

POWER QUALITY/ENERGY ANALYZERS, METERS & LOGGERS

THREE-PHASE POWER QUALITY ANALYZERS



* SEE NOTE
AT BOTTOM
OF PAGE



8333

8336



DataView®



POWERPAD® III MODELS 8333 & 8336

*SD card for trend recordings and data storage,
extensive memory for high snapshot quantity,
captured transients/inrush and alarm events*

SPECIFICATIONS

| MODEL | 8333 | 8336 |
|-------------------------|---|---|
| Input Terminals | 4 voltage / 3 current | 5 voltage / 4 current |
| Inputs | 3 voltage / 3 current | 4 voltage / 4 current |
| Voltage (TRMS AC+DC) | 2 to 1000V | |
| Voltage Ratio | up to 500kV | |
| Current (TRMS AC+DC) | MN93: 500mA to 200Aac; MN193: 0.005 to 100Aac SR193 Clamp: 1A to 1000Aac AmpFlex® or MA193 Clamps: 100mA to 10000Aac MR193 Clamp: 1A to 1000Aac/1300Aac SL261 Clamp: 50mA to 100Aac/dc Current Ratio: up to 60kA | |
| Frequency (Hz) | 40 to 69Hz | |
| Distribution Systems | 1P 2W, 1P 3W, 2P 2W, 2P 3W, 2P 4W, 3P 3W, 3P, 4W, Split-Phase 2W & 3W and Aron meters | 1P 2W, 1P 3W, 2P 2W, 2P 3W, 2P 4W, 3P 3W, 3P, 4W and 3P 5W, 2 ½ Element and Aron meters |
| Power Values | W, VA, var, VAD, PF, DPF, cos φ, tan φ | |
| Energy Values | Wh, varh, VAh, VADh | |
| Harmonics | 1st to 50th, Direction, Sequence; THD: 0 to 50, phase | |
| Transients | up to 51 | up to 210 |
| Flicker (Pst/Pit) | Yes/No | Yes/Yes |
| Unbalance | Yes | |
| Recording | Yes | |
| Alarm Mode | 10 types; 4000 recorded | 40 types; 16,000 recorded |
| Peak | Yes | |
| Phasor Display | Automatic | |
| Display | Color ¼ VGA TFT screen (320 x 240) diagonal 5.82" (148mm) | |
| Snapshots | 12 | 50 |
| Languages | > 27 | |
| Communication Interface | USB | |
| MECHANICAL | | |
| Battery Life | ≤10 hrs, ≥15 hrs in Record mode | |
| Power Supply | 9.6V NiMH rechargeable battery pack (included) External AC supply: 110/230Vac ±10% (50/60Hz) | |
| Dimensions / Weight | 9.8 x 7.8 x 2.6" (240 x 180 x 55mm) / 4.3 lbs (1.95kg) | |
| SAFETY | | |
| Safety Rating / IP | IEC 61010, 1000V CAT III; 600V CAT IV / IP53 | |

