

Portable Analyzers

On-site data acquisition and troubleshooting

NEW



EDL172

PNA296

EDL172 XR

PNA296 for Power Quality Analysis
EDL172 and EDL172XR for Event Analysis

 **SATEC**
Powerful Solutions

Selection Guide



	EDL172	EDL172XR	PNA296
Measurements			
AC Volts	●	●	●
AC Amps	●	●	●
Frequency (Hz)	●	●	●
Voltage / Current Unbalance	●	●	●
Neutral Current	●	●	●
Neutral Current (CT Input)			●
Ground Leakage			
Phase Angle			●
Phase Rotation	●	●	●
Min / Max Values	●	●	●
DC Volts			●
Power			
Watts	●	●	●
vars	●	●	●
VA	●	●	●
Power Factor - True	●	●	●
Power Factor - Displacement	●	●	●
Per Phase Values	●	●	●
Min / Max Values	●	●	●
Demand			
Amp Demand, Max. Amp Demand	●	●	●
Volt Demand, Min/Max Volt Demand	●	●	●
kW - Accum., Sliding, Predicted, Max.	●	●	●
kVA - Accum., Sliding, Predicted, Max.	●	●	●
kW - Accum., Block, Max.	●	●	●
kVA - Accum., Block, Max.	●	●	●
kvar - Accum., Sliding, Predicted, Max.	●	●	●
Energy			
kWh	●	●	●
kVAh	●	●	●
kvarh	●	●	●
Per Phase Values	●	●	●
Import, Export	●	●	●
Total, Net	●	●	●
Time Of Use - Energy, Max. Demand	●	●	●
Pulse Inputs	●	●	●
KYZ Output	●	●	●
Power Quality / Harmonics			
Total Harmonic Distortion - Volts, Amps	●	●	●
Total Demand Distortion - %TDD Amps	●	●	
Individual Harmonics			●
Directional Harmonics / Power - W, var			●
Harmonic Power Factor			●
Harmonic Waveforms			C
Disturbance Waveforms - Volts, Amps			C
Prefault / Postfault			●
K Factor	C	C	●
Crest Factor			C
Flicker			C
Event Logs, Data Logs, Trending			
Real Time Clock	●	●	●
Non-volatile Memory	●	●	●
Event Log	●	●	●
Trending, Logging - Set Point Triggered	●	●	●
Waveform Logging			●
Set Points, Alarms, Control			
Setpoint Action	●	●	●
Operate / Release Delays	●	●	●
AND / OR Multi-condition Actions	●	●	●
Remote Alarm Notification	●	●	●
Programmable Counters			●
Programmable I/O			
Status / Digital Inputs	2	2	12
Alarm Relay Outputs / Pulse	2	2	6
Communications RS-232			
Modbus RTU, DNP3.0, and ASCII	●	●	●
Assignable Registers	●	●	●
Lemflex			
Special Cabel - Low Current Measurement			

Notes: C = Through Communications. Both standard and optional features are listed

EDL172 and EDL172XR

The EDL172 and EDL172XR Portable Event & Data Loggers measure, record and analyze events and data of electrical network parameters. These instruments meet the requirements of a wide range of applications, from events analysis to energy auditing and load profile recording over a period of time. Both instruments include all the **measurement and logging capabilities** of the PM172 Powermeter in a convenient, portable package, and include the PAS software package which provides graphic data display and analysis capabilities.



EDL172

- Suitable for direct measurement of voltages up to 660V (or greater when using a Potential Transformer)
- Equipped with standard clamps with secondary current of 1A or 5A
- High accuracy

Specifications:

Power Supply: 100-240 VAC, 45 to 65 Hz, 12 VA

Voltage Probe Set: 1 black, 3 red, spring loaded

Accuracy: The EDL172 accuracy is a function of the accuracies of the PM172 and of the clamps.

