

PM3000 POWER QUALITY & HARMONIC LOGGER



Each Unit Includes

- PM3000HF Power Quality & Harmonic Logger
- Three 24" 3000A/400.0A Flexible Current Clamps (max conductor size 8")
- Four **Fused** Voltage Input Cables
- 9-Pin Serial Download Cable
- Two Neutral Common Jumpers
- 12 Volt Charger
- Pronto for Windows Analysis Software
- Operation Manual on CD
- Training Video
- Carrying Case
- Optional—Bluetooth

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**
- ▶ Graphical **touchscreen** interface provides straightforward, user-friendly operation
- ▶ Resident on-line HELP guides users through configuration and hook up
- ▶ Records and displays up to 16 channels of voltage, current, power, power factor, VAR's, phase angle, frequency, THD, K Factor-**Standard**
- ▶ **Records & Displays Harmonics: Odd, Even, Triplens and Individual with direction to the 15th**
- ▶ **RECORDS & DISPLAYS Instantaneous Flicker Sensation over the entire recording session, as well as programmable time periods for long & short term flicker—Ranger / Pronto Exclusive**
- ▶ Battery back up provides 10 minutes resettable timed ride-through in case of power outage
- ▶ Powered independently by AC measurement circuits or DC power supply for voltages below 50 volts
- ▶ **15** 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
- ▶ Fused voltage leads and internally fused voltage inputs protect expensive equipment - **Standard**
- ▶ **Exclusive** - Capable of storing up to **127** configuration or data files
- ▶ Built in connection wizard ensures correct hook up, provides suggestions upon detecting errors and determines if current sensor is properly orientated
- ▶ Phasor Diagram Display to ensure correct hook up **and show the phase relationship of individual harmonics**
- ▶ RS232, with MODBUS ASCII and modem compatible Data Storage includes an additional internal flash memory for field programmable upgrades
- ▶ **Safety Benefit:** Very small size, will fit in most panels and allow the door to be closed
- ▶ Lowest Cost 3 Phase Power Quality & Harmonic Logger on the market today—rugged, compact, portable case is lockable

SPECIFICATIONS

Input Voltage Four 0-525 Vac Inline shrouded 4mm banana plugs and **fused** crocodile clips

Input Current Three 24" 3000A/400.0A (software selectable) Flexible Current Clamps **Included**, or with optional 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.

Records & Displays Instantaneous Flicker Sensation over the entire recording session, as well as programmable time periods for long & short term flicker— Ranger / Pronto Exclusive

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, Vista & Windows 7: 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 / Complete Kit 8 Lbs.

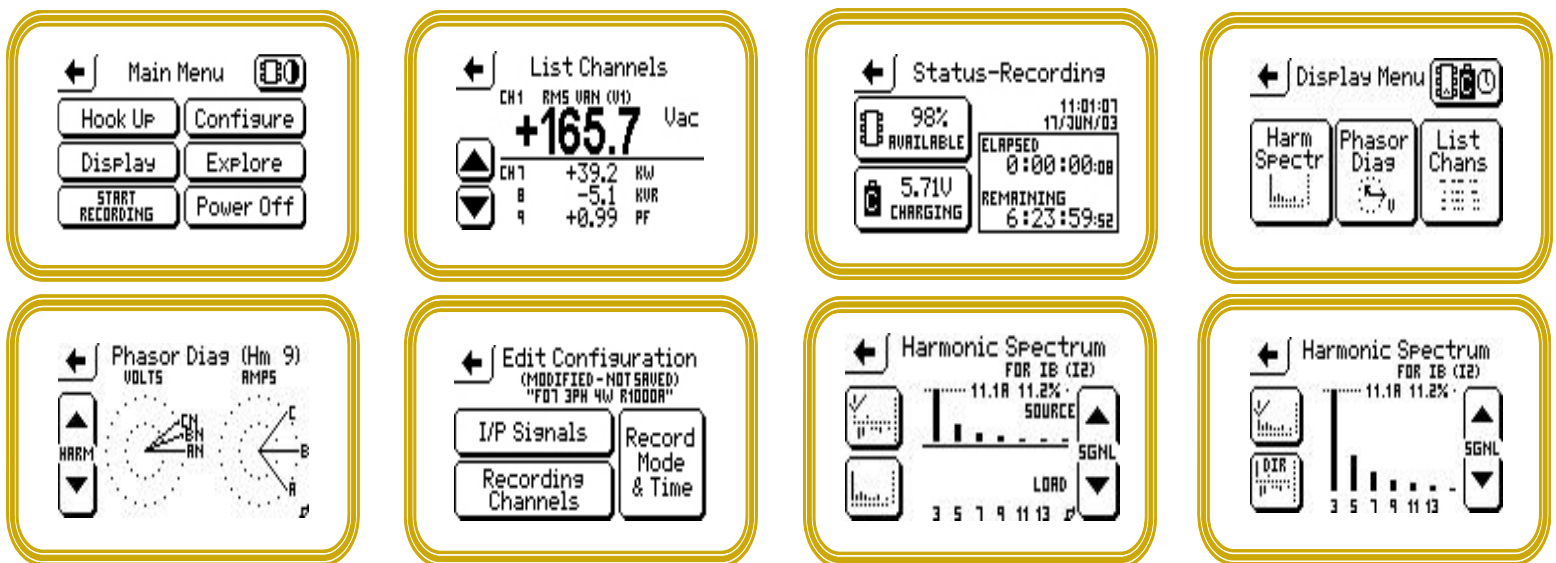
Operating Temp -4° F (-20° C) to 140° F (60° C)

Certification IEC 61010, Cat. III, Pollution Degree 2; CE

SIX REASONS TO CONSIDER RANGER PM3000 HARMONIC LOGGER

1. INPUT LEAD FUSING IS - **STANDARD**, BECAUSE FOR US, **SAFETY IS NUMBER 1—EXCLUSIVE**
2. **COMPLIANT TO IEEE 1453 FLICKER SPECIFICATION** RELEASED MAY 2005
ONLY RANGER LOGGERS CAN PROVIDE THE REQUIRED "NEW" INSTANTANEOUS FLICKER OUTPUT FOR THE **ENTIRE LENGTH OF RECORDING UP TO 14 DAYS WHILE RECORDING ALL 16 CHANNELS AVAILABLE**
3. RECORDS **16 CHANNELS** SIMULTANEOUSLY FOR **2 WEEKS** WITH SINGLE CYCLE RESOLUTION ON CHANGES BECAUSE OF OUR:
EXCLUSIVE PATENTED "SINGLE CYCLE ADAPTIVE STORE"
4. **HARMONIC DIRECTION** SHOWS IF HARMONICS ARE:
UPSTREAM OR DOWNSTREAM FROM THE POINT OF MEASUREMENT
5. **STORES UP TO 127 CONFIGURATIONS ON BOARD—**
ELIMINATES THE NEED TO PROGRAM ON SITE
JUST CHOOSE A CONFIGURATION, PRESS LOAD & START
6. **PHASOR DIAGRAM DISPLAY** TO ENSURE CORRECT HOOK UP AND SHOW THE PHASE RELATIONSHIP **OF INDIVIDUAL HARMONICS**, NOT JUST THE FUNDAMENTAL

PM3000HF DISPLAY SCREEN EXAMPLES



Comes with 15 Pre-Stored Configurations. Just choose through the communication port OR program your own, with the Included PMScreen Software
Graphical LCD Touchscreen (backlit) Display Interface
PRONTO Software is included with all PM Products, AND
LIFETIME UPGRADES for software & firmware at **NO COST**

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