

## 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



### Each Unit Includes

- PM300HF 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
  - Training Video
  - Carrying Case

**CONFORMS TO IEEE 1453**  
Our Software Displays & Prints  
Instantaneous Flicker Sensation  
For the Entire Length of Recording  
A Ranger / Pronto Exclusive  
Ask our competitors to show you  
IF their software can do this  
Before You Buy!

### Optional Accessories

6" Flexible Voltage Alligator Clip Extension Set  
Part # PM2290

Outlet Test Cable  
Part # PM0260

## SPECIFICATIONS

**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.

**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: 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



24 -7 Technical Assistance @ 248-408-7852



# TOP 5 REASONS YOU SHOULD ONLY CONSIDER RANGER PM3000HF HARMONIC LOGGER

**Compliant to IEEE 1453 released May 2005**

1. The ONLY Logger that can provide the required **"NEW" Instantaneous Flicker Output** for the ENTIRE LENGTH OF RECORDING UP TO 14 DAYS while RECORDING ALL 16 CHANNELS available
2. RECORDS **16 Channels** simultaneously for **2 WEEKS** with single cycle resolution on changes BECAUSE of our: **EXCLUSIVE PATENTED "SINGLE CYCLE ADAPTIVE STORE"**  
Gives unprecedented detail. **TRY IT! YOU WILL BE AMAZED!**
3. **Harmonic Direction** shows if Harmonics are **upstream** or **downstream** from the point of measurement
4. Stores up to **127 Configurations on board**  
Eliminates the need to program on site  
– Just choose a configuration, press Load & Start
5. **Phasor Diagram Display** to ensure correct hook up and show the phase relationship of **individual harmonics**, NOT just the fundamental



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**

## RANGER PM3000HF DISPLAY SCREEN EXAMPLES