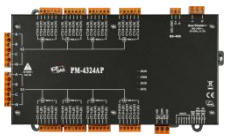
PM-4324AP Quick Start

v1.0, February 2025

Packing List

In addition to this guide, the package includes the following items:



PM-4324AP /
PM-4324AP-MTCP

Screw Driver * 1

Technical Support

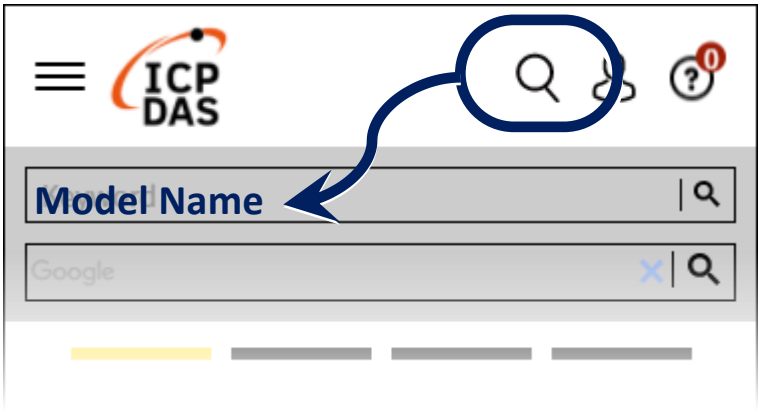
service@icpdas.com

www.icpdas.com

Resources

How to search for drivers, manuals and spec information on ICP DAS website.

- For Mobile Web



- For Desktop Web

1.1.Caution & Warning

The meter contains hazardous voltages, and should never be disassembled. Failing to follow this practice will result in serious injury or death. Any work on or near energized meters, meter sockets, or other metering equipment could induce a danger of electrical shock. It is strongly recommended that all work should be performed only by qualified industrial electricians and metering specialist. ICP DAS assumes no responsibility if your electrical installer does not follow the appropriate national and local electrical codes.

ICP DAS assumes no liability for any damage resulting from the use of this product. ICP DAS reserves the right to change this manual at any time without notice. The information furnished by ICP DAS is believed to be accurate and reliable. However, no responsibility is assumed by ICP DAS for its use, not for any infringements of patents or other rights of third parties resulting from its use.

1.2.Limitation of Warranty

This warranty does not apply to defects resulting from unauthorized modification, misuse, or use for reason other than electrical power monitoring. The supplied meter is not a user-serviceable product.

2. Installation

Please use the soft dry clothes to clean the instrument.
Please do not use any chemical or detergent or volatile solvents to clean the instrument, in order to avoid any possibility of the cover damage.

- Please read this operation manual carefully before using.
- Please re-confirm the measure position.
- Reconfirm the RST (ABC) phase sequence of the power system.
- Meter auxiliary power for PM-4324AP series is AC +100V ~+240V.

2.1.Connection

- PM-4324AP Series
  Please ensure that the arrow direction marking on the CT aligns with the current flow direction (K→L).
  Note: it must be in the same direction.
  Connect the voltage input terminal N C B A. for PM-4324AP, in the three phase order as follows on N C B A.

2.2.Voltage Input

1. PM-4324AP series: Input Voltage up to 500V.
   For any higher Input Voltage large than 500V, please add the PT (power transformer), and Change PT RATIO setup for reference voltage V1 or V2.
2. Confirm the RST (ABC) phase sequence.

2.3.Current Input

1. The external CT's are fragile, please handle with care.
2. The current input of PM-4324AP series is in mV range. The other CT's, for example, from panel will damage the instrument due to its large current (around 5A)
3. The CT1~CT12 using reference voltage V1 as voltage input, CT13~CT24 using reference voltage V2 as voltage input.
4. CT Selection Considerations:

Adding current transformer (333mV Output CTs) has the effect of reducing the measured current by the CT ratio (let's say 40:1 for 200A CT as example). So a current of 200A becomes 5A. Since the meter sees 5A, many of the measurements it reports will be low by a factor of 40 unless they are scaled up by 40.

