

# ISD Series Long Distance Small Diameter Cylindrical Proximity Switch

Milbbo



- Features
- Easy for connection, installation and application
- Super long sensing distance
- Stable and reliable
- Flexible cable
- Degree of protection: IP67
- Ambient temperature: -25~+70°C

| ISD                  | 06                                   | - | 04                                                                         | NA                                                                  | N                                         |
|----------------------|--------------------------------------|---|----------------------------------------------------------------------------|---------------------------------------------------------------------|-------------------------------------------|
| Series<br>ISD Series | Size<br>03: Φ3<br>05: Φ4<br>06: Φ6.5 |   | Sensing Distance<br>01: 1mm<br>1R5: 1.5mm<br>02: 2mm<br>03: 3mm<br>04: 4mm | Output Mode<br>NA: NPN NO<br>NB: NPN NC<br>PA: PNP NO<br>PB: PNP NC | Shielding<br>F: Shielded<br>N: Unshielded |

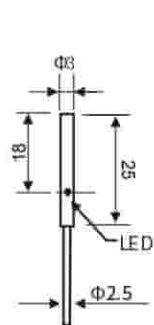
| Model  |             |                            |              |                |             |             |             |             |
|--------|-------------|----------------------------|--------------|----------------|-------------|-------------|-------------|-------------|
| NPN NO | ISD03-01NAF | ISD03-01NAF-S <sup>③</sup> | ISD04-1R5NAF | ISD04-1R5NAF-S | ISD06-02NAF | ISD06-03NAF | ISD06-04NAN | ISD06-06NAN |
| NPN NC | ISD03-01NBF | ISD03-01NBF-S              | ISD04-1R5NBF | ISD04-1R5NBF-S | ISD06-02NBF | ISD06-03NBF | ISD06-04NBN | ISD06-06NBN |
| PNP NO | ISD03-01PAF | ISD03-01PAF-S              | ISD04-1R5PAF | ISD04-1R5PAF-S | ISD06-02PAF | ISD06-03PAF | ISD06-04PAN | ISD06-06PAN |
| PNP NC | ISD03-01PBF | ISD03-01PBF-S              | ISD04-1R5PBF | ISD04-1R5PBF-S | ISD06-02PBF | ISD06-03PBF | ISD06-04PBN | ISD06-06PBN |

