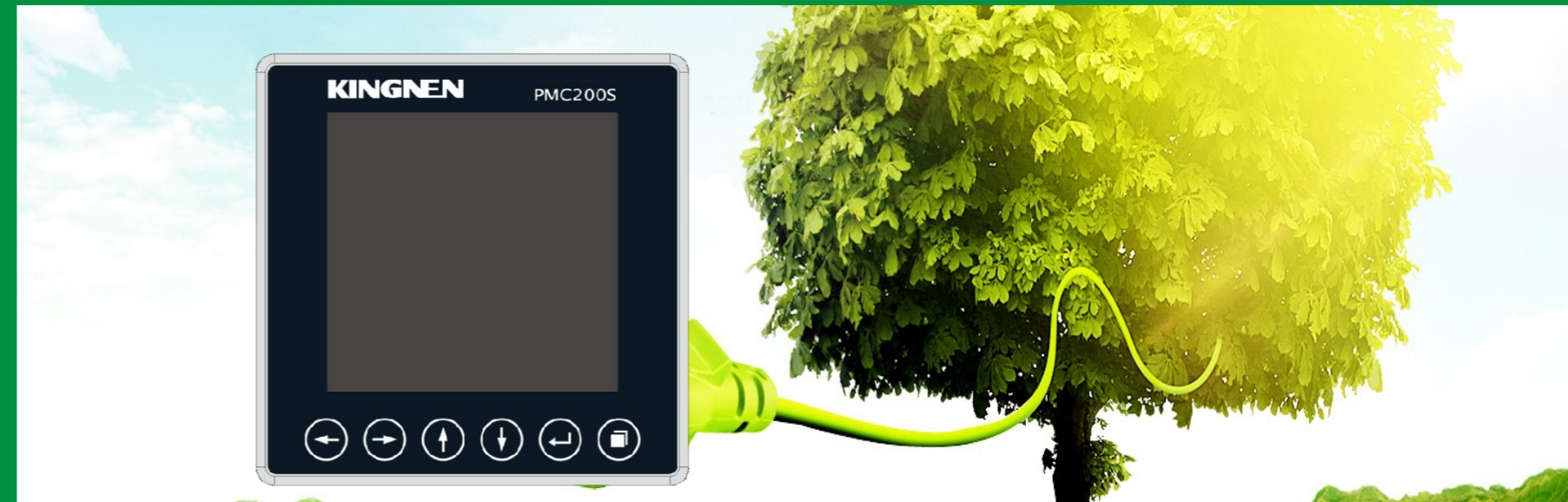


# KINGNEN



## *Multifunctional Power Meter*

Over **70** countries have been served by KINGNEN in the past **20** years

## KINGNEN

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# PMC200S

Multifunctional Power Meter

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## Overview

The multifunctional power meter is a monitoring & controlling meter of multi-functions, integrated data acquisition and control functions. It can replace a variety of meters, relays, transmitters and other components.

The multifunctional power meter has many communication ports such as RS-485 and could be integrated to any power monitoring and control system. It can acquire data and do remote control by management software or other industrial configuration software.

The multifunctional power meter is a measuring meter really based on the true RMS. It can make accurate measurement of the highly nonlinear load. Also it can have accurate measurement of other power parameters based on the advanced power grid frequency synchronous sampling technology.

## Applications

- Industrial distribution automation system.
- Substation automation system.
- Power plant auxiliary system.
- Energy management system.
- Intelligent mansion electrical engineering.
- Switchgear of high & low voltage.

## Function Features

### Mainframe

### Measurement

Current	Single phase&neutral line
Phase/Line voltage	Single phase&three-phase average value
Active/passive/apparent power	Single phase&three-phase total value
Power factor	Single phase&three-phase total value
Frequency	45-75Hz

### Maximum/Minimum

MIX/MIN Current
MIX/MIN Phase voltage
Total active/passive/apparent power
Total power factor
MIX/MIN Frequency
THD I & THD U

### Demand & Peak Demand

Current of every phase	Current value & peak value
Total active/passive/apparent power	Present value & peak value

