



KEY FEATURES

- Embedded high speed DSP, 16 bits Analog/Digital converters
- 5mA minimum current range(66203/66204) and 0.1mW power resolution
- Meet ENERGY STAR / IEC 62301 / ErP ecodesign measurement requirement
- Accumulated energy methods for unstable power measurement
- User-define criteria for automatic PASS/FAIL judgment
- Half rack width and small 2U height, suitable for system integration
- Dual shunts for current range selection providing high accuracy over a wide current range (66202)
- THD and user-specify orders distortion measurement (66202)
- Inrush current and Energy measurement (66202)
- Optional remote interface: USB or GPIB+USB
- Voltage/current harmonics measurement up to 50 orders
- Capable of displaying input waveform DC component measurement reading
- Half rack size and 4 input modules design (66204)
- Support different wiring configuration power measurement (1P2W/1P3W/3P3W/3P4W) (66203/66204)
- Support external shunt and CT for higher current measurement application (66204)



Chroma Digital Power Meter 66200 series provide both single and multiple phase power measurement solution designed for measurement of AC or AC+DC power signals and related parameters common to most electronic products. Instead of traditional analog measurement circuits, the Power Meter 66200 uses state-of-the-art DSP digitizing technology. The internal 16 bits analog/digital converters with sampling rates of up to 250kHz provide both high speed and high accuracy measurements. The instrument provides excellent function and stability compared to other power meters of same class currently available on the market. It includes a front panel 4 display area with 5 digits, 7-segment LED readouts as well as optional remote control using USB or GPIB interfaces.

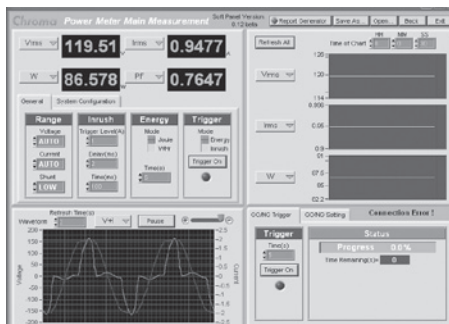
The 66200 series Power Meter is also designed to meet ENERGY STAR / IEC 62301 / EUP ecodesign measurement requirements. The instrument provides 5mA (66203/66204) minimum current range and 0.1mW power resolution providing less than 2% uncertainty for No-Load mode power measurement. Included are not only traditional averaging methods but also accumulated energy approach method used to calculate active power data. In this way, users can achieve accurate readings even if power consumption levels are not stable or operating on in non-linear modes (i.e. hiccup modes). The Model 66202 can even measure Total-Harmonic-Distortion (THD) and to user-specify distortion orders. Thus, the instrument can easily measure distortion values up to and including the 13th harmonic as required

by ENERGY STAR requirements. The 66200 Power Meter also includes limit test GO/NG functions. This feature allows users to set pass/fail limits to automatically display PASS/FAIL according to these user-define criteria.

The 66201 includes simple measurement functions designed for testing at low power levels (maximum current 4A). Examples of these devices are AC adapters, battery chargers, LCD monitors and similar devices. Included measurement data is Voltage (Vrms, Vpeak+, Vpeak-), Current (Irms, Ipeak+, Ipeak-), Power (W, Power Factor, Apparent Power VA, Reactive Power VAR), Current Crest Factor and Frequency. The Model 66201 Power meter is competitively priced to be suitable for bench-top testing and automated production line testing.

The 66202 includes a 2-shunt design to get 66202 highly accurate for both low and high current measurements. Besides the parameters measured on Model 66201, it also provides Inrush Current, Total Harmonic Distortion of V/I and Energy measurement. With these practical functions, The Model 66202 is suitable for meeting the demanding tasks of R&D and quality control departments.

The 66204 is a 4 channels power meter which is designed for multiple phase power measurement application. The wiring function allows users to take accurate power measurement based on different wiring configuration selected(1P2W/1P3W/3P3W/3P4W).