Consult factory for NIST Calibration prices

KIT OPTIONS

8333

AS ABOVE WITH AMPFLEX®
193 FLEXIBLE CURRENT PROBE
(10KA) CATALOG # 2136.11
24", RATED 600V CAT IV

OR

AS ABOVE, MN193 CURRENT
PROBE (5A/100A)
CATALOG # 2136.12
Rated 600V CAT III

8336

AS ABOVE WITH AMPFLEX®
193 FLEXIBLE CURRENT PROBE
(10KA) CATALOG # 2136.31
24", Rated 600V CAT IV

OR

AS ABOVE, MN193 CURRENT
PROBE (5A/100A)
CATALOG # 2136.32
Rated 600V CAT III



* 3 YEAR WARRANTY ONLY APPLIES WHEN METER IS REGISTERED WITHIN 30 DAYS OF PURCHASE

POWER QUALITY/ENERGY ANALYZERS, METERS & LOGGERS

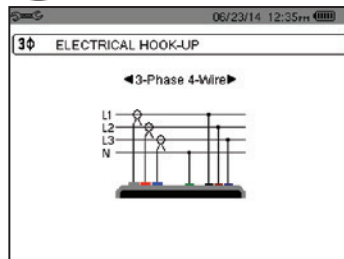
THREE-PHASE POWER QUALITY ANALYZERS

*Captures and Records
Transients, Events & Waveforms
Simultaneously!*

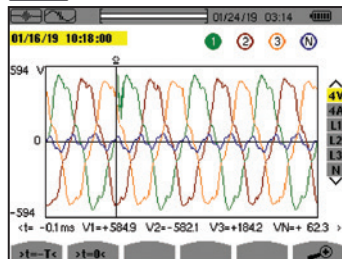
MODELS 8333 & 8336

Large Functional Displays

CONFIGURATION



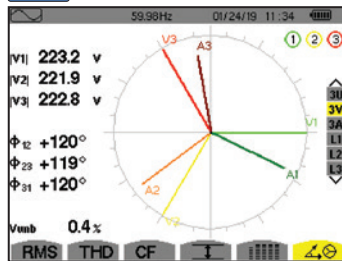
TRANSIENT MODE



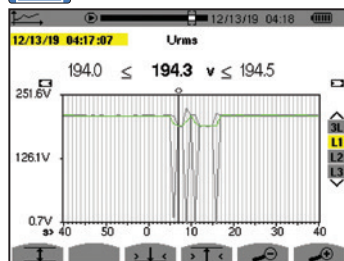
POWER AND ENERGY MODE



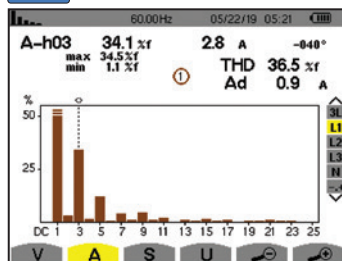
PHASOR DIAGRAM



RECORDING MODE



HARMONICS MODE



FEATURES

- True RMS single-, two- and three-phase measurements at 256 samples/cycle, plus DC
- Real-time color waveforms
- Easy-to-use on-screen setup
- Automatic current probe recognition and scaling
- True RMS voltage and current measurement
- Measures DC volts, amps and power
- Displays and captures voltage, current and power harmonics to 50th order, including direction, in real-time
- Captures transients down to 1/256th of a cycle
- Stores comprehensive data base of logged data
- Phasor diagram display
- kVA, kvar and kW per phase and total
- kVAh, kvarh and kWh per phase and total
- Neutral current calculated and displayed for three-phase
- Transformer K-Factor display (8220 and 8230)
- Transformer Factor K display (8333, 8336, 8436)
- Power Factor, displacement PF display
- Captures up to 210 transients (8336 and 8436)
- Short term (8333) and Long term (8336 and 8436) flicker display
- Phase unbalance (current and voltage)
- Harmonic Distortion (total and individual) from 1st to 50th
- Alarms, surges and sags
- Screen snapshot function captures waveforms or other information on the display
- Includes FREE DataView® software for configuring, data retrieval, real-time display, analysis and report generation

ACCESSORIES/REPLACEMENTS

CATALOG #2133.73 Extra Large Classic Tool Bag (18 x 9 x 12")

CATALOG #2140.28 AC/DC Current Probe Model MR193-BK

CATALOG #2140.32 AC Current Probe Model MN93-BK

CATALOG #2140.33 AC Current Probe Model SR193-BK

CATALOG #2140.34 AmpFlex® Sensor 24" Model 193-24-BK

CATALOG #2140.35 AmpFlex® Sensor 36" Model 193-36-BK

CATALOG #2140.36 AC Current Probe Model MN193-BK

CATALOG #2140.40 BNC Adapter for AC/DC Current Probe Model SL261 and models for use with 8220, 8333, 8335, 8336, 8435, 8436 & PEL Series