### Power

Input & output active/passive power	1 channel pulse output
Apparent power	

### Multi-rate Power

8 multi-rate period & 4 multi-rate could be set

### Power Quality

Harmonic distortion	current & voltage
31 order harmonic analysis	current & voltage

### Event Recording

100 SOE event recording, time resolution is 1ms

## Function Features

### Mainframe

### Alarm System

8 limit alarm channels could be configured  
4 logic alarm channels could be configured

### Communication

RS485/MODBUS-RTU protocol

### Display

Large screen STN LCD display

### Real Time Clock

Year/month/day/minute/second

### Others

Updating the software on line is supported

## Expansion Modules

### Digital Variable Input Modules

8 channels digital variable input, state change, time resolution: 1ms

### Relay Output Modules

2 channels relay output, set the over limit alarm locally & remote

### Analog Input/Output Modules

1 channel 4-20mA DC analog input measurement  
1 channel 0-5V DC analog input measurement  
2 channel 4-20mA DC analog output, transmitter also could be configured

## Technical Parameter

### Electrical Characteristic

Measurement type	Three-phase four-wire/Three-phase three-wire AC system	
Sampling rate	128 times per cycle	
Data refresh rate	1S	
Measure accuracy	Current	±0.2%FS
	Voltage	±0.2%FS
	Power	0.5S
	Frequency	±0.001Hz
	Active power	0.5S
	Passive power	1.0S
	AI	0.5%FS
	AO	0.5%FS
Input voltage characteristic	Measuring voltage	3×220/380V(connected directly) 3×57.7/100V(connected by PT)
	Allowed overload capacity	1.2times/continuous
	Input impedance	300KΩ
Input current characteristic	Measuring current	5A or 1A(secondary connected by CT)
	Allowed over load capacity	1.2times/continuous
	Input impedance	<0.1Ω
Binary input	Work voltage	12~24 VDC
	Input impedance	12kΩ
	Isolated voltage	2kV
Binary output	Node type	mechanical contacts
	Node capacity	220VAC/5A, 30VDC/5A
	Measuring current	4-20mA
4-20mA current input measuring	Allowed overload capacity	1.2times/continuous
	Input impedance	10Ω
	Isolated voltage	2kV
0-5V DC input measuring	Measuring voltage	0-5V
	Allowed overload capacity	1.2times/continuous
	Input impedance	12.5kΩ
4-20mA DC output	Isolated voltage	2kV
	Open circuit voltage	15VDC
	Load capacity	≤600Ω
Working power supply	Isolated voltage	2kV
	AC	85~265VAC/45~65Hz
	DC	100-300VDC
	Dissipation	<3W

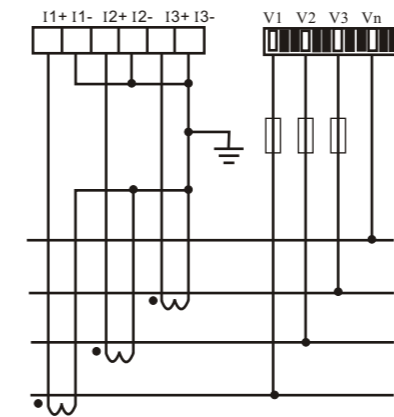
## Technical Parameter

Mechanical properties		
Weight		0.5kg
IP Protection grade		panel IP52,body IP30
Size	Mainframe	96×96×72mm
	Mainfram+modules	96×96×120 mm
Operating temperature	Display screen	-20~70°C
	Meter	-25~70°C
Storage temperature	Meter+Display screen	-40~85°
Relative humidity		5%-90%Rh,no condensation
Electromagnetic Compatibility		
Anti static electricity discharge interference		IEC61000-4-2,4 degree
Anti fast transient pulse		IEC61000-4-4,4 degree
Anti surge		IEC61000-4-5,3 degree
Anti frequency magnetic field		IEC61000-4-8,3 degree
Electrical insulation		
Insulation resistance		GB/T13729,>50MΩ
Frequency withstand voltage		GB/T13729,AC 2KV 50Hz/1min
Impulse voltage		GB/T13729,5KV,1.2/50 us

