

Inductive Sensor

Welding Field Resistant with Correction Factor 1

I1QA001

Part Number



- **Extended temperature range**
- **Greatest possible switching distances with correction factor 1**
- **Very good magnetic and electromagnetic immunity**
- **Very high switching frequency**

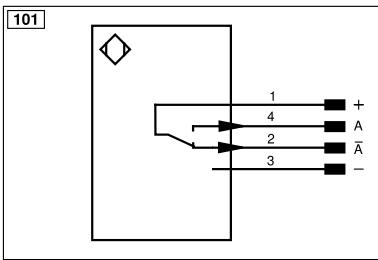
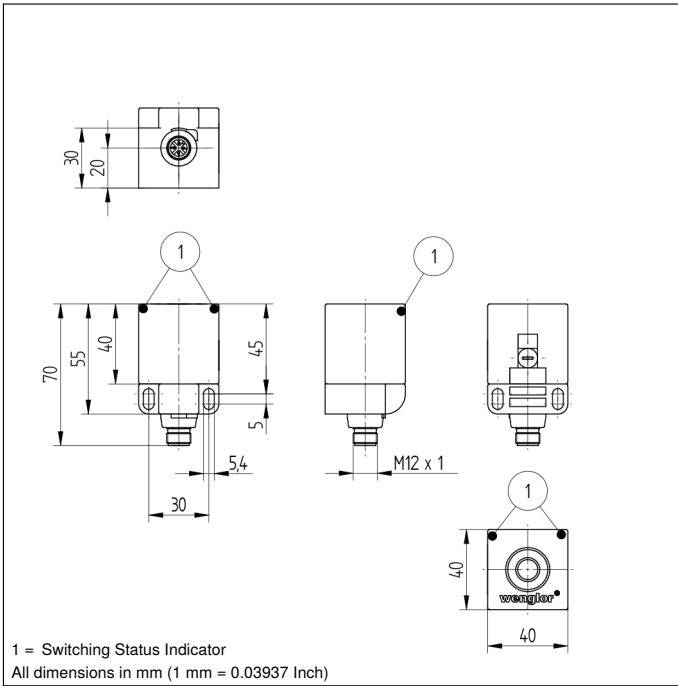
Welding field resistant inductive sensors with correction factor 1 offer a unique combination of technical performance features: increased switching distances for reliable object detection, high switching frequencies for applications with high process speeds and an extended temperature range for use under various ambient conditions. A switching status LED for diagnosis functions reduces system downtime. In order to simplify integration, all housing designs are available in flush or non-flush mounting variants.

Technical Data

| Inductive Data | |
|--|--------------------|
| Switching Distance | 20 mm |
| Correction Factors Stainless Steel V2A/CuZn/Al | 1,04/1,04/1,04 |
| Mounting | Flush |
| Mounting A/B/C/D in mm | 0/15/60/0 |
| Switching Hysteresis | < 15 % |
| Electrical Data | |
| Supply Voltage | 10...30 V DC |
| Current Consumption (U _b = 24 V) | < 15 mA |
| Switching Frequency | 1500 Hz |
| Temperature Drift (-25 °C < Tu < 60 °C) | 10 % |
| Temperature Drift (Tu < -25 °C, Tu > 60 °C) | 20 % |
| Temperature Range | -40...80 °C |
| Switching Output Voltage Drop | < 2,5 V |
| Switching Output/Switching Current | 200 mA |
| Resistant to Magnetic Fields | 200 mT |
| Short Circuit Protection | yes |
| Reverse Polarity and Overload Protection | yes |
| Protection Class | II |
| Mechanical Data | |
| Housing Material | Plastic, ABS |
| Sensing face | Plastic, PBT |
| Sensor Cap | Plastic, PBT, PTFE |
| Welding Field Resistant | yes |
| Full Encapsulation | yes |
| Degree of Protection | IP67 |
| Connection | M12 × 1; 4-pin |
| Safety-relevant Data | |
| MTTFd (EN ISO 13849-1) | 2099,41 a |
| Function | |
| Error Indicator | yes |
| Packaging unit | 1 Piece |
| PNP NC, PNP NO | ● |
| Connection Diagram No. | 101 |
| Suitable Connection Equipment No. | 2 |

Complementary Products

PNP-NPN Converter BG2V1P-N-2M



| Legend | | | | |
|-----------|--|----------|--|---------------------|
| + | Supply Voltage + | nc | Not connected | |
| - | Supply Voltage 0 V | U | Test Input | |
| ~ | Supply Voltage (AC Voltage) | Ü | Test Input inverted | |
| A | Switching Output (NO) | W | Trigger Input | |
| Ā | Switching Output (NC) | W- | Ground for the Trigger Input | |
| V | Contamination/Error Output (NO) | O | Analog Output | |
| ȳ | Contamination/Error Output (NC) | O- | Ground for the Analog Output | |
| E | Input (analog or digital) | BZ | Block Discharge | |
| T | Teach Input | Amv | Valve Output | |
| Z | Time Delay (activation) | a | Valve Control Output + | |
| S | Shielding | b | Valve Control Output 0 V | |
| RxD | Interface Receive Path | SY | Synchronization | |
| TxD | Interface Send Path | SY- | Ground for the Synchronization | |
| RDY | Ready | E+ | Receiver-Line | |
| GND | Ground | S+ | Emitter-Line | |
| CL | Clock | ± | Grounding | |
| E/A | Output/Input programmable | SnR | Switching Distance Reduction | |
| IO-Link | IO-Link | Rx+/- | Ethernet Receive Path | |
| PoE | Power over Ethernet | Tx+/- | Ethernet Send Path | |
| IN | Safety Input | Bus | Interfaces-Bus A(+)/B(-) | |
| OSSD | Safety Output | La | Emitted Light disengageable | |
| Signal | Signal Output | Mag | Magnet activation | |
| BI_D+/- | Ethernet Gigabit bidirect. data line (A-D) | RES | Input confirmation | |
| ENo RS422 | Encoder 0-pulse 0/0 (TTL) | EDM | Contact Monitoring | |
| PT | Platinum measuring resistor | ENARs422 | Encoder A/Ā (TTL) | |
| | | | Encoder B/B̄ (TTL) | |
| | | | ENa | Encoder A |
| | | | ENb | Encoder B |
| | | | AMIN | Digital output MIN |
| | | | AMAX | Digital output MAX |
| | | | Aok | Digital output OK |
| | | | SY In | Synchronization In |
| | | | SY OUT | Synchronization OUT |
| | | | OLT | Brightness output |
| | | | M | Maintenance |
| | | | rsv | Reserved |
| | | | Wire Colors according to DIN IEC 60757 | |
| | | | BK | Black |
| | | | BN | Brown |
| | | | RD | Red |
| | | | OG | Orange |
| | | | YE | Yellow |
| | | | GN | Green |
| | | | BU | Blue |
| | | | VT | Violet |
| | | | GY | Grey |
| | | | WH | White |
| | | | PK | Pink |
| | | | GNYE | Green/Yellow |

Mounting

