PROGRAMMABLE CONVERTER

TPI 41K

- **Universal input :**
  ±100mV, ±1V, ±10V, ±20mA, Pt100 3 wire, ΔPt100 2 wire, Ni 100, thermocouple, resistance and potentiometer.
  Typical response time 100ms (+40ms for the analog output).
- Supply for 2-wire sensor
- **1** insulated programmable **analog output** 0-4-20mA (active) current.
- **2 relay outputs** : 2 inverting relays. (8A/250 VAC on resistive load).
- **1** insulated **digital output** RS485 Modbus/Jbus

Detection of the sensor rupture.

Insulation between input / outputs / supply.

Self-zero, self-calibration and self-diagnosis

Mode driver : the analog output and the relays are piloted by the digital data link, or locally by the micro-console.
Function simulation of the input measure

Easy programming on front face by a micro-console or by PC software SUPERVision.

TPI 41K

Features

Programming by Micro-console

This miniaturised micro-console connected on the front face of the instruments with an extension flex allows :
The visualisation of the measure and the state of the analog outputs and the relays.
The visualisation and modification of the programming.
The teleloading of programming files for duplication to other converters.

Programming by PC : SUPERVision

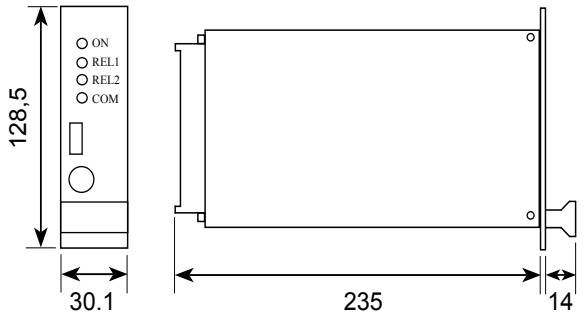
Software for programming and analysis (Windows environment) allowing :
The storage of configurations as files which can be consulted, modified, duplicated or loaded into the converters.
The edition and printing of files with or without connected converter.

Digital data link RS485 (Modbus/Jbus)

Allows communication with processing and explotation sets (PLCs), as well as a complete configuration of the input, the output and the safeties.
The reading of the measures by the digital data link is performed by programming, either in ASCII format or in double integer format.

Introduction: rack drawer 19" 3U Europe card 100 x 220 mm front face 6TE (30.42 mm).

Accessories: empty rack equipped for 1 to 14 drawers
Blank front face 6TE



Operating T° : -10° to 60°C
Storage T° : -20 to 70°C

Coding

Power supply : *High or low voltage (specify on order)*
(2) high voltage : 90...265 VAC or 88...350 VDC
(3) low voltage : 20...40 VAC or 20...64 VDC
Frequency of the supply : 50 Hz to 400 Hz (VAC)
Power draw : 4 W max. 6 VA max.

For a converter with universal input + analog output + 2 relays + digital output, powered in 230 V, request reference :

TPI41K ARN-2

ARDETEM 69510 SOUCIEU EN JARREST - France - **Tél. 04 72 31 31 30 - Fax. 04 72 31 31 31**

