TRANSMITTER OF ELECTRICAL MEASURES

for all types of networks : single-phase, 3-phase balanced and unbalanced 3/4 WIRES

TRM3

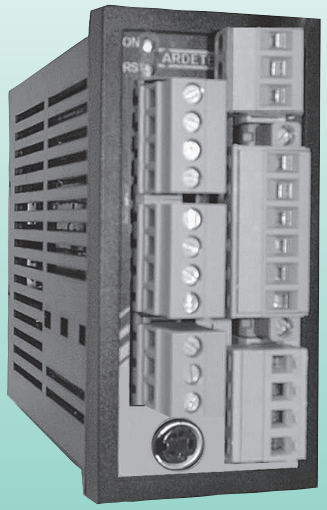
The TRM3 is an insulated **measure transmitter** that enables converting of parameters from AC electrical networks : voltage, current, power, frequency, cosine.....

Universal, measures more than **25 parameters**, that can be dedicated to output channels by selection in the programming menu.

Fully configurable by the user via PC software.

Functions

- **Programmable input calibers** :
  1A and 5AAC current,
  (secure screw connector)
  Voltage 150V and 500VAC.
- **Galvanique partition :**
  Inputs / Supply / outputs : 2.5 kV (4KV optional)
  Between output channels : 1 kV
- Broad power supply span.
  (Low voltage power supply, as option)
- Response time < 120 ms.
- Reduced dimensions.
- Connectings via plug-off screw connectors.



Output options

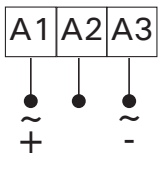
- **Analog outputs or / and relays** :
  Up to 4 possible outputs
  - *Uni and bidirectionnal current outputs :*
    0/5mA, 0/10mA, 0/20mA, 4/20mA
    -5/5mA, -10/10mA, -20/20mA
  - *Voltage outputs (as option) :*
    -10/10V, 0/10V, -5/5V, 0/5V
  - *Relay output : Setpoint or pulses*
- **Digital output Modbus/Jbus**
  Data link RS485 2 wires

Environment

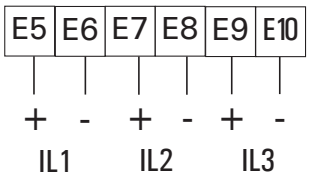
- Operating temperature : -10°C to +55°C.
- Storage temperature : -25°C to +70°C.
- Climatic trials (10 days) :
  40°C/93%HR, CEI68-2-3
- CE marking

Connections

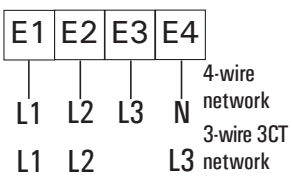
Supply



Inputs *: current*

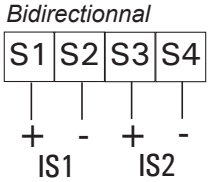


: voltage

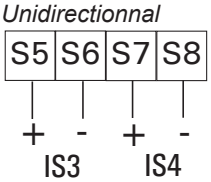


Analog outputs

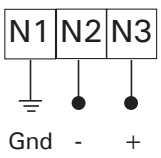
Bidirectionnal



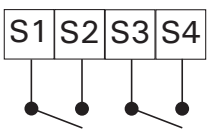
Unidirectionnal

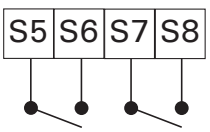


Digital link RS485



Relay outputs



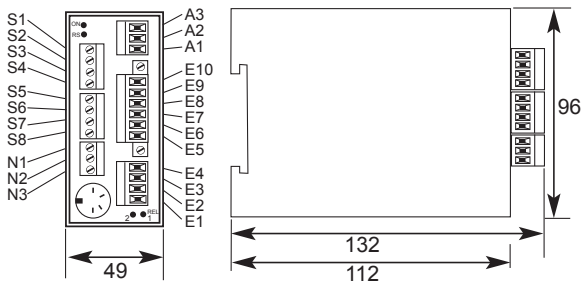


(for wiring details of all available networks, see user hanbook)

External view

Dimensions : (H x L x D) 96 x 49 x 112 mm
(P=132, including terminals)