Current transformer	CT Ratio (PM-4324AP)		Current transformer	CT Ratio (PM-4324AP)
50A CT	10:1		400A CT	80:1
60A CT	12:1		800A CT	160:1
100A CT	20:1		1000A CT	200:1
200A CT	40:1		1200A CT	240:1

Note:

A. Please use low phase angle error CTs: essential for accurate power and energy
measurements. (Example: phase error <2°)

B. Primary CT accuracy will influence the measurement.

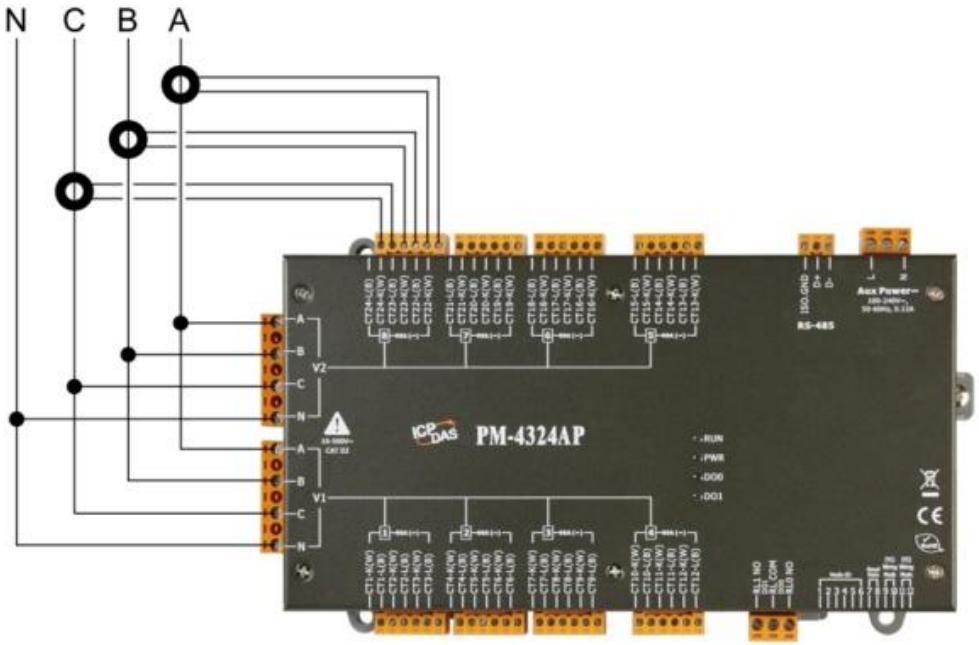
C. PM-4324AP only for external 333mV Output CTs **(Rogowski coils are not supported)**.
Safe: burden resistor built-in, 333 mVac voltage output at rated full scale current, no shorting blocks needed.

D. This meter requires external CT(s) to operate:
1P2W-1CT requires 1 CT per meter.
3P3W-2CT/1P3W-2CT requires 2 CTs per meter.
3P4W-3CT/3P3W-3CT requires 3 CTs per meter.

