

Single- and Split-Phase Power & Energy Logger

MODEL PEL 52

*Introducing the Compact Powerhouse:
Smaller in Size but Equal in Performance!*



LEARN MORE



Low Cost, Portable, and Easy-To-Use

- Accurate and reliable: Provides precise readings over time to make accurate assessments of energy consumption
- Real-time monitoring to identify patterns, monitor changes, and make informed decisions to optimize energy usage
- Works with a wide range of electrical equipment, systems and residential and light commercial single or split phase measurements
- Capable of performing load studies in compliance with NEC 220.87
- Log data over an extended period, to analyze historical trends and identify areas for improvement
- DataView® software included for data analysis and report generation
- Rugged and durable: withstands the demands of real-world applications
- Wi-Fi communication and remote viewing with integrated web server (Android™, iOS, Windows, etc.)
- Compact casing with built-in magnets for mounting easily inside electrical cabinets

Our products are backed by over 130 years of experience in test and measurement equipment, and encompass the latest international standards for quality and safety.

Technical Hotline: (800) 343-1391
www.aemc.com

 **AEMC**[®]
INSTRUMENTS
CHAUVIN ARNOUX GROUP

POWER & ENERGY LOGGER Model PEL 52

A more affordable and compact PEL!

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

ENERGY EFFICIENCY AND THE VERIFICATION OF ENERGY SAVINGS

The combination of energy and power logging is a powerful tool for optimizing energy consumption, reducing waste, and improving efficiency. With the affordable PEL 52 Power and Energy Logger, you can easily identify and verify residential energy savings, conduct energy audits, troubleshoot power quality issues, and assess the performance of renewable energy systems like solar power installations. Whether you're measuring baselines, assessing energy efficiency, monitoring performance, or verifying energy savings, the PEL 52 is an ideal solution. By combining energy efficiency and power logging, residential and commercial contractors can make informed decisions about energy usage, identify areas for improvement, and track progress in energy-saving initiatives. This ultimately leads to lower energy costs, reduced environmental impact, and improved operational efficiency.

APPLICATIONS

Perfect for electricians, engineers, and contractors in residential and light commercial projects, this device enhances the efficiency of smaller-scale equipment such as heat pumps, air-conditioning units, wall sockets, appliances, printers, and more. It effortlessly measures, records, and analyzes critical energy data. With its time/date stamp feature, it facilitates economic gains by comparing recordings pre- and post-installation modifications.

- 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 can be performed at several locations on the evaluation site.



FEATURES

- Low cost, simple-to-use, portable, single- and split-phase power & energy data logger
- View measurements in real-time for voltage, current, frequency and power
- Wide backlit LCD display
- Install without de-energizing the electrical network being monitored
- Vital energy data is easily measured, recorded and analyzed
- TRMS voltage and current measurement up to 3000 A (dependent on sensor)
- Phase powered, does not require a separate power source
- TRMS 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 minute to 1 hour
- Storage of the 1 s and aggregated measurements on an SD/SDHC card; data can be read directly on a PC
- Remote connectivity and data viewing via DataViewSync™ (Android™, iOS, Windows, etc.)
- Wi-Fi offers accessibility to diagnose problems in real-time and/or multi-station operation
- Includes FREE DataView® software for configuring, data retrieval, real-time measurement display, data analysis and report generation
- Compact casing with built-in magnets to facilitate mounting for easier implementation in electrical cabinets
- ECO-DESIGN - environmental aspects considered during product development to make the lowest possible environmental impact throughout the product life cycle

POWER & ENERGY LOGGER Model PEL 52

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 1200) 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 = (10 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 = (10 to 600) V I = (5 to 120) % Inom	0.001 and ± 0.02%	± 0.5 % Reading ± 1.5 % 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 75) % RH		
Storage Temperature	(-40 to 158) °F (-40 to 70) °C / (45 to 75) % 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

ACCESSORIES/REPLACEMENTS

- CATALOG #2140.32** AC Current Probe Model MN93-BK
- CATALOG #2140.33** AC Current Probe Model SR193-BK
- CATALOG #2140.34** AmpFlex® Sensor 24 in Model 193-24-BK
- CATALOG #2140.35** AmpFlex® Sensor 36 in Model 193-36-BK
- CATALOG #2140.36** AC Current Probe Model MN193-BK
- CATALOG #2140.81** AC Current Probe Model MN94 (200 AAC)

CATALOG NO.	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)



DataView®
DataViewSync™



PRODUCT INCLUDES

CATALOG #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.

CATALOG #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.

