

Panasonic® KW9M Eco-POWER METER

Installation
instructions

Read these instructions carefully for proper installation.
After installation, keep it in a safe place for reference when required.

Before use

- Eco-POWER METER is designed chiefly to manage saving energy.
It is neither intended nor can it be legally used for billing.
- Eco-POWER METER is designed to be used installing in a control panel.
- Please use Eco-POWER METER according to the specification described.
Otherwise, it may malfunction or cause fire and an electric shock.
 - Connect Eco-POWER METER to the power supply in compliance with the rating.
 - Refer to the wiring diagram to ensure proper wiring for the power supply, input and output.
 - Use an electric wire applicable to the rated current.
 - Do not perform wiring or installation with a live line. It may also lead to circuit burnout or fire by way of the secondary CT side opening.
- Do not connect voltage input, current input, pulse input wires parallel to high-voltage or power cables and avoid using the same conduit.
Use shielded wires as short as possible.
- Do not turn on the power supply or input until all wiring is completed.
- Do not use at secondary side circuit of inverter. It might cause exothermic heat or damage.
- If additional noise effects power supply line, voltage input line, current input line, incorrect measurements may result.
- Installation and wiring must be performed by expert personnel for electrical work or electric piping.
- Please wipe dirt of the main unit with soft cloth etc. When thinner is used, the unit might deform or be discolored.
- Do not add an excess power to the display. It might break the inner liquid crystal.

For your safety, make sure to satisfy the following conditions.

- Overvoltage category: II, Pollution degree 2
- Indoor use
- An ambient temperature of -25 to 55°C
- An ambient non-condensing humidity of 30 to 85%RH (at 20°C)
- Altitude of 2000m or less

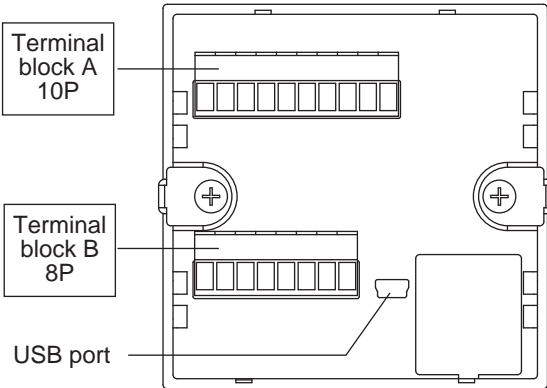
Do not use in the following environments.

- Where it will be exposed to direct sunlight
- Where inflammable or corrosive gas might be produced
- Where it will be exposed to excessive airborne dust or metal particles
- Where it will be exposed to water, oil or chemicals
- Where direct vibration or shock might be transmitted
- Where the place near high-voltage cable, power line or machineries which occurs the big switching surge.

Wiring

- Be sure to wire correctly according to the wiring diagrams.
- Please connect fuses or breakers to the power supply input part for safety reasons and to protect the device.
This product has no built-in power switch, circuit breaker or fuse.
Therefore it is necessary to install them in the circuit near this unit.
- Do not turn on the power supply or input until all wiring is completed.

Back view



Common for terminal block A, B

- Screw size: M2.5
- Tightening torque: 0.4 to 0.5N·m
- Applicable wire:
 - (Crimp-type terminal is recommended.)
 - single wire 0.13 to 4mm² (AWG26 to 12)
 - stranded wire 0.2 to 4mm² (AWG24 to 12)
- for 2 pcs. single wire / stranded wire 2pcs. x 0.13 to 2.1mm² (AWG26 to 14)
- Stripping length: 6 to 7 mm

Terminal arrangement

Terminal block A (upper) 10P

Terminal number	1	2	3	4	5	6	7	8	9	10
Functions	L +	N -	V1	V2	V3	Vn	NC	SG	A +	B -
	AUX (Power supply)		Measured voltage input				vacant	RS485		

