Model PEL 105

Waterproof...great for outdoor use!

1000V CAT IV SAFETY RATING · IP 67 Rated · CE · AUTOMATIC REPORT GENERATION · SD™

ETHERNET · USB · Bluetooth · Android · Wi-Fi · WEATHER PROOF *cover closed* · Phase Powered

NEW!

▶ SPECIFICATIONS

Sampling Frequency	128 samples per cycle; 50/60Hz (16 samples / cycle 400Hz)		
Data Storage Rate	1 per second and 200ms		
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 & error messages along with recorded data		
Front Panel Indicator LEDs	Bluetooth active, recording in progress, phase sequence, overload, battery charging & SD Card status		
Storage Capacity	SD card included / SD cards up to 32 GB formatted FAT32 are supported		
Inputs Voltage	5 input channels via 4mm safety banana jacks		
Current	4 input channels via custom 4 pin jacks that accept AEMC® probes & sensors		
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 600Vrms	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	10 to 1000V	0.1V/±1% Rdg ± 3V (typical)	
PT Ratios	–	0.01 to 0.1V	
Current Measurement	196A***	–	
Nominal range - probe dependent	200mA to 10,000A	–	
CT Ratios	Programmable from 1:1 to 25,000:1 (probe dependent)		
Active Power (P)*	0.001W	±0.5% Rdg ± 0.005% Pnom	
Reactive Power (Q)*	0.001var	±1% Rdg ± 0.01% Qnom	
Apparent Power (S)*	0.001VA	±0.5% Rdg ± 0.005% Snom	
Power Factor	0.001	± 0.05	
Tangent (active/reactive power ratio)	0.001	± 0.02	
Active Energy (EP)	1Wh	±0.5% Rdg	
Reactive Energy (EQ)	1varh	±2% Rdg	
Apparent Energy (ES)	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	100V to 1000VAC		
Back-Up Power Source/ Charge Time	Rechargeable 8.4V NiMH battery pack / Approx. 5 hours		
Battery Life	30 minutes minimum, 60 minutes typical		
Communication Ports	USB 2.0, Ethernet (RJ45), Wireless Bluetooth Class 1 **, Wi-Fi		
Dimension/Weight	10.6 x 7.1 x 9.65" (270 x 180 x 245mm) / 8.8lbs (4kg)		
Case	Polycarbonate UL94 V1 rated		
Display Type	4.2 x 3.3" (107 x 84mm), four line, monochrome, backlit LCD with adjustable brightness and contrast		
Operating Temperature / Relative Humidity	-4° to 122°F (-20° to 50°C) / 45 to 75%RH		
Storage Temperature With Batteries	-40° to 95°F (-40° to 35°C from 0 to 95%HR); -40° to 158°F (-40° to 70°C from 0 to 75%HR)		
Safety Rating	Complies w/ IEC 61010-1:Ed3, IEC 61010-2-030:Ed1 for 1000V CAT IV, Pollution Degree 4 closed (3 when open)		
Index of Protection	IP67 with cover closed		

*Maximum value is current probe dependent.   ** Computers with Class II *Bluetooth* Class II *Bluetooth* radio adapter.
*** Maximum current reduced by a factor of 2 for 400Hz fundamental frequency.

▶ FEATURES

- Simple to use, single-, dual- (split-phase) and three-phase (Y, Δ) power & energy loggers
- Pole mountable
- Powers directly from AC phase input up to 1000V
- Waterproof flexible current sensors
- Designed to work in 1000V CAT IV environments
- Supports 17 different network connections
- Power measurements: VA, W and var
- Energy measurements: VAh, Wh (source, load) and varh (four quadrant indication)
- Includes DataView® software for configuring, real-time display, analysis and report generation
- USB, LAN, Ethernet, Wi-Fi and *Bluetooth* communication (Class 1 wireless communication, up to 300 ft 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
- Supports AC/DC Current Probe Model J93 for measuring current up to 5000ADC & 3500AAC
- 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 up to 10,000AAC (sensor dependent)
- Minimal programming required

www.pel100.us
for more details on the PEL 100 Series

THE PEL 105 has the ability to be configured directly from the front panel, DataView® control panel or the Android™ App.
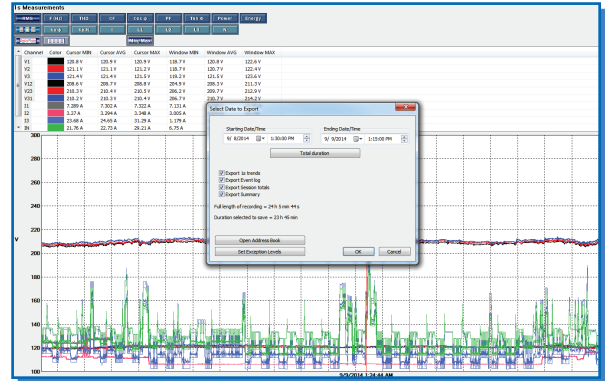
Export User Selectable1 Sec or 200mS Data:
Ability to create DataView® reports from 1 sec or 200mS data, as well as aggregate data

▶ KIT OPTION INCLUDES

▶ PEL 105 Kit

Extra-large tool bag, accessory pouch, 5 ft USB cable, five 10 ft black voltage leads (waterproof cap) with alligator clips, power adapter 110/230V with US power cord, four water-tight AmpFlex® 196A-24-BK (included with Cat. #2137.59 only), 9.6V NiMH battery, SD-card, USB SD-card reader, twelve color-coded input ID markers, quick start guide, and a USB stick supplied with DataView® software and user manual.

