Common inductive proximity sensors series - Q40 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.

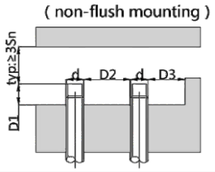
Application

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: 20mm	Sn: 30mm	Sn: 40mm
NPN , NO	VL1C-NFQ40N-20NO-LM12	VL1C-NFQ40N-30NO-LM12	VL1C-NFQ40N-40NO-LM12
NPN , NC	VL1C-NFQ40N-20NC-LM12	VL1C-NFQ40N-30NC-LM12	VL1C-NFQ40N-40NC-LM12
PNP , NO	VL1C-NFQ40P-20NO-LM12	VL1C-NFQ40P-30NO-LM12	VL1C-NFQ40P-40NO-LM12
PNP , NC	VL1C-NFQ40P-20NC-LM12	VL1C-NFQ40P-30NC-LM12	VL1C-NFQ40P-40NC-LM12

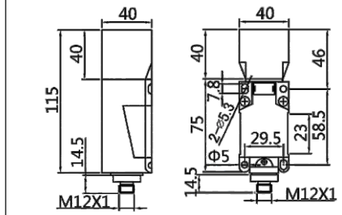
Installation



M12 Connector, 4 pin

Product parameters

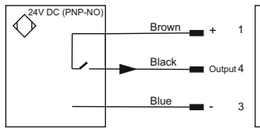
Features:
- Diameter Q40
- Sensing distance: P/N table
- Body material: Nickel plated brass
- Built-in electric protection
- Output: See P/N table
- Connection: M12, 4 pins connector
- Power supply: 24V DC, 3 wires



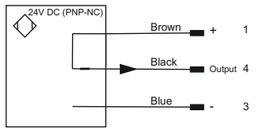
TECHNICAL INFORMATION		
INDUCTIVE SPECIFICATION		
	Sensing Distance	See P/N table
	Correction Factor	**Nav-ferrous metal** / **Factor** Fe360 / 1 Aluminum / 0.35 ~ 0.45 Brass / 0.35 ~ 0.5 Copper / 0.35 ~ 0.45 Stainless Steel / 0.35 ~ 0.45 Cast Iron / 0.93 ~ 1.05 Nickel / 0.65 ~ 0.75
	Mounting	Non Flush type installation
	Switching Histeresis	< 10%
ELECTRICAL DATA		
	Operating Voltage	10~30V DC
	Switching Frequency	300Hz / 300Hz / 100Hz
	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	PBT
	Face Material	PBT
ELECTRICAL CONNECTION DATA		
	Connector	M12, 4 pins connector
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, Female type, IP67, Straight, Female, Screw connection (P/N: EAM12MC4001A) (available)

Input/Output circuit

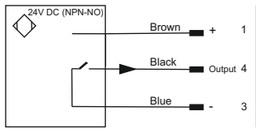
DC 3 wire PNP – N.O



DC 3 wire PNP – N.C



DC 3 wire NPN – N.O



DC 3 wire NPN – N.C