MODEL PEL 102

Monitor your energy usage & costs locally or from anywhere in the world!

Special product features

FEATURES

- Simple-to-use, single-, dual- (split-phase) and three-phase (Y, Δ) power & energy loggers
- Designed to work in 1000V CAT III and 600V CAT IV environments and fits in many distribution panels
- Power measurements: kVA, kW and kvar
- Energy measurements: kVAh, kWh (source, load) and kvarh (quadrant indication)
- Updated features in DataView® software for configuring real-time communication with a PC and report generation with pre-defined or user defined templates
- 8GB SD card supplied, can be upgraded up to 32GB
- USB, LAN, Ethernet and Bluetooth (Class 1 wireless communication, up to 300ft away)
- Satisfies the monitoring requirements of NEC Code 220.87
- Power adapter allows the PEL 102 to be powered from a phase measurement input
- Provides all the necessary functions for power and energy data logging for 50Hz, 60Hz, 400Hz and DC distribution systems
- Automatic recognition of the connected current sensors/probes
- Magnetic case – can be mounted inside power panel

CAT #2137.51 INCLUDES

PEL 102 KIT
Small classic tool bag, three MiniFlex® MA193-10-BK sensors, 5ft USB cable, four black test leads and alligator clips, power cord, twelve color-coded ID markers, safety data sheet, compliance sheet, SD-Card with USB-SD-Card reader, quick start user guide, and USB drive supplied with DataView® software and user manual.

ANDROID™ APP AVAILABLE
FOR PEL 102, 103 & 105!

Configure Measurements and Recordings

Display Data in Real-Time
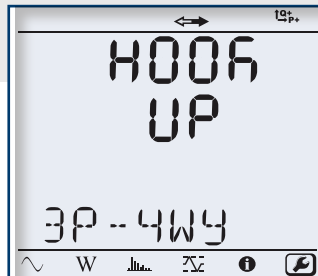
For Use on Devices with an Android Platform

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MODEL PEL 103

Large Functional Displays

POWER & ENERGY LOGGER

ⓘ INFORMATION MODE

HOOK UP

3P - 4WY

Hook up, voltage and current ratios and aggregation period can be configured from the front panel of the PEL 103.
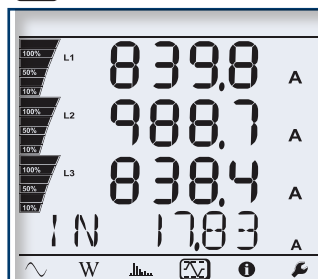
〜 MEASUREMENT MODE

L1	26.78 A
L2	30.83 A
L3	22.89 A
IN	26.59 A
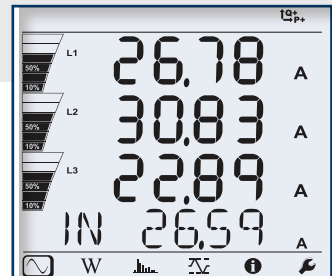
Real-time updates are displayed for voltage, current, power, frequency, power factor and tangent.

⎍ MAX MODE

L1	839.8 A
L2	988.7 A
L3	838.4 A
IN	17.83 A

Max values for voltage, current (including neutral current), power and harmonics.

⊞ HARMONIC MODE

L1	0.33 %
L2	0.88 %
L3	0.98 %
THd V	%
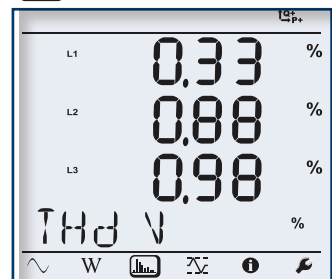
Total Harmonic Distortion (THD) can be displayed by phase or phase to phase. Neutral current THD can also be displayed.

FEATURES

- Simple-to-use, single-, dual- (split-phase) and three-phase (Y, Δ) power & energy loggers
- Designed to work in 1000V CAT III and 600V CAT IV environments and fits in many distribution panels
- Power measurements: kVA, kW and vkar
- Energy measurements: kVAh, kWh (source, load) and kvarh (quadrant indication)
- Updated features in DataView® software for configuring real-time communication with a PC and report generation with pre-defined or user defined templates
- 8GB SD card supplied, can be upgraded up to 32GB
- USB, LAN, Ethernet and Bluetooth (Class 1 wireless communication, up to 300ft away)
- Satisfies the monitoring requirements of NEC Code 220.87
- PEL 103 can be configured from front panel, DataView® control panel or the FREE Android™ application
- Provides all the necessary functions for power and energy data logging for 50Hz, 60Hz, 400Hz and DC distribution systems
- Automatic recognition of the connected current sensors/probes
- Magnetic case – can be mounted inside power panel
- Supports 17 network configurations

CAT #2137.52 INCLUDES

PEL 103 KIT (W/ LCD)
Small classic tool bag, three MiniFlex® MA193-10-BK sensors, 5ft USB cable, four black test leads and alligator clips, power cord, twelve color-coded ID markers, safety data sheet, compliance sheet, SD-Card with USB-SD-Card reader, quick start user guide, and USB drive supplied with DataView® software and user manual.

