



## ITI 17

Programmable digital panel meter for measurements of temperature and process signals

ITI 17 is a programmable digital panel meter 96 x 48 mm for process, resistive probes and thermocouple measurements.

## Description

ITI 17 is a programmable digital panel meter 96 x 48 mm for process and temperature by resistive probes and thermocouple measurements. The software enables additional linearization to be set up for thermocouples type B, C, E, L, Mo, N, Pt, R, U and Pt100, Pt25 and Pt50. The connection of the probes is done using a removable screw connector.

- Panel meter size: 96 mm x 48 mm
- IP65 protected
- Two-color display for color change on alarm or pre-alarm
- Process signal measurement (0/4-20 mA, 0/100 mV /1 V / 10 V)
- Temperature measurement by Pt100 from -200°C to +850°C (0.01°C resolution up to 200°C) or by thermocouple type K, T, J or S
- Resistance measurement (10 mOhms to 400 Ohms)
- 2 different power supplies available:
  - 90 to 260 V~ 47/420 Hz and 115 to 300 V-
  - 20 to 60 V- and 18 to 44 V~ 47/420 Hz

### 3 versions:

- Version 0 : Panel meter only
- Version 1 : 2 limit relays, 1 programmable analogue output (4-20 mA or 0-10 V), 1 digital output RS232/485, MODBUS/ASCII
- Version 2 : 2 limit relays

# Specifications

## Process signal measurement indicator

Type	Range	Actual range	Resolution	Accuracy (1 year) (23°C ±5°C)	Comments
DC voltage	60 mV 100 mV 1 V 10 V 100 V	-6 to 75 mV -15 to +160 mV -0.1 to +1.2 V -1 to +12 V -10 to +120 V	1 µV 10 µV 100 µV 1 mV 10 mV	0.1% + 10 µV 0.1% + 20 µV 0.1% + 200 µV 0.1% + 2 mV 0.1% + 20 mV	Input impedance 10 MΩ 10 MΩ 1.11 MΩ 10 MΩ
DC current	20 mA 4-20 mA	-2 to 24 mA +3.2 to 24 mA	1 µA	0.1% + 4 µA	Loop power: 24 V ±10% @ 20 mA Applicable maximum current: 50 mA
Resistance	150 Ω 400 Ω	0 to 160 Ω 0 to 420 Ω	10 mΩ	0.1% + 20 mΩ 0.1% + 50 mΩ	3 wire measurement: add 0.05% L/Ω of leads

## RTD temperature indicator

Range	Actual range	Resolution	Accuracy over 1 year (23°C ±5°C)	Comments
150°C	-200 to +150°C	0.01°C	0.1% RDG + 0.05°C	3-wire measurement: add (0.05% RDG + 0.15°C)/Ω of leads
850°C	-200 to +850°C	0.1°C	0.1% RDG + 0.2°C	

Linearization compliant to EN 60751/1995 standard for platinum probe 100 Ω at 0°C and international scale of temperature ITS-90.

## Thermocouple temperature indicator

Type	Range (1)	Resolution	Accuracy over 1 year (23°C ±1°C) (2)
Tc K	-200 to -100°C -100 to +1370°C	0.1°C	±0.5% RDG 0.1% RDG + 0.3°C
Tc T	-200 to -100°C -100 to +400°C	0.1°C	±0.5% RDG 0.1% RDG + 0.3°C
Tc J	-200 to -100°C -100 to +1200°C	0.1°C	±0.4% RDG 0.1% RDG + 0.2°C

Tc S	-50 to +300°C +300 to 1768°C	1°C	±3°C 0.1% RDG + 1°C
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Uncertainty due to the internal reference junction: ±1°C

Uncertainty due to the use of an external reference junction (AN8002): ±0.2°C typical and 0.5°C max.

Linearization compliant to EN 60584-1/1995 standard and international scale of temperature ITS-90.

Possibility to add other thermocouples via software

## Further features

Measurement on potentiometers	Possible
Measurement hold	Short-circuit on the rear panel
Statistics	Memorizing of maximum and minimum values
Alarms	2 pre-alarm thresholds and 2 alarm thresholds with acknowledgment
Programmable thresholds and relays	In addition to the front LED indication, 2 relays can be used on alarms. Breaking capacity from the relays: 5 A / 250 V~, 1,250 VA or 5 A / 30 V-, 150 W max
Analogue output	Programmable in 0-10 V or 0-20 mA - Resistance of load: ≥ 1 kΩ sur 10 V, ≤ 800 Ω sur 20 mA - Insulation input/output: 60 V, except if the ITI supplies the sensor - Accuracy: ±(0.1% + 5 mV or 10 µA) - Resolution: 4,000 pts - Programmable in 2 points by the keyboard or software
Digital output	Programmable digital output by keyboard allowing communication in ASCII or MODBUS RTU for network applications When connected in network to transmitters or AOIP data acquisition systems and a PC equipped with AOIP softwareLW1, the instrument will display measurements in real or remote time in the form of synoptic, curves, numerical bargraphes, tables.
Scaling	Linear scaling in two points or linearization in 3 to 22 points
Sampling rate	2.5 samples / s

## General specifications

Size	104.5 x 57.5 x 101 mm
Weight	160 g

Display	Two-color display green / red with change of color on alarm or pre-alarm From -19,999 to 99,999 points, height: 14 mm
Supply	230 V at $\pm 10\%$ (50 / 60 Hz) Other power supplies available in option

## Environmental specifications

Reference range	23°C $\pm 5^\circ\text{C}$ (45 to 75 % w/o condensing)
Operating reference range	0 to 50°C (RH: 20 to 80 % w/o condensing)
Limit operating range	-10°C to +50°C
Storage conditions	-30°C to +70°C (RH: 10 to 80 % w/o condensing)
IP protection	IP40 in ABS case IP65 over front panel

## Safety specifications

Class	In accordance with EN 61010-1 Category II, pollution 2
Rated voltage	150 V
EMC conformity	

## Models and accessories

### Instrument:

Ordering reference code: ITI17-7-Power supply-Option code-Instruction manual

### Power supply:

20 to 60 VDC and 18 to 44 VAC - 47 / 420 Hz      5

115 to 300 VDC and 90 to 260 VAC - 47 / 420 Hz      8

### Option code:

Without      0

Alarm+ Analogue output+ RS MODBUS ASCII output      1

Alarm only      2

### Instruction Manual:

French      F

English      G

### Accessories:

AN8002      Cold Junction Compensation Module

ER42062-001      RC protection circuit