



IM18-10BPS-VC1

IMI

INDUCTIVE PROXIMITY SENSORS

SICK
Sensor Intelligence.



Ordering information

Type	part no.
IM18-10BPS-VC1	6068720

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

Illustration may differ



Detailed technical data

Features

Housing	Metric
Thread size	M18 x 1
Diameter	Ø 18 mm
Pressure resistance	≤ 60 bar
Sensing range S_n	10 mm
Safe sensing range S_a	8.1 mm
Installation type	Flush
Switching frequency	200 Hz
Connection type	Male connector M12, 4-pin
Switching output	PNP
Switching output detail	PNP
Output function	NO
Electrical wiring	DC 3-wire
Enclosure rating	IP68, IP69K ¹⁾
Special features	Sensing face made of stainless steel V2A, Resistant against coolant lubricants, triple sensing range, Visual adjustment indicator, IO-Link
Special applications	Zones with coolants and lubricants, Difficult application conditions
Items supplied	Mounting nut, V2A stainless steel (2x) Washer, V2A stainless steel, with locking teeth (2x)

¹⁾ According to EN 60529.

Mechanics/electronics

Supply voltage	10 V DC ... 30 V DC
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¹⁾ Of V_S .

²⁾ At I_a max.

³⁾ Of S_r .

⁴⁾ $U_B = 20 \text{ V DC ... } 30 \text{ V DC}$, $T_A = 23 \text{ °C} \pm 5 \text{ °C}$.

Ripple	$\leq 20 \% ^{1)}$
Voltage drop	$\leq 2 \text{ V} ^{2)}$
Time delay before availability	$\leq 15 \text{ ms}$
Hysteresis	1 % ... 15 %
Reproducibility	$\leq 5 \% ^{3) 4)}$
Temperature drift (of S_r)	$\leq 10 \%$
EMC	According to EN 60947-5-2
Continuous current I_a	$\leq 200 \text{ mA}$
Short-circuit protection	✓
Power-up pulse protection	✓
Shock and vibration resistance	30 g, 11 ms / 10 ... 55 Hz, 1 mm
Ambient operating temperature	-25 °C ... +85 °C
Housing material	Stainless steel V2A, DIN 1.4305 / AISI 303
Sensing face material	Stainless steel V2A, DIN 1.4305 / AISI 303
Housing length	63.5 mm
Thread length	42 mm
Tightening torque, max.	$\leq 50 \text{ Nm}$
Protection class	III
UL File No.	E191603

¹⁾ Of V_S .

²⁾ At I_a max.

³⁾ Of S_r .

⁴⁾ $U_B = 20 \text{ V DC} \dots 30 \text{ V DC}$, $T_A = 23 \text{ °C} \pm 5 \text{ °C}$.

Safety-related parameters

MTTF_D	164 years
DC_{avg}	0%
T_M (mission time)	20 years

Communication interface

Communication interface	IO-Link V1.0
Communication Interface detail	COM2 (38,4 kBaud)
Process data length	1 Byte
Process data structure	Bit 0 = S_r reached
Process data structure A	Bit 1 = S_a reached

Reduction factors

Note	The values are reference values which may vary
St37 steel (Fe)	Approx. 1
Stainless steel (V4A, 316L)	Approx. 0.5 ¹⁾
Aluminum (Al)	Approx. 1
Copper (Cu)	Approx. 0.8

¹⁾ Material thickness/Reduction factor: 1 mm/0.5 2 mm/0.9.

Brass (Br)	Approx. 1.2
St37 steel (Fe) carrier	Approx. 0.75
Stainless steel (V4A) carrier	Approx. 0.8
Aluminum (Al) carrier	Approx. 0.9
Brass (Ms) carrier	Approx. 0.75

¹⁾ Material thickness/Reduction factor: 1 mm/0.5 2 mm/0.9.

