Power & Harmonics Analyzer

SOFTWARE

CE

USB

MECO supports Bureau of Energy Efficiency (BEE), Govt. of India's mission to institutionalize certification of Electric / Electronic goods for ECOMARK under Gazette of India

PHA 5850

Under BEE's PAT Scheme (Perform, Achieves & Trade) it is mandated to compulsorily improve their Energy Efficiency by adopting all the available measures including replacement of their old Equipments with New and Energy Efficient Equipments

Versatile Handy instrument using micro controller technology and easy to use software program for recording and downloading.

Useful for time to time monitoring of Power Parameters, Energy and Presence of Harmonics at several Location / Machines.

Cost Effective & Efficient Tool for Energy Auditor, Maintenance Persons, Service Providers, Site / Plant Engineers.

MECO Power and Harmonics Analyser Model PHA-5850 can Analyze, Measure, Monitor & Data Log values of Power Quality & Consumption (Energy). Capable of analyzing IT standby power consumption to the maximum demand of factory. It comes with a user friendly application software that increases the utility & performance of this instrument. The analyzer is ideal for an any Engineer / Inspector for carrying out Periodic Visits, Maintainance of Plant, Vigilance checks, Surveys and Energy Audits for checking at Industrial and Consumers end.

Features:

- Analysis of 3P4W, 3P3W, 1P2W, 1P3W Systems
- Display of 35 Parameters in one screen (3P4W)
- Programmable CT (1 to 600) and PT (1 to 3000) Ratios
- Graphic Phasor Diagram
- RMS, PEAK Value & Crest Factor
- True RMS value, Active Power, Apparent & Reactive Power (KVA, KVAR)
- Power Factor, Phase Angle (Φ) & Energy (WH, KWH, KVARH, PFH)
- Average / Maximum Demand (KW, MW, KVA, MVA) with Programmable Period
- Display of 50 Harmonics in one Screen with Wave form with Peak value (1024 Sample / Period)
- Analysis of total Harmonic Destoration (**THD-F**)
- Capture 28 Transient Events with Programmable Threshold (%) (DIP, SWELL & OUTAGE)
- Built in timer & Calander for Data Logging
- Facility to retrieve Power Data & Harmonics on Meter Screen
- 512K Memory with Programmable Interval (2 to 3000 seconds, 17000 records for 3P4W System)
- Optical Isolated RS-232C ~ USB Interface
- Software for easy download of Recorded Data & Transient events
- Calculated Unbalanced Current through Neutral line

General Specification : PHA5850

Battery Type	1.5V SUM-3 x 8
External DC Input	Power supply adapter 12 Volts. DC
Display	Dot Matrix LCD (240x128) with backlight
LCD Update Rate	1 time / second
Power Consumption	140mA (approx.)
No. Of Samples	1024 samples / period
Data Logging Files	85
Max. File Capacity	17474 records (3P4W, 3P3W)
	26210 records (1P3W)
	52420 records (1P2W)
	4096 records (50 Harmonics / record)
Sampling Time	2 to 3000 seconds for data logging
Low battery Indication	B
Overload Indication	OL

Operating Condition	-10°C to 50°C ⩽ 85% RH	
Storage Condition	-20°C to 60°C ⩽ 75% RH	
Dimension	257 x 155 x 57 mm	
Weight	1160 g (Batteries included)	
Accessories	Voltage Test Leads	x 4 (3 meter long)
	Alligator Clips (Voltage)	x 4 (R.Y.B.N.)
	Carrying Bag	x 1
	Batteries 1.5V DC	x 8
	External DC Adaptor	x 1
	Software CD	x 1
	Users Manual	x 1
	Software Manual	x 1
	Optical USB Cable	x 1
	Current Clamps	x 3 (Any One CT Set)

Data Logging on Meter & PC

Data Retrieval for Energy Study & Audit

Ordering Information

Model : PHA 5850A = PHA 5850 + CT set A
Model : PHA 5850B = PHA 5850 + CT set B
Model : PHA 5850C = PHA 5850 + CT set C
Model : PHA 5850D = PHA 5850 + CT set D

Model : CT set A
3 pcs (R,Y,B) Clamp - On CTs
Conductor Size : 30mm (approx.)
Range : 1 / 10 / 100A

OR

Model : CT set B
3 pcs (R,Y,B) Clamp - On CTs
Conductor Size : 55mm (approx.) Busbar 64 x 24mm
Range : 10 / 100 / 1000A

OR

Model : CT set C
3 pcs Flexible CTs
Probe Length : 24" / 610mm (approx.)
Minimum bending Diameter : 35mm
Conector Diameter : 23mm
Cable Diameter : 14mm
Cable Length from Probe to Box : 1700mm
Cable Length from Box to Output : 1700mm
Range : 300 / 3000A

