



IHM06-04NPSVT0S

IMM

INDUCTIVE PROXIMITY SENSORS

SICK
Sensor Intelligence.



Illustration may differ

Ordering information

| Type | Part no. |
|-----------------|----------|
| IHM06-04NPSVT05 | 1104506 |

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



Detailed technical data

Features

| | |
|--|--------------------------------------|
| Housing | Cylindrical smooth housing |
| Housing | Standard design |
| Diameter | Ø 6.5 mm |
| Sensing range S_n | 4 mm |
| Safe sensing range S_a | 3.24 mm |
| Installation type | Non-flush |
| Switching frequency | 3,500 Hz |
| Connection type | Connector M8, 3-pin |
| Switching output | PNP |
| Output function | NO |
| Electrical wiring | DC 3-wire |
| Enclosure rating | IP67 ¹⁾ |
| Special features | Visual adjustment indicator, IO-Link |

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 | ≤ 80 ms |

¹⁾ Of V_S .

²⁾ With $I_a = 200$ mA.

³⁾ U_b and T_a constant.

| | |
|---|--|
| Hysteresis | 1 % ... 10 % |
| Reproducibility | ≤ 2 % ³⁾ |
| Temperature drift (of S_r) | ≤ 10 % |
| EMC | 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 ... +70 °C |
| Housing material | Stainless steel V2A, DIN 1.4305 / AISI 303 |
| Sensing face material | Plastic, LCP |
| Housing length | 50 mm |
| UL File No. | NRKH.E348498 |

¹⁾ Of V_S.

²⁾ With I_a = 200 mA.

³⁾ U_b and T_a constant.

Safety-related parameters

| | |
|-------------------------|-------------|
| MTTF_D | 1,330 years |
| DC_{avg} | 0 % |

Communication interface

| | |
|---------------------------------------|--|
| Communication interface | IO-Link V1.1 |
| Communication Interface detail | COM2 (38,4 kBaud) |
| Cycle time | 10.4 ms |
| Process data length | 1 Byte |
| Process data structure | Bit 0 = Sr reached Bit 1 = Sa reached |

Reduction factors

| | |
|-----------------------------------|--|
| Note | The values are reference values which may vary |
| St37 steel (Fe) | 1 |
| Stainless steel (V2A, 304) | Approx. 0.75 |
| Aluminum (Al) | Approx. 0.5 |
| Copper (Cu) | Approx. 0.43 |
| Brass (Br) | Approx. 0.54 |

Installation note

| | |
|---------------|---------------------------------------|
| Remark | Associated graphic see "Installation" |
| A | 6.5 mm |
| B | 18 mm |
| C | 6.5 mm |
| D | 12 mm |
| E | 8 mm |

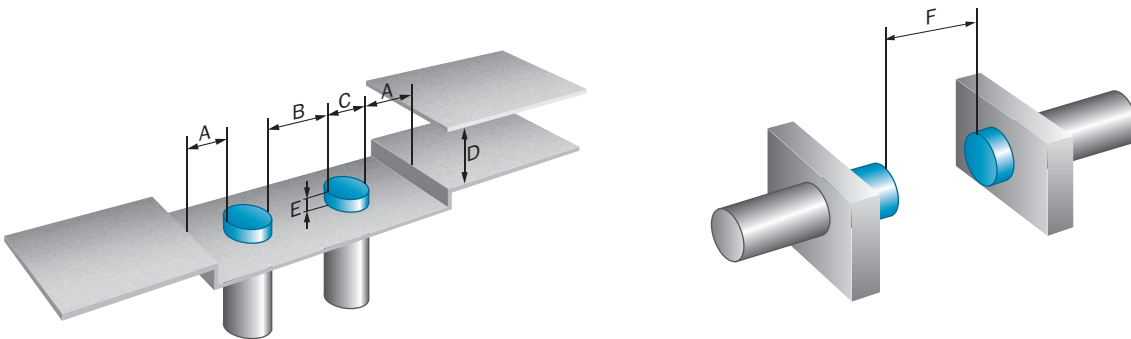
| | |
|----------|-------|
| F | 32 mm |
|----------|-------|