Terminal block B (lower) 8P

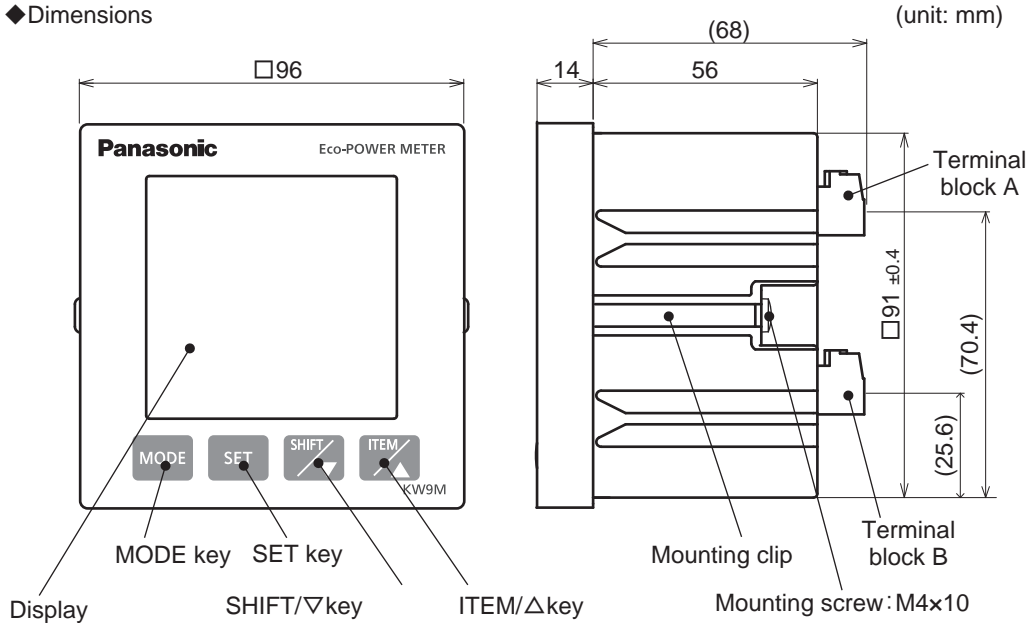
Terminal number	1	2	3	4	5	6	7	8
Functions	CT1 k	CT1 L	CT2 k	CT2 L	CT3 k	CT3 L	NC	NC
	Measured current input						vacant	

The input voltage to each terminal is as follows.

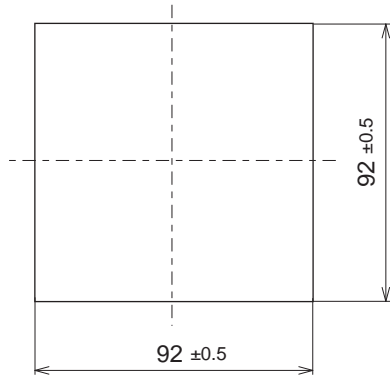
Terminal	Phase and wire system	Terminal No.	Input voltage
Power supply	Single-phase two-wire	1 - 2	85-264V AC [85-264V~] 100-300V DC [100-300V-]
Measured voltage input	Single-phase two-wire	3 - 6	0 - 500VAC [0 - 500V~]
	Single-phase three-wire	3 - 5 - 6	
	Three-phase three-wire	3 - 5 - 6	
	Three-phase four-wire	3 - 4 - 5 - 6	

How to mount

Dimensions



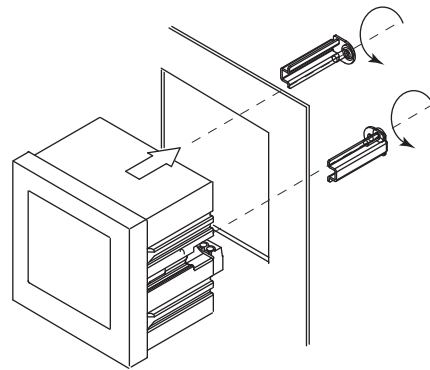
Panel cut-out



Keep enough space for several mountings.
recommended space:
130mm the left, right, top and bottom
from center of the unit

