

Specification

Power Supply		230VAC ±15% 50-60Hz
Power Consumption		2.5VA
Display		LCD
Input	Type	Voltage (TRUE RMS)
	Direct Phase and Neutral	10 to 290VAC
	Direct Between Phase	10 to 500VAC
	Primary Voltage	Up to 72000VAC
	Secondary Voltage	60, 100, 110, 173, 190, 240VAC
	PT Ratio	1-300
	Accuracy	±0.2 % FS.
	Type	Current (TRUE RMS)
	Direct	20mA to 10A
	Primary Current	Up to 10000A
	Secondary Current	20mA to 5A
	Accuracy	±0.2% FS.
	Type	Power
	Accuracy	±0.5 % (FS)
	Type	Power Factor
	Accuracy	±0.2 % (FS)
	Type	Frequency
	Accuracy	45 to 65Hz ±0.1Hz
	Active Energy Accuracy	Class 0.5
	Reactive Energy Accuracy	Class 1.0
	THD	Volt, Current
Digital Output	Speed	32 Pulse/sec
	Volt Operate	10-48 VDC
Communication	Protocol	Modbus RTU
	Baud Rate	2400, 4800, 9600, 19200, 38400 bps
	Parity	None, Even, Odd
	Stop Bits	1, 2
	Data Bits	8 Bits
	Support Device Node	128
Ambient Operation	Temperature	-10 °C to 60 °C
	Humidity	85 % RH Non-Condensing
Ambient Storage	Temperature	-20 °C to 80 °C
	Humidity	85 % RH Non-Condensing
Protection Degree	Front Protection Rating	IP52
	Case Protection Rating	IP30
Installation		Panel Mounting
Material		ABS-V0
Size (mm.)		96 x 96 x 76.6
Weight (kg.)		465

Description

- Multifunction Power Meter: KM-07 Meter for measuring electrical energy in single-phase and three-phase power systems.
- Measures: V (Line), V (Phase), A (Phase), kW, kVA, kVar, kWh, kVAh, kVarh, PF, Hz, kW Demand, Peak Demand, and THD (Harmonics) up to the 11th order for 1-phase / 3-phase systems.
- PT Ratio and CT Ratio configurable.
- True RMS measurement for high accuracy.
- Output options: Pulse output and Analog 4-20 mA.
- Communication via RS-485 port, Modbus RTU protocol.
- LCD display for measured values.

Operation

KM-07 is a multifunction power meter capable of measuring voltage (Volt), current (Amp), watt, var, VA, kWh, kvarh, and kVAh. In addition, it can measure the phase angle between current and voltage, as well as the percentage of total harmonic distortion (%THD) of voltage and current. It also supports communication via RS-485 Modbus RTU Protocol. The energy measurement capacity for kWh, kvarh, and kVAh is up to 13 digits (9,999,999,999,999).

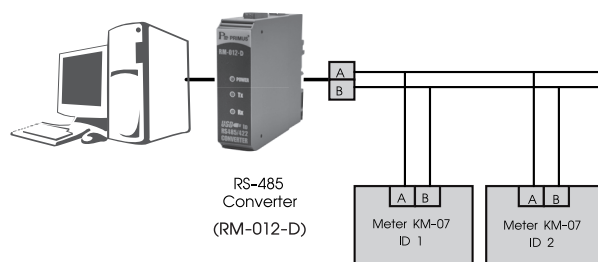
SERIAL COMMUNICATIONS

Meter KM-07 can read various measured parameters in real time via the RS-485 bus system. The communication protocol used is Modbus RTU.