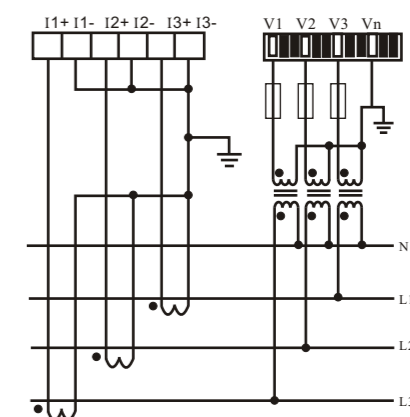
## System Wiring Mode

When the measured voltage is less than or equal to 264V(phase)/456V(line),the meter can be directly connected without an external PT. Otherwise, the PT must be connected externally.The meter supports a variety of measurement wiring modes, which are described as below:

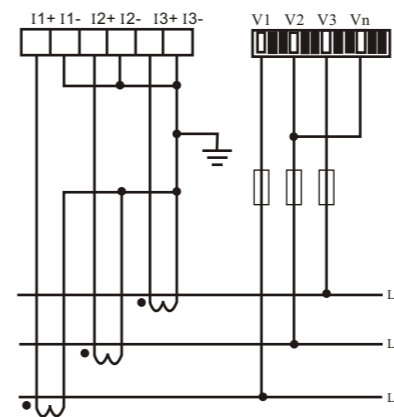
## System Wiring Mode



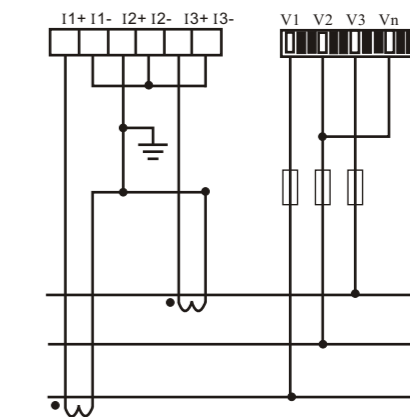
Chart(1) Three phase/four line wiring system, No PT,3CT



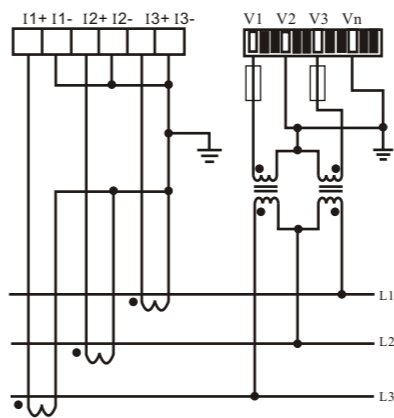
Chart(2) Three phase/four line wiring system, 3PT,3CT



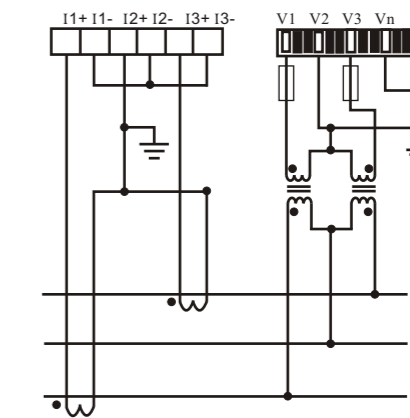
Chart(3) Three phase/Three line wiring system, No PT,3CT



