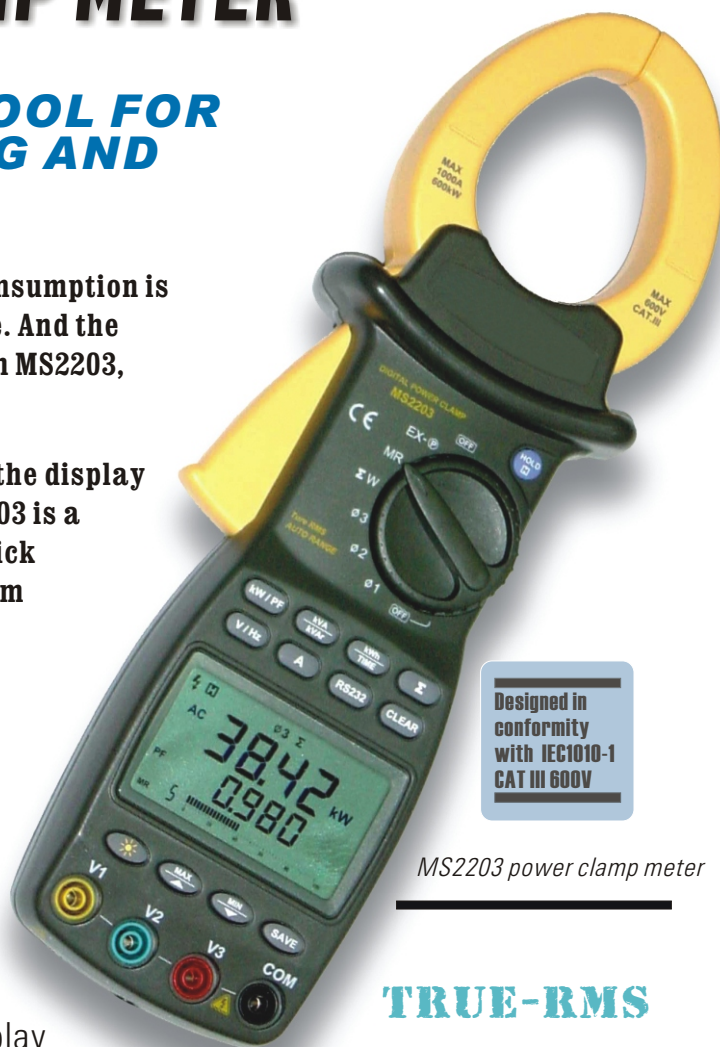# MS2203 POWER CLAMP METER

POWERFUL & RELIABLE TOOL FOR YOUR POWER MONITORING AND MAINTENANCE

In recent days, to improve the efficiency of power consumption is becoming more and more important than ever before. And the key index of this efficiency is Power Factor. Now with MS2203, you can get the job done in a quick and easy way.

With its dual display LCD, you will get PF reading on the display at the same time when you measure the power. MS2203 is a powerful and convenient tester: it is designed for quick measurement when you work with three-phase system whether it is with or without neutral line. Another powerful feature is that the kWh measurement can use the lines under test as power source instead of batteries for long time kWh recording. More useful features were added to improve the efficiency of maintenance and installation technician's work.

MS2203 power clamp meter

Designed in conformity with IEC1010-1 CAT III 600V

Features:

- 9999 counts, auto ranging, dual data LCD display with bargraph, two values displayed at same time
- True-RMS value, max/min data recording
- Power measurement*: three modes: single phase, three phase, three phase with neutral line
- Measurement of total power of three phase
- Current, Voltage, Active Power, Apparent Power, Reactive Power, kWh, Power Factor and Hz measurement
- Live line under test can be used as optional power source instead of batteries, especially useful for long time kWh recording (up to 99 hrs, with recording time display)
- Built-in memory, max. 28 groups of associated data can be stored for each test function
- Optical isolated RS232 interface, software for Windows

Notes:
* Power measurement input sensitivity: 5A/20V

TRUE-RMS

Specifications

Max Conductor Size	Ø 50mm
AC Current	40/100/400/1000A +/-2%
AC Voltage	100/300/600V +/-1.2%
Active Power	4/10/40/100/600kW +/-3%
Apparent Power	4/10/40/100/600kVA +/-3%
Power Factor	0.3 cap to 0.3 ind +/-0.02
Reactive Power	4/10/40/100/600kVAr +/-4%
Active Energy	1~ 9999kWh +/-3%
Frequency	20Hz~1000Hz +/-0.5%
Display	LCD 9999 counts. with back light
Power Source	4x1.5V AA

