

PM3000 Power Quality & Harmonic Logger



FEATURES

Patented Single Cycle Adaptive Storage

One Meg memory provides **single cycle** event resolution over recording periods of 30 days with all 16 channels recording - **Standard**

Fifteen pre-stored configurations are set for 3 phase, 2 phase, and single phase hook ups with several math channels pre-configured for power, harmonic & **+Flicker** measurements

Graphical **touchscreen** interface provides straightforward, user-friendly operation

Fused voltage leads and internally fused voltage inputs protect expensive equipment - **Standard**

Resident on-line HELP guides users through configuration and hook up

Exclusive - Capable of storing up to **127** configuration or data files

Records and displays up to 16 channels of voltage, current, power, power factor, VAR's, phase angle, frequency, THD, K Factor-**Standard**

Built in connection wizard ensures correct hook up, provides suggestions upon detecting errors and determines if current sensor is properly orientated

+Records & Displays Harmonics: Odd, Even, Triplens and Individual with direction to the 15th

Phasor Diagram Display to ensure correct hook up **+and show the phase relationship of individual harmonics**

+Records FLICKER: Instantaneous—Flicker Sensation (Synergy Exclusive) as well as programmable time periods for long & short term flicker

RS232, with MODBUS ASCII and modem compatible
Data Storage includes an additional internal flash memory for field programmable upgrades

Battery back up provides 10 minutes resettable timed ride-through in case of power outage

Safety Benefit: Very small size, will fit in most panels and allow the door to be closed

Powered independently by AC measurement circuits or DC power supply for voltages below 50 volts

Lowest Cost 3 Phase Power Quality & Harmonic Logger on the market today—rugged, compact, portable case is lockable



SPECIFICATIONS

MODEL PM3000 & **+PM3000HF**

Input Voltage	Three 0-525 Vac Inline shrouded 4mm banana plugs and fused crocodile clips
Input Current	Three 24" 1000 Amp Flexible Current Clamps Included , or with conventional 0-5 Vac current clamp voltage output
Channels	16
Accuracy	Volts and wide range current < 0.25% True RMS Narrow range current < 1% True RMS
Resolution	Programmable to 0.1 Vac and 0.1 Aac 0.01V, 0.01A high resolution mode
Math Channels	AC 1 Phase: RMS, Stray Voltage RMS Hi Res < 35V, Real power, VARS (fund), Apparent Power, Power Factor, Phase angle, Frequency AC 2 Phase: Real Power, VARS (fund), Apparent Power, Power Factor AC 3 Phase: Real Power, VARS, (fund), Apparent Power, Power Factor, Voltage Unbalance, Current Unbalance (Conventional & Sequential Components)
	+Harmonics: Value and / or percentage of total harmonic distortion, odd, even, triplens and individual harmonics with direction to the 15th. +FLICKER: Instantaneous—Flicker Sensation (Synergy Exclusive) as well as programmable time periods for long & short term flicker
Recording	3840 samples per second; Single Cycle True RMS response time; 16 bit simultaneously sampling all channels
Memory	1MB Ram - Standard / Approximately 4MB uncompressed
Recording Mode and Rate	Adaptive Store: Unique store management enables extended recording & Single Cycle resolution on significant signal changes Point Store: Selectable from Single Cycle rate to once every 12 hours
Data Retention	Back-up battery provides 3 month's retention @ 77°F (25°C)
Power	Requires 50-525 Vac off of Phase A voltage measurement or separate power supply Battery: 4 AA Ni-Cad battery pack & 1 Lithium battery
Communications	Serial Ports: RS232, (up to 230.4K baud); isolation>2.5kV Protocol: MODBUS ASCII Computer Requirements for Pronto Software: Windows 9x, ME, NT, XP: 486DX66 or higher; 250MB hard drive: 16MB RAM
Display	Backlit LCD graphic touchscreen display 2.5" x 1.35"
Case	Pelican 1120 Guard Box: Dimensions 8" x 6.5" x 3.5"
Weight	2.5lbs. without leads and clamps
Operating Temp	-4° F (-20° C) to 140° F (60° C)
Certification	IEC 61010, Cat. III, Pollution Degree 2; CE



Each Unit Includes

- ✓ PM3000 Power Quality & Harmonic Logger
- ✓ Three 24" 1000Amp Flexible Current Clamps (max conductor size 8")
- ✓ Four Voltage Input Cables with Fusing
- ✓ 9-Pin Serial Download Cable
- ✓ Two Neutral Common Leads
- ✓ 12 Volt Charger
- ✓ Pronto for Windows Analysis Software
- ✓ Operation Manual on CD
- ✓ Carrying Case

