IP 54 | 600 V CAT III | WEB SERVER | *Pending*

MODEL PEL 52

Time/date stamped electrical measuring instrument to understand and improve electrical consumption

DataView®

SCAN TO LEARN MORE

DataViewSync™

MODEL	PEL 52		
GENERAL			
Inputs	2V / 2I		
Types of installations	Single-phase, split-phase or 2 single-phase channels		
Recording / Data Storage Rate	Unlimited duration *(4 GB max recording size)* / 1 s to 1 h *(Min / Avg / Max)*		
Network Frequency	(45 to 65) Hz		
Voltage	(10 to 600) V		
ELECTRICAL			
VOLTAGE	**RANGE**	**RESOLUTION**	**ACCURACY**
Vrms	(10 to 600) V P to N	0.1 V	± 0.2 % Reading ± 0.2 V
Urms	(20 to 600) V P to P	0.1 V	± 0.2 % Reading ± 0.4 V
CURRENT MEASUREMENT @ (50 and 60) HZ	**RANGE**	**RESOLUTION**	**ACCURACY**
Amps (1 V nominal) ***(excluding clamp accuracy)***	Probe dependent (0.2 % < I < 120 % Inom)	Probe dependent	± 0.2 % Reading ± 0.02 Inom
POWER	**RANGE**	**RESOLUTION**	**ACCURACY**
Watts P-Q-S *(W-var-VA)*	V = (100 to 600) V I = (5 to 120) % Inom	Probe dependent	± 0.3 % R ± 0.003 % Pnom ± 1 % R ± 0.01 % Qnom ± 0.3 % R ± 0.003 % Snom
Power Factor	-1 to 1	0.001	±0.02 %
Cos φ *(DPF)*	-1 to 1	0.001	±0.05 %
ENERGY	**RANGE**	**RESOLUTION**	**ACCURACY**
Ep-Eq-Es *(Wh, varh, VAh)*	V = (100 to 600) V I = (5 to 120) % Inom	0.001 and ±0.02%	±0.5 % Reading ±2.5 % Reading ±0.5 % Reading
MECHANICAL			
Communication	Wi-Fi *(access point and hot spot)*		
Data Storage	8 GB SD-Card *(included)* ; expandable to 32 GB		
Dimension	(7.08 x 3.46 x 1.45) in (180 x 88 x 37) mm		
Weight	14.10 oz (400 g)		
Case	Compact and rugged, shock and vibration IEC 61010		
Display Type	LCD with blue backlight		
Real-Time Clock	Time and date stamp for Trend mode		
Power Supply	From phase 1 (90 to 660) V battery backup when power OFF		
Battery Life	3 h without Wi-Fi, 1 h typical with Wi-Fi enabled		
ENVIRONMENTAL			
Operating Temperature / Relative Humidity	(-4 to 122) °F (-20 to 50) °C / (10 to 85) % RH		
Storage Temperature	(-40° to 158) °F (-40 to 70) °C / (0 to 95) % RH w/out battery		
SAFETY			
Electro-Magnetic-Compatibility *(EMC)*	EN 61326-1 for emission and immunity		
Safety Rating / CE Rating	IEC / EN 61010-2-30 (600 V CAT III) / Yes		
IP Rating	IP54 per IEC 60529		

* Minimum and maximum values are current probe dependent.
Consult factory for NIST Calibration prices.

PRODUCT INCLUDES

CAT. #2137.69 *(WITH PROBES)*
Soft carrying bag, (2) MiniFlex® MA193-10-BK sensors, (3) black test leads and alligator clips, 110 V US power Cord, (1) adapter for power cord, 8 GB SD card, USB SD card reader, (2) AAA rechargeable batteries, quick start guide, and USB drive with DataView® software and user manual.

CAT. #2137.71 *(NO PROBES)*
Soft carrying bag, (3) black test leads and alligator clips, 110 V US power Cord, (1) adapter for power cord, 8 GB SD card, USB SD card reader, (2) AAA rechargeable batteries, quick start guide, and USB drive with DataView® software and user manual.

