



POWER QUALITY ANALYZER

**Class A according to IEC61000-4-30
Class 0.2S for energy meter**



**ENEL EA 0500
IEC61000-4-30 Class A Ed. 3**

Applications

LV/MV/HV electric systems

Functions

Three phase high-precision analyzer and recorder, PowerQuality, PowerMeter, Fault Recorder, Energy meter

Measures

- Voltages and Currents
- Active, Reactive and Apparent power
- Active and Reactive (4 quadrants) Energy
- Power Factor
- Frequency
- Flicker (Pst e Plt)
- Voltages and Currents Harmonics and Interharmonics (up to 50° order)
- Voltage Unbalance
- Voltage Dips and Swells
- Voltage Interruptions (short and long)
- Rapid Voltage Changes
- Waveforms (window records with programmable Pre and Post-Triggers)

Accuracy

According to IEC61000-4-30 Class A and IEC62053-22-30 Class 0.2S

Safety

CAT IV 600V, class 2 (double insulation) for voltage and direct current measuring circuits

Certification

IEC61000-4-30 Class A Ed. 3

Approval

Approved according to ENEL EA 0500 specification "Apparecchiature portatili per la registrazione delle grandezze elettriche nelle reti di distribuzione"

The most compact analyzer on the market, with full equipment of integrated resources

- 4 voltage channels 0÷400Vac
- 3 current channels 0÷5Aac
- 4 channels for current transducers with voltage output 0÷3Vac/dc
- 4 input channels for flexible Rogowski coils
- Internal storage memory 2GB (expandable)
- 1 mini USB 2.0 (device) port
- 1 USB 1.1 (host) port
- 1 Ethernet 100baseT port
- 1 GPS receiver port (optional)
- 1 insulated digital I/O port (2IN + 1OUT)
- Auxiliary supply ranges: 40-130Vac or 80-260Vac/dc (100/√3 Vac with external optional adapter)
- Internal UPS for more than 40 minutes backup supply
- HMI with LCD display, functional keys and signalling leds
- Internal GSM/GPRS modem
- Size: 250 x 150 x 70 mm
- Weight: Kg 1.5

Specifications

Power Supply

Voltage: 40÷130Vac – 80÷260 Vac/dc - 50/60Hz
Power consumptions: 20 VA
Battery: 12 V 0.8Ah Pb sealed
Battery operating time: 40 minutes, self-limited

Voltage input channels

Channels: 4
Single range up to 600 Vac/dc
Permanent overload: +100%
Type: resistor network
Impedance: 1 Mohm
Pluggable terminal blocks pitch 7,62 mm

Direct input Current channels

Channels: 3
Range: 0÷5 Aac
Permanent overload: +100%
Type: Internal current transformer
Pluggable terminal blocks pitch 7,62 mm

Current channels from transducers

Channels: 4
Range: 0÷3 Vac/dc
Permanent overload: +50%
Type: resistor network
Impedance: 1 Mohm
Pluggable terminal blocks pitch 3.81 mm

Current channels from Rogowski transducers

Channels: 4
Range: 0÷300 Iac e 0÷3000 Iac
Rogowski coil lenght: 500mm (Ø 159mm)
600mm (Ø 191mm)

Measurement method

Synchronous sampling with phase locking
Bandwidth: -3dB @ 6,4 kHz
A/D converter resolution: 16 bit
Sample rate: 25,6 ksample/sec.
Compliance: EN61000-4-30 Class A

Accuracy (@25 °C, 45-65Hz)

Voltage: $\pm 0.1\%$ U_{din} from 10% to 150% U_{din}
Current: $\pm 0.1\%$ I_{din} from 10% to 150% I_{din}
Frequency: $\pm 0.01\%$ reading
Harmonics: ± 0.5 reading for THD > 0.5%

Digital Input/Output

2 insulated digital inputs
1 insulated digital output

User interface

Led: On, Battery status, Modem status
Battery charge indication (5 leds)
Display: alphanumeric LCD, 4 rows/20 characters
Keyboard: n. 6 functional keys

Ethernet Port

Type: 100baseT
Connector: RJ45

USB 1 Port

Type: Host 1.1
Interface for: external storage media, Wi-Fi communication adapter, external modem

USB 2 Type

Type: Device 2.0
Personal Computer data interface

Clock-Calendar

Format: yyyy/mm/dd hh:mm:ss.msec
Accuracy: better than 1 second/day without GPS
better than 16.67 ms/day from UTC with GPS
External time synchronization sources:
GPS receiver mod GTS9000 (optional)

Enclosure

Size: 250 x 150 x 70 mm
Enclosure: ABS
Weight: 1,5 Kg
Sealable terminal compartments

Safety

Meets EN61010-1
Double insulated power supply
Voltage and current inputs: CAT IV / 600V class 2 (double insulation)
Degree of protection: IP40 (connection compartment IP20)

EMC

Emissions: EN61000-6-3 (residential)
Immunity: EN61000-6-2 (industrial) and EN61236-1

Environmental conditions

Operating temperature: -10 +50 °C
Storage temperature: -25 +60 °C
Humidity: 85% non-condensing

GSM/GPRS Modem (option)

Modem type: Internal, Quadband 850/900/1800/1900 MHz
Networking: GSM and GPRS
Internal antenna
Optional external antenna
Sealable SIM holder

GTS 9000 GPS receiver (option)

GPS receiver for time synchronization (antenna must be placed outside)

Clamps current transducers (option)

Wide choice of clamp current transducers with current output (/5A) or voltage output (/3V) or Rogowski coils ranging from 10 A to 3000 A

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