# Inductive Sensor
**for Extreme Temperature Ranges**

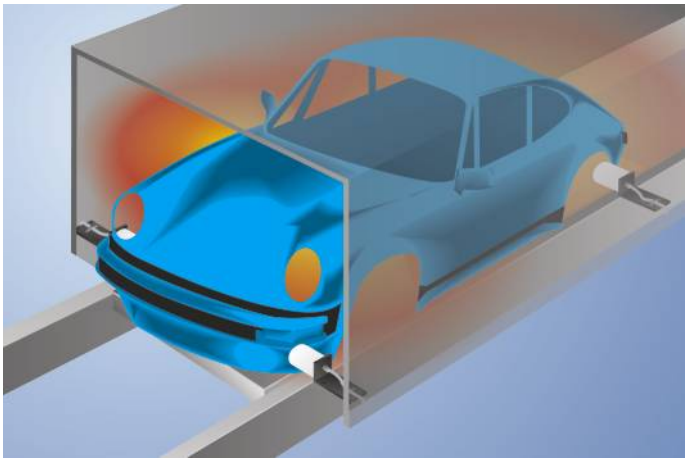
# INRT011
Part Number

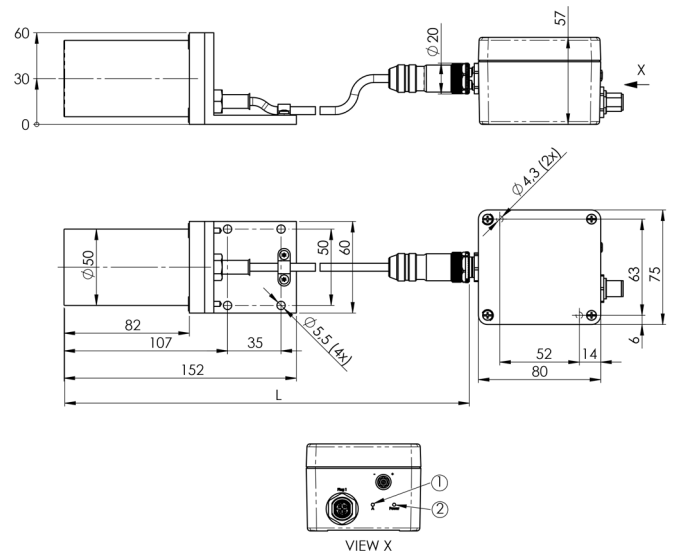
- **Large temperature range from -60 to 450° C**
- **Long service life of up to 100 000 hours**
- **Quickly interchangeable sensor head**

## Technical Data

| | |
|---|---|
| **Inductive Data** | |
| Switching Distance | 25 mm |
| Correction Factors Stainless Steel V2A/CuZn/Al | 1,27/1,29/1,33 |
| Mounting | non-flush |
| Mounting A/B/C/D in mm | 95/200/40/85 |
| Switching Hysteresis | < 10 % |
| **Electrical Data** | |
| Supply Voltage | 18...30 V DC |
| Current Consumption (Ub = 24 V) | < 70 mA |
| Switching Frequency | 200 Hz |
| Sensor head temperature range | -60...450 °C |
| Analysis module temperature range | 0...50 °C |
| Number of Switching Outputs | 2 |
| Switching Output Voltage Drop | < 3,5 V |
| Switching Output/Switching Current | 50 mA |
| Residual Current Switching Output | < 10 mA |
| Short Circuit Protection | yes |
| Reverse Polarity and Overload Protection | yes |
| Protection Class | III |
| Service Life | 100000 h |
| **Mechanical Data** | |
| Sensor head material | Ceramic |
| Analysis module material | Aluminum |
| Degree of protection, sensor head | IP60 |
| Degree of protection, analysis module | IP67 |
| Connection | M12 × 1; 4-pin |
| Cable Length (L) | 20 m |
| Outer diameter cable | 6,6 mm |
| PWIS-free | yes |
| PNP NO/NC antivalent | ● |
| Connection Diagram No. | 101 |
| Control Panel No. | A19 |
| Suitable Connection Equipment No. | 2 |

The sensors consist of a sensor head and an analysis module, and are laid out for use in very hot work environments. Together with unparalleled service life in hot surroundings, large switching distances assure maximum system availability. Easily interchangeable sensor heads with numerous standard cable lengths are additionally available as separate replacement partsSwitching distance can be quickly adjusted via a potentiometer within a temperature range of -60 to 450° C.