CAT. #	DESCRIPTION
2137.69	Power & Energy Logger Model PEL 52 (w/LCD, w/(2) MA193-10-BK sensors)
2137.71	Power & Energy Logger Model PEL 52 (w/LCD, no sensors)

Technical Assistance (800) 343-1391

AEMC® INSTRUMENTS

FEATURES

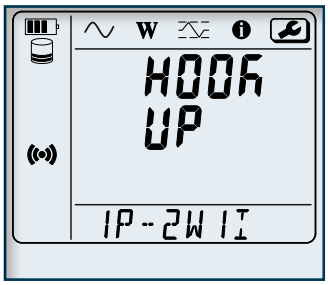
- Low cost, simple-to-use, portable, single- and dual- *(split-phase)* power & energy data logger
- Wide backlit LCD display
- Vital energy data is easily measured, recorded and analyzed
- TRMS voltage and current measurement up to 600 V
- Powered via the measuring phase
- Measurement of the AC phase currents (I1, I2) *(dependent on sensor)*
- RMS AC measurements (50 and 60) Hz, aggregation every second without missing measurements
- Easy to use, automatic recognition of current sensors
- W, VA and var (P, Q, S, N and D) power measurements
- Calculation of the Cos φ and Power Factor (DPF)
- Aggregation measurements over a period from 1 min to 1 h
- Storage of the 1 s and aggregated measurements on SD/SDHC card; data can be read directly on a PC
- Remote connectivity via DataViewSync®
- Integrated web server for for remote viewing *(Android™, iOS, Windows, etc.)*
- Wi-Fi offers accessibility to diagnose problems in real-time and/or multi-station operation
- Data saved on SD card for easier transport
- Capable of performing load studies in compliance with NEC 220.87
- Includes FREE DataView® software for configuring, data retrieval, real-time measurement display, data analysis and report generation
- Compact casing with built-in magnet to facilitate mounting for easier implementation in electrical cabinets 2-year warranty
- ECO-DESIGN – environmental aspects considered during product development to make the lowest possible environmental impact throughout the product life cycle

APPLICATIONS

- Load surveys – Find out how much energy each item of equipment consumes operating at its min/max power level.
- Energy analysis – Estimate energy consumption before and after the improvements.
- Energy surveys – The measurements for energy surveys must be performed at several locations on the evaluation site. Starting with the main power, compare the power and energy measurements on the electricity meter and bills. Sub metering can then be performed on downstream of the installation.

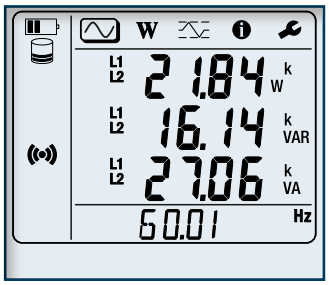
Large Functional Displays

INFORMATION MODE



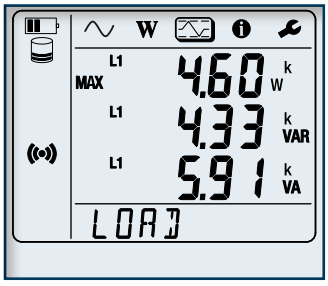
Hook up, Wi-Fi, aggregation period, can be configured from the front panel of the PEL 52. Current ratios and number of turns need to be configured via the PEL Transer software based on the current sensor type.

MEASUREMENT MODE *(2P-3W2I)*



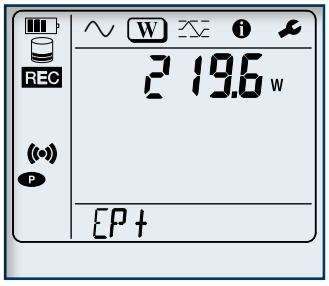
Real-time updates are displayed for voltage (V), current (A) active power (P), reactive power (Q), apparent power (S), frequency (Hz), power factor (PF).

MAX MODE *(1P-2W1I)*



Max aggregated values of measurements and energy.

ENERGY MODE



Active energy (Wh), reactive energy (varh), apparent energy (VAh). The energies displayed are the total energies, of the source or of the load. *(The "h" symbol is not displayed on the screen. You will see W, VA, var for Wh, VAh and varh. Downloaded recordings will show the "h")*

