

Miniature inductive proximity sensors series - 6.5mm size DC 3 wire



■ Highlights

Inductive sensor
When the metal conductive objects close to the magnetic field and reach the induction area, high-frequency alternating magnetic field generated by a LC oscillation circuit, which is composed of a coil wound on a ferrite, through the eddy current effect generated by internal of metal objects to achieve non-contact detection.

Special miniature sensors
Many engineers are often faced with a particular requirements to fit inductive sensors into tight spaces.
The inductive sensors of the Miniature Series are fully integrated without external amplifier and our models were equipped with reverse polarity protection and short-circuit protected switching outputs.
Also an optical switching indicator is always built-in.

■ Benefits

- High quality sensors series
- Space-saving installation and significant flexibility in machine design thanks to the compact size
- High positioning accuracy and precise switching behavior for reliable detection of fast handling and assembly processes
- Bright sensors led indicators for easy power and detection recognition
- High switching frequency
- Water proof stainless steel body design for high humidity stability IP67 degree protection

■ Application

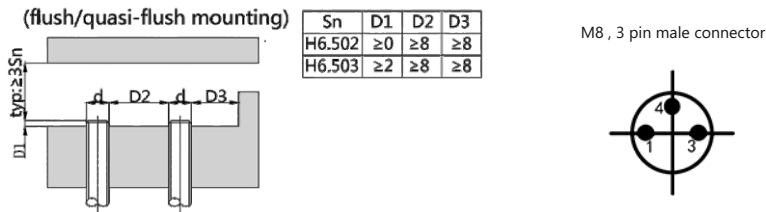
Inductive proximity switch is a low cost method for non-contact detection of metal objects, which is widely used in the following sectors, such as:

- Automotive Industry
- Metallurgical sector
- Machine tool sector
- Robot industry
- Conveyor system
- Paper and printing industry
- Mechanical Engineering

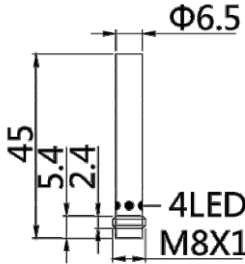

■ P/N table

| Sensing distance | Sn: 2mm | Sn: 3mm |
|------------------|---------------------|---------------------|
| NPN , NO | VL1C-F6.5N-02NO-SM8 | VL1C-F6.5N-03NO-SM8 |
| NPN , NC | VL1C-F6.5N-02NC-SM8 | VL1C-F6.5N-03NC-SM8 |
| PNP , NO | VL1C-F6.5P-02NO-SM8 | VL1C-F6.5P-03NO-SM8 |
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■ Installation



■ Product parameters

| <div>Features:</div> <ul style="list-style-type: none">Diameter Ø6.5 mmSensing distance: P/N tableBody material: Stainless steelBuilt-in electric protectionOutput: See P/N tableConnection: 3 wires open cablePower supply: 24V DC, 3 wires | <div></div> <div>CE</div> | <div></div> <div>CE</div> | | | | | | | | | | | | | | | | |
|--|--|--|-------------------|--------|-------|---|----------|-------------|-------|------------|--------|-------------|-----------------|-------------|-----------|-------------|--------|-------------|
| | TECHNICAL INFORMATION | | | | | | | | | | | | | | | | | |
| INDUCTIVE SPECIFICATION | | | | | | | | | | | | | | | | | | |
| | Sensing Distance | See P/N table | | | | | | | | | | | | | | | | |
| | Correction Factor | <table><tr><th>Nav-ferrous metal</th><th>Factor</th></tr><tr><td>Fe360</td><td>1</td></tr><tr><td>Aluminum</td><td>0.35 ~ 0.45</td></tr><tr><td>Brass</td><td>0.35 ~ 0.5</td></tr><tr><td>Copper</td><td>0.35 ~ 0.45</td></tr><tr><td>Stainless Steel</td><td>0.35 ~ 0.45</td></tr><tr><td>Cast Iron</td><td>0.93 ~ 1.05</td></tr><tr><td>Nickel</td><td>0.65 ~ 0.75</td></tr></table> | Nav-ferrous metal | Factor | Fe360 | 1 | Aluminum | 0.35 ~ 0.45 | Brass | 0.35 ~ 0.5 | Copper | 0.35 ~ 0.45 | Stainless Steel | 0.35 ~ 0.45 | Cast Iron | 0.93 ~ 1.05 | Nickel | 0.65 ~ 0.75 |
| | Nav-ferrous metal | Factor | | | | | | | | | | | | | | | | |
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| | Aluminum | 0.35 ~ 0.45 | | | | | | | | | | | | | | | | |
| Brass | 0.35 ~ 0.5 | | | | | | | | | | | | | | | | | |
| Copper | 0.35 ~ 0.45 | | | | | | | | | | | | | | | | | |
| Stainless Steel | 0.35 ~ 0.45 | | | | | | | | | | | | | | | | | |
| Cast Iron | 0.93 ~ 1.05 | | | | | | | | | | | | | | | | | |
| Nickel | 0.65 ~ 0.75 | | | | | | | | | | | | | | | | | |
| Mounting | Flush type installation | | | | | | | | | | | | | | | | | |
| Switching Histeresis | < 10% | | | | | | | | | | | | | | | | | |
| ELECTRICAL DATA | | | | | | | | | | | | | | | | | | |
| | Operating Voltage | 10~30V DC | | | | | | | | | | | | | | | | |
| | Switching Frequency | 2000Hz / 1000Hz | | | | | | | | | | | | | | | | |
| | Voltage Drop | ≤ 2.0 V | | | | | | | | | | | | | | | | |
| | Leakage Current | < 0.01mA | | | | | | | | | | | | | | | | |
| | Load Current | 100 mA | | | | | | | | | | | | | | | | |
| | No Load Current | ≤ 10 mA (24V DC) | | | | | | | | | | | | | | | | |
| | Hysteresis | < 15% (Sr) | | | | | | | | | | | | | | | | |
| | Repeatability | < 1.0% (Sr) | | | | | | | | | | | | | | | | |
| | Temperature Drift | < 1.0% (Sr) | | | | | | | | | | | | | | | | |
| | Short Circuit Protection | Yes | | | | | | | | | | | | | | | | |
| | Overload Protection | Yes | | | | | | | | | | | | | | | | |
| | Polarity Reversal Protection | Yes | | | | | | | | | | | | | | | | |
| ENVIRONMENT DATA | | | | | | | | | | | | | | | | | | |
| | Ambient Temperature | -25.....70 °C | | | | | | | | | | | | | | | | |
| | Ingress Protection | IP67 | | | | | | | | | | | | | | | | |
| MECHANICAL DATA | | | | | | | | | | | | | | | | | | |
| | Housing Material | Stainless steel body | | | | | | | | | | | | | | | | |
| | Face Material | POM | | | | | | | | | | | | | | | | |
| ELECTRICAL CONNECTION DATA | | | | | | | | | | | | | | | | | | |
| | Connection | M8 Connector , 3 pins , Male type | | | | | | | | | | | | | | | | |
| ACCESORIES | | | | | | | | | | | | | | | | | | |
| | Cable | Two meter angled cable (P/N: V5PN-AM8302OF) (available) | | | | | | | | | | | | | | | | |
| | Cable | Ten meter angled cable (P/N: V5PN-AM8310OF) (available) | | | | | | | | | | | | | | | | |
| | Connector | M8, 3 PIN, Male type, IP67, Straight, Wires with screw connection (P/N: EAM8MC3001A) (available) | | | | | | | | | | | | | | | | |

■ Input/Output circuit

