Product Specification

Pyrometer TPT 300V/2-B-SI

Version 1.0

Table of Content

1 History

Version	Document name	Date	Purpose	Author
1.0	TPT_300V_2-B-SI_Specification.doc	09.02.2007	Creation	M. Basel

2 General Information

TPT 300 is a contact-less temperature measuring system - called pyrometer - based on the detection of infrared radiation.

TPT 300 is equipped with a lens and an infrared sensor (Thermopile) in front. It has to be pointed at the target object.

The basic working principle is:

- Detection of infrared radiation with a Thermopile sensor
- Further analog signal processing
- Calculation of the objects temperature using a microcontroller
- Providing the objects temperature at digital or analog output

The main fields of applications are temperature measuring in industrial applications i.e. at moving or inaccessible parts.

3 Absolute Maximum Ratings

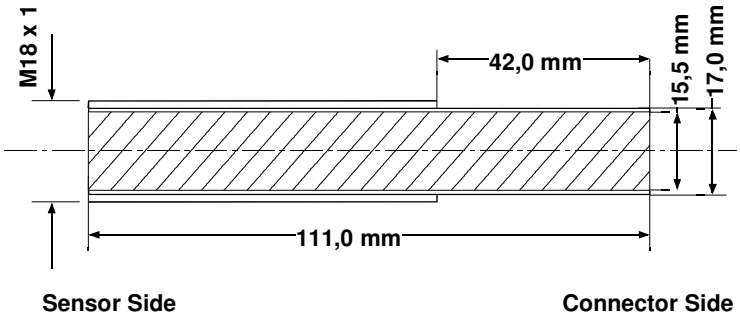
CAUTION: Exceeding these values may destroy this part! This part is not guaranteed to work properly under these conditions.

Parameter	Condition	Value	Unit
Operating Voltage		-1 .. 30	V
Ambient Temperature Range		-20 .. +85	℃

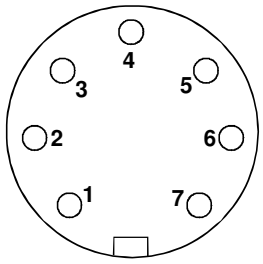
4 Technical Specification

Parameter	Condition	Value	Unit
Lens Type		IR Lens (Si)	
Field of View		± 5	°
Spectral Sensitivity		8 .. 14	µm
Emission Coefficient		0.1 – 1 (adjustable via RS232)	
Target Temperature Range		0 – +300	℃
Ambient Temperature Range		0 – +85	℃
Operating Voltage	Full ambient temp. range	9 – 24	V
Supply Current	Full ambient temp. range, typical value, no output load	22	mA
Digital Output Type		RS232	
Digital Output Settings		9600 Baud, 8 Bit, No Parity, 1 Stop Bit	
Data Output Rate		< 10 (adjustable via RS232)	Hz
Accuracy of Target Temp. Measuring	Tambient = 25℃	± 1% of Full Scale Range resp. ± 3 ℃	
Accuracy of Target Temp. Measuring	Full ambient temp. range	± 1.5% of Full Scale Range resp. ± 4.5 ℃	
Resolution Digital		0.3	℃
Analog Output Characteristics		TTarget[℃] x 5V/300℃	V
Analog Output Range		0.2 – 4.8	V
Resolution Analog		0.3	℃
Analog Output Source Resistance		40	Ω
Housing		Stainless steel	
Protection class		IP 65	

5 Dimensions



6 Terminals



Connector (Franz-Binder series 712, 7 poles)

Pin	Symbol	Description	Type
1	+VS	Supply Voltage	Supply
2	GND	Ground potential	Supply
3	NC		
4	NC		
5	AN	Analog Output (Voltage, Current)	Analog Output
6	RX/A	Receive Data (RS232)	Digital Input/Output
7	TX/B	Transmit Data (RS232)	Digital Input/Output

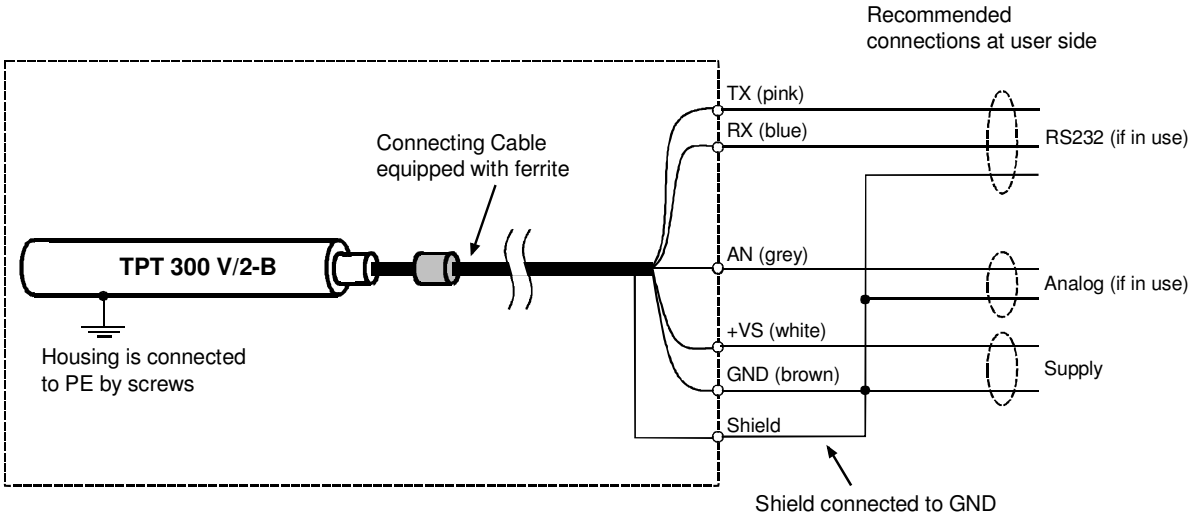
7 Options

Other Target Temperature ranges, Ambient Temperature ranges, Accuracy specifications, and Analog Output types (4 – 20 mA) are available on request.

8 CE Conformity

The sensor meets the normative requirements for use in industrial environment. The complete compliance with the norm is given under following conditions:

- Housing is connected to PE by screws
- HL connecting cable is used
- Shield is connected to GND at user side



If the user intends to employ his own connecting cable, it is recommended to equip this cable with a ferrite near the sensor. A suitable type is Würth #74271112.

9 Additional Information

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