CATALOG #2140.44 (1) 10 ft (3M) Black Lead w/Black Alligator Clip (Lead rated 600V CAT IV 10A, Clip rated 1000V CAT IV, UL)

CATALOG #2140.48 MiniFlex® Sensor 10" Model MA193-10-BK

CATALOG #2140.50 MiniFlex® Sensor 14" Model MA193-14-BK

CATALOG #2140.78 MiniFlex® Sensor 24" Model MA193-24-BK




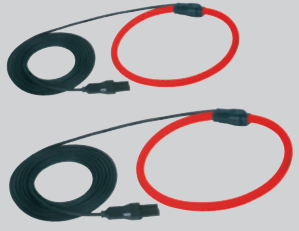
CATALOG #2140.77 Phase Power Adapter (8333 & 8336)

| CATALOG NO. | DESCRIPTION |
|-------------|--|
| 2136.10 | PowerPad® III Model 8333 (no probes) |
| 2136.11 | PowerPad® III Model 8333 w/3 193-24-BK Sensors |
| 2136.12 | PowerPad® III Model 8333 w/3 MN193-BK Probes |
| 2136.30 | PowerPad® III Model 8336 (no probes) |
| 2136.31 | PowerPad® III Model 8336 w/4 193-24-BK Sensors |
| 2136.32 | PowerPad® III Model 8336 w/4 MN193-BK Probes |



POWER QUALITY/ENERGY ANALYZERS, METERS & LOGGERS

OPTIONAL ACCESSORIES

| SENSOR TYPE | CURRENT RANGE | ACCURACY (TYPICAL) | TYPICAL ERROR ON Φ AT 50/60 HZ | MAX CONDUCTOR SIZE | USED WITH MODEL | CATALOG NUMBER |
|--|-----------------------------------|--------------------|-------------------------------------|-----------------------------------|---|-------------------------|
|  <p>10,14 or 24" sensor</p> | 100mA to 12,000Aac ⁽¹⁾ | ±1% | 0° | 2.75" (70mm) (10" sensor) | PEL 102 PEL 103 PEL 105 8333 8336 | 2140.48 (10" sensor) |
| | | | | 3.94" (100mm) (14" sensor) | | 2140.50 (14" sensor) |
| | | | | 7.64" (190mm) (24" sensor) | | 2140.78 (24" sensor) |
|  <p>Battery operated</p> | 1 to 1000Aac 1 to 1300Aac | ±2.5% | -0.80° | 1.6" (41mm) | PEL 102 PEL 103 PEL 105 8333 8336 | 2140.28 |
|  | 1 to 1200Aac | ±0.3% | 0.2° | 2.05" (52mm) | PEL 102 PEL 103 PEL 105 8333 8336 | 2140.33 |
|  <p>24" or 36" sensor</p> | 100mA to 12,000Aac ⁽¹⁾ | ±1% | 0° | 7.64" (190mm) (24" sensor) | PEL 102 PEL 103 PEL 105 8333 8336 | 2140.34 (24" sensor) |
| | | | | 11.46" (290mm) (36" sensor) | | 2140.35 (36" sensor) |
|  <p>Waterproof, IP67 14 or 24" sensor</p> | 100mA to 12,000Aac ⁽¹⁾ | ±1% | 0° | 3.9" (100mm) (14" sensor) | PEL 105 8436 | 2140.79 (14" sensor) |
| | | | | 7.64" (190mm) (24" sensor) | | 2140.75 (24" sensor) |




*Maximum current reduced by a factor of 2 for 400Hz fundamental frequency.

All current sensors can be used with Models PEL 105, 8435 and 8436. However, only the MA196-14-BK and 196A-24-BK flexible sensors are waterproof.

(1) Current range may be limited by sensor size or meter type.