ACCESSORIES/REPLACEMENTS

CAT. #2140.32 AC Current Probe Model MN93-BK
CAT. #2140.33 AC Current Probe Model SR193-BK
CAT. #2140.34 AmpFlex® Sensor 24 in Model 193-24-BK
CAT. #2140.35 AmpFlex® Sensor 36 in Model 193-36-BK
CAT. #2140.36 AC Current Probe Model MN193-BK
CAT. #2140.48 MiniFlex® Sensor 10 in Model MA193-10-BK
CAT. #2140.50 MiniFlex® Sensor 14 in Model MA193-14-BK
CAT. #2140.80 MiniFlex® Sensor 24 in Model MA194-24-BK
CAT. #2140.81 AC Current Probe Model MN94
CAT. #2140.44 (1) 10 ft (3 M) Black Lead w/(1) Black Alligator Clip (Lead rated 1000 V CAT IV 15 A, Clip rated 1000 V CAT IV 15 A, UL)
CAT. #2140.45 Set of (12) color-coded Input ID Markers
CAT. #5000.14 Power cord 115 V for Micro-ohmmeters, Megohmmeters, Power Instruments, Oscilloscopes & Ground Testers
CAT. #5000.43 Magnetized Voltage Probe Set of (2) color-coded *(red/black)* magnetized voltage probes (Rated 600 V CAT IV, 1000 V CAT III)
CAT. #5000.99 Clip – Safety alligator *(black)* (1000 V CAT IV, 15 A, UL V2)

MODEL	MAX CONDUCTOR SIZE	ACCURACY *(TYPICAL)*	TYPICAL ERROR ON Φ AT (50 / 60) HZ	CURRENT RANGE	USED WITH MODEL	CAT. #
MiniFlex® Model MA193-10-BK* & MiniFlex® Model MA193-14-BK* & MiniFlex® Model MA194-24-BK*  **10, 14 & 24 in Sensor**	2.75 in (70 mm) (10 in sensor)	± 1 %	0.5 °	100 mA to 12,000 AAC (1)	**PEL 52 PEL 112 PEL 113 PEL 115 8333 8336 8436 8345**	2140.48 (10 in sensor)
	3.94 in (100 mm) (14 in sensor)					2140.50 (14 in sensor)
	7.64 in (194 mm) (24 in sensor)					2140.80 (24 in sensor)
AC/DC Current Probe Model MR193-BK 	1.6 in (41 mm)	± 2.5 %	-0.80 °	(1 to 1000) AAC (1 to 1300) ADC	PEL 112 PEL 113 PEL 115 8333 8336 8436 8345	2140.28
AC Current Probe Model MN93-BK 	0.78 in (20 mm)	± 1 %	0.8 °	(0.5 to 240) AAC	**PEL 52 PEL 112 PEL 113 PEL 115 8333 8336 8436 8345**	2140.32
AC Current Probe Model SR193-BK 	2.05 in (52 mm)	± 0.3 %	0.2 °	(1 to 1200) AAC	**PEL 52 PEL 112 PEL 113 PEL 115 8333 8336 8436 8345**	2140.33
AmpFlex® Sensor 24 in Model 193-24-BK* 	7.64 in (194 mm) (24 in sensor)	± 1 %	0.5 °	100 mA to 12,000 AAC (1)	**PEL 52 PEL 112 PEL 113 PEL 115 8333 8336 8436 8345**	2140.34
AmpFlex® Sensor 36 in Model 193-36-BK* 	11.64 in (291 mm) (36 in sensor)	± 1 %	0.5 °	100 mA to 12,000 AAC (1)	**PEL 52 PEL 112 PEL 113 PEL 115 8333 8336 8436 8345**	2140.35

MODEL	MAX CONDUCTOR SIZE	ACCURACY *(TYPICAL)*	TYPICAL ERROR ON Φ AT (50 / 60) HZ	CURRENT RANGE		USED WITH MODEL	CAT. #
AC Current Probe Model MN193-BK 	0.78 in (20 mm)	± 1 %	0.75 °	100 A	200 mA to 120 AAC	PEL 52 PEL 112 PEL 113 PEL 115 8333 8336 8436 8345	2140.36
			1.7 °	5 A	5 mA to 6 AAC		
AmpFlex® Sensor 24 in Model 196A-24-BK* *(Waterproof IP67)* 	7.64 in (194 mm) (24 in sensor)	± 1 %	0 °	100 mA to 12,000 AAC (1)		PEL 115 8436	2140.75
MiniFlex® Sensor 14 in Model MA196-14-BK* *(Waterproof IP67)* 	3.9 in (99 mm) (14 in sensor)	± 1 %	0 °	100 mA to 12,000 AAC (1)		PEL 115 8436	2140.79
AC Current Probe Model MN94 	0.25 in (7 mm)	± 0.2 %	0.1 °	50 mA to 200 AAC		PEL 52 8345	2140.81
AC / DC Current Probe Model E94 	.464 in (11.8 mm)	± 3 %	1.5 °	**10 A**	100 mA to 10 AAC	PEL 112 PEL 113 PEL 115 8345	2140.82
		± 4 %	1 °	**100 A**	500 mA to 100 AAC		