OR

Model : CT set D
3 pcs Flexible CTs
Probe Length : 18" / 460mm (approx.)
Minimum bending Diameter : 35mm
Conector Diameter : 23mm
Cable Diameter : 14mm
Cable Length from Probe to Box : 1700mm
Cable Length from Box to Output : 1700mm
Range : 120 / 1200A

Specifications : (23°C ±5°C)

AC Current
(50Hz or 60Hz, Auto Range, True RMS, Crest Factor < 4, CT = 1)

Model : PHA-5850A (100A) (Overload Protection AC 200A)

Range	Resolution	Accuracy of Readings
0.04 - 1A	1mA	±0.5% ±0.05A
0.4 - 10A	0.01A	±0.5% ±0.05A
4 - 100A	0.1A	±1.0% ±0.5A

Model : PHA-5850B (1000A) (Overload Protection AC 2000A)

Range	Resolution	Accuracy of Readings
10.00A	0.001A / 0.01A	-
5A - 100.0A	0.01A / 0.1A	±0.5% ±0.5A
40A - 1000.0A	0.1A / 1A	±0.5% ±5A

Model : PHA-5850C (3000A) (Overload Protection AC 3000A)

Range	Resolution	Accuracy of Readings
10.0 - 300.0A	0.1A	±1% of range
300.0 - 3000A	0.1A / 1A	

Model : PHA-5850D (1200A) (Overload Protection AC 1200A)

Range	Resolution	Accuracy of Readings
6.0 - 120.0A	0.1A	±1% of range
120.0 - 1200A	0.1A / 1A	

Harmonic of AC Voltage in Percentage

Range	Resolution	Accuracy
1 - 20th	0.1%	±2%
21 - 49th		±4% of reading ±2.0%
50 - 99th		±6% of reading ±2.0%

Harmonic of AC Current in Percentage
Model : PHA-5850A (100A)

Range	Resolution	Accuracy
1 - 10th	0.1%	±0.2% of reading ±1%
11 - 20th		±2% of reading ±1%
21 - 50th (A range)		±5% of reading ±1%
21 - 50th (mA range)		±10% of reading ±1%
51 - 99th		±35% of reading ±1%

Model : PHA-5850B (1000A)

Range	Resolution	Accuracy
1 - 20th	0.1%	±2%
21 - 49th		±4% of reading ±2.0%
50 - 99th		±6% of reading ±2.0%

Model : PHA-5850C (3000A) & PHA-5850D (1200A)

Range	Resolution	Accuracy
1 - 20th	0.1%	±2%
21 - 50th		±6%
51 - 99th		±10%

AC Watt
(50Hz or 60Hz, PF 0.5 ~ 1, CT = 1, continuous waveform)

Model : PHA-5850A (100A)

Range (0 to 100A)	Resolution	Accuracy of Readings
5.0 - 999.9W	0.1W	±1% ±0.8W
1.000 - 9.999KW	0.001KW	±1% ±8W
10.00 - 99.99KW	0.01KW	±1% ±80W
100.0 - 999.9KW	0.1KW	±1% ±0.8KW
1000 - 9999KW	1KW	±1% ±8KW

Model : PHA-5850B (1000A)

Range (0 to 1000A)	Resolution	Accuracy of Readings
5.0 - 999.9W	0.1W	±1% ±0.8W
1.000 - 9.999KW	0.001KW	±1% ±8W
10.00 - 99.99KW	0.01KW	±1% ±80W
100.0 - 999.9KW	0.1KW	±1% ±0.8KW
1000 - 9999KW	1KW	±1% ±8KW
0.000 - 9.999MW	0.001MW	±1% ±80KW

Model : PHA-5850C (3000A)
Model : PHA-5850D (1200A)

Range (0 to 3000A or 0 to 1200A)	Resolution	Accuracy of Readings	
		> 20V & > 30A	< 20V or < 30A
10.0 - 999.9W	0.1W	±1% of range	±2% of range
1.000 - 9.999KW	0.001KW		
10.00 - 99.99KW	0.01KW		
100.0 - 999.9KW	0.1KW		
1000 - 9999KW	1KW		

AC Voltage
(50Hz or 60Hz, Auto Range, True RMS,Crest Factor < 4, Input Impedance 10MΩ, VT (PT) = 1, Overload Protection AC 800V)

Range	Resolution	Accuracy of Readings
20.0V - 500.0V (Phase to Neutral)	0.1V	±0.5% ±5dgts
20.0V - 600.0V (Phase to Phase)		

Power Factor (PF)
Model : PHA-5850A (100A) & PHA-5850B (1000A)

Range	Resolution	Accuracy
0.00 - 1.00	0.01	±0.04

Model : PHA-5850C (3000A) & PHA-5850D (1200A)

Range	Resolution	Accuracy	
		> 20V & > 30A	< 20V or < 30A
0.000 - 1.000	0.001	±0.04	±0.1