Consult factory for NIST Calibration prices

POWER QUALITY/ENERGY ANALYZERS, METERS & LOGGERS OPTIONAL ACCESSORIES

| SENSOR TYPE | CURRENT RANGE | | ACCURACY (TYPICAL) | TYPICAL ERROR ON ϕ AT 50/60HZ | MAX CONDUCTOR SIZE | USED WITH MODEL | LIMITED RANGE IF USED WITH MODEL | CATALOG NUMBER |
|---|---------------|------------------|--------------------|------------------------------------|--------------------|---|----------------------------------|----------------|
| MN93-BK  | 0.5 to 240Aac | | $\pm 1\%$ | 0.8° | 0.78" (20mm) | PEL 102 PEL 103 PEL 105 8333 8336 | N/A | 2140.32 |
| MN193-BK  | 100A | 200mA to 120Aac | $\pm 1\%$ | 0.75° | 0.78" (20mm) | PEL 102 PEL 103 PEL 105 8333 8336 | N/A | 2140.36 |
| | 5A | 5mA to 6Aac | $\pm 1\%$ | 1.7° | | | | |
| SL261  | 100A | 5 to 100Aac/dc | $\pm 4\%$ | $\pm 0.5^\circ$ | 0.46" (11.8mm) | PEL 102 PEL 103 PEL 105 8333 8336 | N/A | 1201.51 |
| | 10A | 50mA to 10Aac/dc | $\pm 3\%$ | $\pm 1^\circ$ | | | | |

All current sensors can be used with models PEL 105 and 8436. However, only the MA196-14-BK and 196A-24-BK flexible sensors are waterproof. Consult factory for NIST Calibration prices

ACCESSORIES/REPLACEMENTS

CATALOG #1201.51

AC/DC Current Probe
Model SL261 (BNC)