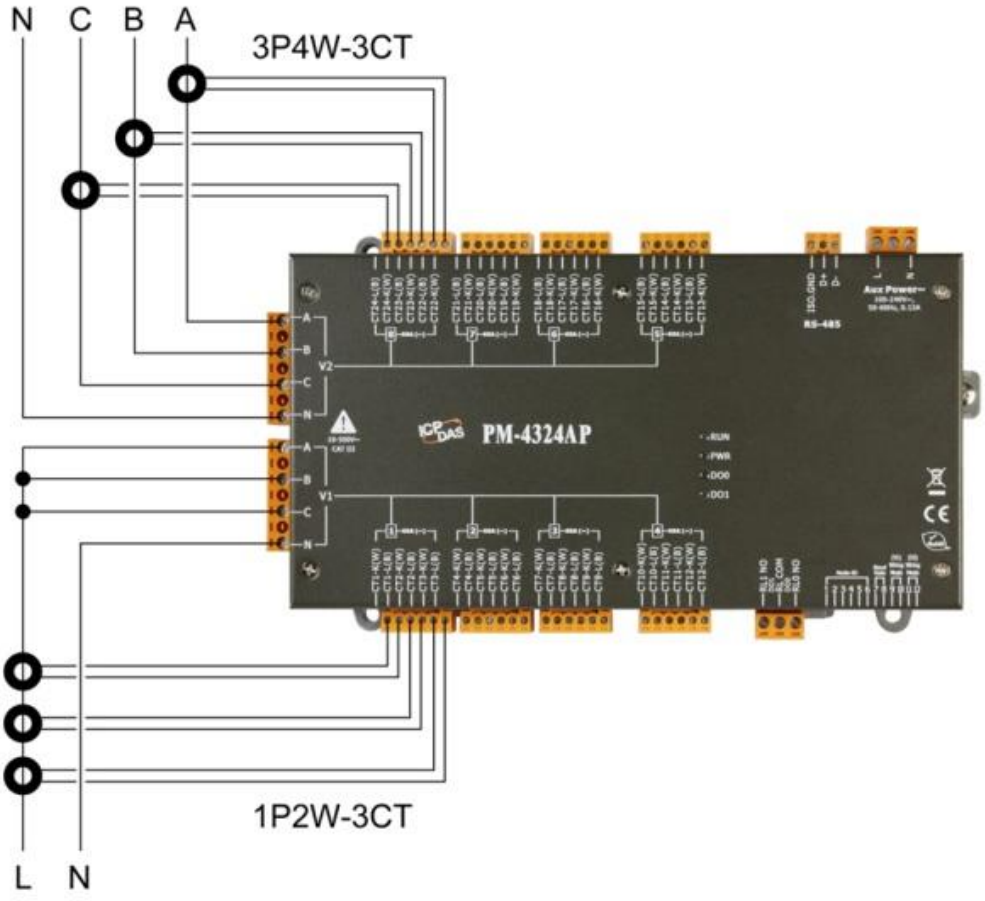
2.4. Main Circuit Wiring (Reference voltage)

Example:

Single Main Circuit 3P4W

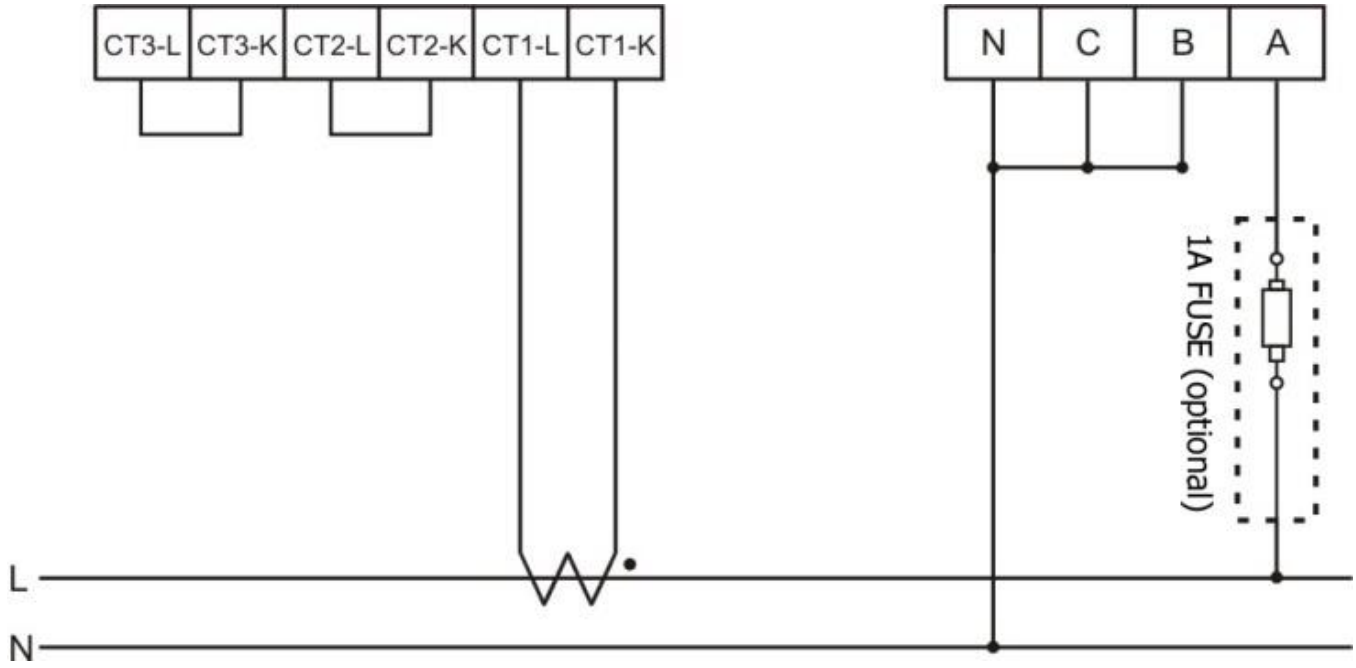


Dual Main Circuit 3P4W + 1P2W

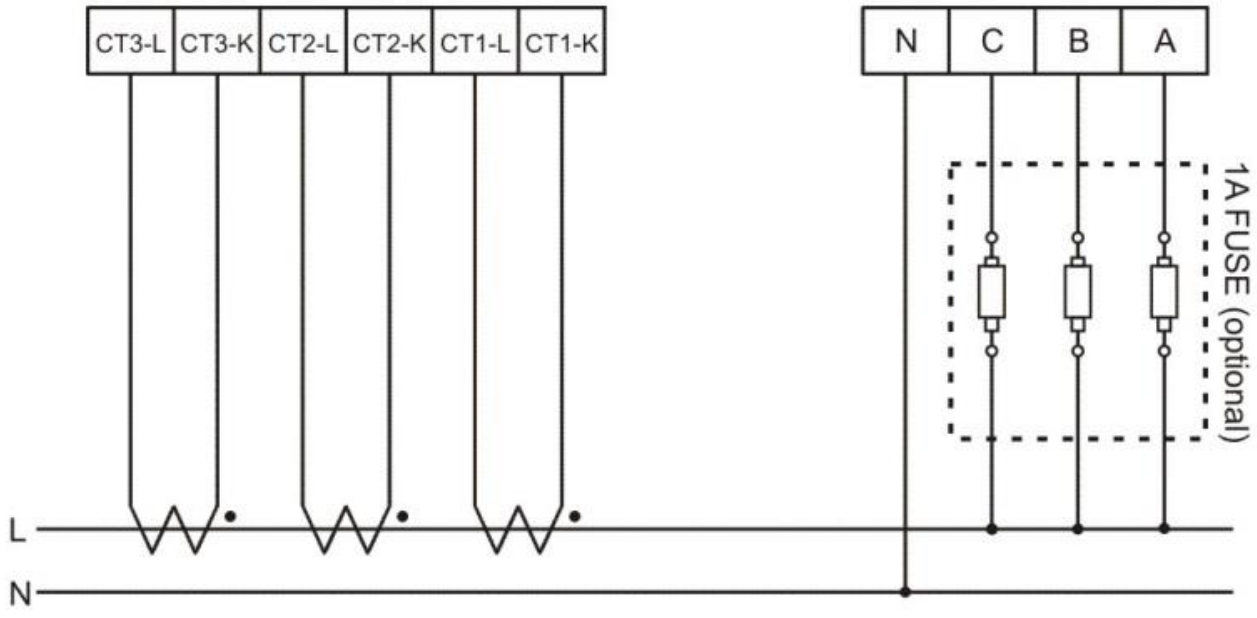


