Panasonic Installation instructions

KW2M-A Eco-POWER METER Expansion Unit

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

For User's manual — You can download the user's manual from our website.
http://panasonic.net/id/pidsx/global

1. Before use

●Refer to Installation instructions of Main Unit.

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

- Overvoltage category:Ⅲ, Pollution degree 2
- Indoor use
- An ambient temperature of -10 to 50℃
- An ambient non-condensing humidity of 30 to 85%RH (at 20℃)
- 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 serge.

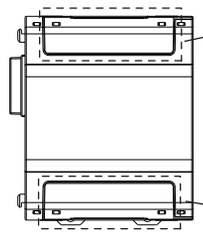
■Pursuant to the directive 768/2008/EC

Manufacturer : Panasonic Industrial Devices SUNX Co.,Ltd.
2431-1 Ushiyama-cho, Kasugai-shi, Aichi, 486-0901, Japan
Importer : Panasonic Electric Works Europe AG
Rudolf-Diesel-Ring 2, 83607 Holzkirchen, Germany
Contact for CE: Panasonic Marketing Europe GmbH Panasonic Testing Center
Winsbergring 15, 22525 Hamburg, Germany

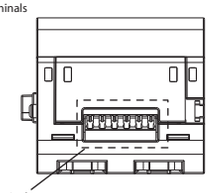
■This product has been developed / produced for industrial use only.

2. Parts Name

◆Front



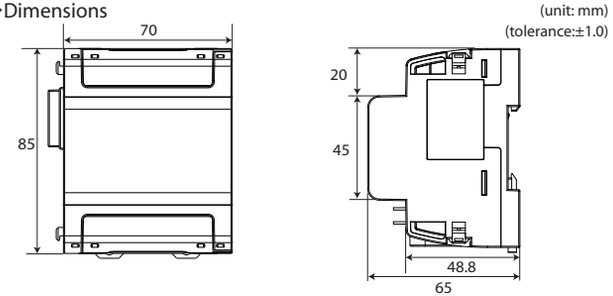
◆Side



3. How to Mount

◆Dimensions

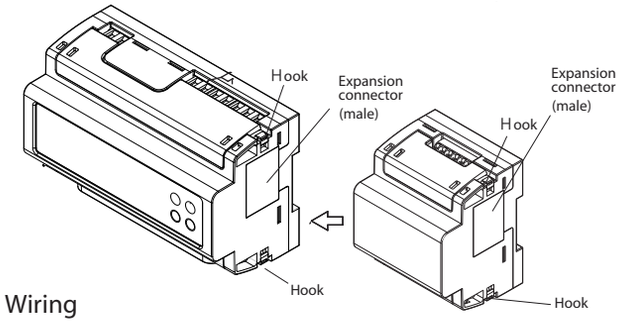
(unit: mm)
(tolerance:±1.0)



◆How to connect the expansion unit

- Turn off the power when connecting the expansion units.
- Peel off connector label on the side before connecting.
- (Do not peel off connector labels when not connecting.)
- It expands by connecting each male connector to female connector on the each side.
- After connecting, push the hooks into the unit to fix the expansion units.
- Up to 3 expansion units can be connected per one main unit.

Caution) Communication will be stopped or the measurement data will be lost when the units are removed or connected with the power on.



4. Wiring

- Be sure to wire correctly according to the wiring diagrams.
- Never open the secondary circuit of CT under applying current to load, never remove the terminal block under applying current to load, it will cause electric shock or breakdown CT.

◆Terminal arrangement

Current input terminals (Upper)

Terminal number	1	2	3	4	5	6
Functions	k	ℓ	k	ℓ	k	ℓ
	CH1(CT1)		CH1(CT2)		CH1(CT3)	
	Measured current(CH1)					

*Lower terminals are used for CH2.

◆Applicable wire (Crimp-type terminal is recommended.)

- Stripping length: 7 to 8mm
- Measured current (CT input)
  Push IN type
  Sectional area: single /stranded wire 0.13 to 1.5mm²(AWG24 to 16)
  *Use applicable wire according to the measured current.