Front face view



Protection : Case / Terminals : IP 20

Case : Self-extinguishing in black ABS UL94VO
Latching on symmetrical DIN rail.
Plug-off connectors for screwed terminals
(2.5mm², flexible or rigid)

Weight : 200g

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Technicals features

INPUTS

• ***VOLTAGE***	2 programmable ranges Un = 150 and 500 VAC
• ***CURRENT***	2 programmable ranges 1 A and 5 AAC In = 1.2 A and 6 AAC
Measurable oversteppings	1.2 In; 1.2 Un
Overloads	permanent : 750 V, 10 A during 10 s : 1000 V, 50 A
Power draws	voltage input : 1MΩ resistance current input : < 0,2 VA
Test voltage	2.5 KV / 50 Hz / 1 min. with supply (4KV optional) 2.5 KV / 50 Hz / 1 min. with outputs (4KV optional)
Frequency	45..50..65 Hz (other frequencies : consult with us)
Type of network	single-phase, 3-phase balanced or unbalanced with or without neutral

OUTPUT OPTIONS

• **Up to 4 possible outputs** : Analog and / or relays

ANALOG OUTPUTS:

Galvanic partitions	2.5KV / inputs (4KV optional); 2KV / relays outputs 1KV/ others analog outputs
Programmable output signal	0/5mA, 0/10mA, 4/20mA, 0/20mA, (bidirectionnals : -5/5mA, -10/10mA, -20/20mA)
Scale setting	0 to 100% of measure span by programming
Admissible load	up to 700Ω (20mA)
Resolution	24000 points
Accuracy	< 0.1% of full scale on -20/20mA (<0.4% on -5/5 mA)
Residual drift	25mV (peack to peack) on 500Ω load
Response time	<120ms input → output
Thermal drift	< 150ppm

RELAY OUTPUTS :	setpoint or pulses
Galvanic partition	2.5KV (4KV optional) / inputs; 2.5KV / outputs
Rated load	5A - 250 VAC
Pulses output	Pulses width : 100 / 200 / 400 ms by programming Maximum count rate : 4 / 2 / 1 pulses / sec. according to programmed width
Setpoint output	Setting of setpoints : programmable Hysteresis : programmable, 0 to 15% of setpoint Delaying : programmable, 0 to 15 secondes

DIGITAL OUTPUT :

Galvanic partition	2.5KV / inputs (4KV optional) ; 1 KV / analog outputs 2KV / relay outputs
Type	RS485 4-wires - 4800, 9600, 19200 bauds
Protocol	MODBUS / JBUS RTU 8 bits parity less, measures on 16 bits

This instrument is dedicated to industrial applications. It has be mounted in an electrical switchbox, or equivalent.

POWER SUPPLY

2 Versions :	**HIGH Volage or Low voltage** *(specify on order)*
High Voltage	90...270 Vac and 88...350 Vdc
Low voltage	20...40 VAC and 20...60 VDC
Power draw	< 5 VA

MEASURES

Accuracy rating	Voltage, current : 0.2 Power : 0.5 Energies : 1 (CEI61036) save every 5 minutes.
Thermal drift	< 200ppm
Measuring method	Fast sampling of the 3 U and 3 I. Digital calculation on 32 bits.
Digital filtering	programmable on 3 levels
Cycle time	55 ms (for all types of networks)

Coding

Model : **TRM3A**

• **Possible output combinations :**
analog outputs and / or relay outputs
Up to 4 outputs

Analog outputs :

2 bidirectionnal analog outputs	2A
2 bidirect. outputs and 2 unidirectionnal outputs	4A

Relay outputs : setpoint or pulses

2 relay outputs	2R
4 relay outputs	4R

• **Digital output**
RS485 MODBUS / JBUS output — N

• **Power supply**

High voltage : 90/270 VAC	88/350 VDC	2
Low voltage : 20/40 VAC	20/60 VDC	3

• **Option to be specified**
Voltage output : -10 / +10 V 0 / +10 V -5 / +5 V 0 / +5 V

Ordering example :
- For a TRM3A with 4 analog outputs, 1 digital output, with high voltage supply, request reference :
TRM3A-4AN2

- For a TRM3A with 2 analog outputs, 2 relay outputs, with low voltage supply, request reference :
TRM3A-2A2R3

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