

Inductive Sensor for Extreme Temperature Ranges

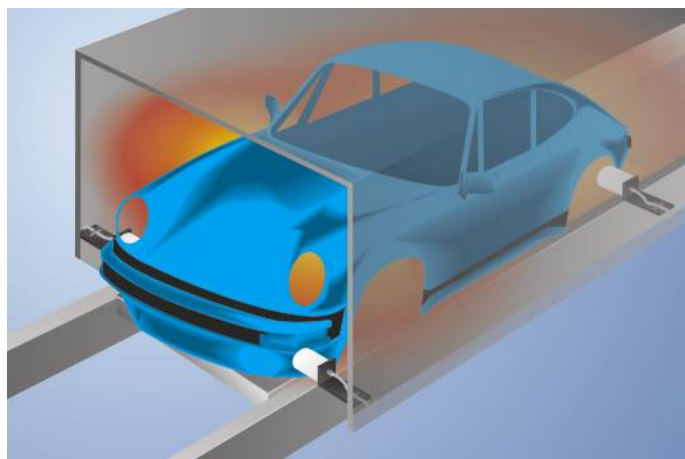
INRT003

Part Number



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

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.



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
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.

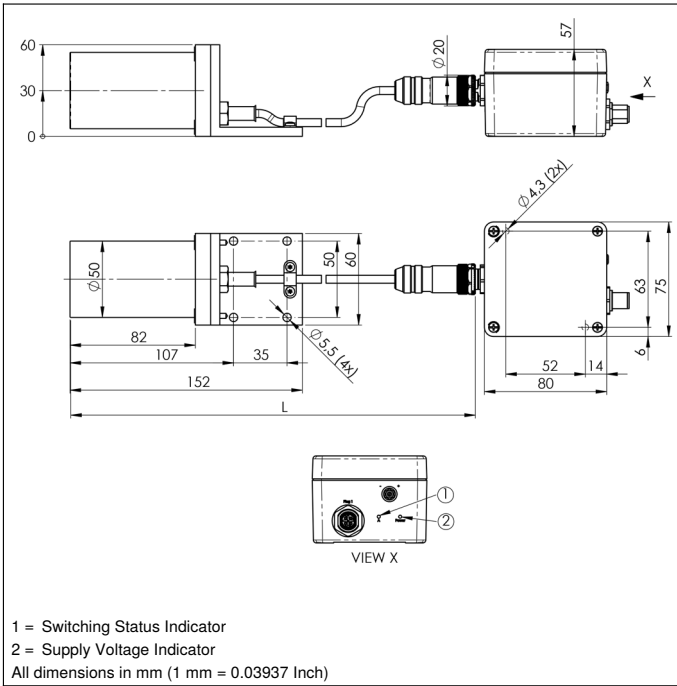
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Control Panel No.

A19

Suitable Connection Technology No.

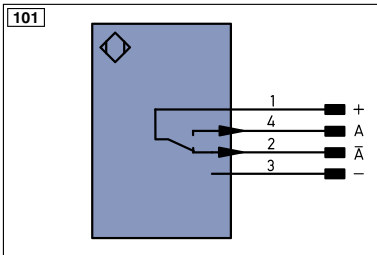
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Ctrl. Panel



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



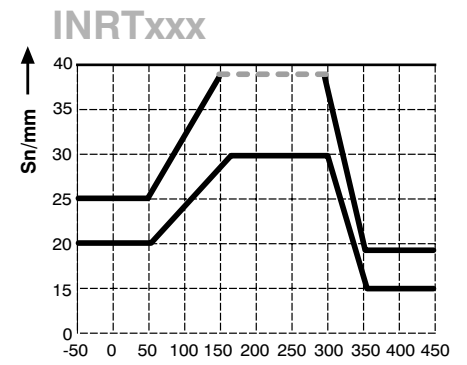
Legend

+	Supply Voltage +	PT	Platinum measuring resistor	ENa	Encoder A
-	Supply Voltage 0 V	nc	not connected	ENb	Encoder B
~	Supply Voltage (AC Voltage)	U	Test Input	AMIN	Digital output MIN
A	Switching Output (NO)	U	Test Input inverted	AMAX	Digital output MAX
Ā	Switching Output (NC)	W	Trigger Input	AOK	Digital output OK
V	Contamination/Error Output (NO)	O	Analog Output	SY In	Synchronization In
Ṽ	Contamination/Error Output (NC)	O-	Ground for the Analog Output	SY OUT	Synchronization OUT
E	Input (analog or digital)	BZ	Block Discharge	Out	Brightness output
T	Teach Input	AWV	Valve Output	M	Maintenance
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	E+	Receiver-Line		
RDY	Ready	S+	Emitter-Line		
GND	Ground	≡	Grounding		
CL	Clock	SnR	Switching Distance Reduction		
E/A	Output/Input programmable	Rx+/-	Ethernet Receive Path		
IO-Link	IO-Link	Tx+/-	Ethernet Send Path		
PoE	Power over Ethernet	Bus	Interfaces-Bus A(+)/B(-)		
IN	Safety Input	La	Emitted Light disengageable		
OSSD	Safety Output	Mag	Magnet activation		
Signal	Signal Output	RES	Input confirmation		
Bl..D+/-	Ethernet Gigabit bidirect. data line (A-D)	EDM	Contactorm Monitoring		
EN0..R542	Encoder 0-pulse 0-0 (TTL)	ENAR542	Encoder A/Ā (TTL)		
		ENBR542	Encoder B/B̄ (TTL)		

Wire Colors according to DIN IEC 757

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

