

ELECTRICAL NETWORK ANALYSERS

DISTURBANCE METER / QUALITY METER

Single or 3-phase balanced/unbalanced 3 or 4-wire networks.

PECA 21 D

Type

The **analysers PECA** are especially designed for the measurement, the checking and the display of all the parameters of AC electrical networks: voltage, current, power, energy, frequency, ...

Easy programming, accessible on front face or by PC via an embarked Web server.

Display

Graphical LCD screen with rear-lighting

Display of the energies on 12 digits.

Display of the wave shapes (oscilloscope) and the vectors (Fresnel).

Environment

Operating temperature: -10°C to +55°C.

Storage temperature: -25°C to +70°C.

CE marking (89/336 rev.92/31).

Functions

Measurement in TRMS values

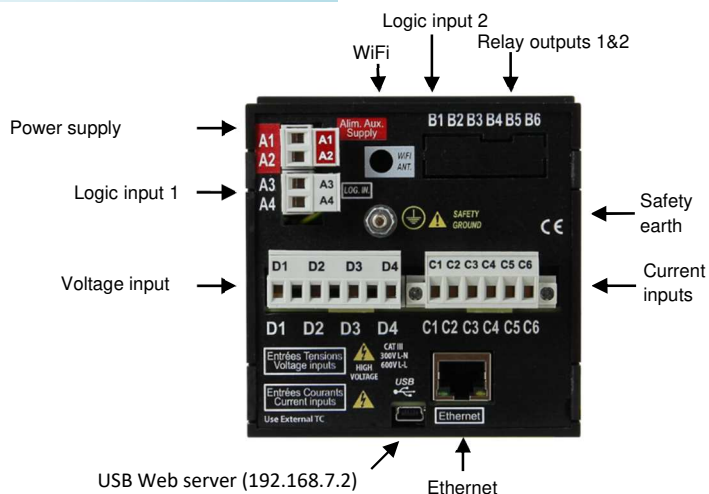
- Universal, more than 35 parameters measured.
- They accept as input by programming:
Current: 1A and 5A AC Voltage: 50 to 600V AC
- RS485 Modbus/Jbus output
- **Quick cycle time: 20 ms** (50Hz)
- Universal power supply
- Analysis of the disturbances of the voltages, currents, frequency and harmonics, and recording of the errors (cuts, micro-cuts, peaks, deformation, unbalances...).
- Time-dated recording of the errors on Sdcard, for a detailed analysis.
- Quality metering according to EN50160.

Options

- Ethernet or WiFi output + embarked web server
- 1 up to 3 relay outputs, programmable in alarm.



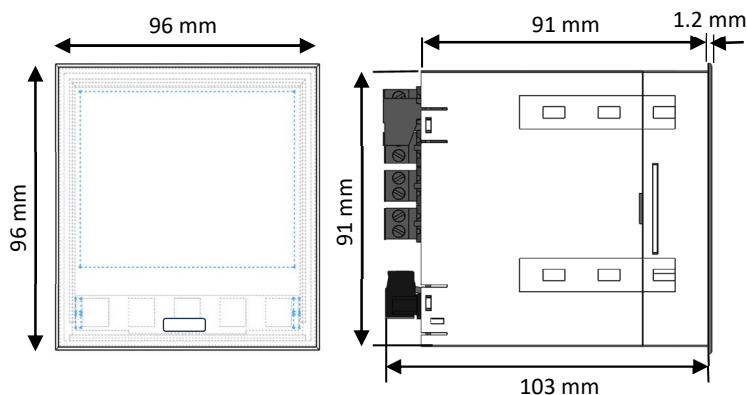
Introduction



Protection: case / terminals IP20 – Front face IP65

Connectors: removable terminal blocks on rear face for screwed connectings (2.5mm², flexible or rigid), grounding lug.

Dimensions



Housing: 96 x 96 x 103 mm (with terminals)
Self-extinguishing case of black UL94 V0 ABS

Mounting: on panel, cut out 91 x 91 mm

Tightening: by 4 screw pads

Weight: 400 g

Embarked web server

Accessible directly in USB on the rear face, address **192.168.7.2**.