The command set that can be used with the meter is as follows:

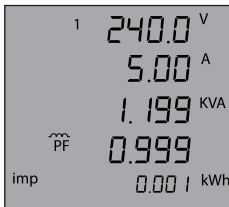
- 0 x 04 : Read Multi Input Register
- 0 x 06 : Preset Single Register
- 0 x 10 : Preset Multi Register

การต่อวงจรใช้งานสำหรับสื่อสาร RS-485



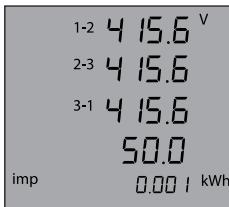
Example: Parameters show on display

• Phase (key V/I) Displays



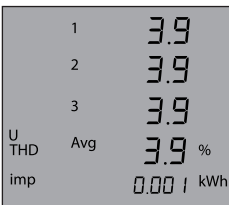
Displays Phase-to-Neutral Voltage, Phase Current, kVA, and Power Factor (PF) of each phase. When the V/I button is pressed, the leading number will change according to the phase being displayed. If Loop Page is enabled, the display will loop only on this page.

• Volt Between Line - Line (key V/I)



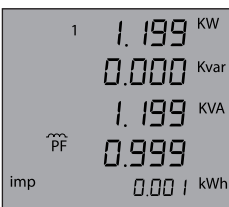
Displays line-to-line voltage values and system frequency with the numbers 1-2, 2-3, and 3-1 shown at the front.

• % THD-V/ THD-I (key V/I)



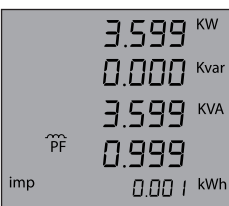
When displaying THD-V, the icons U and THD will appear.
When displaying THD-I, the icons I and THD will appear.

• Power (key P-1Ø)



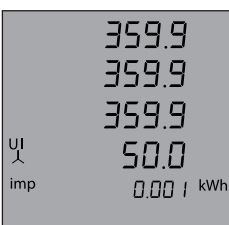
Displays kWatt, kvar, kVA, and PF values of each Phase. When the P-1Ø key is pressed, the number at the front will change according to the displayed Phase.

• Total Power (key P-1 Ø)



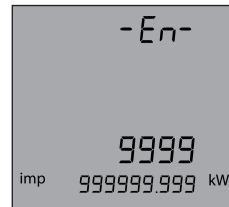
Displays kWatt, kvar, kVA, and PF values of each phase. When the P-1Ø key is pressed, the number at the front will change according to the displayed phase.

• Phase Angle Between V&I (key P-1 Ø)



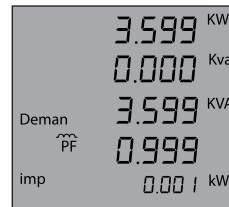
Displays the Phase Angle between Voltage & Current and displays the system Frequency.

• Energy (key P-3Ø& key En) Displays



Displays Energy values in digits 10-13 of the Energy value and Energy values in digits 1-9 of the Energy value. When the En key is pressed, the Energy Imp, Exp, total values of kWh, kvarh, and kVAh are displayed.

• Total Demand (key P-3 Ø)



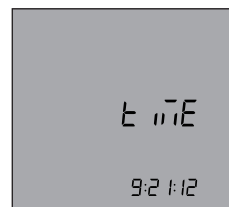
Displays Demand Total kWatt, kvar, kVA and overall system PF (when displaying Total values, no phase indication numbers are shown at the front)

• Date (key P-3 Ø)



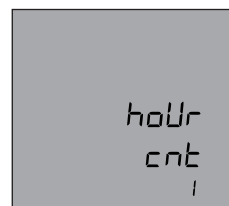
Displays the day / month / year on the meter

• Time (key P-3Ø)



Displays the hours / minute / second on the meter

• Hours Counter (key P-3Ø)



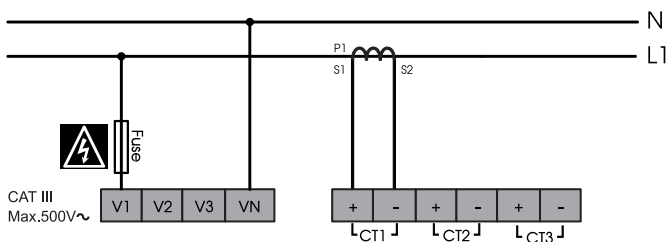
Displays the operating hours of the meter, unit in hours (counting time only when kVA > 0 is being measured).