Construction:

Case material: Polypropylene

Case temperature rating: -20° C to 60° C



EDL172 and EDL172XR

- Suitable for direct measurement of voltages up to 660V (or greater when using a Potential Transformer)
- Equipped with standard clamps with secondary current of 1A
- Possibility of using FLEX sensors with secondary voltage of 2VAC/3VAC or standard clamps with secondary voltage up to 2VAC/3VAC
- Measures low currents in the range of 100mA to 10A using standard high current clamps
- High accuracy
- Internal DC battery for continued operation in power failures

Specifications:

Power supply: 100-240 VAC, 45-65 Hz, 30 VA

Battery: rechargeable; 12V/1.2Ah DC. Allows 20 minutes work when fully charged.

Accuracy: The EDL172XR accuracy is a function of the accuracies of the PM172, the clamps and the external transformers (PT and CT). Most of the EDL172XR measurement error is due to the latter two elements.

Voltage Probe Set: 1 black, 3 red, spring loaded.

Construction:

Case material: Polypropylene

Case temperature rating: -20° C to 60° C



EDL172

The Protector Cases meet and far exceed the highest standards of industrial, airline, military and commercial applications.



COMMUNICATION

An RS-232 communication port is available for use with ASCII, Modbus and DNP3.0 protocols. In ASCII and Modbus protocols, 120 assignable registers allow the user to re-map either register address accessible in the instrument to the user assignable register area.

BATTERY

An internal rechargeable DC battery enables continuous operation even when the power supply is disconnected for short intervals, as in a power failure. When fully charged, the battery allows the work for at least 20 minutes. Battery voltage is displayed on the instrument panel and an alarm is sounded when the battery is low.

STATUS INPUTS

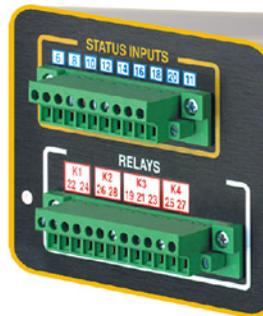
8 optically isolated status inputs plus one common are provided for status monitoring with timestamp and for external demand and time synchronization. Each digital input can be allocated as a status input to monitor external contact status, or as a pulse input to sense pulses provided by an external source. One of these can be configured to receive an external synchronization pulse indicating the beginning of a new demand interval for power demand measurements. A pulse input can also be configured to receive time synchronization pulses to provide synchronization of the instrument clock with a precise external time source.

RELAYS

4 relays are provided for energy pulsing (KYZ) or alarm and remote control.

CURRENT

Heavy duty current connectors are used to measure small currents, in the range of 100mA to 10A, in addition to the standard ranges, using standard high current clamps, with a high degree of accuracy. SATEC's special cables and electronic circuit used with standard current clamps also enables the PNA296 to perform current measurements on high voltage lines via current transformers, by measuring the secondary output of the external CT with 5A nominal secondary current. FLEX clamps can be used.





DISPLAY

The front panel features bright LED displays (11 windows, 9-digit energy counters) with adjustable update time. Display auto scroll is available on the main screen with a programmable scroll interval of 2 to 15 seconds. Automatic return to the main screen is available after 30 seconds of uninterrupted use. The displayed parameters include per phase voltages and currents, frequency, total powers and power factor all simultaneous. Also displayed are Harmonic Distortion, including THD, TDD, K-Factor and Directional; Maximum Demands; Power Demands; Energies; Phase Angles.....and more.

DISPLAY

The rugged, heavy-duty case allows work in harsh field conditions.