2.5.Wiring

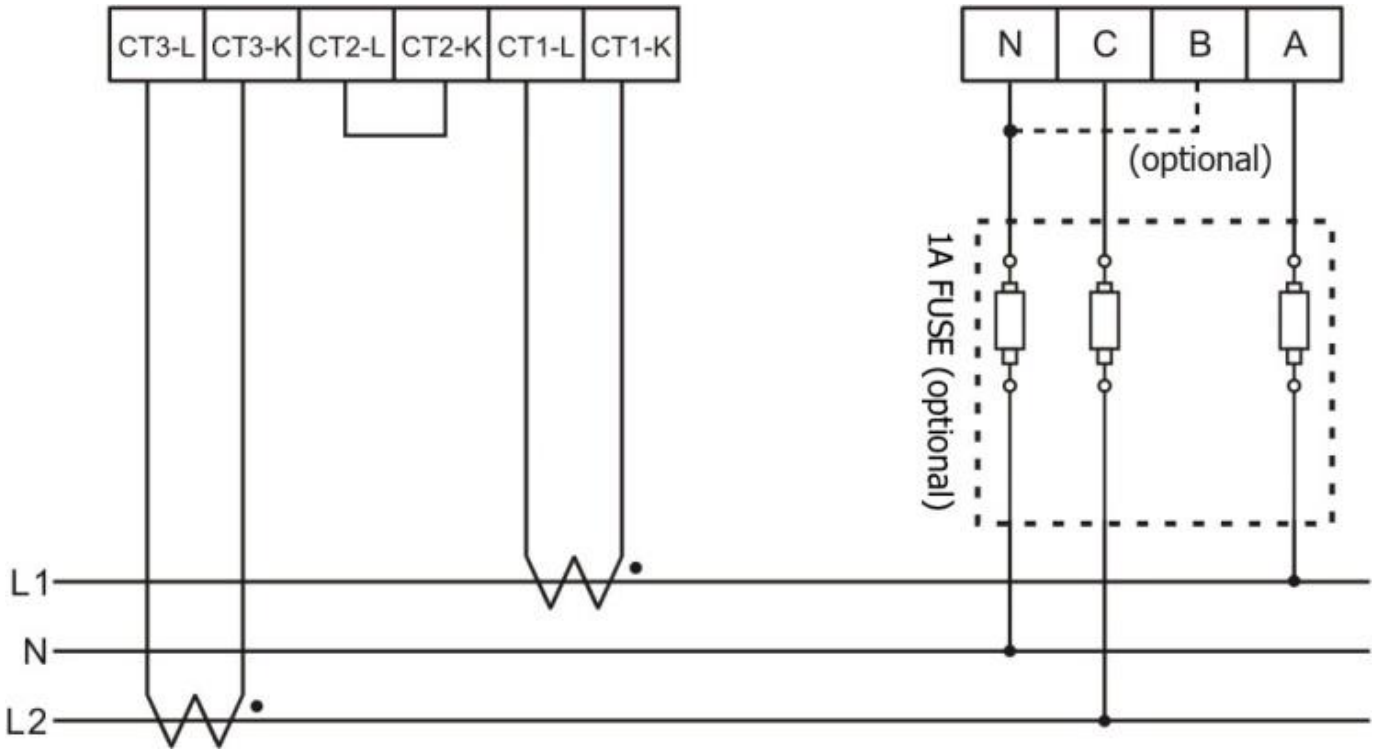
- 1P2W-1CT:
  CT1 ~ CT12 for reference voltage V1; CT13 ~ CT24 for reference voltage V2.



