

ELECTRICAL NETWORK ANALYSER

Single or 3 phase balanced/unbalanced networks
3 or 4 wire - Wave train and phase angle

PECA 15 TA

The PECA 15 TA is an insulated **measure analyser** that allows converting parameters from AC electrical networks of all kinds of shapes : wave train, phase angle, syncopate..., for single or 3 phase loads supplied by thyristor gradators.

Measurement of true RMS values, active power, power factor, energies, current and voltage peaks.

Universal, up to **24 measurable parameters** which can be assigned on choice on the output channels.

Moreover, it is fully configurable by the user by PC software

Functions

♦ **Programmable input calibers** :
1A and 5A_{AC} current, (safened by a screwed connecting)
150V and 500V_{AC} voltage

♦ **Galvanic partition** :

Inputs/supply /outputs : 2 kV. Between outputs : 1 kV

♦ Broad supply range.

♦ Variable response time according to the period of the deformed signal. Watching of the current and voltage maximums on all the network periods.

♦ Programmable measure cycle according to the modulation period (20ms to 80s : mode manual) or automatically adjusted (mode automatic).



Outputs and options

♦ **Digital data link Modbus/Jbus**
Data link RS422/485 2 or 4 wire

♦ **Option 2 combinable relay outputs by programming** in setpoints or in pulses, or to be specified on order with 1 relay output and 1 logic input.

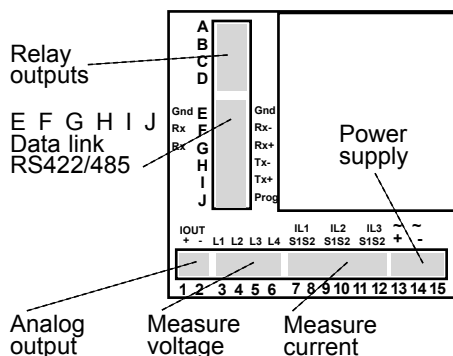
♦ **Option insulated analog output**
0/5mA, 0/10mA, 0/20mA, 4/20mA
-5/5mA, -10/10mA, -20/20mA

Presentation

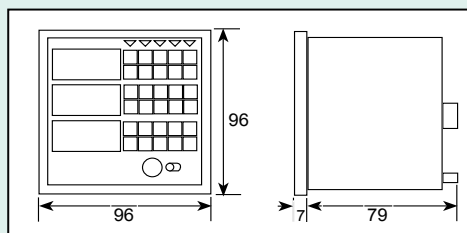
PECA analysers are specifically dedicated to the measurement, control and display of all the parameters of AC electrical networks : Single and mesh voltages, line currents, active and apparent powers, phase cosines and total cosine, active energy in and out, RMS values...

Easy programming accesible on front face or by PC with the configuration software SuperVision.

View of the rear face :



Dimensions



Environment :

Operating T° :
0°C to +55°C.
Storage T° :
-25°C at +70°C.
CE marking
(89/336 rev.92/31).

Case : Self-extinguishing housing of black UL 94 V1 polycarbo. 96x96x86mm (with terminals) Standardized DIN 43700

Tighten. : By 2 screwed straps (located on choice : on the sides or above/under)
Panel mounted; cut out 92x92mm

Connectors : Plug-off connectors on rear face for screwed connections (2.5mm², flexible or rigid)

Protection : Case/terminals :IP 20. Front face IP 40 (IP 65 optional)
Display : 3 high brightness 1000 point indicators (14 mm high red digits).

Weight : 510 g (with packaging).

Technical features at 23°C

PECA 15 TA

Inputs

Voltage	2 programmable ranges Un=150 and 500V _{AC}	Power draw	Voltage inputs : 1 MΩ resistances Current input : < 0.2 VA
Current	2 programmable ranges In=1 and 5A In = 1.2 and 6 A _{AC}	Test voltage	2 kV/50 Hz/1 min.
Oversteppings	measurable : 1.2 Un and 1.2 In	Frequency	50Hz (option : 60 Hz)
Overloads	Permanent : 750 V, 10 A During 10s : 1000 V, 50 A	Type of network	Single phase, 3-phase balanced or unbal. with or without neutral 4 or 6 wire
		Thermic drifts	< 200ppm

Digital outputs RS 422/485

Galvanic partition	2KV
Type	2 or 4 wire
Speeds	4800 / 9600 / 19200 bauds
Protocole	Modbus/Jbus RTU 8 bits, programmable parity. 1 or 2 stop bits.
Format of the data	programmable, integer 16 bits.

Analog output (option **A**)

Galvanic partition	2KV
Output signal	Programmable (in mA) : -20/20 -10/10 -5/5 0/5 0/10 0/20 4/20 mA
Scale setting	0 to 100% of the measure range by progr.
Admissible load	Up to 600Ω (20mA)
Resolut. of the board	24000 points
Accuracy of the board	< 0.1% of the full scale on -20/20mA (in relation to the display) < 0.2% on -5/5mA
Residual ripple	±2.5mV (peak to peak) on 50Ω load
Response time	<120ms for U _{max} . and I _{max} . 2x (measure cycle) for the other values
Thermic drifts	<100ppm (±20mA) <200ppm (0/20mA)

2 Relay outputs (option **R**)

	Combinable by programming as 2 setpoint outputs or 2 pulse outputs or as 1 setpoint output and 1 pulse output or to be specified on order as 1 relay output and 1 logic input
Type of contact	Potential free contact
Galvanic partition	2KV
Rated load	5A - 250 V _{AC}
Response time	100ms for U _{max} and I _{max} 2x(measure cycle) for the other values
Pulse output	
Count rage	1 to 4 pulses per second.
Width of the pulses	100 to 400ms by programming
Weight of the pulses	programmable
Setpoint output	
Setting of the setpts.	0 to 100% of measure range by programm.
Switching hysteresis	0 to 15% of the setpoint by programming
Time delay	0 to 15s by programming

24 measurable parameters

Accuracy rating	Voltage, Current : 0.5 Power : 1 (IEC 60688) Energies : 2 (5A) and 3 (1A)
Phase angle :	
Wave train :	Voltage, Current : 0.2 Power : 0.5 Energies : 1 (5A) and 2 (1A) (IEC61036) (Saved every 5 min.). Reading on 6 digits.
Measuring method	Sampling in real simultaneous time of the voltages and the currents. Digital calculation on 32 bits. Measur. of the deformed signals. twice per second.
Display refreshing	Programmable on several levels
Digital filtering	Variable according to the period of the deformed signal (between 20ms and 80s).
Measure cycle	
Measured parameters	Single and mesh voltages, line currents, active and apparent powers, phase cosines and total cosine, active energy in and out, RMS values...

Coding

Types : PECA 15 TA

Options : R A I

R : option relay output
A : option analog output
I : option network frequency at 60 Hz

Power supply : Version high or low voltage (specify)

(2) HT : high voltage : 90...270 V_{AC} or 88...350 V_{DC}
(3) BT : low voltage : 20...40 V_{AC} or 20...60 V_{DC}
Power draw : 6 VA max in AC

Order example :

For a PECA15 TA showing RMS values and powers, with 1 analog output and 2 alarm setpoints, in 230 V_{AC} power supply, request reference :
PECA15 TA A R 2

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



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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

Your representative