* Maximum current reduced by a factor of 2 for 400 Hz fundamental frequency.
All current sensors can be used with Models PEL 115 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
SELECTION CHART

MODEL	CAT. #	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	4 V / 3 I	3 V / 4 I	1000 V_{RMS}	2000 V_{RMS}	1414 Vpk	2828 Vpk	1200 V_{DC}	10,000 A_{AC}	1300 A_{DC}	Yes	
8336	2136.30	5 V / 4 I	4 V / 4 I	1000 V_{RMS}	2000 V_{RMS}	1414 Vpk	2828 Vpk	1200 V_{DC}	10,000 A_{AC}	5000 A_{DC}	Yes	
8345	2136.35	5 V / 4 I	4 V / 4 I	1000 V_{RMS}	2000 V_{RMS}	1414 Vpk	2828 Vpk	1200 V_{DC}	10,000 A_{AC}	5000 A_{DC}	Yes	
8436	2136.43	5 V / 4 I	4 V / 4 I	1000 V_{RMS}	2000 V_{RMS}	1414 Vpk	2828 Vpk	1200 V_{DC}	10,000 A_{AC}	5000 A_{DC}	Yes	
PEL 52	2137.71	2 V / 2 I		600 V_{RMS}	1200 V_{RMS}	–			3600 A_{AC}	–	No	Yes
PEL 112	2137.63	4 V / 3 I	3 V / 3 I	1000 V_{RMS}	1700 V_{RMS}	1414 Vpk	2400 Vpk	1000 V_{DC}	12,000 A_{AC}	5000 A_{DC}	Yes	
PEL 113	2137.64	4 V / 3 I	3 V / 3 I	1000 V_{RMS}	1700 V_{RMS}	1414 Vpk	2400 Vpk	1000 V_{DC}	12,000 A_{AC}	5000 A_{DC}	Yes	
PEL 115	2137.56	5 V / 4 I	4 V / 4 I	1000 V_{RMS}		1414 Vpk	2400 Vpk	1000 V_{DC}	12,000 A_{AC}	5000 A_{DC}	Yes	

MODEL	CAT. #	DISTRIBUTION SYSTEMS	PHASE ROTATION	WAVEFORM MODE	TRANSIENT MODE	TRUE INRUSH® MODE / TYPE / DURATION	ALARM MODE	SNAPSHOT MODE	HARMONIC MODE / INTERHARMONIC MODE	TYPE LCD	POWER SOURCE
8333	2136.10	1 P-2 W, 2 P-3 W, 3 P-3 W, 3 P-4 W	Yes			No	10 types / up to 2 active / 4662 recorded	Yes (12)	Yes / No	TFT - 5.7 in diagonal 320 x 240 resolution	External adapter with internal NiMH battery pack
8336	2136.30	1 P-2 W, 1 P-3 W,2 P-2 W, 2 P-3 W, 2 P-4 W, 3 P-3 W,3 P-4 W, 3 P-5 W	Yes			Yes (RMS+PEAK & RMS) up to 1 & 10 min	40 types / up to 7 active / 16,362 recorded	Yes (50)	Yes / No	TFT - 5.7 in diagonal 320 x 240 resolution	External adapter with internal NiMH battery pack
8345	2136.35	1 P-2 W, 1 P-3 W,2 P-2 W, 2 P-3 W, 2 P-4 W, 3 P-3 W,3 P-4 W, 3 P-5 W	Yes			Yes (RMS+PEAK & RMS) up to 10 & 30 min	40 types / 20,000 w / email notifications	Yes (no limit with SD card)	DC to 127th order; < 3 % Udin / 0 to 62nd order; < 0.5 % Udin	7 in color LCD touch screen: 800 x 480 (WVGA)	External adapter with Li-ion battery pack
8436	2136.43	1 P-2 W, 1 P-3 W,2 P-2 W, 2 P-3 W, 2 P-4 W, 3 P-3 W,3 P-4 W, 3 P-5 W	Yes			Yes (RMS+PEAK & RMS) up to 1 & 10 min	40 types / up to 7 active / 16,362 recorded	Yes (50)	Yes / No	TFT - 5.7 in diagonal 320 x 240 resolution	Line Power with internal NiMH battery pack
PEL 52	2137.71	1 P-2 W,2 P-3 W, 1 P-3 W	Yes	No						Monochrome LCD	Power phase input with internal NiMH battery pack
PEL 112	2137.63	1 P-2 W, 1 P-3 W, 3 P-3 W D2, 3 P-3 W O2, 3 P-3 W Y2, 3 P-3 W D3, 3 P-3 W O3, 3 P-3 W Y, 3P-3 W DB, 3 P-4 W Y, 3 P-4 W YB, 3 P-4 W Y2 1/2, 3 P-4 W D, 3 P-4 WOD, DC-2 W DC-3 W, DC-4 W	Yes	No					Yes / No	None	Line Power with internal NiMH battery pack
PEL 113	2137.64	1 P-2 W, 1 P-3 W, 3 P-3 W D2, 3 P-3 W O2, 3 P-3 W Y2, 3 P-3 W D3, 3 P-3 W O3, 3 P-3 W Y, 3P-3 W DB, 3 P-4 W Y, 3 P-4 W YB, 3 P-4 W Y2 1/2, 3 P-4 W D, 3 P-4 WOD, DC-2 W DC-3 W, DC-4 W	Yes	No					Yes / No	Monochrome LCD	Line Power with internal NiMH battery pack
PEL 115	2137.56	1 P-2 W, 1 P-3 W, 3 P-3 W D2, 3 P-3 W O2, 3 P-3 W Y2, 3 P-3 W D3, 3 P-3 W O3, 3 P-3 W Y, 3P-3 W DB, 3 P-4 W Y, 3 P-4 W YB, 3 P-4 W Y2 1/2, 3 P-4 W D, 3 P-4 WOD, DC-2 W DC-3 W, DC-4 W	Yes	No					Yes / No	Monochrome LCD	Power phase input or external adapter with internal NiMH battery pack

