

DIGITAL MEASURE TRANSMITTER

single/3-phase balanced/unbalanced 3/4 wire networks

Series μ TACv500

true RMS measurement

suitable for disturbed electrical networks

Type

The **transmitters μ TACv500** are especially designed for the **measurement**, the **control** and the **transmission** of all the parameters from AC electrical networks: voltage, current, power, energy, frequency, etc...

Programming by the PC software SlimSET via a standard USB / μ USB cable or by tactile LCD micro console.

Environment

- Operating temperature:
-10°C to +55°C.
- Storage temperature:
-25°C to +70°C.
- Marking 



Functions

- Universal, for all types of electrical networks. The following input calibers can be programmed:
Current: 1 and 5 A AC (automatic caliber)
Voltage (automatic caliber):
- 60V L-N / 100V L-L
- 110V L-N / 190V L-L
- 250V L-N / 440V L-L
- 350V L-N / 600V L-L
- High-performance measure: continuous measurement without interruption, suitable for disturbed networks
- Quick cycle time: 40ms
- Universal power supply

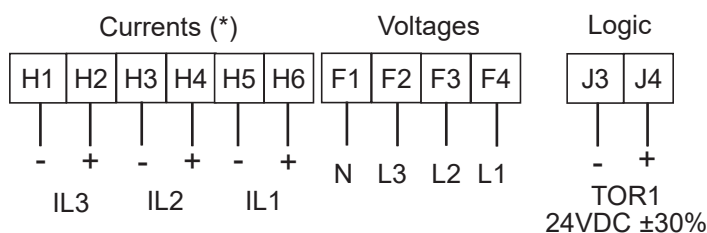
Available options

- ♦ 5 analog outputs
- ♦ 3 relay outputs
- ♦ RS485 digital communications
- ♦ Ethernet output (TCP Modbus)
- ♦ Harmonics analysis
- ♦ Logic input

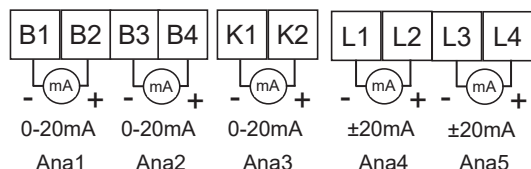
TRANSMITTER

Connectings

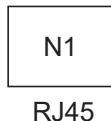
Inputs



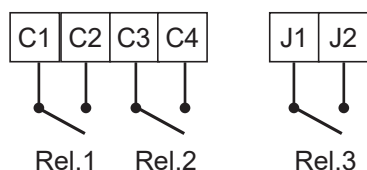
Analog outputs



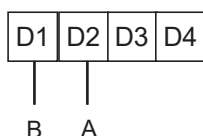
Ethernet output



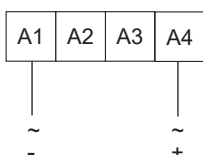
Relay outputs



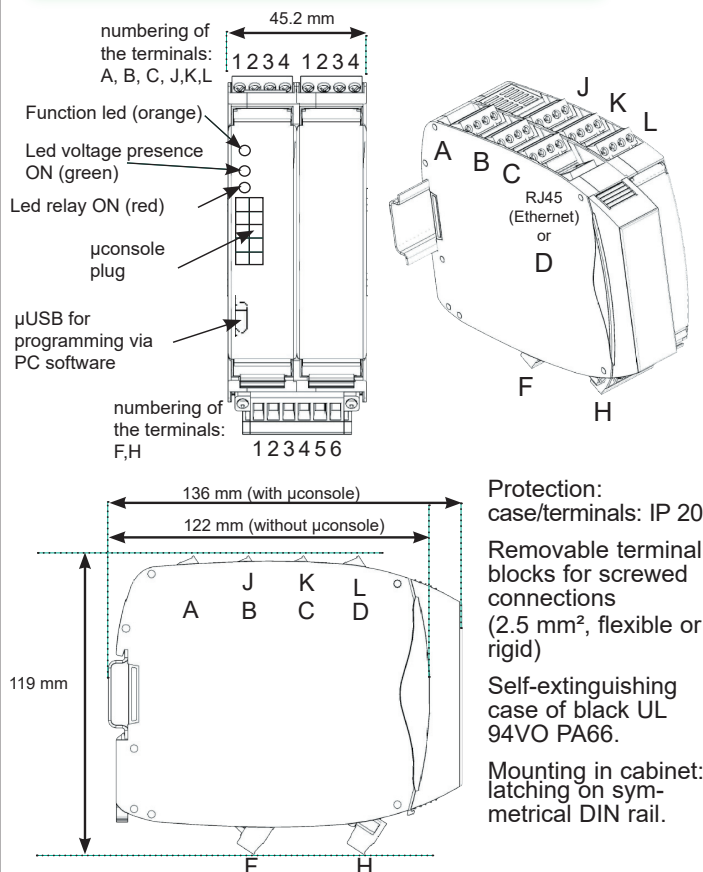
RS485 output



Supply



Dimensions



The friendly interface

CA
CO154

Technical features

Inputs

- **Voltage**
 - 4 programmable ranges:
 - 60V L-N / 100V L-L
 - 110V L-N / 190V L-L
 - 250V L-N / 440V L-L
 - 350V L-N / 600V L-L
- **Current**
 - 2 programmable ranges: 1 and 5 A Ac with automatic switching of the internal calibers
- Measurable overranges** 1.2 In; 1.2 Un
- Overloads**
 - permanent: 750 V, 2 In
 - During 10 s: 1000 V, 10 In
 - During 0.5 s: 100A
- Power consumptions**
 - voltage input: 1.5 MΩ resistances
 - current input: < 0.2 VA
- Test voltage** 3 kV / 50 Hz / 1 min. between each current input
- Frequency** 10...50...65 Hz (other frequencies: consult with us)
- Network type** single or 3-phase balanced/unbalanced with or without neutral

