# Common inductive proximity sensors series - Q40 size AC 2 wire, AC/DC 2 wire, Switching ouput

## 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.

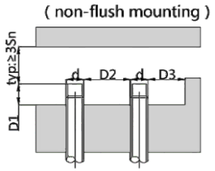
## Application

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

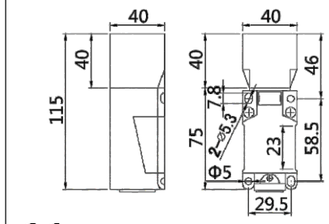
| Sensing distance | Sn: 20mm | Sn: 30mm | |
|---|---|---|---|
| 2 Wire , AC, NO | VL1A-NFQ40-20NO-ACLT | VL1A-NFQ40-30NO-ACLT | |
| 2 Wire , AC, NC | VL1A-NFQ40-20NC-ACLT | VL1A-NFQ40-30NC-ACLT | |
| 2 Wire , AC/DC, NO | VL1A-NFQ4O-20NO-AC/DCLT | VL1A-NFQ40-30NO-AC/DCLT | |
| 2 Wire , AC/DC, NC | VL1A-NFQ40-20NC-AC/DCLT | VL1A-NFQ40-30NC-AC/DCLT | |

## Installation




## Product parameters

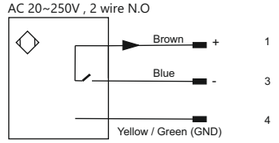
**Features:**
- Diameter Q40
- Sensing distance: P/N table
- Body material: Nickel plated brass
- Built-in electric protection
- Output: See P/N table
- Connection: Terminal connection up to 2.5mm²
- Power supply: 20~250V AC ; 20~250V AC/DC




| | | |
|---|---|---|
| **TECHNICAL INFORMATION** | | |
| **INDUCTIVE SPECIFICATION** | | |
| | Sensing Distance | See P/N table |
| | Correction Factor | **Nav-ferrous metal** / **Factor**<br>Fe360 / 1<br>Aluminum / 0.35 ~ 0.45<br>Brass / 0.35 ~ 0.5<br>Copper / 0.35 ~ 0.45<br>Stainless Steel / 0.35 ~ 0.45<br>Cast Iron / 0.93 ~ 1.05<br>Nickel / 0.65 ~ 0.75 |
| | Mounting | Non 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 ℃ |
| | Ingress Protection | IP67 |
| **MECHANICAL DATA** | | |
| | Housing Material | Nickel plated brass |
| | Face Material | PBT |
| **ELECTRICAL CONNECTION DATA** | | |
| | Connector | Terminal connection up to ; 2.5mm² |
| **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

AC/DC 20~250V OR
AC 20~250V , 2 wire N.O




AC/DC 20~250V OR
AC 20~250V , 2 wire N.C