

PROGRAMMABLE SIGNAL CONDITIONERS TPIv10



Features

- **Universal power supply:**
20 to 250 Vac and 20 to 250 Vdc
- **Universal input:**
100mV, 1V, 10V, 270V, 20mA, Pt100, Ni 100 (2, 3 or 4wire), Δ Pt100 thermocouple, resistance and potentiom.
- **Typical response time:** 300ms
- **Supply for 2-wire sensor**
- **Isolated analog output(s) (A/2A)**
0-4-20mA current (active/passive) or 0-10V voltage.

Relay outputs (R): 2 or 4 change-over relays (8A/250 VAC on resistive load).

Digital communications (N) isolated RS485 Modbus/Jbus

Sensor break detection and self-diagnosis.

Isolation input / outputs / supply.

Mode simulation allowing to validate the configuration or the installation.

Programming either with micro-console or by the PC software SlimSET via a standard USB/ μ USB cable.

Configuration

Easy programming on front face with a micro-console or with the PC software SlimSET (via a standard USB/ μ USB cable).

Programming with the Micro-console

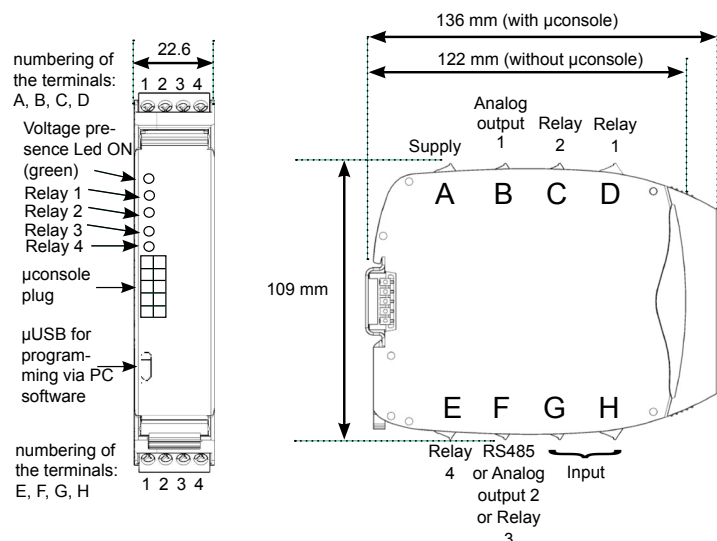
The graphical rear-lit LCD with tactile keyboard allows to visualise the following information:

- the measured value with its unit,
- the value of the analog output,
- the product tag name,
- the status of the relay outputs and the RS485 communications.
- Scrolling message for programming help in various languages
- Passcode protected programming

Programming by PC : SlimSET

Programming software (Windows environment) allowing:
The storage of the configurations as files which can be consulted, modified, duplicated or loaded into the converters.
The edition and printing of files with or without having a signal conditioner connected.

Dimensions



Features

- **Supply:** 20 to 250 Vac and 20 to 250Vdc
- **Power draw:** 2.8 W max. 8 VA max.
- **Dielectric withstanding:** 3.0 kV-50Hz-1min.
- **Operating temperature:** -20 to +60°C
- **Storage temperature:** -20 to +70°C
- **Installation:** Pollution degree 2 / voltage surge II
- Protection: case / terminals: IP 20
- Removable terminal blocks for screwed connections (2.5 mm², flexible or rigid)
- Weight: 290g (with packaging)
- Self-extinguishing case of black UL 94VO PA66.
- Mounting in switchbox: latching on symmetrical DIN rail.

Compliance with standards:

- Directive LV 2014/35/UE EN 61010-1
- Standard for UL electrical safety UL 61010-1
- CSA C22.2 NO.61010-1-12
- Directive ATEX 2014/34/UE area 2 EN 60079-0
- EN 60079-15
- Directive EMC 2014/30/UE EN 61326-1

Marking:



II 3 G Ex nA IIC T4 Gc



Process Control Equipment
E482453

Coding

Type **TPIv10 ARN**

Outputs:

- A** analog I/U isolated
- 2A** analog I/U isolated
- R** 2 change-over relays
- R4** 4 change-over relays
- N** RS 485 comms

Available versions:

TPIv 10	A	AR	2AR	N	AR4
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(consult with us for different configurations)

Order example: For s signal conditioner with universal input + 1 analog output + 2 relays: reference **TPIv 10 AR**

- Standard programming cable USB type A male to μ USB type B male: reference **C1- μ USB**
- CJC terminal (option): reference **B1CSF-4**

