Miniature inductive proximity sensors series - Ø6.5mm 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

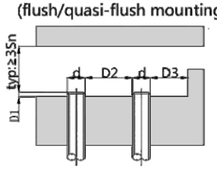
Inductive proximity switch is a low cost method for non-contact detection of metal objects, which is widely used in the following sectors, such as:
- Automotive Industry
- Metallurgical sector
- Machine tool sector
- Robot industry
- Conveyor system
- Paper and printing industry
- Mechanical Engineering

P/N table

Sensing distance	Sn: 2mm	Sn: 3mm
NPN , NO	VL1C-F6.5N-02NO-SMM8	VL1C-F6.5N-03NO-SMM8
NPN , NC	VL1C-F6.5N-02NC-SMM8	VL1C-F6.5N-03NC-SMM8
PNP , NO	VL1C-F6.5P-02NO-SMM8	VL1C-F6.5P-03NO-SMM8
PNP , NC	VL1C-F6.5P-02NC-SMM8	VL1C-F6.5P-03NC-SMM8

Installation

(flush/quasi-flush mounting)

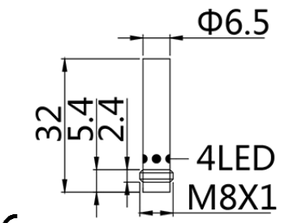


Sn	D1	D2	D3
H6.502	≥0	≥8	≥8
H6.503	≥2	≥8	≥8

M8 , 3 pin male connector

Product parameters

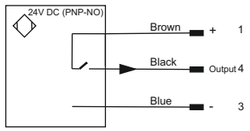
Features:
- Diameter Ø6.5 mm
- Sensing distance: P/N table
- Body material: Stainless steel
- Built-in electric protection
- Output: See P/N table
- Connection: 3 wires open cable
- Power supply: 24V DC, 3 wires



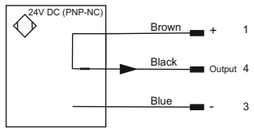
TECHNICAL INFORMATION		
INDUCTIVE SPECIFICATION		
	Sensing Distance	See P/N table
	Correction Factor	**Nav-ferrous metal** / **Factor** Fe360 / 1 Aluminum / 0.35 ~ 0.45 Brass / 0.35 ~ 0.5 Copper / 0.35 ~ 0.45 Stainless Steel / 0.35 ~ 0.45 Cast Iron / 0.93 ~ 1.05 Nickel / 0.65 ~ 0.75
	Mounting	Flush type installation
	Switching Histeresis	< 10%
ELECTRICAL DATA		
	Operating Voltage	10~30V DC
	Switching Frequency	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 ℃
	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

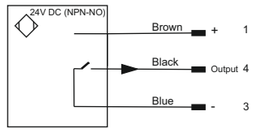
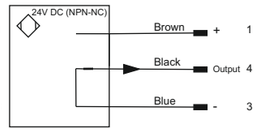
DC 3 wire PNP – N.O



DC 3 wire PNP – N.C



DC 3 wire NPN – N.O



DC 3 wire NPN – N.C