Chart(4) Three phase/Three line wiring system, No PT,2CT



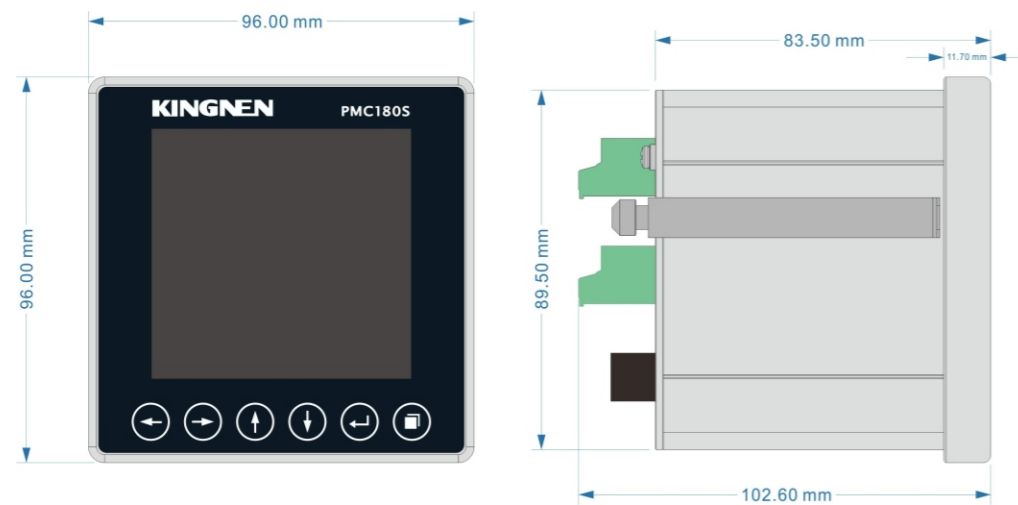
Chart(5) Three phase/Three line wiring system, 2PT,3CT



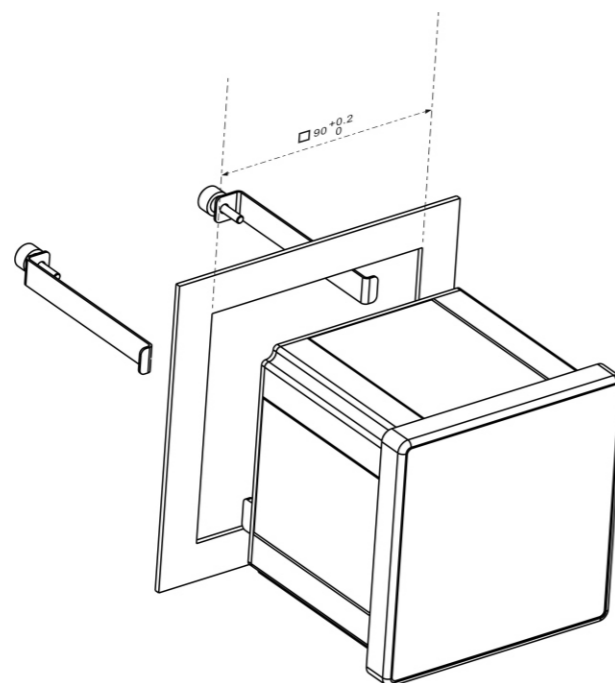
Chart(6) Three phase/Three line wiring system, 2PT,3CT

## Installation Dimensions

PMC200S multifunctional power meter size as below:



Insert the PMC200S meter into the hole of 90×90mm, and then fasten the PMC200S meter with the fixed fasteners, as below



## Selection Guide

A rated measuring voltage/current	
1	57.7/100V,5A
2	57.7/100V,1A
3	220/380V,5A
4	220/380V,1A

B power supply	
1	85~265VAC/45-65Hz,100~300VDC

C mainframe A slot expansion module	
0	without DI
4	4 channels DI

D mainframe B slot expansion module	
0	without relay output
1	Optional 1 channel relay output(RL1+,RL1- port)
2	Optional 2 channels relay output

E mainframe C slot expansion module	
ab is a 2 integer,a means AI01 port optional for AI/AO modules,b means AI02 port optional for AI/AO	
0	none
1	0-5V DC analog input measure(AI)
2	4-20mA DC analog input measure(AI)
3	4-20mA DC analog output(AO)

E mainframe example:  
 ab=00,means Ai01 port is not equipped with AI/AO module,AI02 port is not equipped with AI/AO module.  
 Ab=12,means Ai01 port is equipped with 0-5V DC analog input measure AI/AO module,AI02 port is equipped with 4-20mA DC analog input measure AI/AO module.

<b>PMC200S-3</b>	<b>1</b>	<b>4</b>	<b>2</b>	<b>12</b>
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Example:order type:PMC200S-3-1-4-2-12

Meaning:PMC200S rated measuring is 220V/380V,5A,power supply is 85-264VAC/45-65 Hz,4 channels binary input(DI),2 channels relay output;1 channel 0-5V DC analog input measure(AI01 port),1 channel 4-20mA DC analog input measure(AI02 port).