



IM12-06BPS-VC1

IMI

INDUCTIVE PROXIMITY SENSORS

SICK
Sensor Intelligence.



Ordering information

| Type | Part no. |
|----------------|----------|
| IM12-06BPS-VC1 | 6068718 |

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

Illustration may differ



Detailed technical data

Features

| | |
|---|--|
| Housing | Cylindrical thread design |
| Thread size | M12 x 1 |
| Diameter | Ø 12 mm |
| Pressure resistance | ≤ 80 bar |
| Sensing range S_n | 6 mm |
| Safe sensing range S_a | 4.86 mm |
| Installation type | Flush |
| Switching frequency | 600 Hz |
| Connection type | Male connector M12, 4-pin |
| Switching output | 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 |
| Ripple | ≤ 20 % ¹⁾ |
| Voltage drop | ≤ 2 V ²⁾ |
| Time delay before availability | ≤ 10 ms |
| Hysteresis | 1 % ... 15 % |
| Reproducibility | ≤ 5 % ^{3) 4)} |
| Temperature drift (of S_r) | ≤ 10 % |
| EMC | According to EN 60947-5-2 |
| Continuous current I_a | ≤ 200 mA |
| Short-circuit protection | ✓ |
| Reverse polarity 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 | 60 mm |
| Thread length | 41 mm |
| Tightening torque, max. | ≤ 20 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 V DC ... 30 V DC, T_A = 23 °C ± 5 °C.

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. 0.45 ¹⁾ |
| Aluminum (Al) | Approx. 1 |
| Copper (Cu) | Approx. 0.85 |
| Brass (Br) | Approx. 1.3 |

¹⁾ Material thickness/Reduction factor: 1 mm/0.4 2 mm/0.8.

Installation note

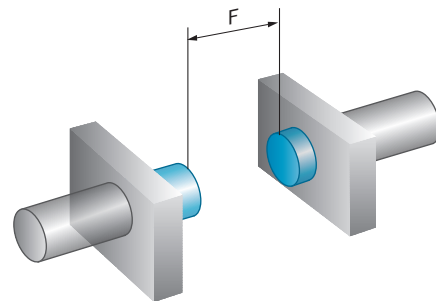
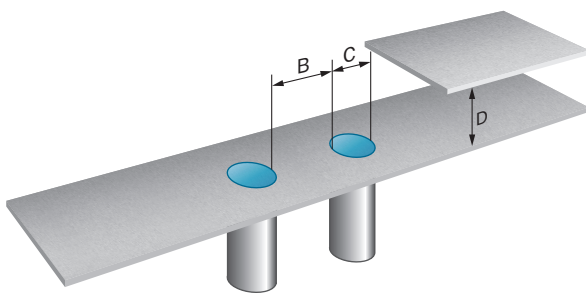
| | |
|---------------|---------------------------------------|
| Remark | Associated graphic see "Installation" |
| B | 38 mm |
| C | 12 mm |
| D | 18 mm |
| F | 45 mm |

Classifications

| | |
|-----------------------|----------|
| eCl@ss 5.0 | 27270101 |
| eCl@ss 5.1.4 | 27270101 |
| eCl@ss 6.0 | 27270101 |
| eCl@ss 6.2 | 27270101 |
| eCl@ss 7.0 | 27270101 |
| eCl@ss 8.0 | 27270101 |
| eCl@ss 8.1 | 27270101 |
| eCl@ss 9.0 | 27270101 |
| eCl@ss 10.0 | 27270101 |
| eCl@ss 11.0 | 27270101 |
| eCl@ss 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

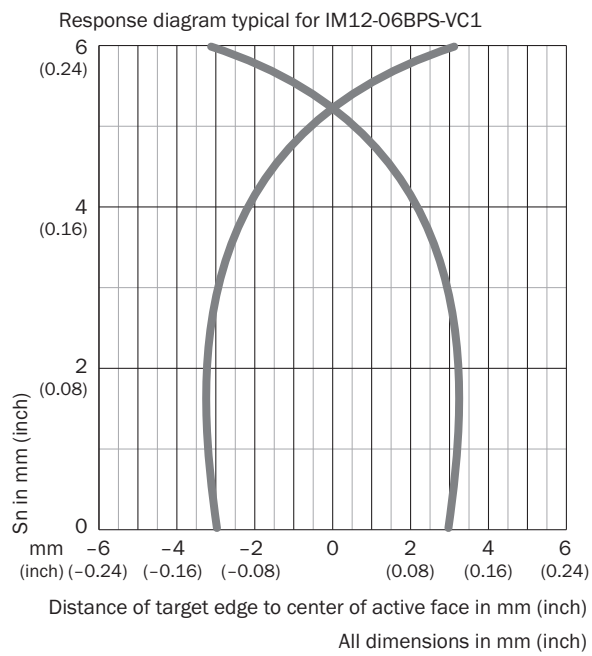


Connection diagram

Cd-456

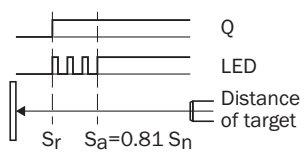


Response diagram



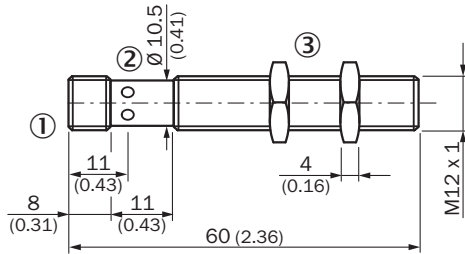
Adjustments

Installation aid



Dimensional drawing (Dimensions in mm (inch))