VOLTAGE

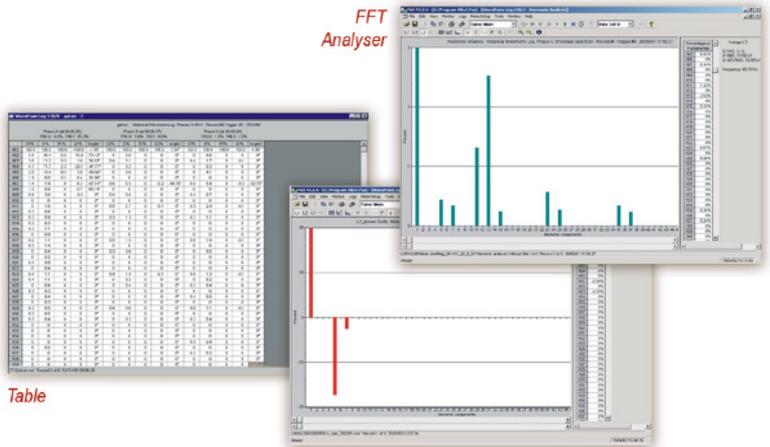
Voltage probes are connected to the instrument via connectors V1/V2/V3/VN; optional extension cables may be ordered. Measures direct voltage of up to 660V, or greater when using a Potential Transformer. Standard clamps with secondary current of 1A are provided. FLEX sensors may be used with secondary voltage of 3VAC or standard clamps with secondary voltage up to 3VAC.

PAS - Programmable & Power Analysis Software

COMMUNICATION

PAS is SATEC's specially designed software for use with all SATEC instruments. Its versatility stems from its numerous features:

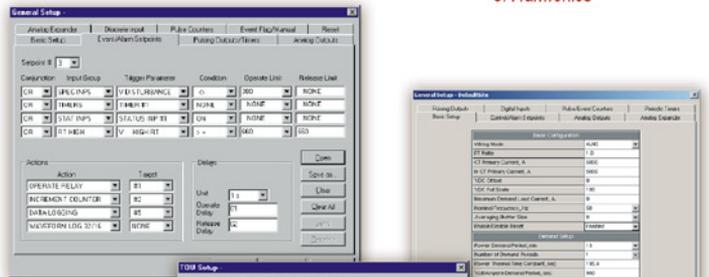
- Windows environment for easy multi-tasking
- Simple offline instrument setup
 - Direct data access for status monitoring or analysis
- Wide range of communication platforms:
 - RS standard serial lines
 - TCP/IP
 - USB
 - Telephone/Modem
- Sophisticated analysis:
 - Data logs historical or current
 - Trends individual or 3 phases together
 - Trend over time data log or oscillography
 - Trend based on user-selected parameters or limits
 - Harmonic spectrum
 - Harmonics power direction
 - Vector analysis/phasor diagram
 - Complete categories of events
 - Automatic sort and filter capabilities
 - Automatic billing program
 - Uploading on schedule
- Self-test
- Easy transfer to spreadsheet or database
- Extensive graphic and report capabilities
 - Waveforms
 - Harmonics
 - For billing