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

Non-flush installation

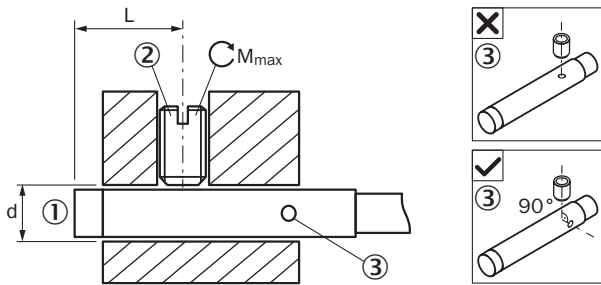


Mounting using BEF-KH-M0 bracket



| Sensor type | Mounting adapter | Overrun (P) | Max. tightening torque (M_{max}) |
|-----------------|------------------------------|-----------------------------|--------------------------------------|
| IHM03 | BEF-KH-M03, part no. 2101064 | 0 mm ... 2 mm / ≥ 2 mm | ≤ 0.4 Nm / ≤ 0.6 Nm |
| IHM04 | BEF-KH-M04, part no. 2101065 | 0 mm ... 2 mm / ≥ 2 mm | ≤ 0.4 Nm / ≤ 0.6 Nm |
| IMM04 | BEF-KH-M04, part no. 2101065 | ≥ 0 mm | ≤ 0.6 Nm |
| IMM05 | BEF-KH-M05, part no. 2101066 | ≥ 0 mm | ≤ 0.6 Nm |
| IHM06 flush | BEF-KH-M06, part no. 2101067 | ≥ 0 mm | ≤ 0.6 Nm |
| IHM06 non-flush | BEF-KH-M06, part no. 2101067 | ≥ 4 mm | ≤ 0.6 Nm |

Fixing with setscrew

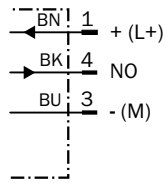


- ① Sensing face
- ② Recommended setscrew: M3, flat point
- ③ Display LED

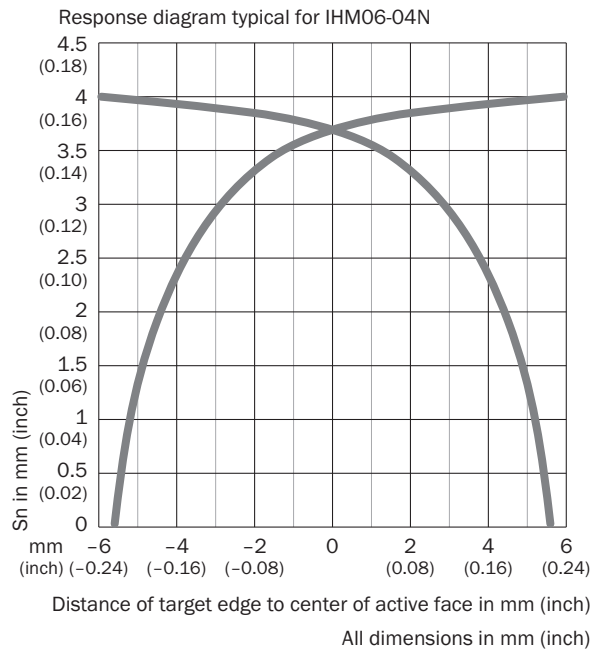
| IHM06 non-flush | Mounting area (L) | Max. tightening torque (M_{max}) | Diameter of mounting hole (d) |
|-----------------|-------------------|--------------------------------------|---|
| IHM06-04N*****K | 8 mm ... 21 mm | ≤ 0.4 Nm | $\varnothing 6.5$ mm ... $\varnothing 6.8$ mm |
| IHM06-04N***TOK | 8 mm ... 32 mm | ≤ 0.4 Nm | $\varnothing 6.5$ mm ... $\varnothing 6.8$ mm |
| IHM06-04N*****S | 8 mm ... 32 mm | ≤ 0.4 Nm | $\varnothing 6.5$ mm ... $\varnothing 6.8$ mm |
| IHM06-04N***TOS | 8 mm ... 42 mm | ≤ 0.4 Nm | $\varnothing 6.5$ mm ... $\varnothing 6.8$ mm |
| IHM06-06N*****K | 12 mm ... 21 mm | ≤ 0.4 Nm | $\varnothing 6.5$ mm ... $\varnothing 6.8$ mm |
| IHM06-06N***TOK | 12 mm ... 32 mm | ≤ 0.4 Nm | $\varnothing 6.5$ mm ... $\varnothing 6.8$ mm |
| IHM06-06N*****S | 12 mm ... 32 mm | ≤ 0.4 Nm | $\varnothing 6.5$ mm ... $\varnothing 6.8$ mm |
| IHM06-06N***TOS | 12 mm ... 42 mm | ≤ 0.4 Nm | $\varnothing 6.5$ mm ... $\varnothing 6.8$ mm |