Allows the complete configuration of the device: electrical network (CT and VT ratios), the setpoints of the errors, the IP Ethernet address.

Allows the display of all the measures and the disturbancemeter functions: recorded errors and errors now present



SDcard

The SDcard records the errors with the measures and the wave shapes every day in CSV format, for a detailed analysis on PC using the specific ARDETEM software.

Technical features

► Inputs

- **Voltage** Automatic calibres:
Un = 50 to 350V L-N or 90 to 600V L-L.
 - **Current** Automatic calibres:
In = 0.2 to 6A.
- Measurable overrange 1.2 In, 1.2 Un.
Overload: permanent: 750 V, 2 In during 10 s: 1000 V, 10 In.
Consumptions: U input: resistances 1.5 MΩ I input: < 0.2VA (internal CT).
Test voltage: 3 Kv / 50 Hz / 1 min.
Frequency: 50 Hz or 60Hz, programmable (consult for other frequencies).

• Logic inputs (Option 2T)

2 logic inputs, isolated at 2kV, type voltage 0/24Vdc.
Used for recopying the status or the position of the circuit breaker.
Other functions available on request (for example: automatic 0 reset of the recorded errors or the energy counting).

► Outputs

• Relay outputs (option 2R)



Type of contact on potential free contact (galvanic isolation 3 kV) output 1NO.
Rated load 5 A – 250 VAC.

• SETPOINTS OUTPUT

Setting of the setpoints and the hysteresis: 0 to 100% of the measure range.
Time delay: 0 à 999.9 s programmable.

• Ethernet output

- Configuration of the device through an embarked Web server.
- Complete analysis of the errors recorded by the disturbancemeter function.
- Visualisation of the measures, the wave shapes (oscilloscope), the Fresnel vectors and the harmonics ranks.

• WiFi connection (option WIFI)

- Access in WiFi to the embarked Web server for the configuration of the device and the analysis of the measures and the disturbancemeter functions.
- External aerial

► Supply

- **Universal power supply** 20 to 250 VAC / 21.5 to 250 VDC.

Power draw 20 VA max. in AC, 12 W max. in DC .

► Connectings

With detailed manual provided with the device.

► Measures

• 35 measurable parameters

Accuracy rating: Voltages, currents: class 0.2 (IEC688-1).
Powers: class 0.5 (IEC688-1).
Active energy: class 1 (IEC62053-21).
Reactive energy: class 1 (IEC62053-23).
Measuring method: Continuous sampling of the 3U and the 3I.
Digital calculations on 32 bits.
Measuring of deformed signals (harmonic 128).
Cycle time: 20ms for all network types.

• Analysis function

Oscilloscope Display of the U and I wave shapes.
Fresnel vectors Display of the U and I dephasings.
Harmonics Bar graphs and tables up to rank 50 for U and I.



► Disturbancemetering / Quality metering

• Disturbancemetering



Watching and recording of the errors:
-peaks, hollows, cuts of U or I.
-harmonics of U or I.
-unbalances in amplitude and phase of U or I.
-Frequency out of range.
-Latching of logic input.
Visualisation on the device of the recordings over a week.
Time-dated daily recordings on SDcard, for analysis with PC software or Excel. Recording of the wave shapes.

• Quality metering



Statistical analysis of the voltage quality, over 1 week, according to the standard EN50160.

Coding

Types:

PECA 21D

3U, 3V, 3 I, cos φ, cos φ/phase, F, P, Q, S, P/phase, Q/phase, leak current, symmetrical components, active, inductive and capacitive energy. Harmonics of U/I up to rank 50.

Embarked Web server for the configuration, the reading of the measures and analysis of the disturbancemetering / quality metering.

Options

- 2T 2 logic inputs (TOR)
- 2R 2 relay outputs
- WIFI WiFi connection (configuration / visualisation)

Order example :

For a PECA21D with WiFi connection, 2 relay outputs (alarm setpoints) and 2 logic inputs (TOR) request the reference: **PECA21D-2R-2T-WIFI**



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