Standard accessories

1) Clip test leads
2) Software for Windows
3) Batteries
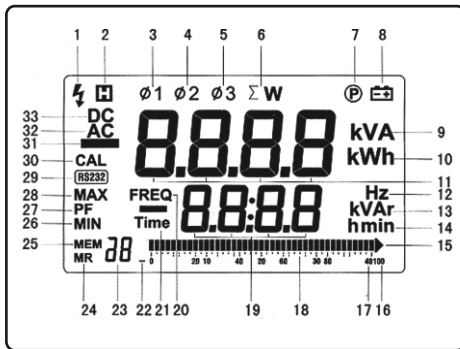4) Carrying case
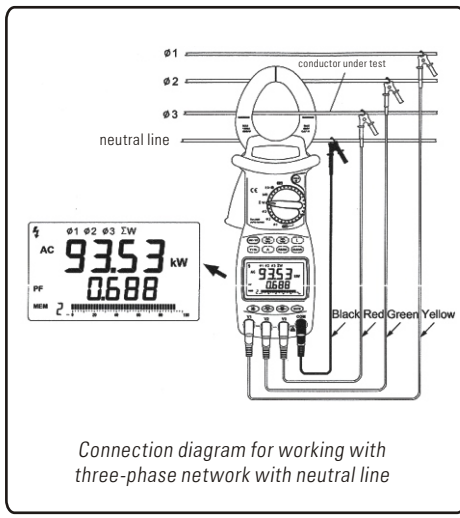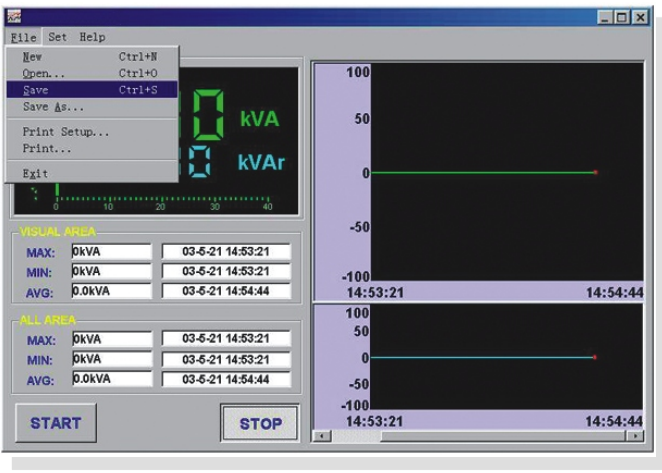5) Optical RS232 cable
6) Operation manual

Optical isolated RS232 interface

(1) Dangerous voltage	(16) 100 graduate scale
(2) Data hold	(17) 40 graduate scale
(3) Phase 1	(18) Bar graph
(4) Phase 2	(19) 4 digit display (for secondary display)
(5) Phase 3	
(6) Three phase total power	(20) Frequency
(7) External power source	(21) Time
(8) Low battery indicator	(22) Negative value indicator
(9) V, A, kVA	(23) Number of memory
(10) Active power (kW), Active energy (kWH), (for primary display)	(24) Memory recall
	(25) Memory store
(11) 4 digit display	(26) Min. value
(12) Frequency unit	(27) Power factor
(13)V, A, kVA, kVAR (for secondary display)	(28) Max. value
	(29) RS232C communication
	(30) Calibration
(14) Time: hour:minute	(31) Negative value indicator
(15) Overflow indicator	(32) AC (33) DC

Connection diagram for working with three-phase network with neutral line

MS2203 can work with three phase network with neutral line(as illustrated left), three phase network without neutral line(just remove the black lead). By just clamping one of the three wires, you get the readings of the power and associated data of each phase in a quick manner. One of the benefits is that you can switch the measurement among three phases swiftly, and after each measurement, just press Σ button to add the result to the total power value; even with unbalanced loads, you can get accurate three phase total power value* after the measurements of each and every phase by setting the the rotary switch at ΣW.   (* On condition that loads are stable during test)

The software contains 4 windows: Main window: just same as the LCD display; MIN/MAX VALUE window; graphical trend view window (for primary and secondary numerical display). Data can be saved as file and printed out.

Standard accessories including:
1) Clip test leads
2) Software for Windows
3) Batteries
4) Carrying case
5) Optical RS232C cable