sensing range on black, 6% remission factor



ZTB18-xxxxxD02: $x = 47 \text{ mm} / y = 4 \text{ mm}$
 ZTB18-xxxxxD04: $x = 93 \text{ mm} / y = 8 \text{ mm}$
 ZTB18-xxxxxD06: $x = 139 \text{ mm} / y = 12 \text{ mm}$

Recommended accessories

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

	Brief description	Type	part no.
connectors and cables			
	<ul style="list-style-type: none"> • Connection type head A: Female connector, M12, 4-pin, straight, A-coded • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 5 m, 4-wire, PVC • Description: Sensor/actuator cable, unshielded • Application: Zones with chemicals, Uncontaminated zones 	YF2A14-050VB3XLEAX	2096235
	<ul style="list-style-type: none"> • Connection type head A: Male connector, M12, 4-pin, straight, A-coded • Description: Unshielded • Connection systems: Screw-type terminals • Permitted cross-section: ≤ 0.75 mm² 	STE-1204-G	6009932
	<ul style="list-style-type: none"> • Connection type head A: Female connector, M12, 4-pin, straight, A-coded • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 5 m, 4-wire, PUR, halogen-free • Description: Sensor/actuator cable, unshielded • Application: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation 	YF2A14-050UB3XLEAX	2095608
Mounting systems			
	<ul style="list-style-type: none"> • Description: Mounting bracket for M18 sensors • Material: Steel • Details: Steel, zinc coated • Items supplied: Without mounting hardware • Suitable for: GR18, V180-2, V18, W15, Z1, Z2 	BEF-WN-M18	5308446
	<ul style="list-style-type: none"> • Description: Plate N11N for universal clamp bracket • Material: Stainless steel • Details: Stainless steel 1.4571 (sheet), Stainless steel 1.4408 (clamp) • Items supplied: Universal clamp (5322627), mounting hardware • Usable for: DeltaPac, Glare, WTD20E 	BEF-KHS-N11N	2071081

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