*ADAPTER SOLD SEPARATELY

MODEL PEL 105

Three-Phase Power and Energy Logger
Watertight...great for outdoor use!

CAT #2137.59 INCLUDES

PEL 105 Kit
Extra-large tool bag, accessory pouch, 5ft USB cable, five 10ft black voltage leads (watertight cap) with alligator clips, power adapter 110/230V with US power cord, four water-tight AmpFlex® 196A-24-BK (not included with Cat. #2137.57), 9.6V NiMH battery, 8GB SD-card, USB SD-card reader, twelve color-coded input ID markers, quick start guide, and a USB drive supplied with DataView® software and user manual.

cover closed

ACCESSORIES

POLE MOUNTING KIT
Catalog #2137.82 (optional)
Set of two, with hardware

FEATURES

- Simple-to-use, single-, dual- (split-phase) and three-phase (Y, Δ) power & energy loggers
- Designed to work in 1000V CAT III and 600V CAT IV environments
- Supports 17 different network connections
- Power measurements: kVA, kW and kvar
- Energy measurements: kVAh, kWh (source, load) and kvarh (four quadrant indication)
- Includes DataView® software for configuring, real-time display, analysis and report generation
- 8GB SD card supplied, can be upgraded up to 32GB
- USB, LAN, Ethernet, Wi-Fi and Bluetooth communication (Class 1 wireless communication, up to 300ft away)
- Satisfies the monitoring requirements of NEC Code 220.87
- PEL 105 can be configured from front panel, DataView® control panel or the FREE Android™ application
- Provides all the necessary functions for power and energy data logging for 50Hz, 60Hz, 400Hz and DC distribution systems
- Automatic recognition of the connected current sensors/probes
- Powers directly from phase input
- Pole mountable

CATALOG NO.	DESCRIPTION
2137.51	Power & Energy Logger Model PEL 102 (no LCD w/3 MA193-10-BK Sensors)
2137.52	Power & Energy Logger Model PEL 103 (with LCD w/3 MA193-10-BK Sensors)
2137.57	Power & Energy Logger Model PEL 105 w/o Sensors (Watertight IP67)
2137.59	Power & Energy Logger Model PEL 105 w/4 196A-24-BK (AmpFlex® – Watertight IP67)
2137.61	Power & Energy Logger Model PEL 102 (no LCD or Sensors)
2137.62	Power & Energy Logger Model PEL 103 (with LCD, no Sensors)
Accessories/Replacement - available on website store from www.aemc.com *See pages 112 & 113 for more optional current probes*	
2137.77	Adapter–Power Adapter for use with Models PEL 102 & PEL 103
2137.82	Pole Mounting Kit