Phasor Diagram Screen:
Shows actual and reference diagrams and indicates whether voltage, current and/or power phase orientations are as expected

▶ ACCESSORIES

▶ Pole Mounting Kit
Catalog #2137.82 (optional)
Set of two, with hardware

▶ Cable Reeling Box
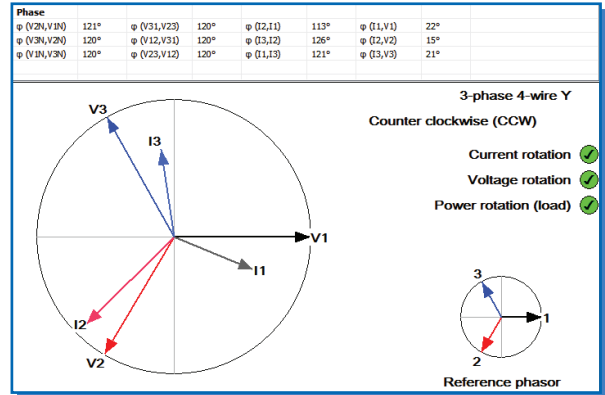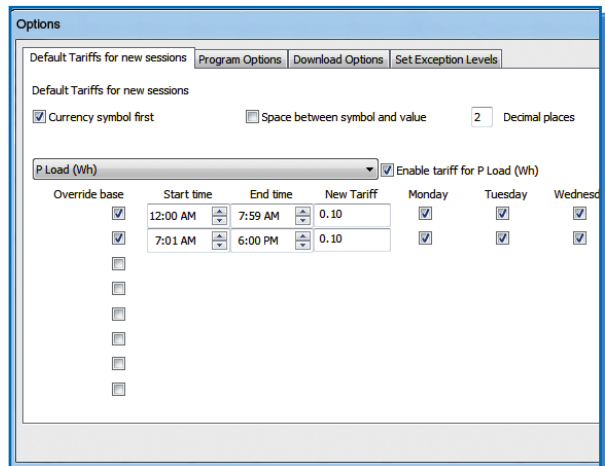**Catalog #5000.77 (optional)**
For organizing leads less than 10 ft.

CATALOG NO.	DESCRIPTION
2137.57	Power & Energy Logger Model PEL 105 w/o Sensors (Waterproof IP67)
2137.59	Power & Energy Logger Model PEL 105 w/4 196A-24-BK (AmpFlex® – Waterproof IP67)
2137.82	Pole Mounting Kit

Time of Use Selection:
Ability to program up to 8 different tariffs for energy cost based on day of week and time of day

You Tube — AEMC® YouTube Channel
Visit us to view a wide range of useful videos for using our products.

www.aemc.com

Technical Assistance (800) 343-1391

AEMC® INSTRUMENTS

Sensors & Probes

All current probes below can be used with the PEL 105

SENSOR TYPE		CURRENT RANGE	ACCURACY (TYPICAL)	TYPICAL ERROR ON Φ AT 50/60HZ	MAX CONDUCTOR SIZE	USED WITH MODEL	CATALOG # AND DESCRIPTION
MiniFlex® MA193 * CE · 10" or 14" Sensor		200mA to 3000A$_{AC}$	±1%	0°	2.75" (70mm)	PEL 102 PEL 103 PEL 105	MiniFlex® Sensor 10" MA193-10-BK **Cat #2140.48** MiniFlex® Sensor 14" MA193-14-BK **Cat #2140.50**
MR193 CE · Battery operated		1 to 1000A$_{AC}$ 1 to 1300A$_{DC}$	±2.5%	-0.80°	1.6" (41mm)	PEL 102 PEL 103 PEL 105	AC Current Probe MR193-BK **Cat #2140.28**
SR193 CE		1 to 1200A$_{AC}$	±0.3%	+0.2°	2.05" (52mm)	PEL 102 PEL 103 PEL 105	AC Current Probe SR193-BK **Cat #2140.33**
AmpFlex® 193 * CE · 24" or 36" Sensor		200mA to 12,000A$_{AC}$	±1%	0°	7.64" (190mm) or 11.46" (290mm)	PEL 102 PEL 103 PEL 105	AmpFlex® Sensor 24" 193-24-BK **Cat #2140.34** AmpFlex® Sensor 36" 193-36-BK **Cat #2140.35**
MN93 CE		0.5 to 240A$_{AC}$	±1%	+0.8°	0.78" (20mm)	PEL 102 PEL 103 PEL 105	AC Current Probe MN93-BK **Cat #2140.32**
MN193 CE	100A	10mA to 120A$_{AC}$	±1%	+0.75°	0.78" (20mm)	PEL 102 PEL 103 PEL 105	AC Current Probe MN193-BK **Cat #2140.36**
	5A	5mA to 6A$_{AC}$	±1%	+1.7°			
SL261 ** CE · Battery operated	100A	5 to 100A$_{AC/DC}$	±4%	±0.5°	0.46" (11.8mm)	PEL 102 PEL 103 PEL 105	AC/DC Current Probe SL261 **Cat #1201.51**
	10A	50mA to 10A$_{AC/DC}$	±3%	±1°			
J93 CE · Battery operated		50 to 3500A$_{AC}$ 50 to 5000A$_{DC}$	±1%	±1°	2.83" (72mm) Busbar: 5 x 1.69" (127 x 43mm)	PEL 102 PEL 103 PEL 105	AC/DC Current Probe J93-BK **Cat #2140.49**
196A-24 CE · Waterproof 24" Sensor		200mA to 10,000A	±2%	0°	7.64" (190mm)	PEL 105	AmpFlex® Sensor 24" 196A-24-BK **Cat #2140.75**

* Maximum current reduced by a factor of 2 for 400Hz fundamental frequency.
Note: Refer to the instrument's user manual for complete specifications.

AC/DC Current Probe BNC Adapter for Model SL261 only   **Catalog #2140.40