

DIGITAL MEASURE TRANSMITTER

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

EVA3000

quick and accurate
true RMS measurement

suitable for highly disturbed electrical networks

Type

The **transmitters EVA3000** 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 highly disturbed networks (phase angle etc.)
- Quick cycle time: 20ms
- Universal power supply

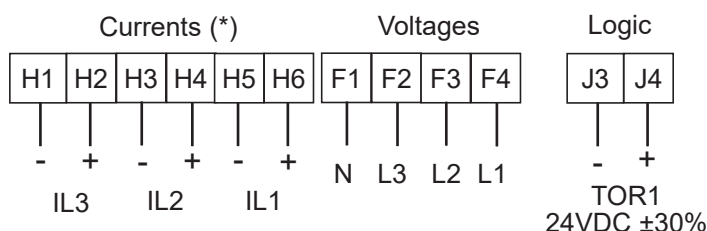
Available options

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

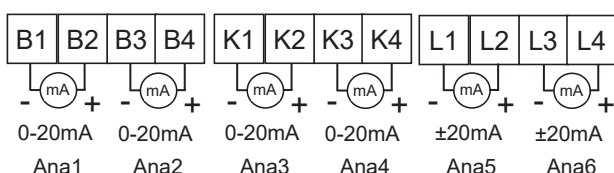
TRANSMITTER

Connectings

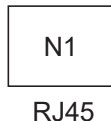
Inputs



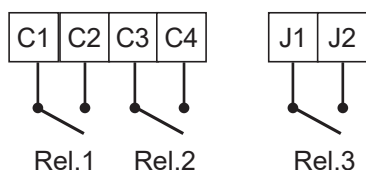
Analog outputs



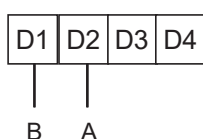
Ethernet output



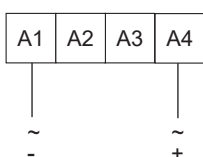
Relay outputs



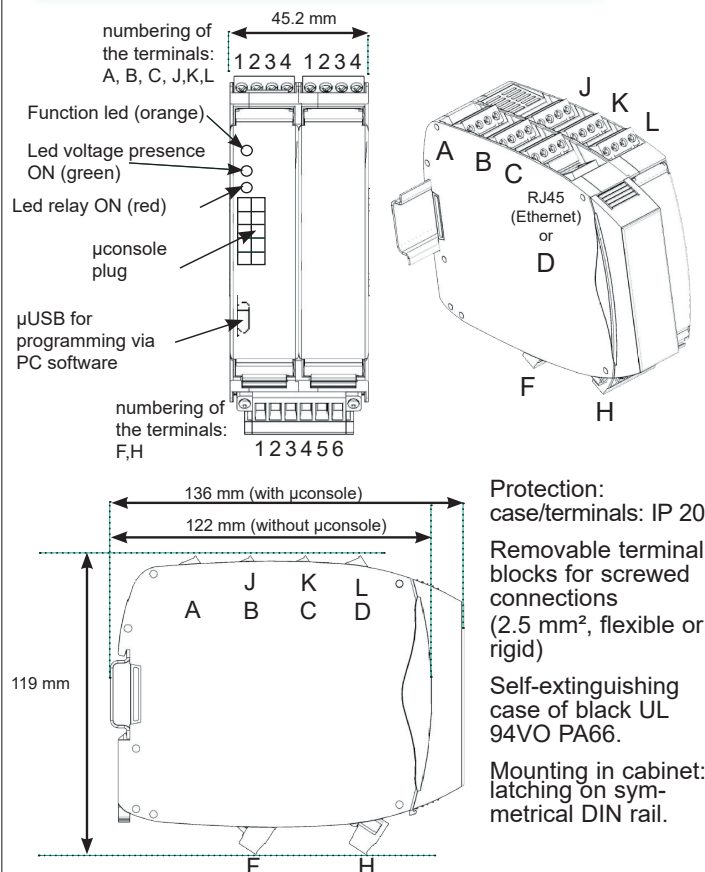
RS485 output



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 (CT integrated)
- 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 [6A])**
 - 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 **40ms** (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: 0.1 Powers: class..... 0.2 Active energy: class..... 0.5 Reactive energy: class..... 0.5
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 127
Digital filtering	programmable on several levels
Energies	Saved
Cycle time	20ms (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

EVA3000 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	
[6A] 4 unidirectional analog outputs 2 bidirectional analog outputs	

Order example:

- For an EVA3000 with 2 relay outputs (setpoint or pulses), 2 unidirectional analog outputs and RS485 output request the reference: **EVA3000 2A 2R N**
- For an EVA3000 with 6 analog outputs and RS485 output request the reference: **EVA3000 6A 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