Technical features at 23°C

Inputs of the TPI41K

Types of **INPUTS**	Measure range adjustable from :	Intrinsic error	Resol. of the console	Input impedance
mA	-22 to +22mA with √♣	< ±0.05% of the MR Input resolution : 14 bits	10 µA	Drop 0.9V max.
mV♠	-110 to +110mV with √♣		10 µV	≥ 1MΩ
V	-11 to +11V with √♣		1 mV	
Thermocouples ♠ Standard IEC 581 J K B R S T E N L W W3 WRE5	°C °F -160/1200 -256/2192 -270/1370 -454/2498 200/1820 392/3308 -50/1770 -58/3218 -50/1770 -58/3218 -270/410 -454/770 -120/1000 -184/1832 0/1300 -32/2372 -150/910 -238/1670 1000/2300 1832/4172 0/2480 32/4496 0/2300 32/4172	♦(3) <±0.1% of the MR	0.1°C / 0.1°F	≥ 1 MΩ
Sensor Pt100Ω (1)♠ 3 wire, Standard IEC 751 (DIN 43760)	°C °F -200/850 -328/1562	<±0.1% of the MR	0.1°C / 0.1°F	Current 250µA
Sensor Ni 100 3 wr (1)♠	-60/260 -76/500			
Differential measures from 2 sensors Pt100Ω 2 wire Stand. IEC 751(2)♠	°C °F -200/270 -328/518			
Resistive sensors	Calibers 0-440 Ω and 0-2.2 kΩ ♣ (0-8.8 kΩ optional)	<±0.1% of the MR (0.5% for 0-2KΩ)	-	
Potentiometer	from 100Ω to10 kΩ ♣			
Supply for 2-wire sensor	14.0 min. (at 22mA), 14.5V min. (at 20mA), 23,1V max. protection from short circuits : 25 mA max.			
Special linearisation *programming up to 20 points*	On input : mV, V, mA. Resistive sensors and potentiometer			

(1) Line resistance <25Ω
(2) Line resistance <10Ω and R. max. 400Ω
(3) Or 25 µV typical (50µV Max.)
♦ CJC efficiency : ±0.03°C/°C ±0.5°C from -10°C to +60°C
MR measure range
√‾ Square root extraction

♠ A 12 µA pulsed current allows the detection of line or sensor rupture

♣ Cut off : the display of the µconsole and the TPI output remain at down scale for an input signal < value of the cut off, programmable from 0% to 100% of the input scale.

Thermic drift <150ppm /°C

Outputs of the TPI41K

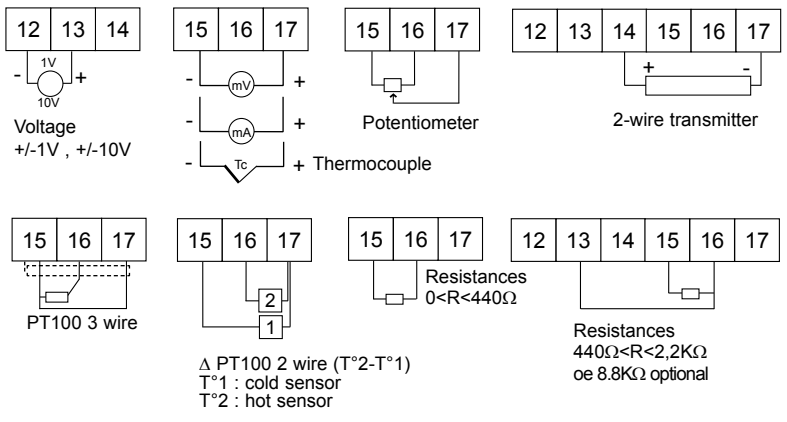
Types of OUTPUTS	Features
1 analog output (mA active)	Direct or inverted current 0-20mA Load impedance ≤ Lr 600Ω
2 NO/NC contact relays	2 setpoints per relay, configurable on the whole MR. Hysteresis programmable from 0 to 100%. Time delay programmable from 0 to 25s. (8A/250 VAC on resistive load).
Insulated digital data link	RS485 (Modbus/Jbus) (IEA RS485) 1 start bit, 8 data bits, without parity and 1 stop bit.

Galvanic partition :

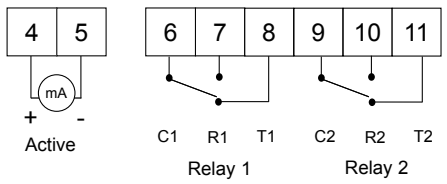
1kV-50Hz-1min. : Between analog output and digital output.
2kV-50Hz-1min. : Between supply and [analog outputs / relay contacts].
Between analog outputs and relay contacts.
3.8kV-50Hz-1min. : Between input and [supply / outputs].

Wiring

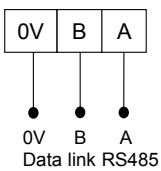
Inputs



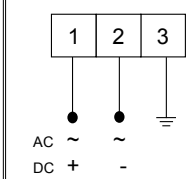
Analog and relay outputs



Output RS485



Power supply



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