

# **PT Compact USB**

**Resistance Thermometer** 

Programmable via USB-interface



The PT Compact USB is an additional member of the tecsis PT Compact series. The measuring range can be programmed according to the customers demands with especially developed software. The communication between the thermometer and a PC is done via an USB connection. Programming-Kits are not needed.

There are two models of the PT Compact USB. The standard model for temperatures from -50°C up to +200°C and a high temperature model for temperatures up to +600°C, which includes a 100 mm neck tube.

The output signal of the PT Compact USB is an analogue 4...20 mA signal.

In order to program the measuring range, it is necessary to remove the measuring insert from the housing. The USB-interface is placed directly on the electronic board of the thermometer.

Precautions have to be taken to avoid ESD-damages, while programming the electronics. You do not have to remove the thermowell of the PT Compact, in order to program the range, thus you do not have to stop your process.

All mechanical parts of the PT Compact USB are refered to the PT Compact-series. Different process connections, adjustable compression fittings, various stem-diameters and lengths are available. To achieve very fast response times, we provide a version with a tapered stem. All medium-affecting parts as well as the housing are made of stainless steel.

The electrical connection is made by a plug according to DIN EN 175301-803. Optionally a M12x1 connection is available



#### **Features**

- O simple programming, without programming unit
- O integrated USB-interface
- O high accuracy: 0,2% of measuring range
- O reprogrammable
- O Output signal: 4..20 mA
- O Service friendly

#### Models

- O -50°C up to +200°C (-60..+400°F)
- O -50°C up to +600°C (-60..+1100°F)

### Measuring range

Individual setting

Factory setting: maximum temperature range

### **Applications**

- O engineering
- O heating and cooling circuits, air condition technology
- O plant construction
- O environment engineering

Model: TEU11

## **Technical data**

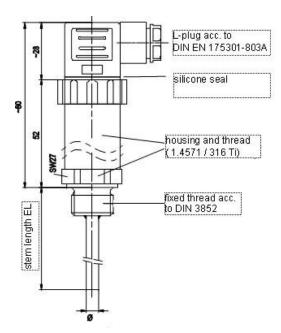
Ø6 x 0,75mm from stem 50mm to 1000mm: up to 40bar <sup>1)</sup> Ø8 x 1,75mm from stem 50mm to 1000mm: up to 100bar <sup>1)</sup> special parts manufactured for pressures up to 600 bar <sup>1)</sup> Ambient temperature accuracy  Transmitter: 0,2% (related to maximum temperature range)  Storage temperature  Electrical L-plug acc. to DIN EN 175301-803 form A		PT Compact USB			
Sensor  PT100 Class B Optional PT100 Class A  Supply voltage  4-20 mA, 2-wire supply voltage: 10 − 30 V DC ripple < 10%  Error signal  Sensor burnout: 23mA sensor burnout: 23mA sensor burnout: 23mA sensor short circuit: 3,3 mA  Temperature Range  -50°C +200°C / -60 +400°F (standard) factory setting: maximum temperature range, or acc. to customer requirements minimum measuring range: 30K maximum measuring range: adjustable compression fitting: G ½ A, G ¾ A, G ¾ A, G ¾ A, ½ NPT, ¼ NPT, M14x1,5 adjustable compression fitting: G ½ A, G ¾ A, G ¾ A, M, ½ NPT other connections on request  Stem length and pressure ranges¹¹  • Ø3mm fast reaction version with tapered stem up to 12 bar¹¹: stem length 50mm up to 100mm: Ø6 x 0,3mm with tapered stem Ø3 x 0,3mm from stem 150mm: Ø8 x 1,75mm with tapered stem to Ø6 x 0,3mm with tapered stem Ø3 x 0,3mr  • Ø6 x 0,75mm from stem 50mm to 1000mm: up to 40bar¹¹  • Special parts manufactured for pressures up to 600 bar¹¹  Ambient temperature accuracy Transmitter: 0,2% (related to maximum temperature range)  1-0°C up to +85°C  Transmitter: 0,2% (related to maximum temperature range)  1-0°C up to +85°C  Transmitter: 0,2% (related to maximum temperature range)  1-0°L up to +85°C  1-0°C up to +85°C	Output signal	4-20 mA			
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Process Connections    Fixed thread:   G ½ A, G ¾ A, G ¾ A, G ¾ A, ½"NPT, ¼"NPT, M14x1,5		minimum magauring range: 20K			
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Storage -40°C up to +85°C temperature  Electrical L-plug acc. to DIN EN 175301-803 form A		T ''' 0 00/ / 1 / 1 / 1			
temperature  Electrical  L-plug acc. to DIN EN 175301-803 form A					
Electrical L-plug acc. to DIN EN 175301-803 form A		-40°C up to +85°C			
		L plug ago to DIN EN 175201 902 form A			
	connection	optional: round connector, 4-pin, M12x1			
USB-interface Mini USB – Form B 5-pins		Mini IISB – Form B. 5-pins			
USB 1.0 transfer rate: 1,5 Mbit/s	OOD-IIIIGIIAGG				
EMC-resistance acc. to DIN EN 61326	EMC-resistance				
(with screened connection cable)		********			
Vibration dependend on the stem length	Vibration				
resistance for stem lengths up to 100mm: resistant up to 20g acc. DIN EN 60068-2-6					
Shock resistance shock resistant acc. DIN EN 837	Shock resistance				
Protection class IP65 acc. to DIN EN 60529 / IEC 529	Protection class	IP65 acc. to DIN EN 60529 / IEC 529			