CATALOG #2137.83

600V Power Adapter for use with
Models PEL 102 and PEL 103 only



CATALOG #2140.28

AC/DC Current Probe
Model MR193-BK



CATALOG #2140.32

AC Current Probe
Model MN93-BK



CATALOG #2140.33

AC Current Probe
Model SR193-BK



CATALOG #2140.34

AmpFlex® Sensor 24"
Model 193-24-BK



ACCESSORIES/REPLACEMENTS

CATALOG #2140.35

AmpFlex® Sensor 36"
Model 193-36-BK



CATALOG #2140.36

AC Current Probe
Model MN193-BK



CATALOG #2140.40

BNC Adapter for AC/DC Current Probe
Model SL261



CATALOG #2140.48

MiniFlex® Sensor 10" Model MA193-10-BK

CATALOG #2140.50

MiniFlex® Sensor 14" Model MA193-14-BK

CATALOG #2140.78

MiniFlex® Sensor 24" Model MA193-24-BK



CATALOG #2140.75

AmpFlex® Sensor 24" (Waterproof - IP67)
Model 196A-24-BK

CATALOG #2140.79

MiniFlex® Sensor 14" Waterproof - IP67
Model MA196-14-BK



POWER QUALITY/ENERGY ANALYZERS, METERS & LOGGERS SELECTION CHART

| AEMC MODEL NUMBER | AEMC CATALOG NUMBER | INPUT TERMINALS | CHANNELS | RMS VOLTAGE MAX PHASE-TO-NEUTRAL | RMS VOLTAGE MAX PHASE-TO-PHASE | PEAK VOLTAGE MAX PHASE-TO-NEUTRAL | PEAK VOLTAGE MAX PHASE-TO-PHASE | DC VOLTAGE MAX | AC CURRENT MAX (PROBE DEPENDENT) | DC CURRENT MAX (PROBE DEPENDENT) | RATIOS VOLT | RATIOS AMPERE |
|-------------------|---------------------|-----------------|----------|----------------------------------|--------------------------------|-----------------------------------|---------------------------------|----------------|----------------------------------|----------------------------------|-------------|---------------|
| 8333 | 2136.10 | 4V/3I | 3V/4I | 1000Vrms | 2000Vrms | 1414Vpk | 2828Vpk | 1200Vdc | 10,000AAC | 5000Adc | | Yes |
| 8336 | 2136.30 | 5V/4I | 4V/4I | 1000Vrms | 2000Vrms | 1414Vpk | 2828Vpk | 1200Vdc | 10,000AAC | 5000Adc | | Yes |
| 8436 | 2136.43 | 5V/4I | 4V/4I | 1000Vrms | 2000Vrms | 1414Vpk | 2828Vpk | 1200Vdc | 10,000AAC | 5000Adc | | Yes |
| PEL 102 | 2137.51 | 4V/3I | 3V/3I | 1000Vrms | 1700Vrms | 1414Vpk | 2400Vpk | 1000Vdc | 10,000AAC | 5000Adc | | Yes |
| PEL 103 | 2137.52 | 4V/3I | 3V/3I | 1000Vrms | 1700Vrms | 1414Vpk | 2400Vpk | 1000Vdc | 10,000AAC | 5000Adc | | Yes |
| PEL 105 | 2137.57 | 5V/4I | 4V/4I | 1000Vrms | | 1414Vpk | 2400Vpk | 1000Vdc | 10,000AAC | 5000Adc | | Yes |

| AEMC MODEL NUMBER | AEMC CATALOG NUMBER | DISTRIBUTION SYSTEMS | PHASE ROTATION | WAVEFORM MODE | TRANSIENT MODE | TRUE INRUSH MODE/TYPE/DURATION | ALARM MODE | SNAPSHOT MODE | HARMONIC MODE | TYPE LCD | POWER SOURCE |
|-------------------|---------------------|--|----------------|---------------|----------------|--|---|---------------|---------------|--|---|
| 8333 | 2136.10 | 1P-2W, 2P-3W, 3P-3W, 3P-4W | | Yes | | No | 10 types/ up to 2 active/ 4662 recorded | Yes (12) | Yes | TFT - 5.7" diagonal 320 x 240 resolution | External adapter with internal NiMH battery pack |
| 8336 | 2136.30 | 1P-2W, 1P-3W, 2P-2W, 2P-3W, 2P-4W, 3P-3W, 3P-4W, 3P-5W | | Yes | | Yes (RMS+PEAK & RMS) up to 1 & 10 mins | 40 types/ up to 7 active/ 16,362 recorded | Yes (50) | Yes | TFT - 5.7" diagonal 320 x 240 resolution | External adapter with internal NiMH battery pack |
| 8436 | 2136.43 | 1P-2W, 1P-3W, 2P-2W, 2P-3W, 2P-4W, 3P-3W, 3P-4W, 3P-5W | | Yes | | Yes (RMS+PEAK & RMS) up to 1 & 10 mins | 40 types/ up to 7 active/ 16,362 recorded | Yes (50) | Yes | TFT - 5.7" diagonal 320 x 240 resolution | Line Power with internal NiMH battery pack |
| PEL 102 | 2137.51 | 1P-2W, 1P-3W, 3P-3W D2, 3P-3W O2, 3P-3W Y2, 3P-3W D3, 3P-3W O3, 3P-3W Y, 3P-3W DB, 3P-4W Y, 3P-4W YB, 3P-4W Y2 1/2, 3P-4W D, 3P-4WOD, DC-2W DC-3W, DC-4W | Yes | | | No | | | Yes | None | Line Power with internal NiMH battery pack |
| PEL 103 | 2137.52 | | Yes | | | No | | | Yes | Mono-chrome LCD | Line Power with internal NiMH battery pack |
| PEL 105 | 2137.57 | | Yes | | | No | | | Yes | Mono-chrome LCD | Power phase input or external adapter with internal NiMH battery pack |