AEMC® INSTRUMENTS
CHAUVIN ARNOUX GROUP

Power Energy Logger

Models PEL 102 & PEL 103

VS

Power Energy Logger

Models PEL 112 & PEL 113

2137.61	2137.62	Catalog Number	2137.63	2137.64
4 V / 3 A		Number of Inputs (V/A)	4 V / 3 A	
3 V / 3 A		Number of Input Channels (V/A)	3 V / 3 A	
1000 V		Voltage - AC *(Phase-to-Neutral)*	1000 V	
1700 V		Voltage - AC *(Phase-to-Phase)*	1000 V	
1000 V		Voltage - DC	1000 V	
13,000:1 (up to 650 kV)		Voltage Ratio - AC	13,000:1 (up to 650 kV)	
±0.2 % R ±0.2 V		Voltage Accuracy	±0.2 % R ±0.2 V	
12,000 Aac / 1300 Adc *(probe dependent)*		Current AC/DC	12,000 Aac / 1300 Adc *(probe dependent)*	
up to 25 kA - with MN193 probe in 5 A range		Current Ratio - AC	up to 25 kA - with MN193 probe in 5 A range	
(42.5 to 69) Hz (50 / 60 Hz), (340 to 460) Hz (400 Hz), DC		Line Frequency	(42.5 to 69) Hz (50 / 60 Hz), (340 to 460) Hz (400 Hz), DC	
Orders (0 to 50) for Voltage and Current (50 / 60 Hz) *(each phase)*		Harmonics Recorded	Orders 0 to 50 for Voltage and Current (50 / 60 Hz) *(each phase)*	
W, VA, var		Power Units Recorded	W, VA, var	
Wh, VAh, varh		Energy Units Recorded	Wh, VAh, varh	
PF, DPF (cos φ), tan Φ, CF, THD-F (V,I), F(Hz)		Other Parameters Recorded	PF, DPF (cos φ), tan Φ, CF, THD-F (V,I), F(Hz)	
17		Number of Distribution Systems	17	
N / A		Alarms	Up to 32 separate alarms	
N / A		Emailed Reports	Yes, alarms and periodical Min / Max data through DataViewSync®	
1 s		Aggregations *(Fixed)*	200 ms / 1 s trends	
1 to 60 mins *(12 choices)*		Aggregations *(Selectable)*	1 to 60 mins *(12 choices)*	
Yes - using DataView® Software (*Included) or* the PEL App for Android™ Devices *(Google® Play)*		Phasor *(Fresnel)* Diagram	Yes - using DataView® Software (*Included) or* the PEL App for Android™ Devices *(Google® Play)*	
SD card - 8 GB shipped *(SD-HC up to 32 GB upgradeable)*		Storage of Recordings	SD card - 8 GB shipped *(SD-HC up to 32 GB upgradeable)*	
USB, Bluetooth® 2.1, Ethernet LAN		Communications	USB, Ethernet / Wi-Fi LAN, Ethernet / Wi-Fi Direct, DataViewSync®	
DataView® included, free App for Android™		Software	DataView® included, free App for Android™	
No	Yes - Backlit LCD Monochrome	Display	No	Yes - Backlit LCD Monochrome
Yes - with optional 600 V power adapter		Powered from Phase	Yes - with optional 600 V power adapter	
Line Power with internal NiMH battery pack		Power Source	Line Power with internal NiMH battery pack	
NiMH Battery Pack (8.4 V) ~1 hour		Battery Backup for Ride - Through	NiMH Battery Pack (8.4 V) ~1 hour	
600 V CAT IV, 1000 V CAT III		Electrical Safety	600 V CAT IV, 1000 V CAT III	
Several weeks to years *(configuration dependent)*		Recording Length	Several weeks to years *(configuration dependent)*	
IP 54		Protection	IP 54	
(10.08 x 4.92 x 1.46) in (256 x 125 x 37) mm		Dimensions	(10.08 x 4.92 x 1.46) in (256 x 125 x 37) mm	
2.2 lb (1 kg)		Weight	2.2 lb (1 kg)	
2 years		Warranty	2 years	
Current Probes				
100 mA to 12,000 Aac (MiniFlex® 3000 Aac max) @ (50 / 60) Hz (Ranges reduced by 50 % at 400 Hz)		AmpFlex® & MiniFlex® *(AC only)*	100 mA to 12,000 Aac (MiniFlex® 3000 Aac max) @ (50 / 60) Hz (Ranges reduced by 50 % at 400 Hz)	
1 A to 1200 Aac		SR193 *(AC only)*	1 A to 1200 Aac	
500 mA to 240 Aac		MN93 *(AC only)*	500 mA to 240 Aac	
5 mA to 6 A (5 A), 200 mA to 120 Aac (100 A)		MN193 *(AC Only) (dual range)*	5 mA to 6 A (5 A), 200 mA to 120 Aac (100 A)	
1 A to 1000 Aac / 1300Adc		MR193 *(AC/DC)*	1 A to 1000 Aac / 1300 Adc	
N / A		E94 *(AC/DC)*	20 mA to 10 Aac (10 A), 200 mA to 100 Aac (100 A)	

