



MODEL PEL 102

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

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



ACCESSORIES



*ADAPTER SOLD SEPARATELY
Cat. # 2137.77



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



SEE PAGES 123 & 124 FOR MORE OPTIONAL ACCESSORIES

CATALOG NO.	DESCRIPTION
2137.51	Power & Energy Logger Model PEL 102 (no LCD w/3 MA193-10-BK Sensors)
2137.61	Power & Energy Logger Model PEL 102 (no LCD or Sensors)
Accessories/Replacement - available on website store from www.aemc.com See pages 123 & 124 for more optional current probes	
2137.77	Adapter-Power Adapter for use with Models PEL 102 & PEL 103

POWER QUALITY ANALYZERS, METERS & LOGGERS

POWER & ENERGY LOGGERS PEL 100 SERIES

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 φ (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 ¹¹		1Wh	±0.5% Rdg
Reactive Energy (EQ)	0 to 4 x 10 ¹¹		1varh	±2% Rdg
Apparent Energy (ES)	0 to 4 x 10 ¹¹		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, and IEC 61010-2-030 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.