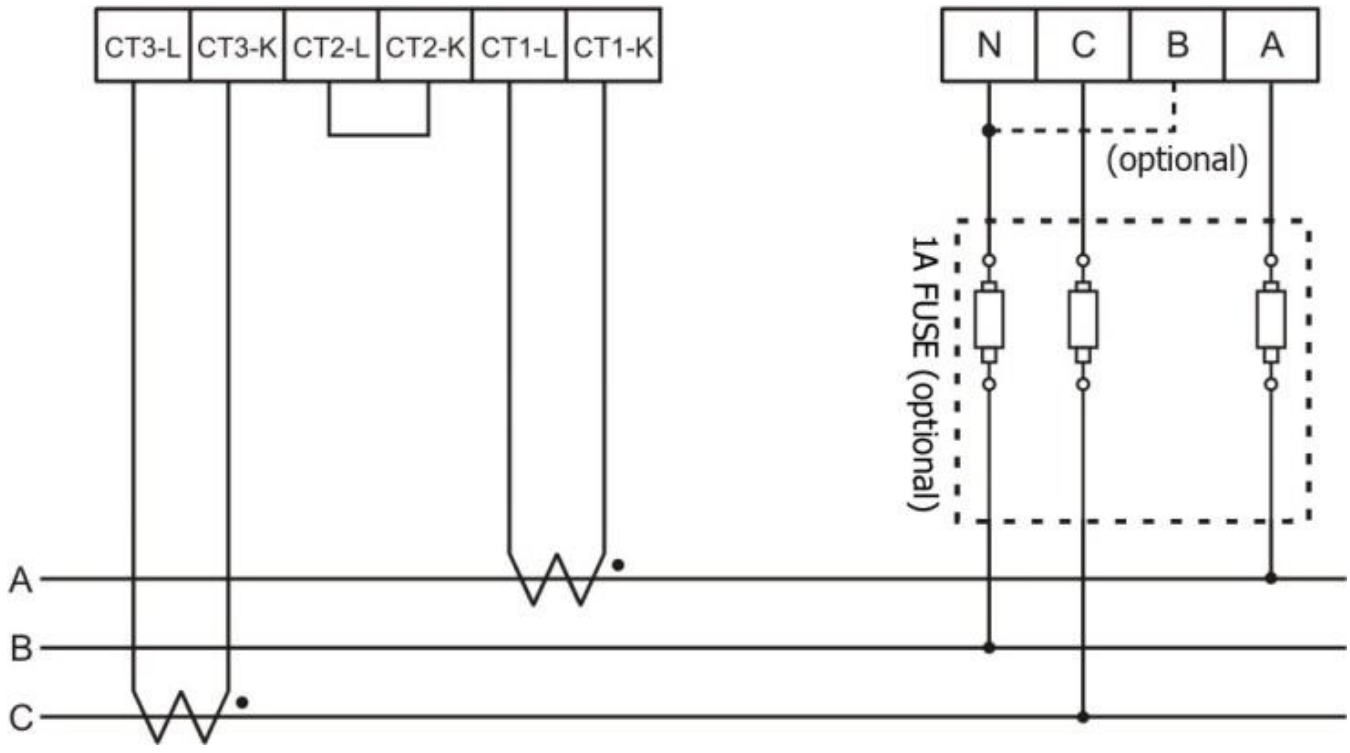
- 1P2W-3CT:
  CT1 ~ CT12 for reference voltage V1; CT13 ~ CT24 for reference voltage V2.



- 1P3W-2CT:
  CT1 ~ CT12 for reference voltage V1; CT13 ~ CT24 for reference voltage V2.



- 3P3W-2CT:
  CT1 ~ CT12 for reference voltage V1; CT13 ~ CT24 for reference voltage V2.