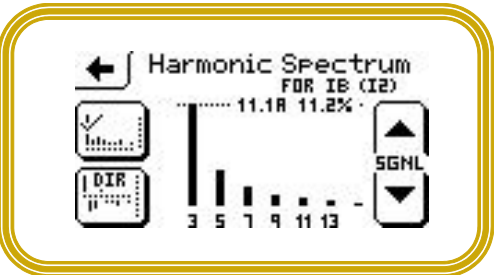
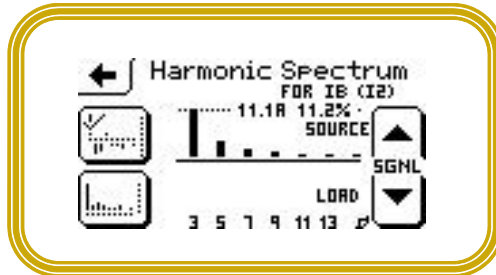
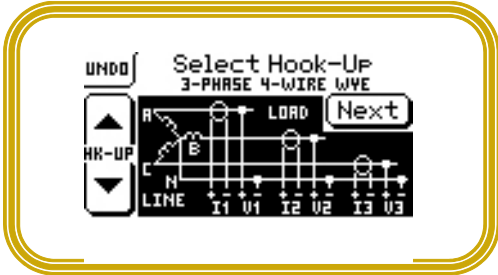
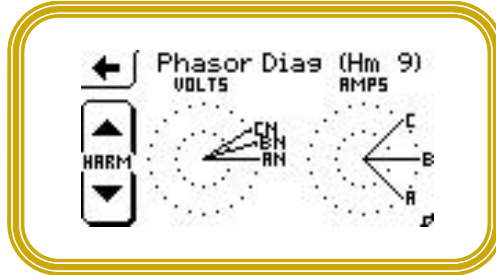
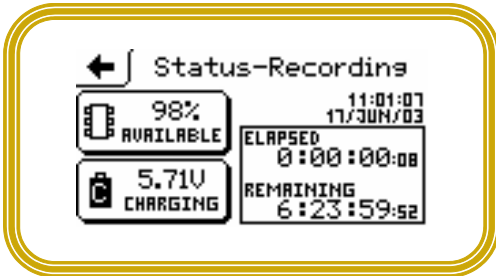
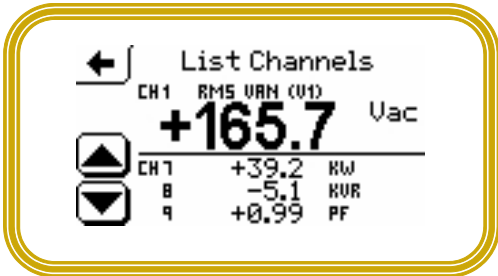
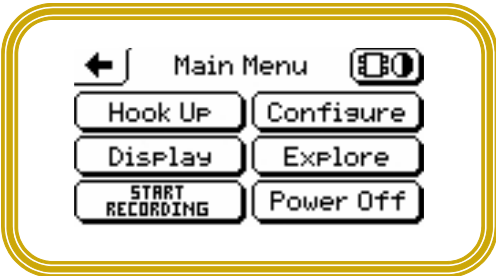
+PM3000HF



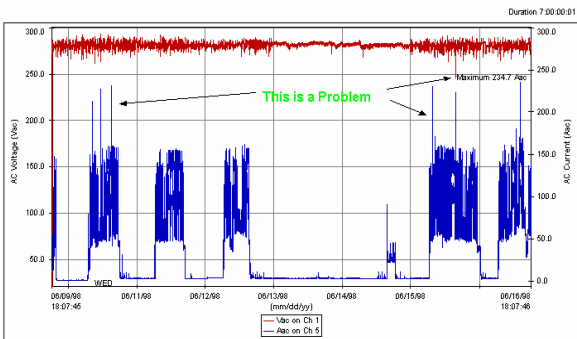
Another **Ranger** product from Outram Research, LTD

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PM3000 Display Screen Examples



Pronto for Windows Data Analysis & Reporting Software



Vac on Ch 1 limits 289, 271

Exceedence Report for Vac on Ch 1 limits 289, 271
09/22/00

File Name: TRIAM3.PDB
Directory: E:\PRONTO4\WP\PROJECTS
Author: Frank Perri

Exception list: Vac on Ch 1 limits 289, 271
Created by: Frank Perri
Created on: 08/25/00 08:54
Start time: 06/09/98 18:07:45
End time: 06/16/98 18:07:46
Exceptions Found: 450
Test Mode: all data

Exceedences for Vac on Ch 1

Start Time	End Time	Duration hh:mm:ss.000	Max/Min Vac	Exceedence Type
06/09/98 18:17:29	06/09/98 18:18:06	37.098	270.1	Minimum limit
06/09/98 18:18:21	06/09/98 18:18:22	0.735	269.3	Minimum limit
06/09/98 18:19:00	06/09/98 18:19:37	37.098	269.0	Minimum limit
06/09/98 18:19:46	06/09/98 18:19:48	1.134	269.0	Minimum limit

Functions

- ⇒ File Management Tools
- ⇒ Templates for Viewing Data
- ⇒ Unlimited Traces on Screen
- ⇒ Titles, Subtitles & Legends for Text & Data
- ⇒ Text Annotation
- ⇒ Arrow Pointer for Text
- ⇒ Cut & Paste Options
- ⇒ Font Selection of Size & Type Color
- ⇒ Selection for Text & Graphs
- ⇒ User Information Screen
- ⇒ Modem Communications
- ⇒ Local Data Logger Network Support
- ⇒ Remote Data Logger Network Support
- ⇒ Notebook
- ⇒ Access to Word Processors
- ⇒ 38.4 K Baud up to 230.4 K Baud
- ⇒ Logger Configuration

⇒ Zooming Tools

- Frame
- Pan
- Exception Zooming
- Limits (value or %)

⇒ Playback Tools

- Manual
- Auto
- Scheduled
- Multiple/Groups

⇒ Reporting Tools

- Exceedence Reports
- Customer Statistics
- Tabular Listings
- Custom Reports
- ⇒ Network-Addressable Data Logger Access
- ⇒ Windows-Controlled Printer Support
- ⇒ Built-In Address Book
- ⇒ Context-Sensitive, On-Line Help System
- ⇒ Used with all Ranger & Adaptive Store Products

Represented By: **techniCAL Systems 2002 Inc.**

436 Jacqueline Blvd. Hamilton, ON L9B 2R3

Toll Free: 1-866-327-8731 (1-86-MEASURE-1)

Tel: 905-575-1941 Fax: 905-575-0386

E-Mail: sales@technical-sys.com

Web-site: www.technical-sys.com