

Power Meter

HC 6200



Introduction

About Power Meter HC 6200

HC 6200 power meter is conceptualized as an intelligent and revolution the to the traditional single function power meters. This HC 6200 is a new compact (96 x 96mm), electronically advanced and programmable rotating display metering device. It is the answer to future generation of electrical metering needs and methodology.

Environmental Impact & Cost Saving

The HC 6200 is able to replace many units of conventional analog or digital instruments. The parameters such as Amp, Volt, KVA, KW, PF, KWH, KVarH, Freq, etc. can be displaying rotated automatically; or change manually by keypad on meter head. This saves on the wiring material usage and reduces the cost on metering needs.

More Convenience

The HC 6200 is specifically designed to be compatible with DIN standard panel instruments (It fits the DIN 92 x 92 mm panel cut out holes). The power meter HC 6200 is greatly reduced cabling complexity and time. It is also a standardize hardware suitable for either 3 phase 3 wires or 3 phase 4 wires networks.

Improved Technical Superiority and Reliability

The HC 6200 is built-in with specialties such as overload capabilities, accuracy levels, long term stability, readout dependability etc. To overcome the critiques of traditional digital meters, the power meter HC 6200 is equipped with a large, back-lit LCD display. It can present up to five measurements simultaneously for fast and direct access to information.

The display of parameters can be manually selected by HC 6200 PCTool, or automatically prioritize the sequentially view within 20 parameters. To meet future metering environments, the power meter HC 6200 is equipped with a serial port RS-485 which allows the connections to an open architecture computerized network, running on PC or data acquisition system and complying with Modbus® protocol. The PCTool provides a simple yet practical solution to energy management in factories and plant, small industries, building services, etc.

Parameters Conversion

The microprocessor-based power meter now provides compatibility with the modicon Modbus® system as a standard feature. Its back-lit LCD graphic display can be read V, A, VA, W, Var, WH, etc. within 20 power and energy parameters.

Factory & Building Automation (FA & BA)

The power meter was developed for factory and building automation (FA & BA) applications, more all of power and energy parameters can easily apply to wide range of AC switch-gear or industrial power distribution system for metering.



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PLC Modbus® Compatible

The Modbus® communications protocol allows information and data to be efficiently transferred between HC 6200 and modicon programmable logic controller (PLC) or other third party Modbus® compatible monitoring and control system. The HC 6200 can also establish a monitoring system just simply adopt an IPC-based centralized master display software. The RTU mode Modbus® protocol with default baud rate 9600 bps, 8 data bit.

Memory for all setup and energy data

All of the meter status setting and energy data are retaining in memory while was lost power. HC 6200 power meter records includes the watt-hour that been measured, PT and CT ratio, the measured system configuration, displaying setting, and communication related.

Field Programmability

The field programmable power meter is able to set e.g. CT and PT ratio, Modbus® address, communication baud rate, meter's display, etc. either programming by push-bottom or by rear RS-485 / RS-232 communication port from a PC.

Accuracy up to 0.2%

With a well developed conversion, sampling and software compensation technology that make HC 6200 power meter successfully meet the accuracy requirement of modern metering, that voltage and current up to 0.2% and other power up to 0.4%.

Comprehensive System Integration

The HC 6200 power meter now provides the Modbus® (are compatible with the Modicon system as a standard feature for comprehensive system integration. The PLC compatible RS-485 / RS-232 Modbus® communication protocol allows information and data to be efficiently transferred between power meter HC 6200 and Modicon programmable logic controller (PLC) existing RTU Power SCADA system and DCS system or other Modbus® protocol compatible system. For more detail information or software backup please contact Hsiang Cheng Electric Corp. or representative sales department.