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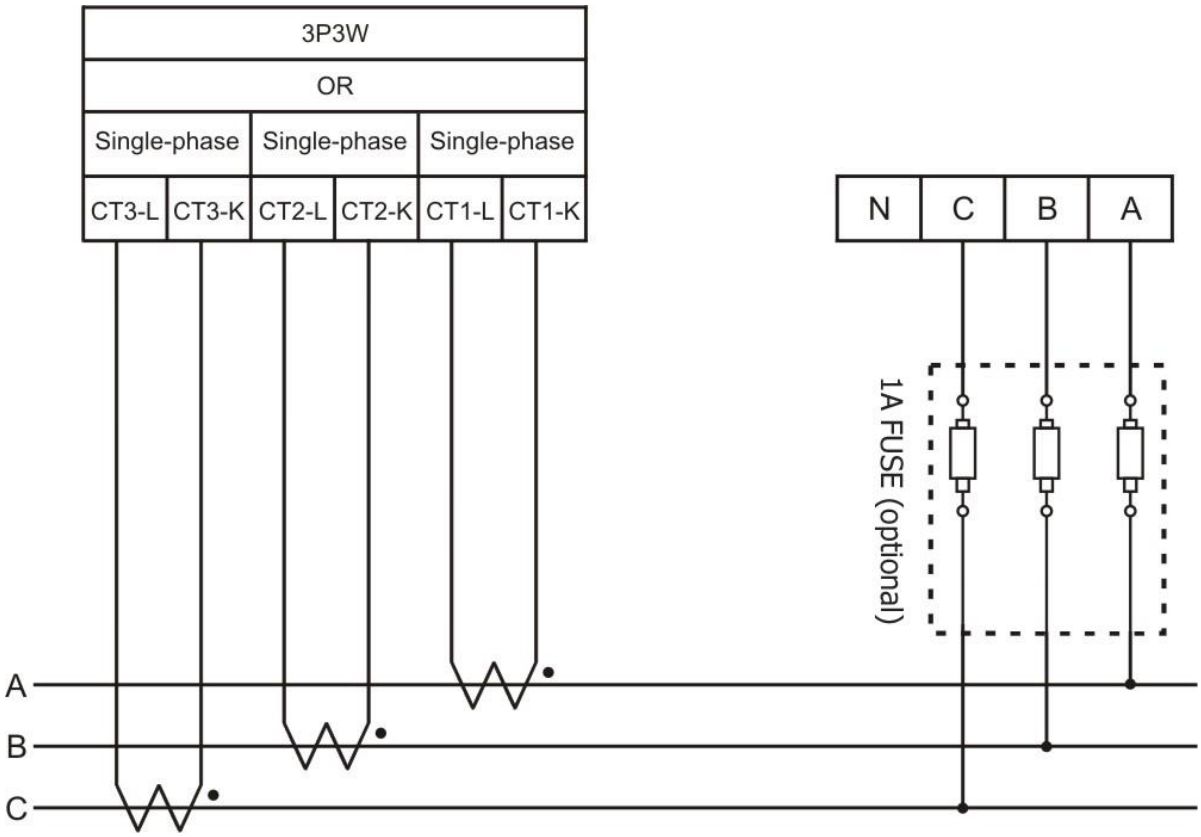
  CT1 ~ CT12 for reference voltage V1; CT13 ~ CT24 for reference voltage V2.



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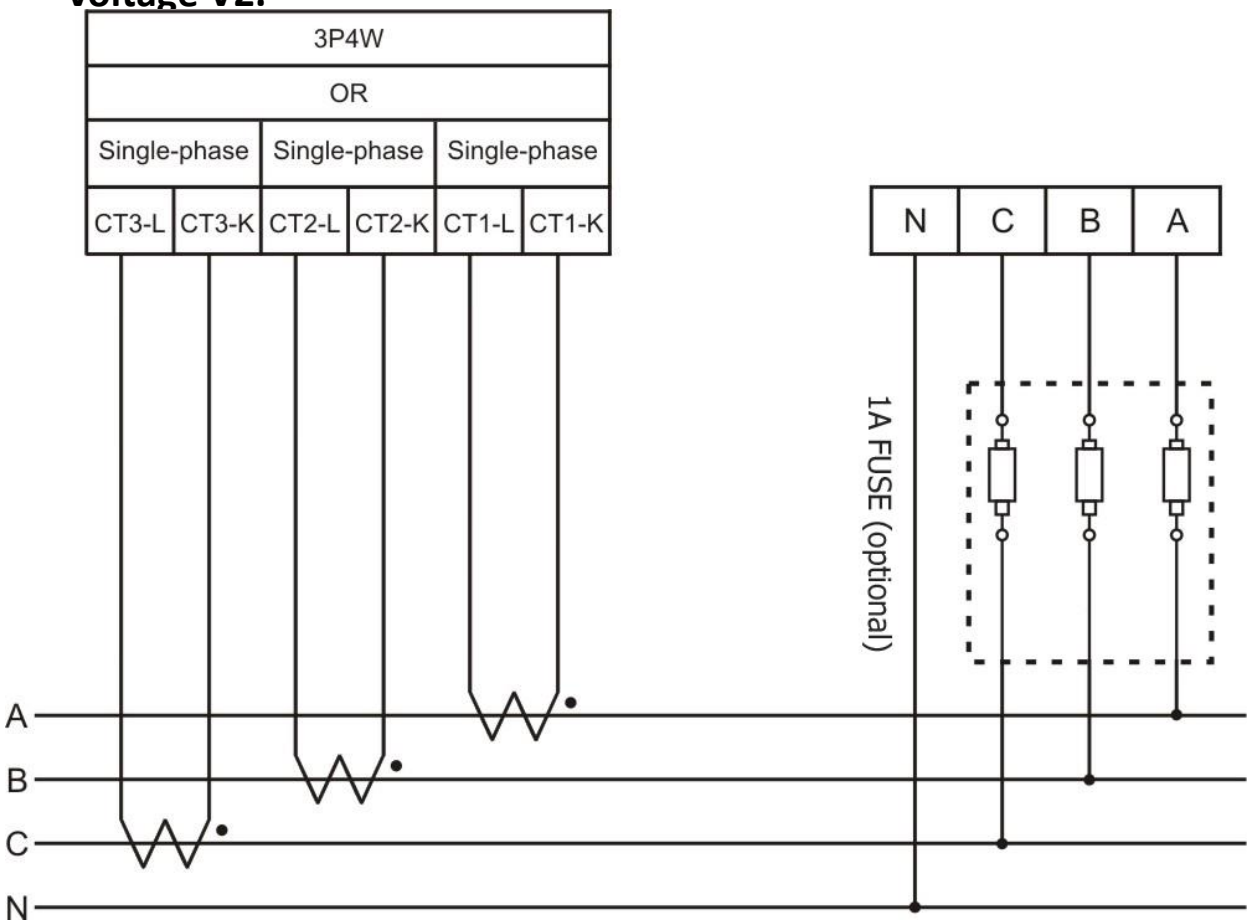