- 1) Pressure ranges refer to static pressure; Rating depends on:
  - process medium
  - process pressure and temperature
     flow rate

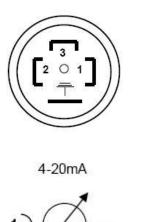
  - Stem design (length, diameter, wall thickness)

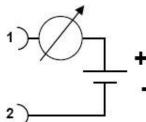
Article Key	Accessories
EZE53X011004	USB-Cable Mini-USB FormB
TEZ01X999003	CD1129 (Programming software + Drivers)

### **Dimensions**

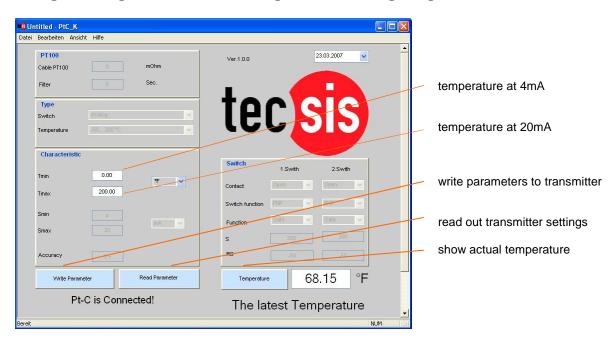


## Wiring diagram





## Programming-Software for setting the measuring range via USB



In order to set the measuring range, the plug connector must be removed and the measuring insert has to be taken out of the housing. After that the USB connection from PC to the interface on the board must be established. A detailed description, how to program the thermometer is given in the instruction manual.

Drivers and programming software can be procured direct at tecsis.



Free space for filling in the actual measuring range.

The measuring-range setting ex factory accords the maximum temperature range. Other ranges can be set on customers demand.

## Configuration

Output signal	4-20 mA (0-10V on demand)	_	TEU1	1
-				
	range and process connection			
diameter	3mm - tapered, fast reaction stem			1
	6mm - standard			2
	8 mm			3
temperature range	-50°C +200°C (-60400°F)			2
	-50°C +600°C (-601100°F)			4
process connection	G 1/2 A			1
	G 1/4 A			2
	G 3/8 A			2
	1/2" NPT			4
	1/4" NPT			5
	M14x1,5			6
	G 3/4 A			7
	others			
Type of process	fixed			
connection	adjustable			
stem length	50 mm (~2") only with fixed threads			
	75 mm (~3") only with fixed threads			
	100 mm (~4")			
	160 mm (~6")			
	200 mm (~8")			
	300 mm (~12")			
	400 mm (~16")			
	500 mm (~20")			
	other length			
Options				
sensor	PT100 Class A			
neck tube	(Standard for temperature-range -50600°C)	100mm		
	other length			
Round connector M1	2x1, 4-pin			