◆Applicable ferrules (by Weidmuller)

Wire size	0.75mm²	1.25mm²	2mm² ※
Name	H0.75/14D GR	H1.5/14D SW	H2.5/15D BL
Part number	9019040000	9019120000	9019160000

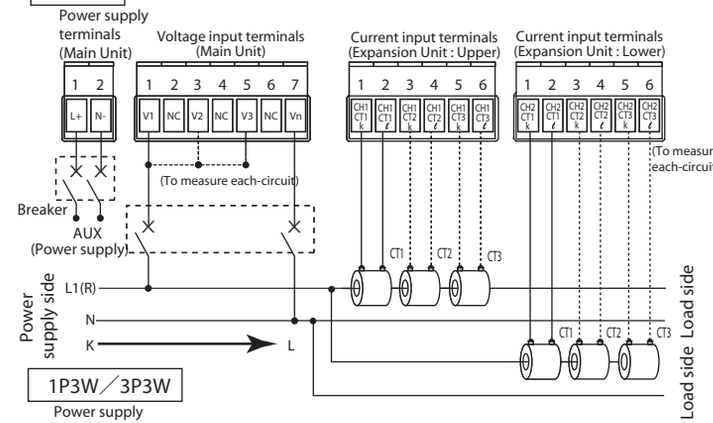
5. How to attach Current Transformer

- Use CT that the secondary side current is 5A or 1A.
- One CT is needed when measuring 1-circuit of 1P2W.
  Two CTs are needed when measuring 1P3W/3P3W (4 CTs for 2-circuit).
  Three CTs are needed when measuring 3P4W (6 CTs for 2-circuit).
  Using all CTs for one unit should be the same.
- Use the applicable wire, or it might cause a breakdown, burnout or electric shock.
- When connecting CT, connect the secondary side to the terminal of the main unit first, and after that wire the primary side to a load electric wire. Incorrect order might cause an electric shock or break CT.
- The CT has polarity. Wire correctly according to the K and L marks. Wrong direction can't measure correctly.
- If there is some distortion by harmonic or waveform, it may not measure correctly. Please check with the actual system before adopts it.
- Separate the wiring (strong electric part) of the measured voltage input terminal (operating power supply terminal) from the CT cable. It may not satisfy the accuracy due to noise.

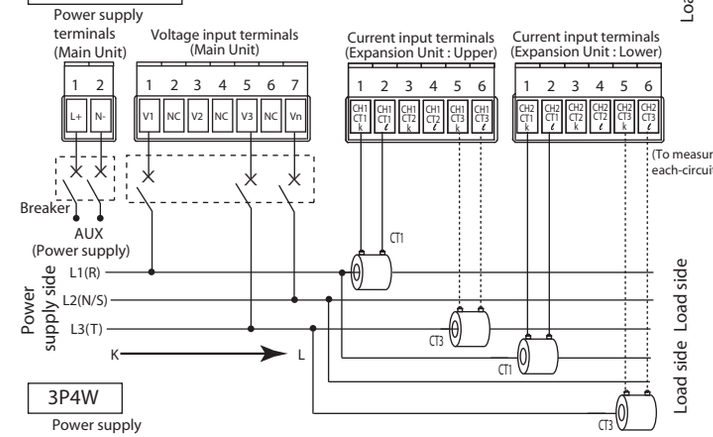
6. Wiring Diagram

- Recommended breaker: 3 -15A (IEC approved or UL listed)
- Recommended fuse: Time-lag fuse Rated current 2A (IEC approved or UL listed)

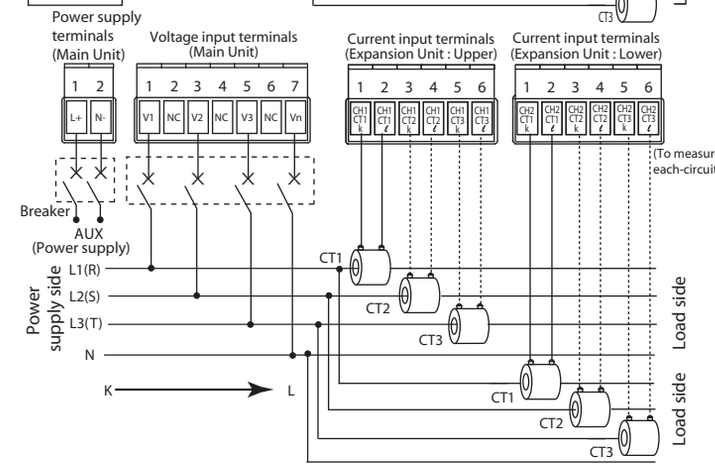
1P2W



1P3W／3P3W



3P4W



⚠ Vn terminal should be connected to N-phase which is grounded.

Panasonic Industrial Devices SUNX Co., Ltd.
http://panasonic.net/id/pidsx/global

Overseas Sales Division (Head Office)
2431-1 Ushiyama-cho, Kasugai-shi, Aichi, 486-0901, Japan Phone: +81-568-33-7861 FAX: +81-568-33-8591
About our sale network, please visit our website.

8A3 M56 7000 1