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

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

CATALOG #2140.80 MiniFlex® Sensor 24 in Model MA194-24-BK

CATALOG #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)

CATALOG #2140.45 Set of (12), color-coded Input ID Markers

CATALOG #5000.43 Magnetized Voltage Probe Set of (2) color-coded (Red/Black) magnetized voltage probes (Rated 600 V CAT IV, 1000 V CAT III)

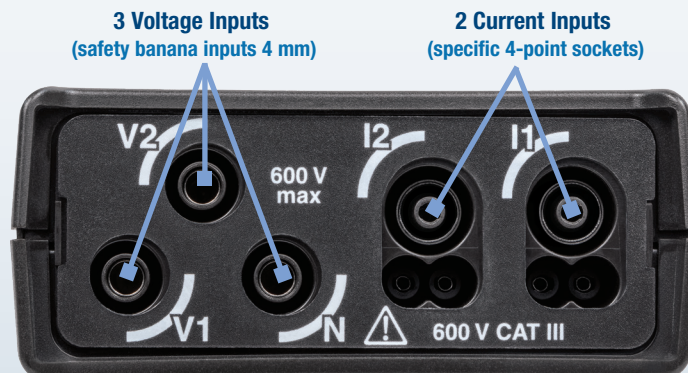
POWER & ENERGY LOGGER Model PEL 52

FRONT VIEW

BACK VIEW



TERMINAL BLOCK

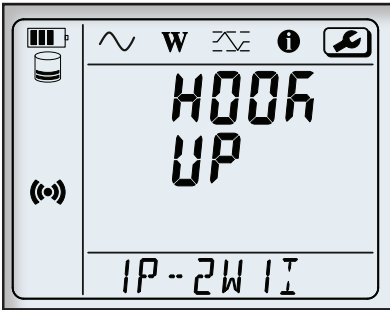


POWER & ENERGY LOGGER Model PEL 52

LARGE FUNCTIONAL DISPLAYS

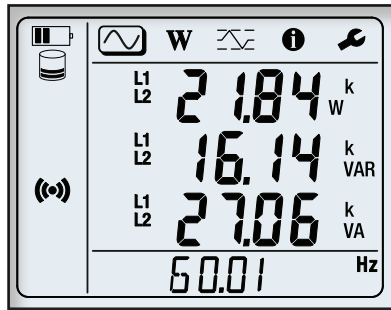
The PEL has one information and three measurement display modes; Measurement Mode, Energy Mode, and Maximum Mode, represented by their icons at the top of the display. To switch from one mode to another, use the left arrow ◀ or right arrow ▶ keys. The displays can be accessed as soon as the PEL is turned on but the values will be zero. The values will update when voltage or current is present at the inputs.

INFORMATION MODE



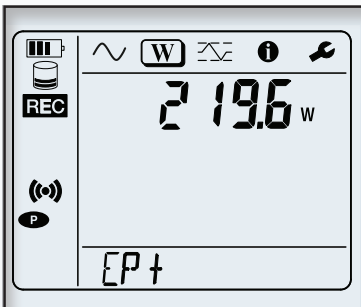
Hook up, Wi-Fi, aggregation period, can be configured from the front panel of the PEL 52. Current ratios and number of turns need to be configured via the PEL Transer software based on the current sensor type.

MEASUREMENT MODE (2P-3W2I)



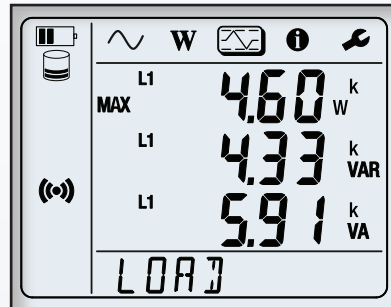
Real-time updates are displayed for voltage (V), current (I) active power (P), reactive power (Q), apparent power (S), frequency (Hz), power factor (PF) and phase shift (ϕ).

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.

MAX MODE (1P-2W1I)



Max aggregated values of measurements and energy.

MOUNTING THE PEL 52

The PEL device's housing incorporates two strong magnets, enabling convenient attachment to a flat, metallic surface. Its compact structure enables long-term measurements by securely mounting it inside a panel, even with the cover in place.



Compact side view of Model PEL 52

GAME-CHANGING DEVICE SETUP: Effortlessly Test the NEC Code 220.87 30-Day Exception Load Study!

Streamline Compliance Testing:

With the introduction of the PEL 52 a new DataView® PEL Control Panel release now offers an advanced feature that effortlessly configures the instrument to conduct accurate testing in accordance with the National Electrical Code standard 220.87. Rely on DataView® to configure your AEMC® PEL device ensuring determination of the necessary electrical load, guaranteeing compliance, and preventing costly mistakes.

Effortless Creation of Compliant Reports:

Simply select a comprehensive report template that demonstrates adherence with the NEC 220.87 regulations, eliminating manual record-keeping.

Stay Ahead with DataView®:

Upgrade today to experience a new level of confidence and efficiency in your electrical testing projects.