Installation note

Remark	Associated graphic see "Installation"
B	32 mm
C	18 mm
D	30 mm
F	60 mm

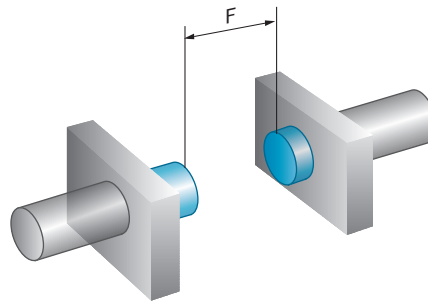
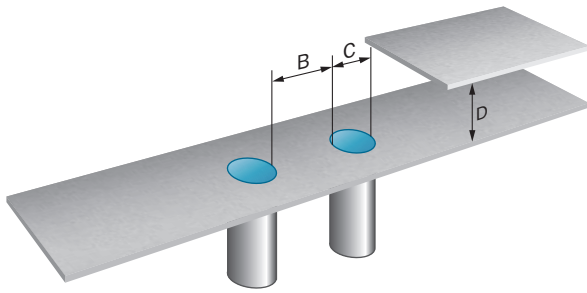
Certificates

EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China-RoHS	✓

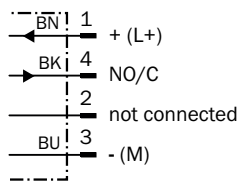
Classifications

ECLASS 5.0	27270101
ECLASS 5.1.4	27270101
ECLASS 6.0	27270101
ECLASS 6.2	27270101
ECLASS 7.0	27270101
ECLASS 8.0	27270101
ECLASS 8.1	27270101
ECLASS 9.0	27270101
ECLASS 10.0	27270101
ECLASS 11.0	27270101
ECLASS 12.0	27274001
ETIM 5.0	EC002714
ETIM 6.0	EC002714
ETIM 7.0	EC002714
ETIM 8.0	EC002714
UNSPSC 16.0901	39122230

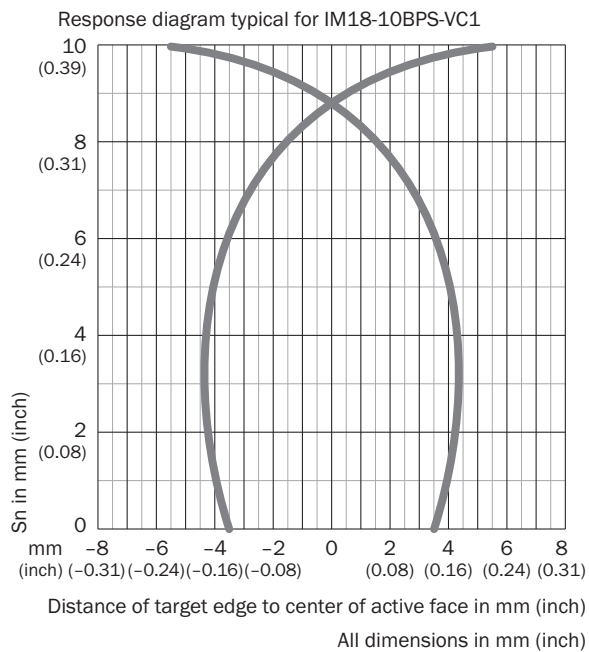
Installation note Flush installation



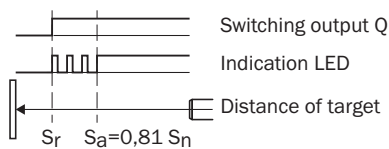
Connection diagram Cd-456



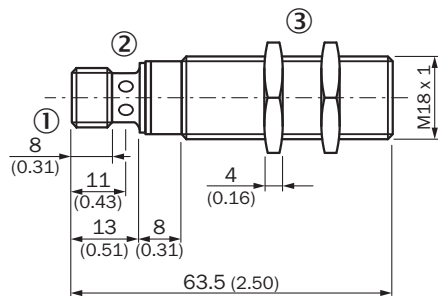
Response diagram



Functional principle Installation aid



Dimensional drawing IM18, V2A, flush



Dimensions in mm (inch)

- ① Connection
- ② Display LED
- ③ Fastening nuts (2 x); width across 24, V2A

Recommended accessories

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

	Brief description	Type	part no.
Mounting systems			
	Description: Mounting plate for M18 sensors Material: Stainless steel Details: Stainless steel Items supplied: Without mounting hardware	BEF-WG-M18N	5320948
	Description: Mounting bracket for M18 sensors Material: Stainless steel Details: Stainless steel Items supplied: Without mounting hardware	BEF-WN-M18N	5320947
	Description: Plate N06N for universal clamp bracket, M18 Material: Stainless steel, stainless steel Details: Stainless steel 1.4571 (sheet), Stainless steel 1.4408 (clamp) Items supplied: Universal clamp (5322627), mounting hardware Usable for: MH15, MH15V, V180-2, V18V, W15, GR18, V18, V18 Laser, V12-2, SimpleSense, SureSense, M18 round sensors	BEF-KHS-N06N	2051622