Features

- For factory and building automation
- Modbus® RTU protocol
- Maximum 580V
- True RMS conversion
- Back-lit LCD graphic display
- Field programmable PT / CT ratio
- Bar chart in % for phase current
- Accuracy up to 0.2%
- Memory for all setup and energy data
- Harmonic analyze for quality analysis (up to 15th harmonic)
- Comprehensive self test diagnostics
- Low input burden 0.2VA (5A/120V)
- Wide power supply range 80~260V AC / DC
- Compact physical configuration
- Compatible for DIN&ANSI cutout
- 2KV RMS input / power isolation

Model & Ordering Number

Model : HC 6200

Ordering : HC 6200 – A – 5.0A – H – 1

Version

Current Input

1.0A

5.0A

Power

H : AC 80-260V, DC 80-330V

L : DC 20-60V

Communication Port

1 : RS-485 x 1

2 : RS-485 X 2

Y : Special ordering

Specification

Programmable measurements / Accuracy / Display readouts

Parameter	Digital	Display (maximum)	Accuracy
U x 3	4	9.9.9.9. V / KV	0.2% fs
I x 3	4	9.9.9.9. A / KA	0.2% fs
P	4	9.9.9.9. W / KW / MW	0.4% fs
Q	4	9.9.9.9. Var / KVar / MVar	0.4% fs
S	4	9.9.9.9. VA / KVA / MVA	0.4% fs
PF	3	0.999	0.4% fs
WH	8	9.9.9.9.9.9.9. WH / KWH / MWH	0.5% rd
VarH	8	9.9.9.9.9.9.9. VarH / KVarH / MVarH	1% rd
IN	4	9.9.9.9. A / KA	0.5% fs
Hz	4	70.00	0.05% rd

- U12 / U23 / U31 : Line to line voltage
U1 / U2 / U3 : Line to neutral voltage
- PF1 / PF2 / PF3 : Related conversion elements
- IN (neutral current, only for 3 phase 4 wires)

- Accuracy performance range for WH / VarH / PF
Cos θ : 1-0.5 for WH / PF
Sin θ : 1-0.5 for VarH
Voltage \geq 85V, Current \geq 10% of rating
- Phase rotation
SE-P : Positive sequence
SE-n : Negative sequence



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Input

- ⊙ Range
 - Voltage : 85-580V
 - Current : Suitable for CT secondary rating
 - Maximum 6A for 5A rating
 - Maximum 1.2A for 1A rating
 - Frequency : 45-65 Hz
- ⊙ Burden
 - Voltage < 0.5VA at 580V
 - Current < 0.2VA at rating
- ⊙ Overload rating

Current	Voltage
3 x rated continuous	750V continuous
10 x rated 30 seconds	1000V 10 seconds
25 x rated 2 seconds	1200V 3 seconds
50 x rated 1 second	

Measured system

- ⊙ Suitable for 1 phase 2 wires / 1 phase 3 wires / 3 phase 4 wires / 3 phase 3 wires
- ⊙ Select by input wiring & software configuration

Programmability

- ⊙ Communication accessible
- ⊙ System selection : 1 phase 2 wires / 1 phase 3 wires / 3 phase 4 wires / 3 phase 3 wires
- ⊙ PT : 1 - 5000.0 ; CT : 1-5000.0
- ⊙ Readout display control
 - Manual switch display / rotation display
- ⊙ Communication
 - Baud rate 1.2K/2.4K/4.8K/9.6K/19.2K
 - Address setting 1 - 254
- ⊙ Memory : all of energy date and status setting

Communication port

RS485x1
RS485x2 (option)
Modbus® RTU protocol

Display

Back-lit LCD graphic display

Dielectric strength

IEC 255-5
2KV AC rms 1 minute between input / power / case
2KV AC rms 1 minute input/output ; output / power

Impulse and surge test

ANSI/IEEE C37.90.1 (3KV) SWC Tests
IEC 61000-4-12 class III Ring wave immunity test
IEC 61000-4-4 class IV EFT/burst immunity test
IEC 61000-4-5 (4KV) Surge immunity test

CE Statement of conformity

RFI Emission : EN 61326
EN 61000-3-2
EN 61000-3-3

Stability

Temperature range -10 to +60°C , maximum 100 ppm/°C
Long term stability 0.15% drift maximum per year