Outputs

- **RS485 output (option [N])**
 - Type** 2-wire with galvanic isolation
 - Baud rate** 4800 / 9600 / 19200 bauds
 - Protocole** Modbus / Jbus RTU 8 bits programmable parity
 - Format of the data** Integer 16 bits (table of the units) or 32 bits decimal points and units fixed.
- **Relay outputs (option [2R] or [3R])**
 - Type of contact** on potential free contact (galvanic isolation: 3KV) output 1NO
 - Rated load** 5A - 250 VAC
 - either **SETPOINTS OUTPUT**
 - Setting of the setpoints : 0 to 100% of the meas. range (programmable)
 - Switching hysteresis : 0 to 15% of the setpoint (programmable)
 - Time delay : 0 to 15s (programmable)
 - or **PULSES OUTPUT**
 - Count rate : 4 / 2 / 1 pulses per second according to the programmed width
 - Width of the pulses** : 100 / 200 / 400ms (programmable)
- **Analog outputs (option [2A] or [4A] or [5A])**
 - Output signal:** programmable with galvanic isolation (1KV betw. outputs):
 - Bidirectional outputs:**
 - 20/20mA -10/10mA
 - 5/5mA 0/5mA 0/10mA 0/20mA 4/20mA
 - Unidirectional outputs:**
 - 0/5mA 0/10mA 0/20mA 4/20mA
 - Scale setting** 0 to 100% of the measure range (programmable)
 - Admissible load** up to 500Ω (20mA)
 - Accuracy of the card** < 0.1% of the up scale
 - Resolution** 16 bits
 - Max. residual ripple.** <25mV (peak to peak) on 500Ω load
 - Response time** typical **60/80ms** (input/output)
 - Thermal drifts** < 100 ppm/°C

- **Ethernet output (option [F])**
 - Protocole** TCP/IP (Modbus) with galvanic isolation
 - Speed** 10 / 100M
 - Connecting** RJ45
- Embarked web server for the reading of the measures.

- **Logic input (option [T])**
 - Nominal voltage** 24VDC ±30% with galvanic isolation 3KV

- **Harmonics analysis (option [H])**
 - Mesurement of the voltage and current harmonics of the 3 phases up to rank **50**. Retransmission possible in Modbus.

- **Profibus or Profinet output (option [PB] or [PN])**

Power supply

Universal power supply
20...250 VAC / 21.5...250 VDC
Power draw: 11 VA max. in ac, 6W max. in DC

Measure

Accuracy rating Voltages, currents:**0.2**
Powers: class.....**0.5**
Active energy: class.....**1%**
Reactive energy: class.....**1%**

Measuring method fast simultaneous sampling of the 3 voltages and the 3 currents. Digital calculation on 32 bits. TRMS measurement of deformed signals up to the harmonic **51**

Digital filtering programmable on several levels

Energies Saved

Cycle time 40ms (for all network types)

Wiring

With detailed manual, delivered with the instrument.

Compliance with standards

Electrical safety..... EN 61010-1

Protection class II
double isolation, voltage inputs by protection impedance.
The current inputs are electrically isolated from one another.

Environment and accuracy... IEC 61557-12

Directive EMC 2014/30/UE .. EN 61326-1

Energy counting IEC 62053-22

Pollution degree..... 2

Measure category CAT III 300VAC L-N
CAT II 600VAC L-N

IN/OUT test voltage 3 KVAC 50Hz 1min.

Coding

μTACv500 3U, 3V, 3 I, cos φ, cos φ/phase, F, P 10/15min., Q 10/15min., S, P/phase, Q/phase, leak current, E active, E reactive, inductive and capacitive

[H] harmonics analysis	[T] 24Vdc isolated logic input
[N] RS485 output	[F] Ethernet output + embarked web server
[2R] 2 relay outputs	[PB] Profibus output
[3R] 3 relay outputs	[PN] Profinet output
[2A] 2 unidirectional analog outputs	
[4A] 2 unidirectional analog outputs 2 bidirectional analog outputs	
[5A] 3 unidirectional analog outputs 2 bidirectional analog outputs	

Order example:

- For a μTACv500 with 2 relay outputs (setpoint or pulses), 2 unidirectional analog outputs and RS485 output request the reference: **μTACv500 2A 2R N**
- For a μTACv500 with 5 analog outputs and RS485 output request the reference: **μTACv500 5A N**

This appliance is designed for industrial applications. It has to be installed in an electrical cabinet, or equivalent.

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Your representative