Communication

2.6.RS-485 & CAN setting

- Default setting for RS-485: **19200, n, 8, 1** ,for CAN: **125K bps**
- DIP switch (SW1-SW6) is used for Modbus address(or CANopen Node ID) setting, default is 1, i.e. all OFF

  For example: Modbus address(or CANopen Node ID) is 10，find the table of DIP switch 1-6 is **ON, OFF, OFF, ON, OFF, OFF**
- SW1－SW6 setting

  Setting Modbus-RTU address/ CANopen Node ID for communication (1-64)

Modbus Address	SW 1	SW 2	SW 3	SW 4	SW 5	SW 6
1	OFF	OFF	OFF	OFF	OFF	OFF
2	**ON**	OFF	OFF	OFF	OFF	OFF
3	OFF	**ON**	OFF	OFF	OFF	OFF
4	**ON**	**ON**	OFF	OFF	OFF	OFF
5	OFF	OFF	**ON**	OFF	OFF	OFF
6	**ON**	OFF	**ON**	OFF	OFF	OFF

- SW7－SW8 setting: For Baud Rate Setting

RS-485	CAN	SW 7	SW8
9600 bps	**125k (Default) bps**	OFF	OFF
19200 (Default) bps	**250k bps**	**ON**	OFF
38400 bps	**500k bps**	OFF	**ON**
115200 bps	**1M bps**	**ON**	**ON**

PM-4324AP: Select the different wiring mode
(Please select the Software setting, if 1P2W-1CT, 1P2W-3CT or 1P3W-2CT is used)

Reference voltage	**V1**		**V2**	
Wiring	SW 9	SW 10	SW 11	SW 12
Software setting	OFF	OFF	OFF	OFF
3P3W-2CT	**ON**	OFF	**ON**	OFF
3P3W-3CT	OFF	**ON**	OFF	**ON**
3P4W-3CT	**ON**	**ON**	**ON**	**ON**

2.7.Add the Bias Resistor on RS-485 Network for stable signal

The RS-485 master is required to provide the bias for PM-4324AP. Otherwise, the tM-SG4 or SG-785 should be added to provide the bias. All ICP DAS controllers and converters provide the bias.

2.8.Ethernet setting

- Ethernet default settings:

IP Address	192.168.255.1
Subnet mask	255.255.0.0
Gateway	192.168.0.1
Port	502