	Brief description	Type	part no.
connectors and cables			
	• Connection type head A: Female connector, M12, 4-pin, straight • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 2 m, 4-wire, PP • Description: Sensor/actuator cable, unshielded • Connection systems: Flying leads • Note: This product is generally resistant to chemical cleaning agents (see ECOLAB) and other chemical compounds such as H2O2 and CH2O2. Before permanent installation is carried out, the material's resistance to the cleaning agent being used must be checked., Resistant against lactic acid & hydrogen peroxide (H2O2) • Application: Hygienic and washdown zones, Drag chain operation	DOL-1204-G02MRN	6058291
	• Connection type head A: Female connector, M12, 4-pin, straight • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 5 m, 4-wire, PP • Description: Sensor/actuator cable, unshielded • Connection systems: Flying leads • Note: This product is generally resistant to chemical cleaning agents (see ECOLAB) and other chemical compounds such as H2O2 and CH2O2. Before permanent installation is carried out, the material's resistance to the cleaning agent being used must be checked., Resistant against lactic acid & hydrogen peroxide (H2O2) • Application: Hygienic and washdown zones, Drag chain operation	DOL-1204-G05MRN	6058476
	• Connection type head A: Female connector, M12, 4-pin, angled • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 2 m, 4-wire, PP • Description: Sensor/actuator cable, unshielded • Connection systems: Flying leads • Note: This product is generally resistant to chemical cleaning agents (see ECOLAB) and other chemical compounds such as H2O2 and CH2O2. Before permanent installation is carried out, the material's resistance to the cleaning agent being used must be checked., Resistant against lactic acid & hydrogen peroxide (H2O2) • Application: Hygienic and washdown zones, Drag chain operation	DOL-1204-W02MRN	6058474
	• Connection type head A: Female connector, M12, 4-pin, angled • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 5 m, 4-wire, PP • Description: Sensor/actuator cable, unshielded • Connection systems: Flying leads • Note: This product is generally resistant to chemical cleaning agents (see ECOLAB) and other chemical compounds such as H2O2 and CH2O2. Before permanent installation is carried out, the material's resistance to the cleaning agent being used must be checked., Resistant against lactic acid & hydrogen peroxide (H2O2) • Application: Hygienic and washdown zones, Drag chain operation	DOL-1204-W05MRN	6058477
	• Connection type head A: Female connector, M12, 4-pin, angled • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 2 m, 4-wire, PP • Description: Sensor/actuator cable, unshielded • Connection systems: Flying leads • Note: This product is generally resistant to chemical cleaning agents (see ECOLAB) and other chemical compounds such as H2O2 and CH2O2. Before permanent installation is carried out, the material's resistance to the cleaning agent being used must be checked., Resistant against lactic acid & hydrogen peroxide (H2O2), only suitable for PNP sensors • Application: Hygienic and washdown zones, Drag chain operation	DOL-1204-L02MRN	6058482
	• Connection type head A: Female connector, M12, 4-pin, angled • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 5 m, 4-wire, PP • Description: Sensor/actuator cable, unshielded • Connection systems: Flying leads • Note: This product is generally resistant to chemical cleaning agents (see ECOLAB) and other chemical compounds such as H2O2 and CH2O2. Before permanent installation is carried out, the material's resistance to the cleaning agent being used must be checked., Resistant against lactic acid & hydrogen peroxide (H2O2), only suitable for PNP sensors • Application: Hygienic and washdown zones, Drag chain operation	DOL-1204-L05MRN	6058483
	• Connection type head A: Female connector, M12, 4-pin, straight • Connection type head B: Male connector, M12, 4-pin, straight • Signal type: Sensor/actuator cable • Cable: 2 m, 4-wire, PP • Description: Sensor/actuator cable, unshielded	DSL-1204-G02MRN	6058499