Connection diagram

Cd-002

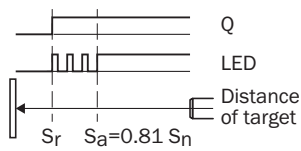


Response diagram



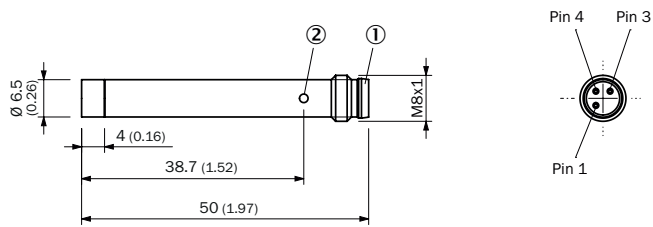
Adjustments

Installation aid



Dimensional drawing (Dimensions in mm (inch))

IHM06, standard variant, non-flush, male connector



- ① Connection
- ② Function indicator

Recommended accessories

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

| | Brief description | Type | Part no. |
|-----------------------------------|--|--------------------|----------|
| Distributors | | | |
| | Head A: 3-pin Cable: unshielded | Y8A34A2-C2A8000XXX | 2115733 |
| | Head A: 3-pin Cable: PUR, halogen-free, unshielded, 5 m | Y8A34A2-LXXXUAA050 | 2115727 |
| | Head A: 3-pin Cable: unshielded | Y8A36A2-C2A8000XXX | 2115734 |
| | Head A: 3-pin Cable: PUR, halogen-free, unshielded, 5 m | Y8A36A2-LXXXUBA050 | 2115728 |
| Plug connectors and cables | | | |
| | Head A: female connector, M8, 3-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 2 m | YF8U13-020UA1XLEAX | 2094782 |
| | Head A: female connector, M8, 3-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 2 m | YF8U13-020VA1XLEAX | 2095860 |
| | Head A: female connector, M8, 3-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 5 m | YF8U13-050UA1XLEAX | 2094788 |
| | Head A: female connector, M8, 3-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 5 m | YF8U13-050VA1XLEAX | 2095884 |
| | Head A: female connector, M8, 3-pin, angled, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 2 m | YG8U13-020UA1XLEAX | 2094794 |
| | Head A: female connector, M8, 3-pin, angled, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 2 m | YG8U13-020VA1XLEAX | 2096165 |

| | Brief description | Type | Part no. |
|---|---|--------------------|-----------------|
|  | Head A: female connector, M8, 3-pin, angled, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 5 m | YG8U13-050UA1XLEAX | 2095586 |
|  | Head A: female connector, M8, 3-pin, angled, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 5 m | YG8U13-050VA1XLEAX | 2096166 |
|  | Head A: female connector, M8, 3-pin, straight, A-coded Head B: male connector, M12, 3-pin, straight, A-coded Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 2 m | YF8U13-020UA1M2A13 | 2096169 |
|  | Head A: female connector, M8, 3-pin, straight, A-coded Head B: male connector, M8, 3-pin, straight, A-coded Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 2 m | YF8U13-020UA1M8U13 | 2096304 |
|  | Head A: female connector, M8, 3-pin, straight, A-coded Head B: male connector, M12, 3-pin, straight, A-coded Cable: Sensor/actuator cable, PVC, unshielded, 2 m | YF8U13-020VA1M2A13 | 2096605 |
|  | Head A: female connector, M8, 3-pin, straight, A-coded Head B: male connector, M12, 3-pin, straight, A-coded Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 5 m | YF8U13-050UA1M2A13 | 2096170 |
|  | Head A: female connector, M8, 3-pin, straight, A-coded Head B: male connector, M8, 3-pin, straight, A-coded Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 5 m | YF8U13-050UA1M8U13 | 2096308 |
|  | Head A: female connector, M8, 3-pin, straight, A-coded Head B: male connector, M12, 3-pin, straight, A-coded Cable: Sensor/actuator cable, PVC, unshielded, 5 m | YF8U13-050VA1M2A13 | 2096606 |
|  | Head A: female connector, M8, 3-pin, angled, A-coded Head B: male connector, M12, 3-pin, straight, A-coded Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 2 m | YG8U13-020UA1M2A13 | 2095748 |
|  | Head A: female connector, M8, 3-pin, angled, A-coded Head B: male connector, M8, 3-pin, straight, A-coded Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 2 m | YG8U13-020UA1M8U13 | 2107781 |
|  | Head A: female connector, M8, 3-pin, angled, A-coded Head B: male connector, M12, 3-pin, straight, A-coded Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 5 m | YG8U13-050UA1M2A13 | 2122842 |
|  | Head A: male connector, M8, 3-pin, straight Cable: unshielded | STE-0803-G | 6037322 |
|  | Head A: male connector, M8, 3-pin, angled Cable: unshielded | STE-0803-WSK | 6053170 |
| Terminal and alignment brackets | | | |
|  | Plastic (PA6), without mounting hardware | BEF-KH-M06 | 2101067 |

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.

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For us, that is “Sensor Intelligence.”

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