

Inductive Sensor for Extreme Temperature Ranges

INRT003

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 _b = 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)	5 m
PWIS-free	yes

PNP NO/NC antivalent

Connection Diagram No.

101

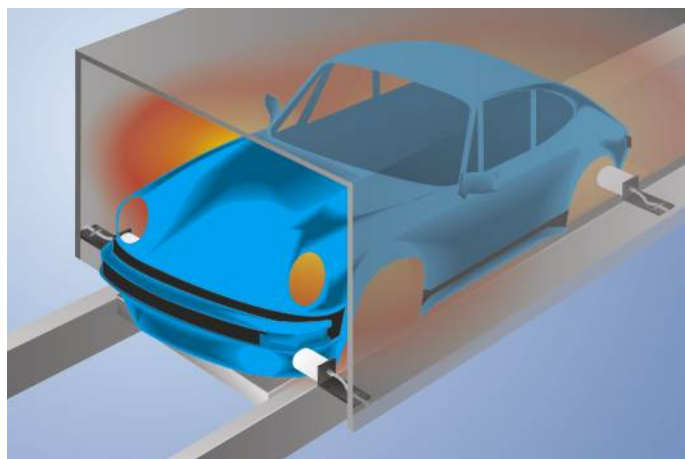
Control Panel No.

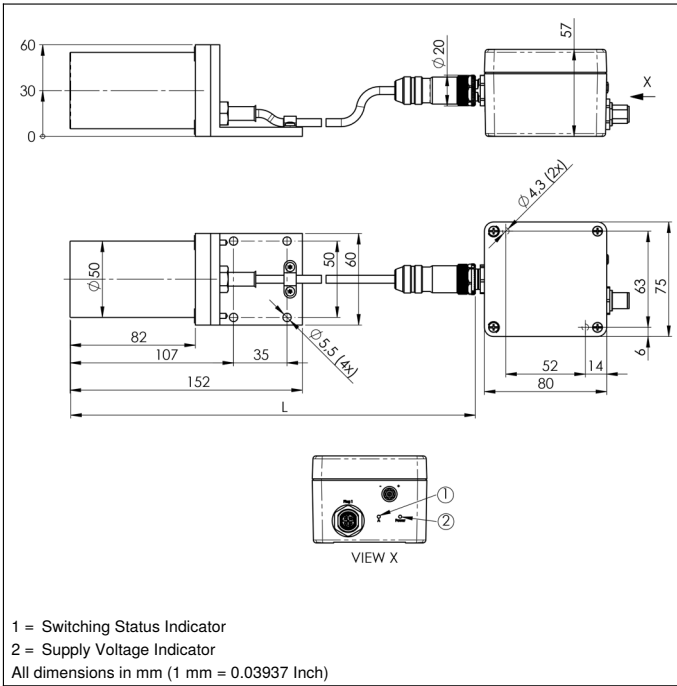
A19

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

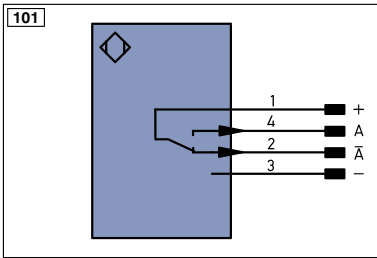




Ctrl. Panel



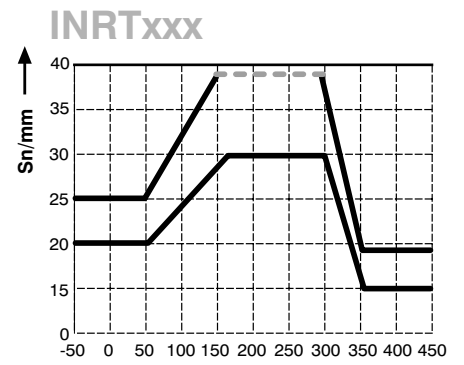
01 = Switching Status Indicator
 05 = Switching Distance Adjuster
 68 = Supply Voltage Indicator



Legend

+	Supply Voltage +	PT	Platinum measuring resistor	EN ^A RS422	Encoder A/Ā (TTL)
-	Supply Voltage 0 V	nc	not connected	EN ^B RS422	Encoder B/B̄ (TTL)
~	Supply Voltage (AC Voltage)	U	Test Input	EN ^A	Encoder A
A	Switching Output (NO)	Ū	Test Input inverted	EN ^B	Encoder B
Ā	Switching Output (NC)	W	Trigger Input	A _{MIN}	Digital output MIN
V	Contamination/Error Output (NO)	W-	Ground for the Trigger Input	A _{MAX}	Digital output MAX
Ṽ	Contamination/Error Output (NC)	O	Analog Output	A _{OK}	Digital output OK
E	Input (analog or digital)	O-	Ground for the Analog Output	SY _{in}	Synchronization In
T	Teach Input	BZ	Block Discharge	SY _{OUT}	Synchronization OUT
Z	Time Delay (activation)	A _{MV}	Valve Output	OL _T	Brightness output
S	Shielding	a	Valve Control Output +	M	Maintenance
RxD	Interface Receive Path	b	Valve Control Output 0 V	rsv	reserved
TxD	Interface Send Path	SY	Synchronization	Wire Colors according to DIN IEC 757	
RDY	Ready	SY-	Ground for the Synchronization	BK	Black
GND	Ground	E+	Receiver-Line	BN	Brown
CL	Clock	S+	Emitter-Line	RD	Red
E/A	Output/Input programmable	±	Grounding	OG	Orange
	IO-Link	S _n R	Switching Distance Reduction	YE	Yellow
PoE	Power over Ethernet	Rx+/-	Ethernet Receive Path	GN	Green
IN	Safety Input	Tx+/-	Ethernet Send Path	BU	Blue
OSSD	Safety Output	Bus	Interfaces-Bus A(+)/B(-)	VT	Violet
Signal	Signal Output	L _a	Emitted Light disengageable	GY	Grey
Bl_D+/-	Ethernet Gigabit bidirect. data line (A-D)	Mag	Magnet activation	WH	White
EN ⁰ RS422	Encoder 0-pulse 0-0̄ (TTL)	RES	Input confirmation	PK	Pink
		EDM	Contactur Monitoring	GNVE	Green/Yellow

Switching Distance Deviation



Tu = Ambient temperature

Sn = Nominal Switching Distance

— Switching Point

--- Switching output on