	Brief description	Type	part no.
	Note: This product is generally resistant to chemical cleaning agents (see ECOLAB) and other chemical compounds such as H2O2 and CH2O2. Before permanent installation is carried out, the material's resistance to the cleaning agent being used must be checked., Resistant against lactic acid & hydrogen peroxide (H2O2) Application: Hygienic and washdown zones, Drag chain operation		
	Connection type head A: Female connector, M12, 4-pin, straight Connection type head B: Male connector, M12, 4-pin, straight Signal type: Sensor/actuator cable Cable: 5 m, 4-wire, PP Description: Sensor/actuator cable, unshielded Note: This product is generally resistant to chemical cleaning agents (see ECOLAB) and other chemical compounds such as H2O2 and CH2O2. Before permanent installation is carried out, the material's resistance to the cleaning agent being used must be checked., Resistant against lactic acid & hydrogen peroxide (H2O2) Application: Hygienic and washdown zones, Drag chain operation	DSL-1204-G05MRN	6058500
	Connection type head A: Female connector, M12, 4-pin, angled Connection type head B: Male connector, M12, 4-pin, straight Signal type: Sensor/actuator cable Cable: 2 m, 4-wire, PP Description: Sensor/actuator cable, unshielded Note: This product is generally resistant to chemical cleaning agents (see ECOLAB) and other chemical compounds such as H2O2 and CH2O2. Before permanent installation is carried out, the material's resistance to the cleaning agent being used must be checked., Resistant against lactic acid & hydrogen peroxide (H2O2) Application: Hygienic and washdown zones, Drag chain operation	DSL-1204-B02MRN	6058502
	Connection type head A: Female connector, M12, 4-pin, angled Connection type head B: Male connector, M12, 4-pin, straight Signal type: Sensor/actuator cable Cable: 5 m, 4-wire, PP Description: Sensor/actuator cable, unshielded Note: This product is generally resistant to chemical cleaning agents (see ECOLAB) and other chemical compounds such as H2O2 and CH2O2. Before permanent installation is carried out, the material's resistance to the cleaning agent being used must be checked., Resistant against lactic acid & hydrogen peroxide (H2O2) Application: Hygienic and washdown zones, Drag chain operation	DSL-1204-B05MRN	6058503
	Connection type head A: Female connector, M12, 4-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 2 m, 4-wire, PUR, halogen-free Description: Sensor/actuator cable, unshielded Application: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation	YF2A14-020UB3XLEAX	2095607
	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
	Connection type head A: Female connector, M12, 4-pin, angled, 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	YG2A14-050UB3XLEAX	2095767
	Connection type head A: Female connector, M12, 4-pin, straight, A-coded Connection type head B: Male connector, M12, 4-pin, straight, A-coded 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	YF2A14-050UB3M2A14	2096001
	Connection type head A: Female connector, M12, 4-pin, straight Connection type head B: Male connector, M12, 4-pin, straight Signal type: Sensor/actuator cable Cable: 20 m, 4-wire, PP Description: Sensor/actuator cable, unshielded Note: This product is generally resistant to chemical cleaning agents (see ECOLAB) and other chemical compounds such as H2O2 and CH2O2. Before permanent installation is carried out, the material's resistance to the cleaning agent being used must be checked., Resistant against lactic acid & hydrogen peroxide (H2O2)	YF2AP4-020PA2M2AP4	2143765

	Brief description	Type	part no.
	• Application: Hygienic and washdown zones, Drag chain operation • Connection type head A: Female connector, M12, 4-pin, straight, A-coded • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 0.6 m, 4-wire, PUR, halogen-free • Description: Sensor/actuator cable, unshielded • Application: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation	YF2A14-C60UB3XLEAX	2145654
	• Connection type head A: Female connector, M12, 4-pin, straight, A-coded • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 1 m, 4-wire, PUR, halogen-free • Description: Sensor/actuator cable, unshielded • Application: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation	YF2A14-010UB3XLEAX	2145655
	• Connection type head A: Female connector, M12, 4-pin, straight, A-coded • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 3 m, 4-wire, PUR, halogen-free • Description: Sensor/actuator cable, unshielded • Application: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation	YF2A14-030UB3XLEAX	2145656

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.”

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