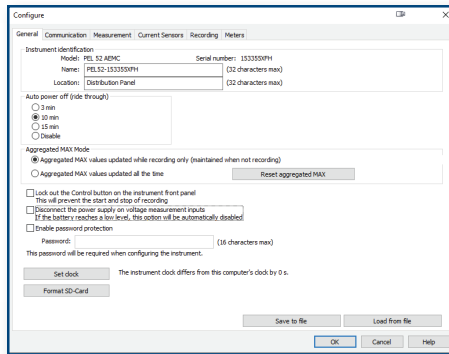
DATAVIEW® SOFTWARE INCLUDED



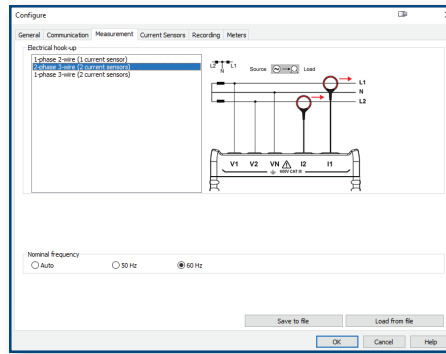
DataView® Data Analysis and Reporting Software

The DataView® software simplifies data analysis and report configurations by allowing easy downloading of recorded data onto a PC. Upon connecting a device to a PC, the software automatically identifies it and opens the relevant menu for direct access to the recorded data. Users can quickly edit predefined reports that adhere to standards or create and save their customized reports, views, and instrument settings, saving valuable time in the field.

CONTROL PANELS

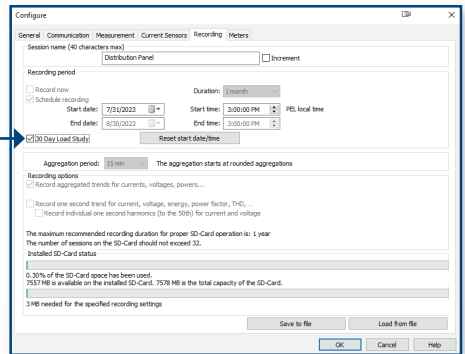


Access and modify basic information such as Auto Power Off, instrument name and location, display contrast and brightness, real-time clock settings, and SD-card formatting from the General tab.

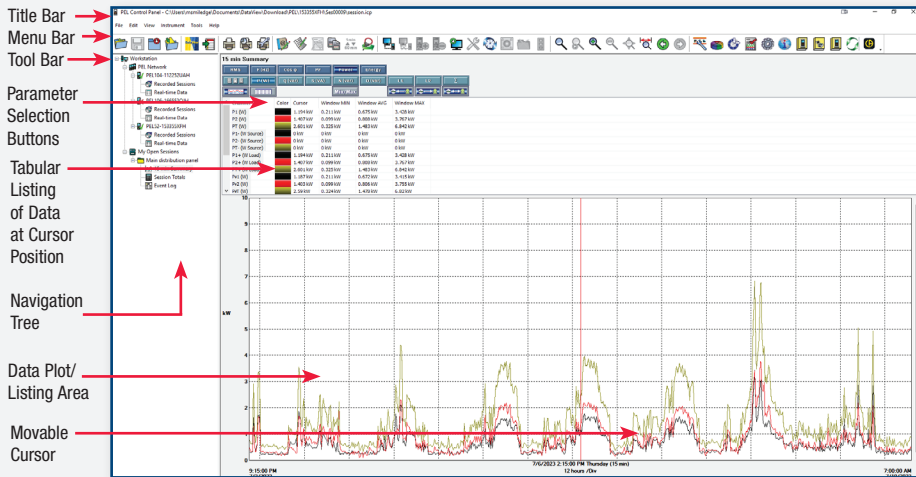


The Measurement tab specifies the electrical distribution system, voltage ratios, nominal frequency and current probe options and ratios.

NEC 220.87 load study checkbox initiates the recordings to accurately meet requirements.



Configure the PEL to measure and record over a user selectable recording period. Select demand intervals and view available memory for data storage on the Recording tab.



CONFIGURE ALL FUNCTIONS OF THE PEL

- Improve energy efficiencies by analyzing energy losses
- Convert energy data directly into costs with configurable monetary value.
- Display and analyze real-time data on your PC
- Configure functions and parameters from your PC
- Control multiple instruments in real time when connected to the same Ethernet network
- Customize views, templates and reports to your needs
- Create and store a robust library of configurations that can be uploaded as needed
- Analyze data by zooming, panning, and sectioning graphs
- NEC article 220.87 30-day load study feature
- 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

TYPICAL DATAVIEW® FUNCTIONAL DIGITAL & GRAPHICAL DISPLAY

Control Panel Load Study View
In the PEL Control Panel you will find all the necessary tools and selection buttons to review recorded data as digital graphs or tabular lists.



Reports can be viewed on a PC and printed. They contain test results in tables and graphics, along with operator and test site details. Operator comments are also included.

Access FREE updates on www.aemc.com



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