Key Differences & Advantages

Primary Function and Use Case

PEL 102 & PEL 103: Designed primarily for long-term energy monitoring and energy audits. These loggers focus on recording power consumption and energy data over extended periods, making them ideal for energy efficiency projects and utility monitoring. They are best suited for applications where tracking trends over time is essential, such as commercial buildings, industrial energy optimization, and demand analysis.

PEL 112 & PEL 113: Engineered for advanced energy logging and real-time power analysis, these models are ideal for facilities requiring continuous power quality monitoring, predictive maintenance, and detailed load analysis. They are best suited for applications where tracking trends over time is essential, such as commercial buildings, industrial energy optimization, and demand analysis.

Power Supply and Battery

PEL 102 & PEL 103: Operates on (110 to 250) VAC power using a standard power cord or self-powered through the phase adapter and include a NiMH AAA 8.4 V rechargeable battery. The battery provides up to 1 hour of backup power, mainly to maintain data logging during short power interruptions. Charging occurs automatically when the device is plugged into AC power.

PEL 112 & PEL 113: Also operates on (110 to 250) VAC power, using a standard power cord or self-powered through the phase adapter. Like the earlier models, they include a NiMH AAA 8.4 V rechargeable battery, but feature improved power management, slightly extending battery runtime. Charging occurs automatically when the device is plugged into AC power.

Measurement Capabilities

PEL 102 & PEL 103: Measures up to 12,000 A, making them suitable for standard commercial and industrial power monitoring applications. Support harmonic analysis up to the 50th order, useful for power quality assessments and efficiency optimization.

PEL 112 & PEL 113: Has the same measurement capabilities as the PEL 102 and PEL 103 up to 12,000 A making them suitable for standard commercial and industrial power monitoring applications. Support harmonic analysis up to the 50th order, useful for power quality assessments and efficiency optimization. Works with the current probe model E94.

Connectivity and Remote Access

PEL 102 & PEL 103: Features Bluetooth®, USB, and LAN Ethernet for data transfer and remote monitoring. The Bluetooth® connection allows for mobile access via the Android™ app.

PEL 112 & PEL 113: Replaces Bluetooth® with Wi-Fi, providing more stable and long-range remote monitoring. This ensures seamless data access from greater distances without interference, making them better suited for cloud-based and IoT energy management applications. The PEL can be accessed from any remote location through DataViewSync™ *(remote access via private IP networks).* Like the PEL 102 and PEL 103, they also support USB and LAN Ethernet connectivity.

Data Storage and Memory

PEL 102 & PEL 103: Supports SD and SDHC memory cards *(up to 32 GB)* for data storage. They are designed for long-term energy logging, but with standard recording and aggregation features.

PEL 112 & PEL 113: Supports SD, SDHC, and SDXC memory cards *(up to 32 GB)*, allowing for larger storage capacity and faster data transfer speeds. They feature more advanced recording and aggregation options, making them better suited for detailed power quality monitoring and long-term trend analysis.

User interface and Display

PEL 102 & PEL 103: The PEL 103 includes an LCD display, allowing users to view real-time power measurements directly on the device, while the PEL 102 does not, requiring external monitoring via software.

PEL 112 & PEL 113: The PEL 113 features a convenient LCD display, providing enhanced real-time visualization of voltage, current and power among other values, and system status. The PEL 112 does not have a display, making it better suited for permanent installations where data is accessed remotely.

The new PEL 110 series builds on the strengths of the PEL 100 series, adding enhanced features and capabilities that takes power and energy logging to the next level. The new PEL 110 series offers excellent power quality capabilities at an attractive price point.