

Common inductive proximity sensors series - M12 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.

Standards
All inductive proximity sensors conform to IEC 60947-5-2.

Housing material
The housing material of sensor including nickel plated copper, also stainless steel and plastic with resistance of compression and temperature rapid change. Most of square sensor is plastic housing. These materials can also be used to produce square sensors with adjustable sensing surface or compact (small square) sensors. Such sensors can be used in the occasions of limited installation space or required large detection range.

Application

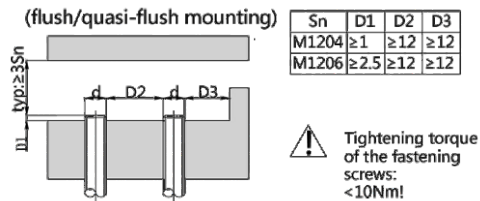
Inductive proximity switch is a low cost method for non-contact detection of metal objects, which is widely used in the following sectors, such as:

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

P/N table

Sensing distance	Sn: 4mm	Sn: 6mm
NPN , NO	VL1C-F12N-04NO-SM12	VL1C-F12N-06NO-SM12
NPN , NC	VL1C-F12N-04NC-SM12	VL1C-F12N-06NC-SM12
PNP , NO	VL1C-F12P-04NO-SM12	VL1C-F12P-06NO-SM12
PNP , NC	VL1C-F12P-04NC-SM12	VL1C-F12P-06NC-SM12

Installation



M12 Connector, 4 pin



Product parameters

<div>Features:</div> <ul style="list-style-type: none">• Diameter M12 mm• Sensing distance: P/N table• Body material: Nickel plated brass• Built-in electric protection• Output: See P/N table• Connection: M12, 4 pins• Power supply: 24V DC, 3 wires	<div></div>	<div></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																
	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																	
Mounting	Flush type installation																	
Switching Histeresis	< 10%																	
ELECTRICAL DATA																		
	Operating Voltage	10~30V DC																
	Switching Frequency	3000Hz/800Hz																
	Voltage Drop	≤ 2.0 V																
	Leakage Current	< 0.01mA																
	Load Current	200 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 ℃																
	Ingress Protection	IP67																
MECHANICAL DATA																		
	Housing Material	Nickel plated brass																
	Face Material	PBT																
ELECTRICAL CONNECTION DATA																		
	Connector	M12 Connector , 4 pins , Male type																
ACCESSORIES																		
	Cable	Two meter angled cable (P/N: V5PN-AM12402OF) (available)																
	Cable	Ten meter angled cable (P/N: V5PN-AM12410OF) (available)																
	Connector	M12, 4 PIN, Male type, IP67, Straight, Female, Screw connection (P/N: EAM12FC4001A) (available)																

Input/Output circuit