Wiring Diagram

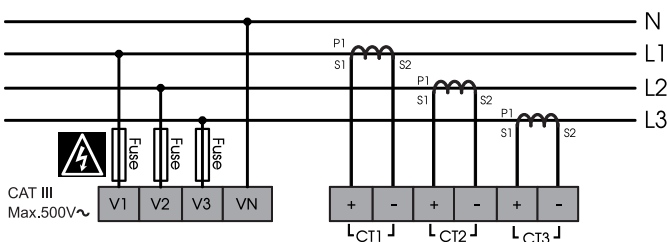
If the Current Transformer (CT) measuring set needs to be disconnected from KM-07, it is necessary to short-circuit the secondary side of every CT to prevent damage to the CT

Connections

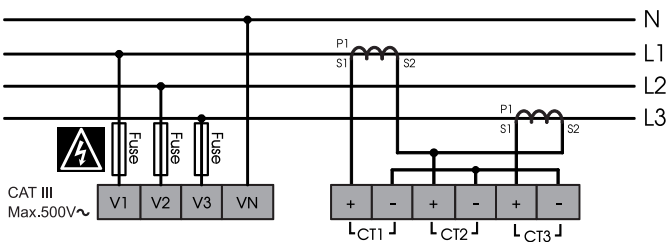
1/2 WIRES WITH 1 CT



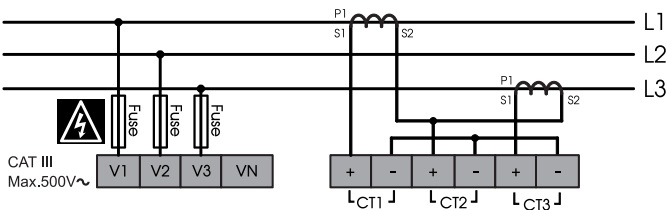
3/4 WIRES WITH 3 CTs



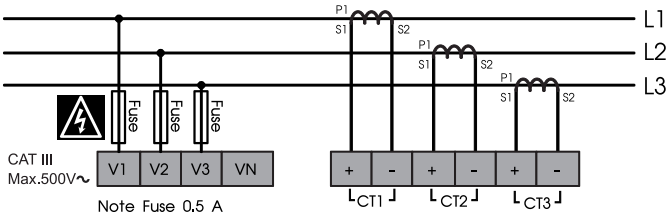
3/4 WIRES WITH 2 CTs



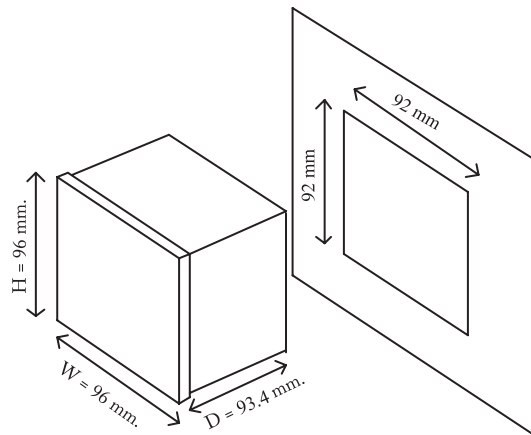
3/3 WIRES WITH 2 CTs



3/3 WIRES WITH 3 CTs



Dimension



Ordering Code

KM-07-



Output	
None	Pulse Output
1	Analog Output, Pulse Output
2	RS-485, Pulse Output
3	RS-485, Analog Output, Pulse Output
Metering	
A	Total kWh
B	Total, Import, Export kWh