

Common inductive proximity sensors series - M12 size

AC 2 wire, AC/DC 2 wire, Switching output



■ 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.

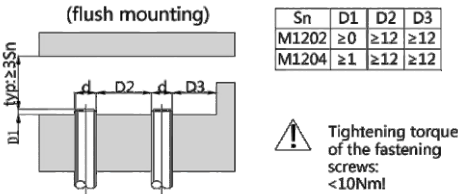
■ Application

- 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

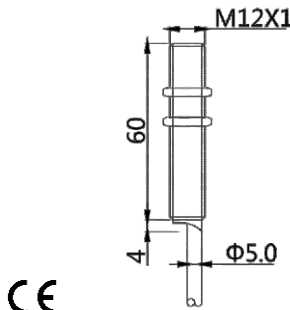

■ P/N table

Sensing distance	Sn: 2mm	Sn: 4mm	
2 Wire , AC, NO	VL1A-F12-02NO-AC2M	VL1A-F12-04NO-AC2M	
2 Wire , AC, NC	VL1A-F12-02NC-AC2M	VL1A-F12-04NC-AC2M	
2 Wire , AC/DC, NO	VL1A-F12-02NO-AC/DC2M	VL1A-F12-04NO-AC/DC2M	
2 Wire , AC/DC, NC	VL1A-F12-02NC-AC/DC2M	VL1A-F12-04NC-AC/DC2M	

■ Installation



■ Product parameters

<div>Features:</div> <ul style="list-style-type: none">• Diameter M12• Sensing distance: P/N table• Body material: Nickel plated brass• Built-in electric protection• Output: See P/N table• Connection: PVC cable/2m ; 3*0.35mm²• Power supply: 20~250V AC ; 20~250V AC/DC	<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	20~250V AC ; 20~250V AC/DC																
	Switching Frequency	25Hz / 25Hz AC ; 40Hz DC																
	Voltage Drop	≤ 8V AC/ 10V AC; 8V DC																
	Leakage Current	≤ 1.8mA / ≤ 2.5mA																
	Load Current	Max.load:400 mA ; Min.load:5mA /																
		Max.load:200 mA ; Min.load:5mA /																
	Hysteresis	< 15% (Sr)																
	Repeatability	< 1.0% (Sr)																
	Temperature Drift	< 10% (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	Nickel plated brass																
	Face Material	PBT																
ELECTRICAL CONNECTION DATA																		
	Connector	PVC cable/2m ; 3*0.35mm²																
ACCESORIES																		
	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: EAM12MC4001A) (available)																

■ Input/Output circuit