Softpanel for Model 66200 Series



Power Efficiency Test Softpanel



Model 66203/66204

ORDERING INFORMATION

- 66201** : Digital Power Meter
- 66202** : Digital Power Meter
- * **66203** : Digital Power Meter (3ch)
- * **66204** : Digital Power Meter (4ch)
- A662001** : USB Remote Interface Board for Model 66201/66202
- A662002** : GPIB+USB Remote Interface Board for Model 66201/66202
- A662003** : Measurement Test Fixture (250V/15A)
- A662004** : Rack Mounting Kit for 66200 Series
- A662005** : USB Cable (180cm)
- A662006** : External CT 50 Arms for Model 66202
- A662007** : External CT 100 Arms for Model 66202
- A662008** : Power Efficiency Test Softpanel
- A662009** : Softpanel for Model 66200 Series
- * Call for availability



A662003 : Measurement Test Fixture

Battery Test & Automation Solution
 Photovoltaic Test & Automation Solution
 Semiconductor/IC Test Solution
 Laser Diode Test Solution
 LED/Lighting Test Solution
 PFD Test Solution
 Video & Color Test Solution
 Automated Optical Inspection Solution
 Power Electronics Test Solution
 Passive Component Test Solution
 Electrical Safety Test Solution
 General Purpose Test Solution
 Thermoelectric Test & Control Solution
 PXI Test & Measurement Solution
 Manufacturing Execution Systems Solution

SPECIFICATIONS-1		
Model	66201	66202
Channel	1	1
Parameters	V, Vpk, I, Ipk, W, VA, VAR, PF, CF_I, F	V, Vpk, I, Ipk, Is, W, VA, VAR, PF, CF_I, F, THD_V, THD_I, Energy
AC Voltage		
Range	150/300/500Vrms (CF = 1.6)	150/300/500Vrms (CF = 1.6)
Accuracy	15Hz - 1kHz: 0.1% of rdg + 0.08% of rng 1kHz - 10kHz: (0.1+0.05*KHz)% of rdg + 0.08% of rng	15Hz - 1kHz: 0.1% of rdg + 0.08% of rng 1kHz - 10kHz: (0.1+0.05*KHz)% of rdg + 0.08% of rng
Harmonics Accuracy	--	15Hz - 1kHz: 0.1% of rdg + 0.08% of rng 1kHz - 10kHz: (0.1+0.05*KHz)% of rdg + 0.08% of rng
Input Resistance	1M Ω	1M Ω
AC Current		
Range	0.01/0.1/0.4/2 Arms (CF=4) *1	SHUNT H : 0.2/2/8/20Arms (CF=2@0.2/2/8A, CF = 4@ 20A) SHUNT L : 0.01/0.1/0.4/2Arms (CF=4)
Accuracy *2	0.01A Range: 15Hz - 1kHz: 0.1% of rdg + 0.25% of rng 1kHz - 10kHz: (0.1+0.05*kHz)% + 0.25% of rng 0.1A/0.4A/2A Range: 15Hz - 1kHz: 0.1% of rdg + 0.1% of rng 1kHz - 10kHz: (0.1+0.05*kHz)% + 0.1% of rng	SHUNT H: 0.2A Range: 15Hz - 1kHz: 0.1% of rdg + 0.12% of rng 1kHz - 10kHz: (0.1+0.05*kHz)% + 0.12% of rng 2A/8A/20A Range: 15Hz - 1kHz: 0.1% of rdg + 0.1% of rng 1kHz - 10kHz: (0.1+0.05*kHz)% + 0.1% of rng SHUNT L: 0.01A Range: 15Hz - 1kHz: 0.1% of rdg + 0.25% of rng 1kHz - 10kHz: (0.1+0.05*kHz)% + 0.25% of rng 0.1A/0.4A/2A Range: 15Hz - 1kHz: 0.1% of rdg + 0.1% of rng 1kHz - 10kHz: (0.1+0.05*kHz)% + 0.1% of rng
Harmonics Accuracy	--	SHUNT H: 0.2A Range: 15Hz - 1kHz: 0.1% of rdg + 0.12% of rng 1kHz - 10kHz: (0.1+0.05*kHz)% + 0.12% of rng 2A/8A/20A Range: 15Hz - 1kHz: 0.1% of rdg + 0.1% of rng 1kHz - 10kHz: (0.1+0.05*kHz)% + 0.1% of rng SHUNT L: 0.01A Range: 15Hz - 1kHz: 0.1% of rdg + 0.25% of rng 1kHz - 10kHz: (0.1+0.05*kHz)% + 0.25% of rng 0.1A/0.4A/2A Range: 15Hz - 1kHz: 0.1% of rdg + 0.1% of rng 1kHz - 10kHz: (0.1+0.05*kHz)% + 0.1% of rng
Power		
Range	1.5W ~ 1000W, 12 ranges	1.5W ~ 10kW, 24 ranges
Accuracy	47Hz~63Hz : 0.1% of rdg + 0.1% of rng 15Hz~1kHz : (0.1+ 0.2/PF * kHz)% of rdg+0.18% of rng	47Hz~63Hz : 0.1% of rdg + 0.1% of rng 15Hz~1kHz : (0.1+ 0.2/PF * kHz)% of rdg+0.18% of rng
Power Factor accuracy *3	0.006+(0.003/PF) * kHz	0.006+(0.003/PF) * kHz
Frequency		
Range	DC, 15Hz ~ 10kHz	DC, 15Hz ~ 10kHz
Measuring Condition	Voltage (10 ~ 100% of the voltage range)	Voltage (10 ~ 100% of the voltage range)
Others		
Display Resolution	5 Digits	
Display update rate	0.25~2 sec	
Input Voltage	90V ~ 130V /180V ~ 250V, 50Hz/ 60Hz, 30VA	
Interface	Option: USB or GPIB+USB	
Operating Temperature	0°C ~ 40°C	
Storage	-40°C ~ 85°C	
Safety & EMC	CE (include EMC & LVD)	
Dimension (H x W x D)	88 x 212 x 348.1 mm / 3.46 x 8.35 x 13.7 inch (excluding projections)	
Weight	Approx. 3.8 kg / 8.37 lbs	