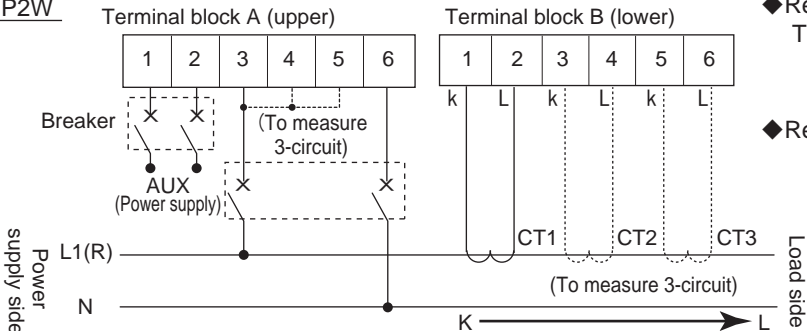
Panel mounting

- 1) Remove the mounting clips from the unit.
 - 2) Insert the unit from the front of the panel.
 - 3) Attach the mounting clips at the both side of the case and secure in place with the screws.
(Tightening torque: approx. 0.2 to 0.3N·m)
- Applicable panel thickness: 1 to 5mm



Wiring diagram

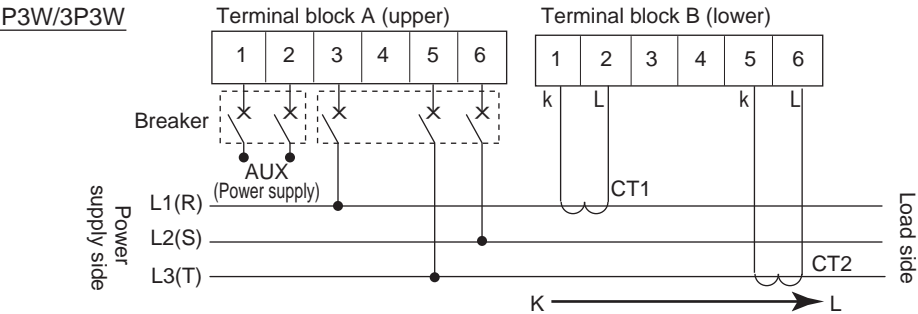
1P2W



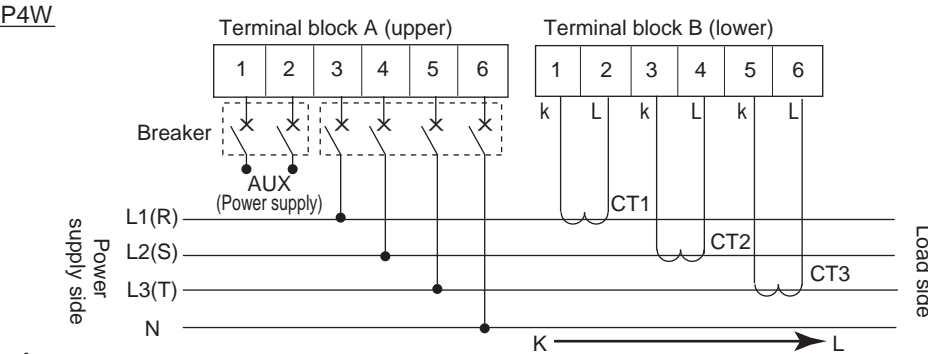
- ◆ Recommended fuse
Time-lag fuse
Rated current 2A

- ◆ Recommended breaker
3 to 15A

1P3W/3P3W

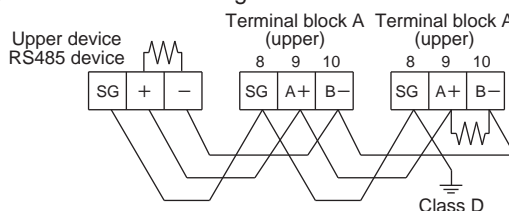


3P4W

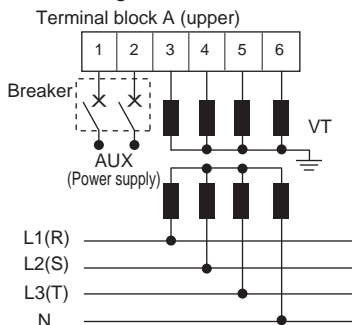


Vn terminal should be connected to N-phase which is grounded.
The input number 6 of terminal block A has to be connected to protective earth
to ensure installation safety.

Communication wiring



When using VT



Connect terminating resistors to the both end of the communication line including a upper device.
Connect terminating resistors (120Ω 1/2W or more) between [A+] and [B-] of Eco-POWER METER connected the end of RS485 line.

For User's manual

You can download the user's manual from our website.
Anyone who needs help should contact us at the following.