Features

Inputs

Types of INPUTS	Measure range adjustable from:		Permanent overload	Intrinsic error	Input impedance
mA(1)	-2 to +22mA		±100mA	< ±0.1% of the MR	Max. drop 0.9V
mV(1)	-10 to +110mV		±1V		≥ 1MΩ
V	-0.1 to +1.1V		±50V		
	-1 to +11V		±300V		
Thermocouples(1) Standard IEC 581 J K B R S T E N L W W3 WRE5	°C	°F	-	< ±0.1% of the MR or 30μV typical (60μV max.)	≥ 1 MΩ
	-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			
Pt100Ω sensor(1)(2) Standard IEC 751 (DIN 43760)	°C	°F	-	< ±0.1% of the MR	Current 250μA
	-200/850	-328/1562	-		
Ni 100 sensor (1)(2)	-60/260	-76/500	-	< ±0.1% of the MR	Max. current 250μA Max. voltage 100mV
Resistive sensors	Calibers 0-440 Ω(1)(2) and 0-10 kΩ	-	-		
Potentiometer	from 100Ω to 10 kΩ	-	-	-	-
2-wire sensor supply	24 Vdc ±15% with protection from short-circuits. 25 mA max.				
Special linearisation programming up to 20 points	On input: mV, V, mA, resistive sensor and potentiometer				
Extraction of the square root	On input mV, V or mA				

- (1) Sensor break detection:
mA input (if down scale ≥ 3,5mA)
Other inputs: a 12μA pulsed current allows the detection of line or sensor break.
- (2) Wiring possible in 2, 3 and 4 wire
Influence of the line resistance (0<RI<25Ω) included in the announced intrinsic error.
- (3) CJC efficiency:
Internal CJC: ±2°C ±0.03°C/°C from -10°C to +50°C
CJC (option terminal) : ±1°C from -10°C to +50°C
- MR Measure range
Thermal drift <150ppm /°C

Outputs

Code	Types of OUTPUTS	Features
A	1 analog Current active/passive Voltage	Current: Direct or reversed 0-20mA Load impedance ≤ Lr 600Ω Voltage: Direct or reversed 0-10V Load impedance ≥ Lr 5KΩ
2A	2 analog isolated Current active/passive Voltage	Accuracy: 0.1% in relation to the display Ripple: 0.2% Response time in relation to the display: 40ms
R	2 change-over relays	2 setpoints per relay configurable over the whole MR.
R4	4 change-over relays	Hysteresis programmable from 0 to 100%. Time delay programm. from 0 to 999.9 sec. (8A/250 VAC on resistive load)
N	RS485 digital communications Protocole MODBUS/JBUS (EIA RS485)	

Response time of the outputs:

(for a variation from 10 to 90% of the input signal)

Typical response time: 300 ms

Add 40 ms for the response time on the analog output, or 10 ms for the response time on the relay outputs.

Galvanic isolation:

3.0kV-50Hz-1min. between Supply, Input, Analog output, Relay output and RS485.



RCS Lyon 444-429-476 - Printed in France.

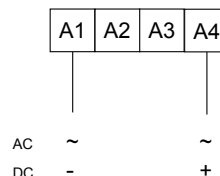
e-mail : info@ardetem.com
http : www.ardetem.com

Route de Brindas
Parc d'activité d'Arbora N°2
69510 SOUCIEU EN JARREST
- FRANCE -

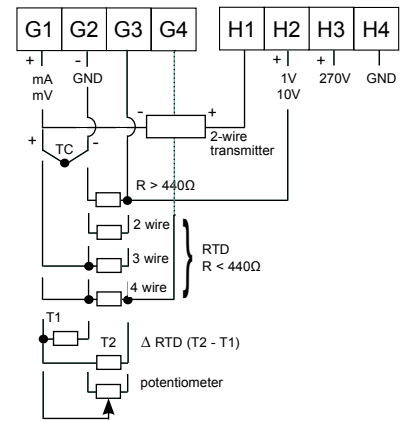
Tél. : 33 (0)4 72 31 31 30
Fax. : 33 (0)4 72 31 31 31

Connectings

Supply

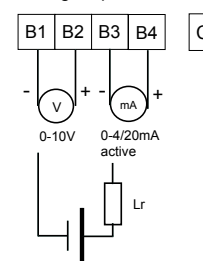


Inputs



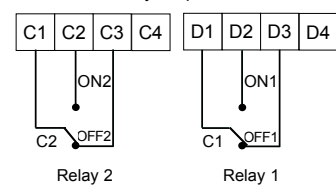
Outputs of the TPIv 10 A/AR/2AR

Analog output 1

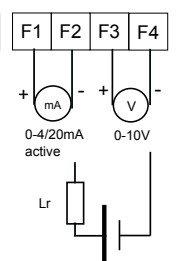


0-4/20mA passive
external source 30V max.

Relay outputs



Analog output 2



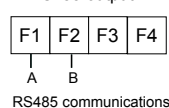
0-4/20mA passive
external source 30V max.



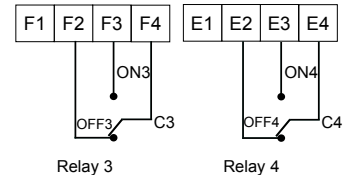
The voltage or current outputs are not independent. One output type only to be activated by programming (V or mA).

TPIv10 N outputs

RS485 output



TPIv10 AR4 outputs



your representative