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SPECIFICATIONS

MODELS	PEL 102, PEL 103 & PEL 105		
GENERAL			
Sampling Frequency	128 samples per cycle; 50/60Hz (16 samples/cycle 400Hz)		
Data Storage Rate	1 per second (200ms also available on PEL 105)		
Demand Period Storage Rate	User selectable (1, 2, 3, 4, 5, 6, 10, 12, 15, 20, 30 and 60 minutes)		
Recorded Parameters (Single- and Poly-Phase)	V, I, W, VA, var, PF, Tan, Wh, VAh, varh, THD (V and I), Individual harmonics (from 1 through 50 per phase); Crest Factor (CF), Cos f / DPF		
Event Log	Tracks and records status changes and error messages along with recorded data		
Front Panel Indicator LEDs	Bluetooth active, recording in progress, phase connection reversal, overload, battery charging and SD Card status		
Storage Capacity	8GB SD card included / SD cards up to 32GB formatted FAT32 are supported		
INPUTS — Voltage	PEL 102/103 – 3 input channels; PEL 105 – 4 input channels via 4mm safety banana jacks		
Current	PEL 102/103 - 3 input channels; PEL 105 – 4 input channels via custom 4 pin jacks that accept AEMC® probes and sensors		
ELECTRICAL			
VOLTAGE MEASUREMENT	RANGE	RESOLUTION*	ACCURACY*
50/60Hz	42.5 to 69Hz	–	±0.1Hz
Single-Phase RMS Voltages	10 to 1000Vrms	0.1V	±0.2% Rdg ±0.2V
Phase-to-Phase RMS Voltages	17 to 1700Vrms	0.1 to 1V	±0.2% Rdg ±0.4V
400Hz	340 to 460Hz	–	–
Single-Phase RMS Voltages	10 to 600Vrms	0.1V	±1% Rdg ±1V
Phase-to-Phase RMS Voltages	17 to 1200Vrms	0.1 to 1V	±1% Rdg ±1V
DC	100 to 1000V	0.1V	±1% Rdg ±3V (typical)
PT Ratios	Programmable from 50V to 650,000V	–	0.01 to 0.1V
CURRENT MEASUREMENT	A193*** (PEL 102/103)	196A*** (PEL 105)	
Nominal range for current probes supplied with kit. See chart on Pages 26 and 27 for other probes	200mA to 10,000A	200mA to 10,000A	–
CT Ratios	Programmable from 1:1 to 25,000:1 (probe dependent)		
POWER MEASUREMENTS	RANGE	RESOLUTION*	ACCURACY*
Active Power (P)*	-2 to 2GW	0.001W	±0.5% Rdg ±0.005% Pnom
Reactive Power (Q)*	-2 to 2Gvar	0.001var	±1% Rdg ±0.01% Qnom
Apparent Power (S)*	0 to 2GVA	0.001VA	±0.5% Rdg ±0.005% Snom
Power Factor	-1 to 1	0.001	±0.05
Tangent (active/reactive power ratio)	-3.2 to 3.2	0.001	±0.02
ENERGY MEASUREMENTS	RANGE	RESOLUTION*	ACCURACY*
Active Energy (EP)	0 to 4 x 10"	1Wh	±0.5% Rdg
Reactive Energy (EQ)	0 to 4 x 10"	1varh	±2% Rdg
Apparent Energy (ES)	0 to 4 x 10"	1Vah	±0.5% Rdg
THD	±655%		
Individual Harmonics	1 to 50 displayed in percentage; 1 to 7 at 400Hz		
External Supply	110V/250V (10%) @ 50/60Hz; 400Hz		
Power From Phase Measurement	PEL 102/103 requires optional Power Adapter Cat #2137.77; PEL 105 Internal up to 1000VAC		
Back-Up Power Source/Charge Time	Rechargeable 8.4V NiMH battery pack / Approximately 5 hours		
Battery Life	30 minutes minimum, 60 minutes typical		
MECHANICAL			
Communication Ports	USB 2.0, Ethernet (RJ45), Wireless Bluetooth Class 1 **/ Wi-Fi (PEL 105 only)		
Dimension/Weight	10.08 x 4.92 x 1.46" (256 x 125 x 37mm) / 2.20lbs (1kg) (PEL 102 & PEL 103); 9.8 x 7.8 x 2.6" (250 x 200 x 67mm) / 8.8lbs (4kg) (PEL 105)		
Case	Double insulated, rubber over-molded, polycarbonate UL94 V1 rated		
DISPLAY			
Display Type for Model PEL 103 / PEL 105	2.63 x 2.16" (67 x 55mm), four line, monochrome, backlit LCD with adjustable brightness and contrast		
ENVIRONMENTAL / SAFETY			
Operating Temperature/Relative Humidity	50° to 122°F (10° to 50°C) / up to 85%; 32° to 108.5°F (0° to 42.5°C) / up to 85% (PEL 103 & PEL 105)		
Storage Temperature	-4° to 122°F (-20° to 50°C) with batteries; -4° to 158°F (-20° to 70°C) without batteries		
Safety Rating/CE Rating	Complies with IEC 61010-1: Ed3, and IEC 61010-2-030: Ed1 for 1000V CAT III / 600V CAT IV (PEL 102 & PEL 103) & 1000V CAT IV (PEL 105), Pollution Degree 2 / Yes		
Index of Protection	IP54 non operating (PEL 102 & PEL 103) / IP67 with cover closed (PEL 105)		

* Maximum value is current probe dependent.

** Computers with Class II Bluetooth will restrict range to 40ft. Computers without Bluetooth will require a Class I or Class II Bluetooth radio adapter.

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

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