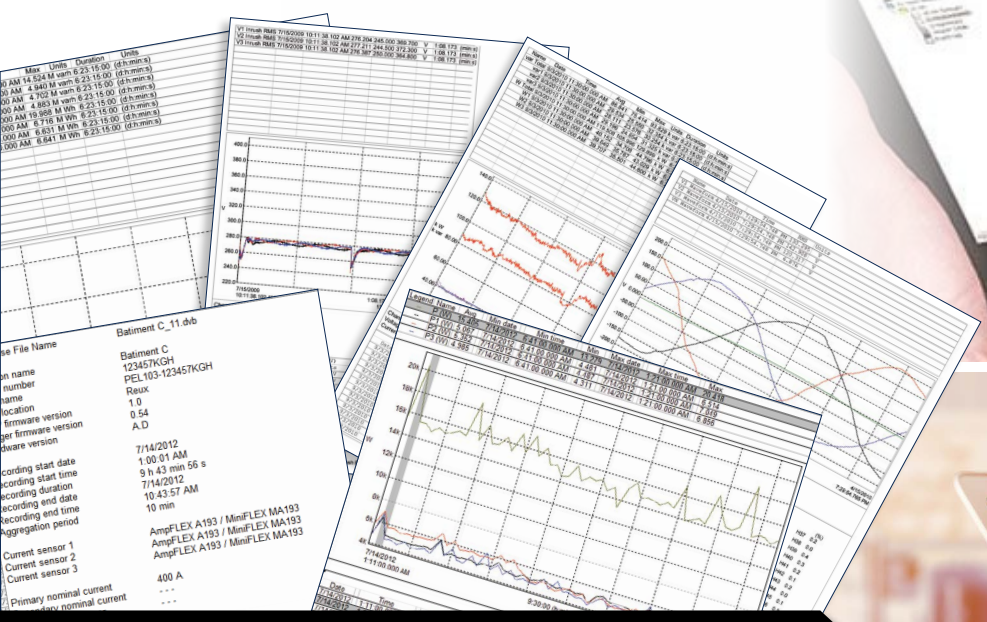
Technical Assistance (800) 343-1391

DataView®

Data Analysis and Reporting Software

Configure all functions:

- Display and analyze real-time data on your PC
- Configure functions and parameters from your PC
- Customize views, templates and reports to your exact needs
- Create and store a complete library of configurations that can be uploaded as needed
- Zoom in and out and pan through sections of the graph to analyze the data
- Download, display and analyze recorded data
- Display waveforms, trend graphs, harmonic spectrums, text summaries, transients, event logs and stored alarms
- Print reports using standard or custom templates you design
- Free updates available on our website **www.aemc.com**



Reports can be displayed on a PC and printed. Each report includes all test results in a tabular and graphic format, as well as operator and test site information. Comments typed by the operator will also be included.