The specifications are valid only after the power meter is turned on more than one hour in a thermally stable environment.

Note*1 : The maximum measurable current of 66201 is 4 Arms.

Note*2 : The current accuracy applies temperature range $23 \pm 1^\circ\text{C}$ for 0.01A & 0.2A(CF=2). For all the other current ranges, the spec. applied under $23 \pm 5^\circ\text{C}$.

Note*3 : The PF spec. applies only when the signals are higher than 50% of the selected voltage and current ranges.

SPECIFICATIONS-2		
Model	66203 *	66204 *
Channel	3	4
Parameters	V, Vpk, I, Ipk, Is, W, VA, VAR, PF, CF_I, F, THD_V, THD_I, E	V, Vpk, I, Ipk, Is, W, VA, VAR, PF, CF_I, F, THD_V, THD_I, E
AC Voltage		
Range	15V/30V/60V/150V/300V/600Vrms (CF=2), 6 range	
Accuracy	15Hz~1kHz : 0.1% rdg + 0.08% of rng 1kHz~10kHz : (0.1 + 0.05 * kHz)% of rdg + 0.05% of rng	
Harmonics Accuracy	15Hz~1kHz : 0.1% rdg + 0.08% of rng 1kHz~10kHz : (0.1 + 0.05 * kHz)% of rdg + 0.05% of rng	
Input Resistance	2MΩ	2MΩ
AC Current		
Range	5mA/20mA/50mA/200mA/500mA/2A/5A/20Arms (CF=4)	
Accuracy	15Hz~1kHz : 0.1% rdg + 0.12% of rng 1kHz~10kHz : (0.1 + 0.05 * kHz)% of rdg + 0.1% of rng	
Harmonics Accuracy	15Hz~1kHz : 0.1% rdg + 0.12% of rng 1kHz~10kHz : (0.1 + 0.05 * kHz)% of rdg + 0.1% of rng	
Power		
Range	75mW ~ 12kW, 48 ranges	
Accuracy	47Hz~63Hz : 0.1% rdg + 0.1% of rng 1kHz~10kHz : (0.1 + 0.3/PF * kHz)% of rdg + 0.18% of rng	
Power Factor accuracy	0.006+(0.003/PF) * kHz	
Frequency		
Range	DC, 15Hz ~ 10kHz	
Measuring Condition	Voltage (10~100% of the voltage range)	
Others		
Display Resolution	5 Digits	
Display update rate	0.25~2 sec	
Input Voltage	100~240V ± 10%, 50/60Hz	
Interface	Standard: USB+GPIB	
Operating Temperature	0°C ~ 40°C	
Storage	-40°C ~ 85°C	
Safety & EMC	CE (include EMC & LVD)	
Dimension (H x W x D)	133 x 212 x 420 mm / 5.23 x 8.35 x 16.5 inch	
Weight	Approx. 7 kg / 15.4 lbs	

The specifications are valid only after the power meter is turned on more than one hour in a thermally stable environment.

Note * : Call for availability

Battery Test & Automation Solution
 Photovoltaic Test & Automation Solution
 Semiconductor/IC Test Solution
 Laser Diode Test Solution
 LED/Lighting Test Solution
 FPD Test Solution
 Video & Color Test Solution
 Automated Optical Inspection Solution
 Power Electronics Test Solution
 Passive Component Test Solution
 Electrical Safety Test Solution
 General Purpose Test Solution
 Thermoelectric Test & Control Solution
 PXI Test & Measurement Solution
 Manufacturing Execution Systems Solution