Table

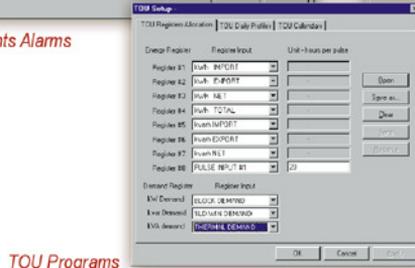
FFT Analyser

Power Direction of Harmonics



Events Alarms

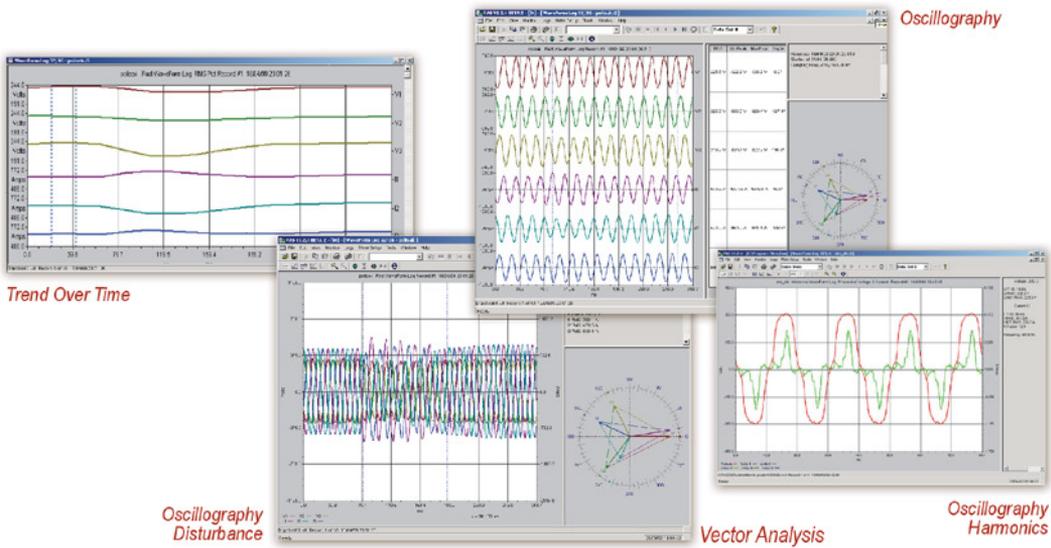
Set Up



TOU Programs

Clamps





Web Access & Telephone Modem



ETC2002

Use the SATEC ETC2002 Internet / Ethernet Converter with any of the Portables for fast and transparent communications:

with SATEC software

- with any TCP/IP Modbus or DNP industrial protocol
- on the web with the fully embedded 'smart' server



M1 200A



SC 10A



Voltage Cables

Portable Analyzers



Ordering Information

EDL172- [] - [] - [] - []

Current Clamps

120A 120 Amp clamp - each (order 3x)
 -1A only - (5A - None) Amp clamp
 - each (order 3x)
 200A -1A only - (5A - None)
 1000A 1000 Amp clamp - each (order 3x)
 - (1A) OR (5A)
 3000A 3000 Amp clamp - each (order 3x)
 - (1A) OR (5A)

Voltage Inputs

O 660V AC Nominal Voltage Input
 U 120V AC Nominal Voltage Input

Current Inputs

1 1 Ampere
 5* 5 Ampere (for 1000A and 2400A clamps only)

Carrying Case

C

* Standard
 Example: EDL172-3V-1000A-U-5-C

Ordering Information

PNA296- [] - [] - []

Current Clamps

120A 120 Amp clamp
 (order 3x or 4x-)
 1000A 1000 Amp clamp
 (order 3x or 4x-)
 3000A 3000 Amp clamp
 (order 3x or 4x-)
 Flex Flex sensor 30A/300A/3000A
 (Primary nominal: 3V AC) -
 (order 3x or 4x)

Special Cable

- Low Current Measurement
 SC 100mA - 6A - each

Adaptor Connector for Clamps

CON - each

* Standard
 Example: PNA296-3V-1000A-SC

Ordering Information

EDL172XR- [] - [] - [] - []

Current Clamps

120A 120 Amp clamp
 200A 20/200 Amp clamp
 1000A 1000 Amp clamp
 3000A 3000 Amp clamp
 Flex Flex sensor 300A/3000A
 Flex Flex sensor 30A/300A/3000A

Special Cable - Low Current Measurement

SC 100mA - 6A - each
 (available only with clamps)

Voltage Inputs

O 660V AC Nominal Voltage Input
 U 120V AC Nominal Voltage Input

Carrying Case

C

* Standard
 Example: EDL172XR-3V-1000A-U-1

SATEC International

Har Chotzym Science Based Industrial Park
 P.O.Box 45022, Jerusalem, 91450 Israel
 Tel.: 972-2-541-1000 Fax: 972-2-581-2371
 e-mail: satec@satec.co.il www.satec.co.il

SATEC U.S.A.

One Springfield Ave., Summit, NJ 07901
 Tel: (908) 608-0500 Fax: (908) 608-0535
 e-mail: satec@oksatec.com www.oksatec.com

Distributor