



FUTURA+ Series
PORTABLE DISTURBANCE ANALYZER

THREE ANALYZERS IN ONE:

- Historical Data Logger
- Real Time Harmonic Analyzer to the 31st Order
- Disturbance Waveform Recorder

ON-BOARD MASS MEMORY:

- Stores all data in unit
- No need to have laptop at site



Description:

Electro Industries/Gaugetech introduces the Futura+ Portable Disturbance Analyzer. This analyzer is a portable version of our popular Futura+ Power Quality Monitor. Like the Futura+, the unit records in on-board mass memory, 110,000 snapshots of data logging and records over 100 captured waveform events.



HISTORICAL DATA LOGGER

- Stores 3 phase Volts, Amps, Watts, Vars, VA, Power Factor, and Freq. with date/time stamp
- Stores both instantaneous and average readings
- Obtain indication of when set limits have been exceeded and returned to normal



DISTURBANCE ANALYZER

- Records pre and post event waveforms for transients above 1/16 of a cycle, surges and sags on voltage or current. Triggers based on user configured high speed events



HARMONIC ANALYZER

- Detects harmonics to the 31st order and displays them via a computer
- Provides spectrum analysis
- View both odd and even harmonics

FUTURA+ Series

PORTABLE DISTURBANCE ANALYZER

It captures transients over 1/16th of one cycle, surges and sags for all the voltage and current channels. When the unit detects a high speed event, the PDA-1000 records 10 cycles prior and up to 170 cycles past the event. All 6 channels are recorded simultaneously.

ON-BOARD STORAGE CAPACITY

- 110,000 Snapshots. Up to 3 months worth of on-board storage
- Configure to any desired storage profile
- Chart and graph data
- Great for load profiling

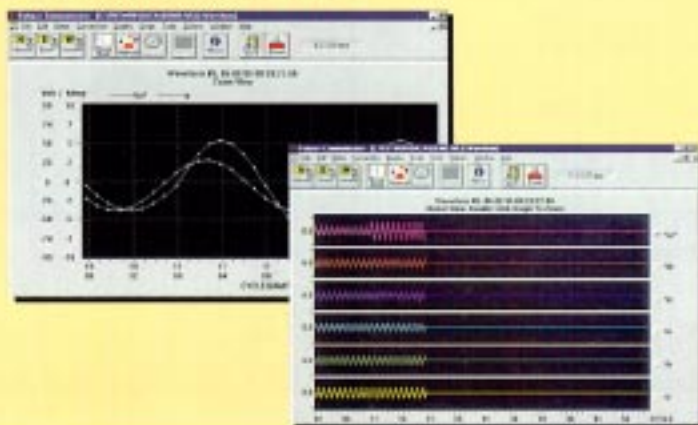
GRAPHING AND CHARTING



ON-BOARD STORAGE CAPACITY

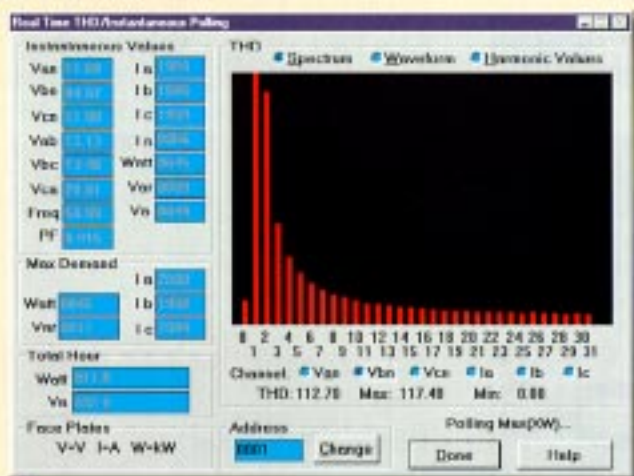
- Record 100 events consisting of 10 cycles prior and 50 cycles post event. All 6 channels are recorded simultaneously
- Up to 180 cycles of recording per event

GRAPHIC VIEWING



DISPLAY

- View %THD for all channels of voltage and current
- Odd and even harmonics to the 31st order
- Spectrum analysis for each voltage and current channel





TECHNICAL SPECIFICATIONS

INPUT VOLTAGE RANGE

300V phase to neutral
*Used with PTs for extended input voltage

I/O ISOLATION

2500 VAC 60 HZ Minimum isolation between any input to output of analog retransmitting module, digital communication module or relay output terminals

CONTROL POWER REQUIREMENTS

115V $\pm 20\%$ 12VA

INPUT CURRENT RANGE

Both 5 amp CTs and 1 amp clamp on hookups are included.

SENSING METHOD

True RMS¹

HARMONIC RANGE

3 channels volt to neutral**
3 channels A, B, and C current**
** To the 31st harmonic

INPUT WITHSTANDING CAPABILITIES

Voltage and Current continuous 200% rated, Surge 10x rated per 3 seconds. Surge withstanding per IEEE C37.90.1

FREQUENCY RANGE

Fundamental 45-75HZ

AMBIENT TEMPERATURE

Operating -20C to +70C

CONSTRUCTION

Metal housing in rugged carrying case

BURDEN (per element)

Voltage 0.3VA max Current 0.2VA max

RMS AND WAVEFORM SAMPLING RATE

Uses analog to digital processing
RMS Calculated in: 128 Samples per cycle
Waveform recording: 16 Samples per cycle
Waveform capable of viewing 5 times full scale
RMS for current and 2 1/2 times RMS for voltage

TIME CLOCK

On board time/date clock - non-volatile

STORAGE CAPABILITIES

110,000 Snapshots configurable to any profile
100 Events, 6 channels (10 cycles prior, 50 cycles after)

ACCURACY SPECIFICATIONS

PARAMETERS	ACCURACY ¹	RESOLUTION	RANGE
VOLTS ²	0.30%	0.10%	0-2000 ³
AMPS ²	0.30%	0.10%	0-2000 ³
W ⁴	0.50%	0.10%	0-2000 ³
VA ⁴	0.50%	0.10%	0-2000 ³
VAR ⁴	0.50%	0.10%	0-2000 ³
PF ⁴	0.50%	0.20%	1.0 TO ± 0.5
W HOUR +/-	0.20%	1 KW HOUR	0-199,999*
VAR HOUR +/-	0.20%	1 KVAR HOUR	0-199,999*
VA HOUR	0.20%	1 KVA HOUR	0-199,999*
FREQUENCY	0.02 HZ	0.01 HZ	47-75HZ
HARMONIC	0.50%	0.20%	31st ORDER

Notes: ① % of the full scale $\pm 0.05\%$ of range ± 1 digit
② For each of the phases and total power
③ Reads in KV for voltage over 2,000
④ Reads in MVA, MW, MVAR to readings over 2,000
⑤ Reads in K-amps for current over 2,000

* Reads MWATT/MVARH/MVAH for hour counter over 199,999

ACCESSORIES



Part#ED304
Ratio 100:1
Range 10-100A

Part#EV400
Voltage Cable
10ft long equipped
with mating connectors
(not shown)



Part#ESD603
Ratio 1000:1
Range 100-1000A



Part#EJM830
Ratio 3000:1
Range 1000-3000A

TO ORDER

The PDA1000 is constructed in a carrying case which includes room for test leads and clamp-on CT's. The Futura Communicator software is included with the unit.

Typical order will include the following items:

1. PDA1000 Power Analyzer including software
2. EV400 Voltage Test Lead
3. Quantity of 3 ESD603 (high accuracy 1000:1 Amps Clamp-on CT's)



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