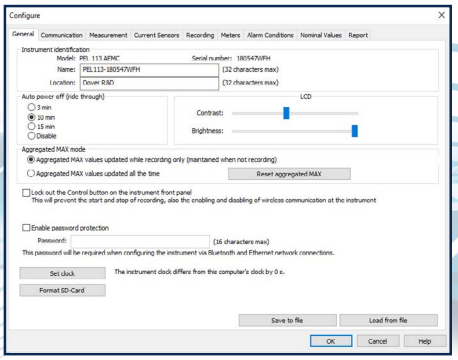
DataView®

Data Analysis and Reporting Software

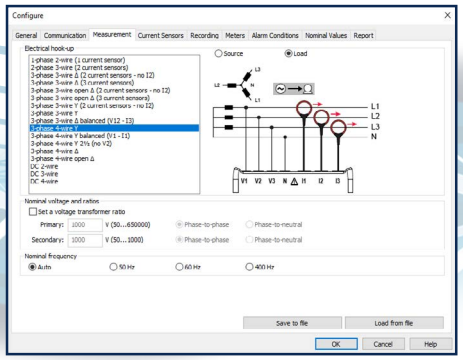
AUTOMATIC REPORT GENERATION

AEMC® INSTRUMENTS www.aemc.com

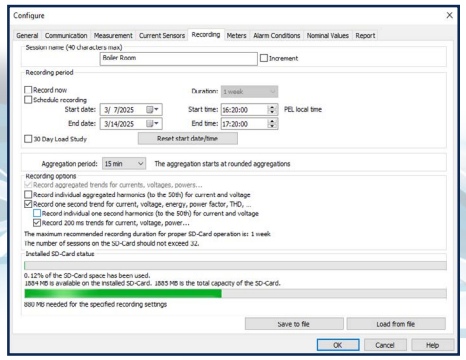
DataView® software, user manual and quick start guide are included in the USB Drive



Configure basic information regarding Auto Power OFF, instrument name and location, display contrast and brightness *(Models PEL 113 & PEL 115)*, setting of the real-time clock and SD-card formatting is easily accomplished from the General tab.



The Measurement tab specifies the electrical distribution system, voltage ratios, and nominal frequency.

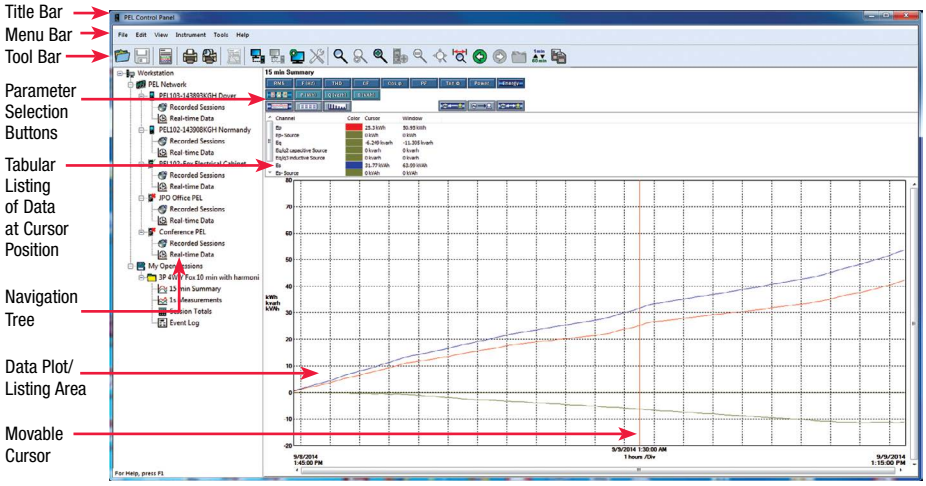


In the Recording tab, configure the instrument to measure *(and record)* over a user selectable recording period. Select demand intervals and view available memory for data storage.

Typical DataView® Functional Digital & Graphical Display

Control Panel Trend View

In the PEL Control Panel you will find all the necessary tools and selection buttons to review recorded data as trend plots or tabular lists.



NEW! Effortlessly Perform Load Study Analysis Meeting the NEC 220.87 Requirements with the PEL DataView® Control Panel Feature

Technical Assistance (800) 343-1391

AEMC® INSTRUMENTS