| Specification                                  |                                                                                            |      |                                               |      |                           |                         |                           |                         |
|------------------------------------------------|--------------------------------------------------------------------------------------------|------|-----------------------------------------------|------|---------------------------|-------------------------|---------------------------|-------------------------|
| Sensing Distance <sup>①</sup>                  | 1mm                                                                                        |      | 1.5mm                                         |      | 2mm                       | 3mm                     | 4mm                       | 6mm                     |
| Set Distance                                   | 0~0.8mm                                                                                    |      | 0~1.2mm                                       |      | 0~1.6mm                   | 0~2.4mm                 | 0~3.2mm                   | 0~4.8mm                 |
| Standard Sensing Object                        | 3×3×1mm Ferrous metal                                                                      |      | 4×4×1mm Ferrous metal                         |      | 6.5×6.5×1mm Ferrous metal | 12×12×1mm Ferrous metal | 6.5×6.5×1mm Ferrous metal | 12×12×1mm Ferrous metal |
| Response Frequency <sup>②</sup>                | 1KHz                                                                                       |      | 1KHz                                          |      | 1KHz                      | 500Hz                   | 800Hz                     | 400Hz                   |
| Response Time                                  | 0.3ms                                                                                      |      | 0.3ms                                         |      | 0.1ms                     | 0.5ms                   | 0.2ms                     | 1ms                     |
| Differential Travel                            | 15% Max. of sensing distance                                                               |      |                                               |      |                           |                         |                           |                         |
| Detectable Object                              | Ferrous Metal (The sensing distance decreases with non-ferrous metal. Refer to Data sheet) |      |                                               |      |                           |                         |                           |                         |
| Power Supply Voltage (Operating Voltage Range) | 12~24VDC, Ripple(p-p) 10% Max. (10~30DC full wave rectifier power supply)                  |      |                                               |      |                           |                         |                           |                         |
| Current Consumption                            | 10mA Max. @240VDC                                                                          |      |                                               |      |                           |                         |                           |                         |
| Load Current                                   | Max.100mA                                                                                  |      | Max.150mA                                     |      |                           |                         |                           |                         |
| Residual Voltage                               | 1.5V Max. @100mA load and 2M cable                                                         |      |                                               |      |                           |                         |                           |                         |
| Leakage Current                                | 0.01mA Max. @ 24VDC                                                                        |      |                                               |      |                           |                         |                           |                         |
| Indicators                                     | Red                                                                                        |      |                                               |      |                           |                         |                           |                         |
| Operation Mode                                 | NA-Model: NO, NB-Model: NC.                                                                |      |                                               |      |                           |                         |                           |                         |
| Short Circuit Protection                       | —                                                                                          |      | ≥180mA                                        |      |                           |                         |                           |                         |
| Protection Circuit                             | —                                                                                          |      | Reverse Polarity protection, Surge suppressor |      |                           |                         |                           |                         |
| Ambient Temperature Range                      | Operating / storage: -25~+70°C (with no icing or condensation)                             |      |                                               |      |                           |                         |                           |                         |
| Ambient Humidity Range                         | Operating / storage: 35-95% (with no condensation)                                         |      |                                               |      |                           |                         |                           |                         |
| Temperature Influence                          | ±10% Max. of sensing distance @+25°C in the temperature range                              |      |                                               |      |                           |                         |                           |                         |
| Insulation Resistance                          | 50MΩ Min. (at 500VDC) between current carrying parts and case                              |      |                                               |      |                           |                         |                           |                         |
| Dielectric Strength                            | 1000VAC 50/60Hz for 1 minute between current carrying parts and case                       |      |                                               |      |                           |                         |                           |                         |
| Vibration/Shock Resistance                     | IEC 60947-5-2,Part7.4.1 / IEC 60947-55-2,Part7.4.2                                         |      |                                               |      |                           |                         |                           |                         |
| EMC                                            | RFI>3V/M / EFT>1KV / ESD>4KV(contact)                                                      |      |                                               |      |                           |                         |                           |                         |
| Degree of Protection                           | IEC standards EN60529:IP67                                                                 |      |                                               |      |                           |                         |                           |                         |
| Connection Method                              | Pre-wired 2M                                                                               |      |                                               |      |                           |                         |                           |                         |
| Weight (Packed state)                          | ~15g                                                                                       | ~15g | ~20g                                          | ~20g | ~20g                      | ~20g                    | ~23g                      | ~23g                    |
| Materials of Case                              | Stainless Steel                                                                            |      |                                               |      |                           |                         |                           |                         |
| Materials of Sensing Surface                   | PA66                                                                                       |      |                                               |      | PBT                       |                         |                           |                         |
| Accessories                                    | —                                                                                          |      |                                               |      |                           |                         |                           |                         |

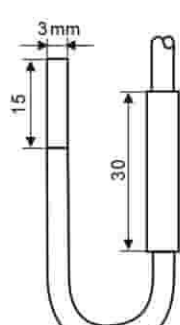
① Sensing distance, range ±10%. ② Response frequency is an average value. Measure condition is as follow: standard sensing object, a setting distance of half the sensing distance. ③ -s for the short circuit board separation shape

## Dimension Diagram

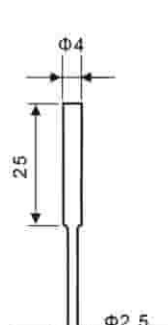
Unit: mm



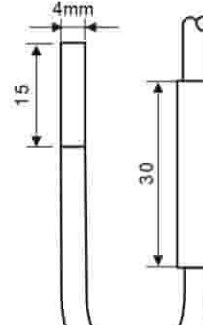
IS03 Series



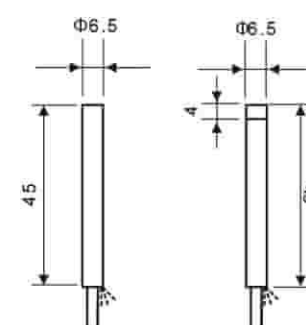
IS03-S Series



IS04 Series



IS04-S Series



IS06 Series

## Wiring Diagram

