

## ITT1 Industrial Temperature Transmitter for Resistance Temperature Sensors (RTD)

### FEATURES

- Linearization of temperature measurement of Pt100 ... Pt1000 or Ni100 ... Ni1000 sensors
- Reliable conversion of a resistance value change into a standard analog current signal
- Cable compensation for 3-wire inputs
- Optional 4-wire input available
- Suitable for various head types
- Easy and fast programmable
- Programmable sensor error detection

### TYPICAL USES

- Chemical and petrochemical industry
- Machine and apparatus construction
- Food and beverage industry
- Pulp and paper industry



ITT1  
Head-Transmitter



### MECHANICAL SPECIFICATIONS

Dimensions:	Ø 44 x 20,2 mm
Weight:	50 g
Max. Wire Size:	1 x 1.5 mm <sup>2</sup> stranded wire
Torque Terminal Screw:	0,4 Nm

### ENVIRONMENTAL SPECIFICATIONS

Temperature Limits:	Storage:	-40 °C to +85 °C (-40 °F to 185 °F)
	Operating:	-40 °C to +85 °C (-40 °F to 185 °F)
	Calibration:	+20 °C to +28 °C (68 °F to 82 °F)
Humidity:	< 95 % R.H. (non-condensing)	
Ingress Protection:	Enclosure:	IP68
	Terminals:	IP00

### ACCURACY SPECIFICATIONS

Absolute Accuracy:	≤ ±0.1 % of span	
Temperature Coefficient:	≤ ±0.01 % of span / K	
Basic Accuracy:	RTD:	≤ ±0.3 K
	Ohm (linear R):	≤ ±0.2 Ω
Temperature Coefficient:	RTD:	≤ ±0.01 K / K
	Ohm (linear R):	≤ ±20 mΩ / K
Effect of EMC:	≤ ±0.5 % of span	

### ELECTRICAL SPECIFICATIONS

Supply Voltage:	8.0 ... 35 Vdc	
Internal Power Dissipation:	25 mW ... 0.8 W	
Voltage Drop:	8 Vdc	
Warm-up Duration:	5 minutes	
Programming:	Loop Link	
Signal / Noise Ratio:	60 dB (minimum)	
Response Time: (programmable)	0.33 ... 60 s	
Signal Dynamics:	Input:	19 bit
	Output:	16 bit
Effect of Supply Voltage Variation:	< 0,005 % of span / Vdc	

### KEY BENEFITS

- Easy install and programming
- High accuracy in your measurement setup
- Programmable error value correction of sensor
- RTD or Ohm input

### INPUT SPECIFICATIONS

Max. Span:	Pt100 ... Pt1000:	-200 °C to +850 °C
	Ni100 ... Ni1000:	-60 °C to +250 °C
	Linear resistance:	0 Ω to 10000 Ω
Min. Span:	Pt100 ... Pt1000:	25 °C
	Ni100 ... Ni1000:	25 °C
	Linear resistance:	30 Ω
Max. Offset:	50 % of selected max. value	
Max. Cable resistance: (per wire)	10 Ω	
Sensor Current:	0.2 mA < I < 0.4 mA	
Effect of Sensor Cable Resistance:	< 0.002 Ω / Ω	

### OUTPUT SPECIFICATIONS

Signal Range:	4 ... 20 mA with min. range 16 mA	
Update Time:	135 ms	
Load Resistance:	≤ (V <sub>supply</sub> - 8.0) / 0.023 [Ω]	
Load Stability:	< ±0.01 % of span / 100 Ω	

### SENSOR ERROR DETECTION SPECIFICATIONS

Programmable:	3.5 ... 23 mA	
NAMUR NE43 High Level:	23 mA	
NAMUR NE43 Low Level:	3.5 mA	

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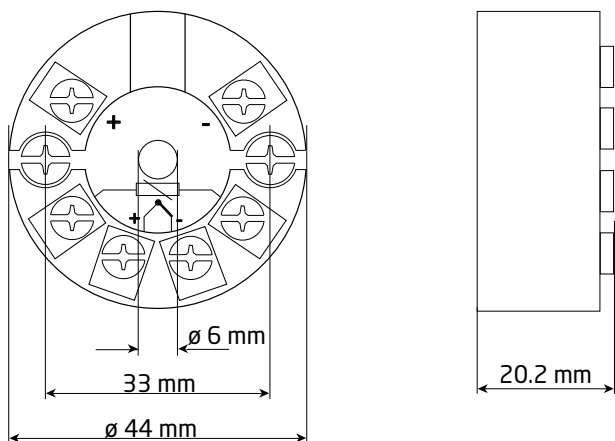
<b>ORDERING CODE</b>		<b>EXAMPLE:</b>	ITT1	1	N100C	200C	0P5	42	OFF	42	NH
<b>Model</b>			ITT1								
ITT1	Digital programmable RTD temperature transmitter		ITT1								
<b>Sensor</b>				1							
1	Pt100			1							
2	Pt1000										
3	Ni100										
<b>Temperature Range, low (within max. span)</b>					N100C						
N100C	-100 °C				N100C						
<b>Temperature Range, high (within max. span)</b>						200C					
200C	200 °C					200C					
<b>Response Time (in seconds, any value from 0.33 to 60)</b>							0P5				
0P5	0.5 s						0P5				
<b>Output Signal</b>								42			
42	4-20 mA							42			
24	20-4 mA										
<b>Sensor Error Detection</b>									OFF		
OFF	Inactive								OFF		
NE43U	NAMUR NE43, high level, 23 mA										
NE43D	NAMUR NE43, low level, 3.5 mA										
<b>Output Signal Limits</b>										42	
42	4-20 mA									42	
USER	Adjustable in the limits from 3,5 to 23 mA										
NE43	NAMUR NE43 3,8 to 20,5 mA										
MAX	Maximum limit 3,5 to 23 mA										
<b>Options (if choosing an option(s) must include a "X")</b>											
<b>Tagging</b>											
NH	Tag number programmed										NH



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## DIMENSIONS IN MM

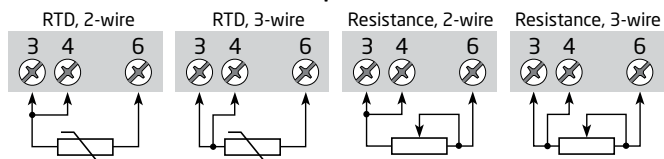
For reference only, consult Ashcroft for specific dimensional drawings



## ELECTRICAL CONNECTION AND SCHEMES

For reference only, consult Ashcroft for specific dimensional drawings

### Input:



### Output:

