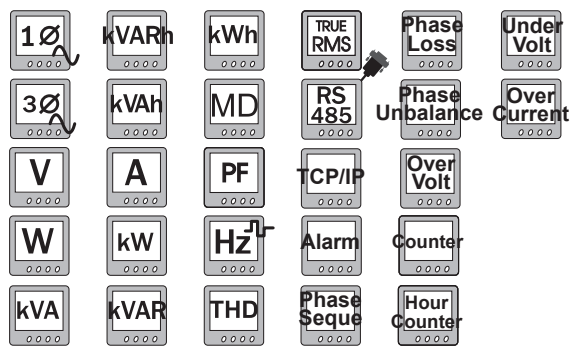




Specification

Power Supply		100-300VAC/VDC (50/60Hz)
Power Consumption		3VA
Display		LCD
Input	Type	Voltage (TRUE RMS)
	Direct Phase and Neutral	10 to 400VAC
	Direct Between Phase	18 to 690VAC
	Voltage Primary	Up to 200,000VAC
	Voltage Secondary	10 to 400VAC
	PT Ratio	500.0
	Accuracy	±0.2% FS
	Type	Current (TRUE RMS)
	Direct	20mA to 5A (Max 8A)
	Current Primary	Up to 10,000A
	Current Secondary	20mA to 5A
	CT Ratio	2000 (CT5A), 9999 (CT1A)
	Accuracy	+0.2% FS
	Type	Power
	Accuracy	+0.5% FS
	Type	Power Factor
	Accuracy	0.1
	Type	Frequency
	Accuracy	45 to 65Hz ±0.1%Hz
	Type	Energy
	Active Energy (kWh)	IEC 61036 Class 0.5
	Apparent Energy (kVAh)	
	Reactive Energy (kvarh)	IEC 61036 Class 1
	Volt THD	Harmonic
	Current THD	0 to 31 order
Real Time Clock (RTC)		+ 10 ppm
Digital Input (NPN, PNP)		Max 1000 Hz
Pulse Output (Dry Contact)		10 to 30 VDC 3200 imp/kWh
Alarm Output		Max 2 Alarm, SPST SA 250VAC/30VDC
Analog Output		Max 2 Analog Output (mV, ±0.25%)
Communication	Protocol	MODBUS RTU, MODBUS TCP Protocol (RTU Mode)
	Baud Rate	9600, 19200, 38400, 57600 bps
	Parity	None, Even, Odd
	Stop Bits	1,2
	Data Bits	8 Bits
	Support Device Node	247
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-VO
Size (mm.)		96 x 96 x 76.6
Weight (kg.)		430

Description

- Multifunction Power Meter For Modbus TCP/IP: KM-07T is an electrical energy meter that can measure V (Line), V (Phase), A (Phase), kW, kVA, kVar, kWh, kVAh, kvarh, PF, Hz, kW Demand, Peak Demand, THD (Harmonic) up to 31 orders for 1 Phase / 3 Phase.
- PT Ratio can be set from 0.1–500.0 and CT Ratio from 1–2000 (CT5A), 1–9999 (CT1A).
- Pulse output and Analog 4–20 mA output.
- Has 2 Alarm Relays for setting High, Low, High Low Band, High Low Range Alarm, as well as Alarm Protection, Over Voltage, Under Voltage, Over Current, Phase Sequence, Phase Unbalance, and Phase Loss.
- Can communicate through RS-485 Modbus RTU Protocol port or Modbus TCP/IP Protocol (RTU Mode).
- Has Counter Function for receiving External Input signals from Photoelectric Sensor, Proximity, Limit Switch, Contact to count produced products and compare with consumed energy during the specified period for product cost calculation.
- Has machine operating time counting function (Hour Counter) for scheduling machine maintenance.
- LCD display screen.

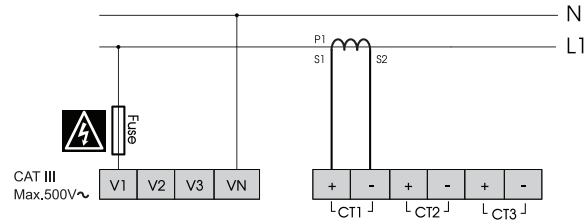
Operation

KM-07T is a meter capable of measuring Volt, Amp, Watt, Var, VA, kWh, kvarh, and kVAh. In addition, it can measure the Phase angle between current and voltage, and the % THD of Volt and Amp. It can also communicate through RS-485 using RS-485, Modbus RTU Protocol, and Modbus TCP/IP Protocol (RTU Mode). Measurement of kWh, kvarh, and kVAh is 10 digits with 3 decimal places. The Alarm Function will operate after KM-07T has started operating for 5 seconds, then it will check for various abnormalities.

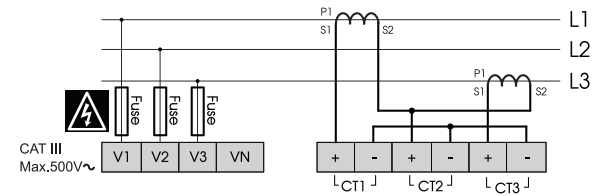
Wiring Diagram

The wiring of KM-07T can be connected according to the diagram below. When it is necessary to disconnect the Current Transformer (CT) measurement set from the KM-07T, the secondary side of every CT must be short-circuited to prevent damage to the CT.

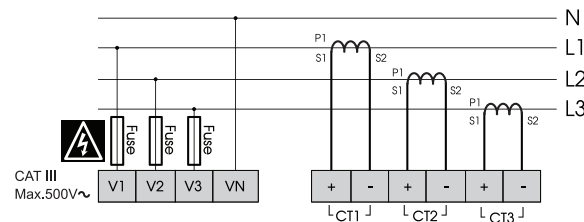
Connections 1/2 WIRES WITH 1 CT



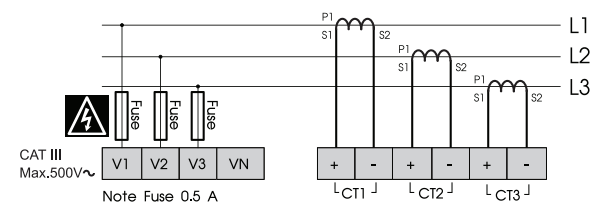
3/3 WIRES WITH 2 CTs



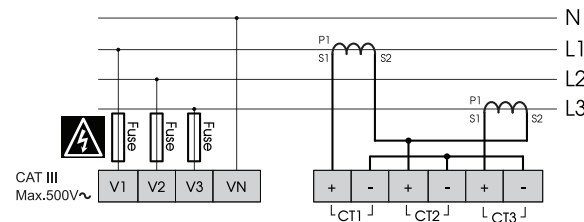
3/4 WIRES WITH 3 CTs



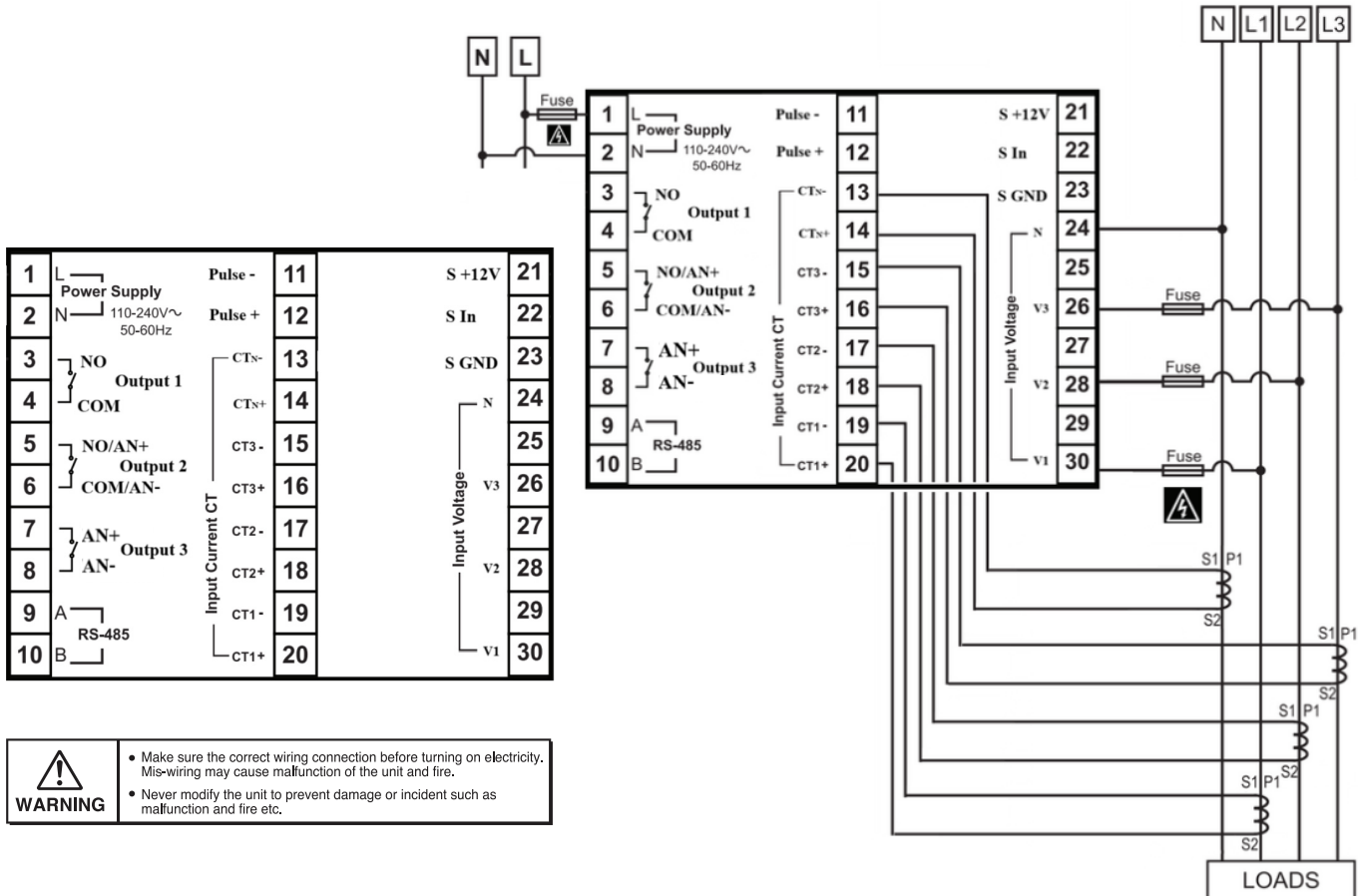
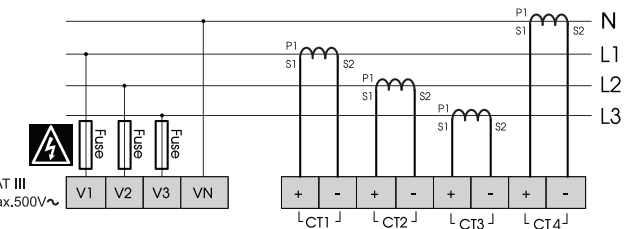
3/3 WIRES WITH 3 CTs



3/4 WIRES WITH 2 CTs



3/4 WIRES WITH 4 CTs

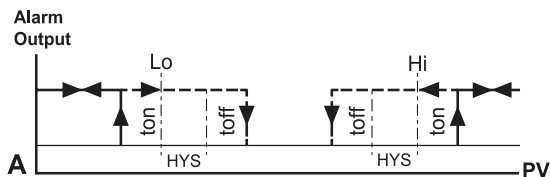


WARNING

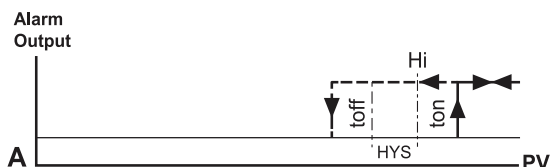
- Make sure the correct wiring connection before turning on electricity. Mis-wiring may cause malfunction of the unit and fire.
- Never modify the unit to prevent damage or incident such as malfunction and fire etc.

ALARM FUNCTION

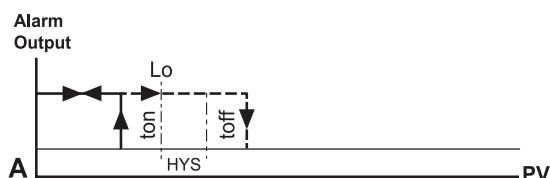
1. Absolute value High Low Band Alarm



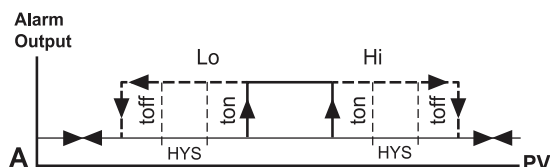
2. Absolute value High Alarm



3. Absolute value Low Alarm



4. Absolute value High Low Range Alarm



SERIAL COMMUNICATION

KM-07T can read various measured parameter values in real time via RS-485 Bus system. The communication protocol used is MODBUS-RTU Mode.

The command sets that can be used are:

0x03 : Read Holding Register

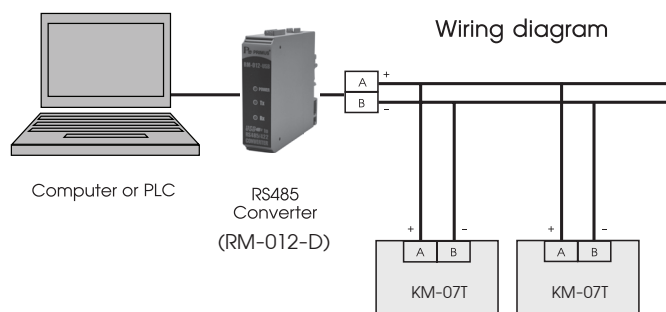
0x04 : Preset Input Register

0x06 : Preset Single Register

0x10 : Preset Multi Register

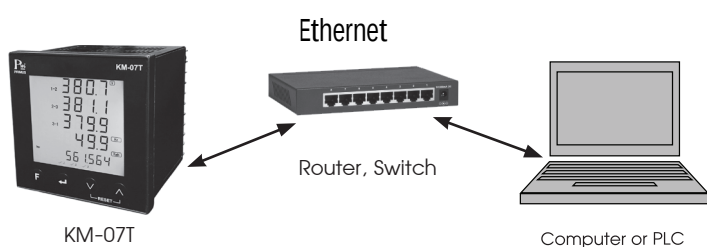
RS-485 MODBUS RTU

Connect circuit for RS-485 communication

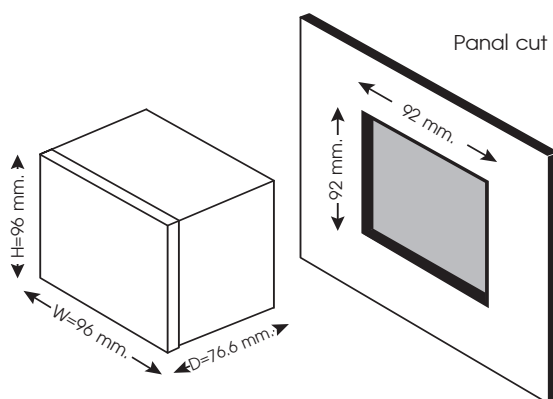


MODBUS TCP Protocol Communication

Ethernet TCP/IP



Dimension



Ordering Code

KM-07T-A- [Output 2] - [Output 3] - [Communication]

Communication	
NONE	RS-485
IP	RS-485, TCP/IP

Output 3	
NONE	No Option
I	Analog Output 0-20mA

Output 2	
NONE	No Option
B	Relay Option 2
I	Analog Output 0-20mA