Operating condition

Temperature range -10 to +60°C , RH 20 - 95% non-condensed

Storage condition

Temperature range -25 to +70°C , RH 20 - 95% non-condensed

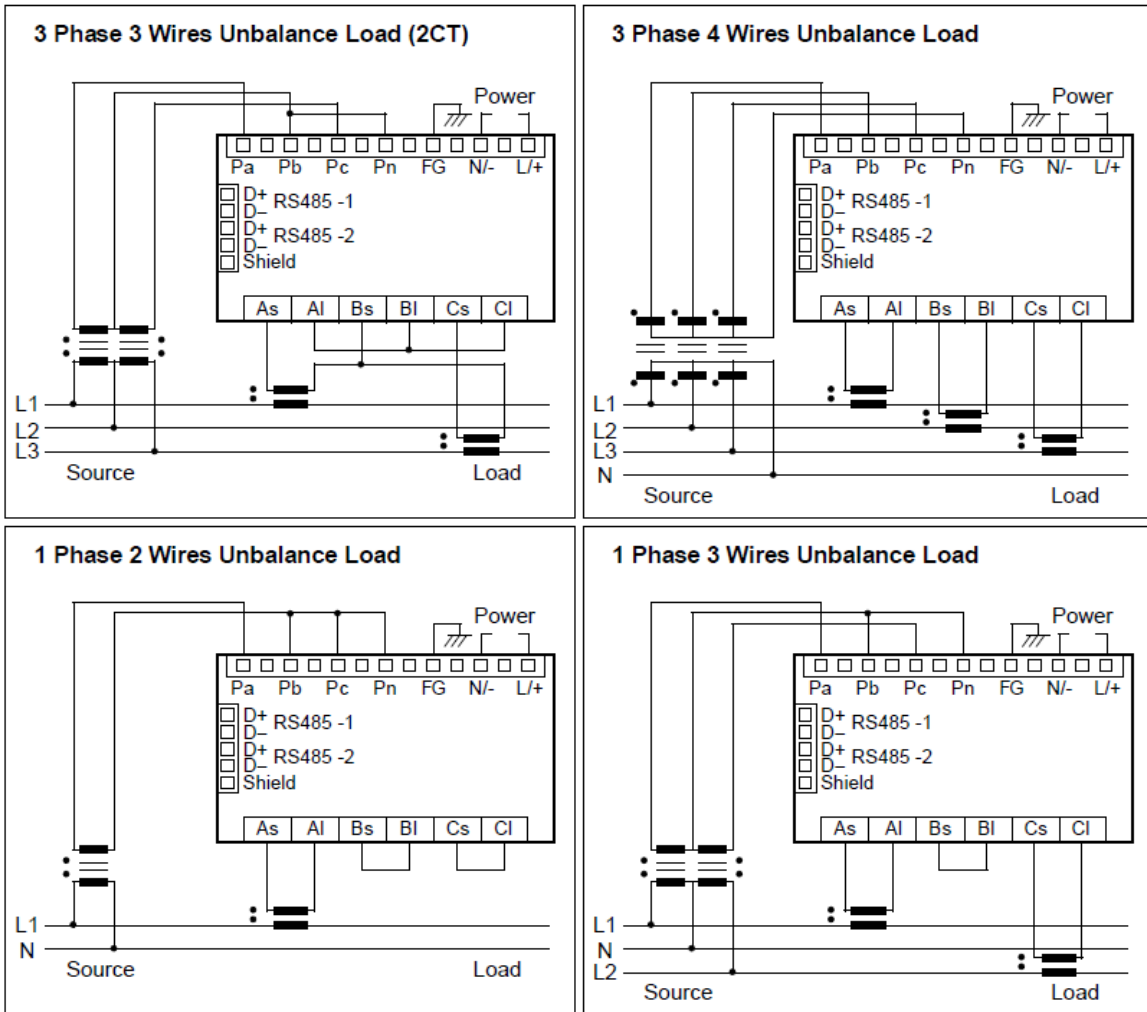
Power supply

AC 80 - 260V, 40 - 70 Hz, DC 80 - 330V
DC 20 - 60V
Dissipation maximum 2VA for AC and 1 Watt for DC

Mounting / Dimension

Panel type mounting
Size : 96 x 96 x 85 mm
Cut out : 92 x 92 mm
Case : Polyester ABS (option UL94 Class V-0)

Wiring



Dimension