IM12, V2A, flush






- ① Connection
- ② Display LED
- ③ Fastening nuts (2 x); width across 17, stainless steel V2A

Recommended accessories

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

| | Brief description | Type | Part no. |
|---|---|-----------------|-----------------|
| Universal bar clamp systems | | | |
|  | Plate N05N for universal clamp bracket, M12, Stainless steel 1.4571 (sheet), Stainless steel 1.4408 (clamp), Universal clamp (5322627), mounting hardware | BEF-KHS-N05N | 2051621 |
| Mounting brackets and plates | | | |
|  | Mounting plate for M12 sensors, stainless steel, without mounting hardware | BEF-WG-M12N | 5320950 |
|  | Mounting bracket for M12 housing, stainless steel, without mounting hardware | BEF-WN-M12N | 5320949 |
| Plug connectors and cables | | | |
|  | Head A: female connector, M12, 4-pin, straight Head B: Flying leads Cable: Sensor/actuator cable, PP, unshielded, 2 m 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) | DOL-1204-G02MRN | 6058291 |
|  | Head A: female connector, M12, 4-pin, straight Head B: Flying leads Cable: Sensor/actuator cable, PP, unshielded, 5 m 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) | DOL-1204-G05MRN | 6058476 |
|  | Head A: female connector, M12, 4-pin, angled Head B: Flying leads Cable: Sensor/actuator cable, PP, unshielded, 2 m 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 | DOL-1204-L02MRN | 6058482 |

| | Brief description | Type | Part no. | |
|--|---|--|--|--------------------|
|  | Head A: female connector, M12, 4-pin, angled Head B: Flying leads Cable: Sensor/actuator cable, PP, unshielded, 5 m 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 | DOL-1204-L05MRN | 6058483 | |
| | Head A: female connector, M12, 4-pin, angled Head B: Flying leads Cable: Sensor/actuator cable, PP, unshielded, 2 m 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) | DOL-1204-W02MRN | 6058474 | |
| | Head A: female connector, M12, 4-pin, angled Head B: Flying leads Cable: Sensor/actuator cable, PP, unshielded, 5 m 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) | DOL-1204-W05MRN | 6058477 | |
|  | Head A: female connector, M12, 4-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 10 m | YF2A14-100UB3XLEAX | 2095609 | |
| | Head A: female connector, M12, 4-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 15 m | YF2A14-150UB3XLEAX | 2095610 | |
| | Head A: female connector, M12, 4-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 20 m | YF2A14-200UB3XLEAX | 2095611 | |
| | Head A: female connector, M12, 4-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 25 m | YF2A14-250UB3XLEAX | 2095615 | |
| |  | Head A: female connector, M12, 4-pin, angled, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 10 m | YG2A14-100UB3XLEAX | 2095768 |
| Head A: female connector, M12, 4-pin, angled, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 15 m | | YG2A14-150UB3XLEAX | 2095769 | |
| Head A: female connector, M12, 4-pin, angled, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 20 m | | YG2A14-200UB3XLEAX | 2095770 | |
| Head A: female connector, M12, 4-pin, angled, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 25 m | | YG2A14-250UB3XLEAX | 2095771 | |
|  | | Head A: male connector, M12, 4-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 10 m | YM2A14-100UB3XLEAX | 2095859 |
| | | Head A: male connector, M12, 4-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 15 m | YM2A14-150UB3XLEAX | 2095866 |
| | |  | Head A: male connector, M12, 4-pin, angled, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 10 m | YN2A14-100UB3XLEAX |

| | Brief description | Type | Part no. |
|--|--|--------------------|----------|
|  | Head A: female connector, M12, 4-pin, angled Head B: male connector, M12, 4-pin, straight Cable: Sensor/actuator cable, PP, unshielded, 2 m 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) | DSL-1204-B02MRN | 6058502 |
| | Head A: female connector, M12, 4-pin, angled Head B: male connector, M12, 4-pin, straight Cable: Sensor/actuator cable, PP, unshielded, 5 m 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) | DSL-1204-B05MRN | 6058503 |
|  | Head A: female connector, M12, 4-pin, straight Head B: male connector, M12, 4-pin, straight Cable: Sensor/actuator cable, PP, unshielded, 2 m 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) | DSL-1204-G02MRN | 6058499 |
| | Head A: female connector, M12, 4-pin, straight Head B: male connector, M12, 4-pin, straight Cable: Sensor/actuator cable, PP, unshielded, 5 m 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) | DSL-1204-G05MRN | 6058500 |
|  | Head A: female connector, M12, 4-pin, straight, A-coded Head B: male connector, M12, 4-pin, straight, A-coded Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 10 m | YF2A14-100UB3M2A14 | 2096002 |

Recommended services

Additional services → www.sick.com/IMI

| | Type | Part no. |
|--|------------------------|------------|
| Function Block Factory | | |
| <ul style="list-style-type: none"> Description: The Function Block Factory supports common programmable logic controllers (PLCs) from various manufacturers, such as Siemens, Beckhoff, Rockwell Automation and B&R. More information on the FBF can be found here. | Function Block Factory | On request |

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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