

# Inductive Sensor for Extreme Temperature Ranges

## INRT009

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 (U <sub>b</sub> = 24 V)	< 70 mA
Switching Frequency	200 Hz
Sensor head temperature range	-60...450 °C
Analysis module temperature range	0...50 °C
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)	15 m
PWIS-free	yes

PNP NO/NC antivalent

Connection Diagram No.

101

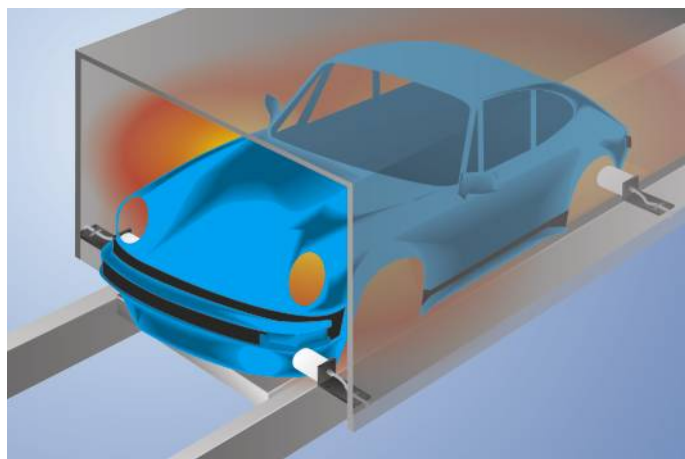
Control Panel No.

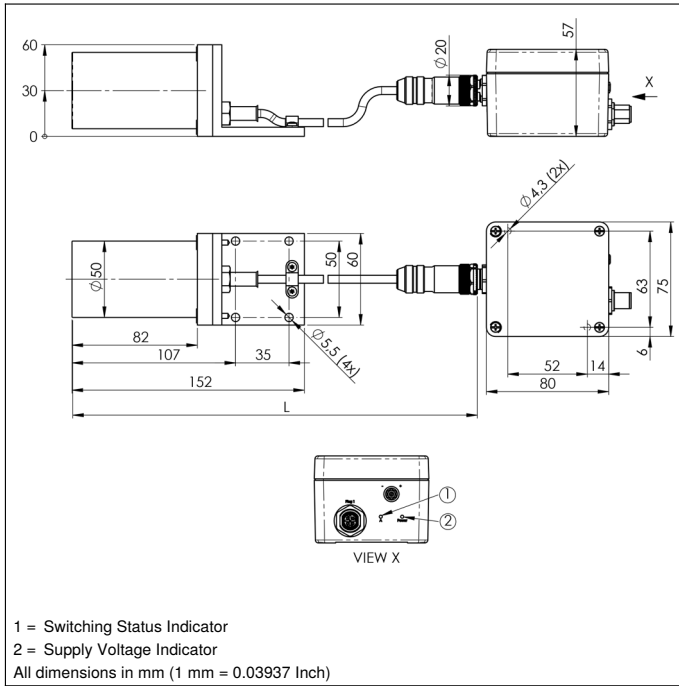
A19

Suitable Connection Technology 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 parts. Switching distance can be quickly adjusted via a potentiometer within a temperature range of -60 to 450° C.

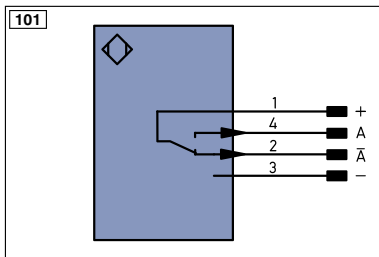





### Ctrl. Panel



01 = Switching Status Indicator  
 05 = Switching Distance Adjuster  
 68 = Supply Voltage Indicator



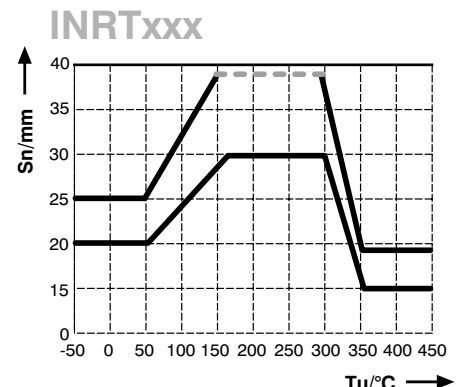
### Legend

<b>+</b>	Supply Voltage +	<b>PT</b>	Platinum measuring resistor	<b>ENa</b>	Encoder A
<b>-</b>	Supply Voltage 0 V	<b>nc</b>	not connected	<b>ENb</b>	Encoder B
<b>~</b>	Supply Voltage (AC Voltage)	<b>U</b>	Test Input	<b>AMIN</b>	Digital output MIN
<b>A</b>	Switching Output (NO)	<b>U</b>	Test Input inverted	<b>AMAX</b>	Digital output MAX
<b>Ā</b>	Switching Output (NC)	<b>W</b>	Trigger Input	<b>AOK</b>	Digital output OK
<b>V</b>	Contamination/Error Output (NO)	<b>O</b>	Analog Output	<b>SY In</b>	Synchronization In
<b>V̄</b>	Contamination/Error Output (NC)	<b>O-</b>	Ground for the Analog Output	<b>SY OUT</b>	Synchronization OUT
<b>E</b>	Input (analog or digital)	<b>BZ</b>	Block Discharge	<b>Out</b>	Brightness output
<b>T</b>	Teach Input	<b>AWV</b>	Valve Output	<b>M</b>	Maintenance
<b>Z</b>	Time Delay (activation)	<b>a</b>	Valve Control Output +		
<b>S</b>	Shielding	<b>b</b>	Valve Control Output 0 V		
<b>RxD</b>	Interface Receive Path	<b>SY</b>	Synchronization		
<b>TxD</b>	Interface Send Path	<b>E+</b>	Receiver-Line		
<b>RDY</b>	Ready	<b>S+</b>	Emitter-Line		
<b>GND</b>	Ground	<b>≡</b>	Grounding		
<b>CL</b>	Clock	<b>SnR</b>	Switching Distance Reduction		
<b>E/A</b>	Output/Input programmable	<b>Rx+/-</b>	Ethernet Receive Path		
	<b>IO-Link</b>	<b>Tx+/-</b>	Ethernet Send Path		
<b>PoE</b>	Power over Ethernet	<b>Bus</b>	Interfaces-Bus A(+)/B(-)		
<b>IN</b>	Safety Input	<b>La</b>	Emitted Light disengageable		
<b>OSSD</b>	Safety Output	<b>Mag</b>	Magnet activation		
<b>Signal</b>	Signal Output	<b>RES</b>	Input confirmation		
<b>Bl_D+/-</b>	Ethernet Gigabit bidirect. data line (A-D)	<b>EDM</b>	Contactorm Monitoring		
<b>EN0_9542</b>	Encoder 0-pulse 0-0 (TTL)	<b>ENa9542</b>	Encoder A/Ā (TTL)		
		<b>ENb9542</b>	Encoder B/B̄ (TTL)		

### Wire Colors according to DIN IEC 757

<b>BK</b>	Black
<b>BN</b>	Brown
<b>RD</b>	Red
<b>OG</b>	Orange
<b>YE</b>	Yellow
<b>GN</b>	Green
<b>BU</b>	Blue
<b>VT</b>	Violet
<b>GY</b>	Grey
<b>WH</b>	White
<b>PK</b>	Pink
<b>GNYE</b>	Green/Yellow

### Switching Distance Deviation



Tu = Ambient temperature

Sn = Nominal Switching Distance

— Switching Point

■ Switching output on