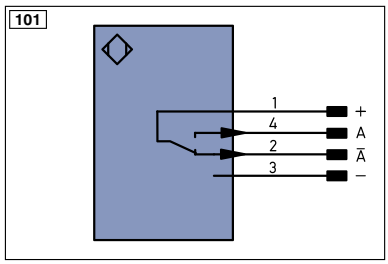





1 = Switching Status Indicator
2 = Supply Voltage Indicator
All dimensions in mm (1 mm = 0.03937 Inch)

## Ctrl. Panel


01 = Switching Status Indicator
05 = Switching Distance Adjuster
68 = supply voltage indicator



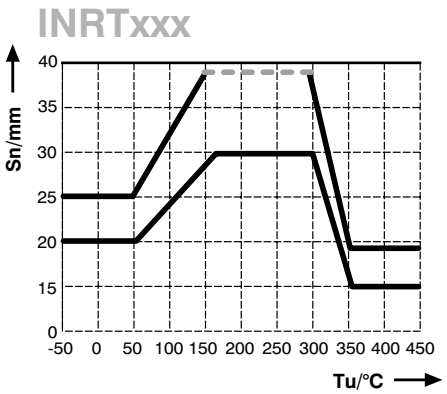

Legend

| | |
|---|---|
| + | Supply Voltage + |
| – | Supply Voltage 0 V |
| ~ | Supply Voltage (AC Voltage) |
| A | Switching Output (NO) |
| Ā | Switching Output (NC) |
| V | Contamination/Error Output (NO) |
| V̄ | Contamination/Error Output (NC) |
| E | Input (analog or digital) |
| T | Teach Input |
| Z | Time Delay (activation) |
| S | Shielding |
| RxD | Interface Receive Path |
| TxD | Interface Send Path |
| RDY | Ready |
| GND | Ground |
| CL | Clock |
| E/A | Output/Input programmable |
| | IO-Link |
| PoE | Power over Ethernet |
| IN | Safety Input |
| OSSD | Safety Output |
| Signal | Signal Output |
| BI_D+/- | Ethernet Gigabit bidirect. data line (A-D) |
| EN0 RS422 | Encoder 0-pulse 0-0̄ (TTL) |
| PT | Platinum measuring resistor |
| nc | not connected |
| U | Test Input |
| Ū | Test Input inverted |
| W | Trigger Input |
| W– | Ground for the Trigger Input |
| O | Analog Output |
| O– | Ground for the Analog Output |
| BZ | Block Discharge |
| AW | Valve Output |
| a | Valve Control Output + |
| b | Valve Control Output 0 V |
| SY | Synchronization |
| SY– | Ground for the Synchronization |
| E+ | Receiver-Line |
| S+ | Emitter-Line |
| ⏚ | Grounding |
| SnR | Switching Distance Reduction |
| Rx+/– | Ethernet Receive Path |
| Tx+/– | Ethernet Send Path |
| Bus | Interfaces-Bus A(+)/B(–) |
| La | Emitted Light disengageable |
| Mag | Magnet activation |
| RES | Input confirmation |
| EDM | Contactor Monitoring |
| ENA RS422 | Encoder A/Ā (TTL) |
| ENB RS422 | 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 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 |

## Switching Distance Deviation




Tu = Ambient temperature
Sn = Nominal Switching Distance
Switching Point
Switching output on