

## Application

- Load management
- Data Center
- Telecommunication



## Function

- **Measuring:** 1 main circuit + 42 branch circuits
- **DI/DO:** 4 status inputs (dry contact), 2 relay outputs, 1 pulse output
- **Settable Pre-Alarm function:**  
Main circuit: Alarm for voltage, current, current unbalance (optional alarm for leakage current/ temperature alarm)  
Branch circuit: Alarm for current (lo-lo-limit, lo-limit, hi-limit, hi-hi-limit)
- **Communication:** RS485, support Modbus-RTU protocol
- **Phase sequence of branch circuit is programmable**
- **Optional CT input for branch circuit:** 50A, 100A, 200A
- **Settable wiring for branch circuit:** Either single phase or 3 phase
- **Historical kWh record:** kWh yearly consumption of last 10 years, kWh monthly consumption of last 12 months



## Measurement

### Main circuit measuring:

- |   |                        |
|---|------------------------|
| ➤ Voltage-Ua, Ub, Uc                        | ( 0.5% )               |
| ➤ Current--Ia, Ib, Ic, In, I unbal, Max. I  | ( 0.5% )               |
| ➤ Active power-- Pa, Pb, Pc, $\Sigma P$     | ( 1.0% )               |
| ➤ Reactive power – Qa, Qb, Qc, $\Sigma Q$   | ( 2.0% )               |
| ➤ Power factor – PFa, PFb, PFc, $\Sigma PF$ | ( 1.0% )               |
| ➤ Frequency – F                             | ( $\pm 0.01$ Hz)       |
| ➤ Active energy – kWh                       | ( 1.0% )               |
| ➤ Reactive energy – kvarh                   | ( 2.0% )               |
| ➤ Demand (for 3I, 3P, Ptot) and Max. demand |                        |
| ➤ THD for U, I                              | ( 2~31 <sup>st</sup> ) |
| ➤ Leakage current (optional)                | ( 0.5% )               |
| ➤ Temperature (optional)                    | ( 0~120°C)             |

### Branch circuit measuring:

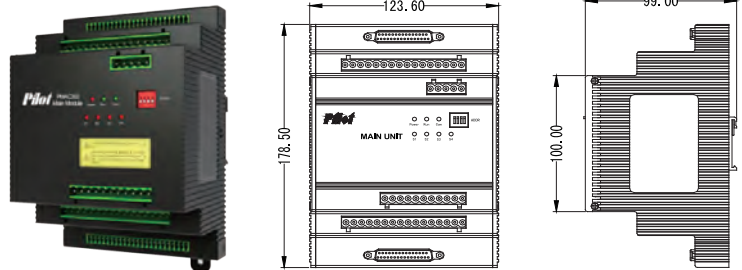
- |                                    |          |
|------------------------------------|----------|
| ➤ Current--I, Max. I,              | ( 0.5% ) |
| ➤ Active power-- -P,               | ( 1.0% ) |
| ➤ Reactive power--Q,               | ( 1.0% ) |
| ➤ Power factor-- PF                | ( 1.0% ) |
| ➤ Active energy--kWh,              | ( 1.0% ) |
| ➤ Reactive energy--kvarh,          | ( 2.0% ) |
| ➤ Demand (for I, P)and Max. demand |          |
| ➤ THD for I                        |          |

## PMAC202 & Accessories

Unit: mm

Main Module: Monitoring up to 42 branch circuits

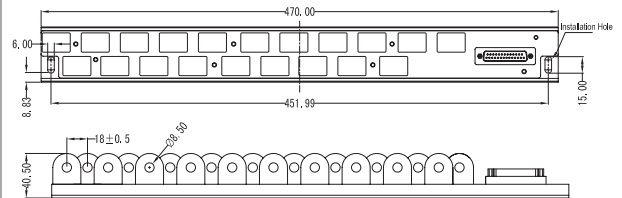
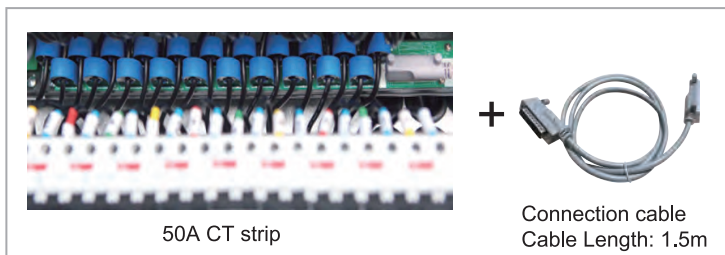
- PMAC202-M (For multiple fixed CT strip)
- PMAC202-S1 ( For 25mA input CT )
- PMAC202-S2 ( For 50mA input CT )
- PMAC202-S3 ( For 100mA input CT )



CT module:

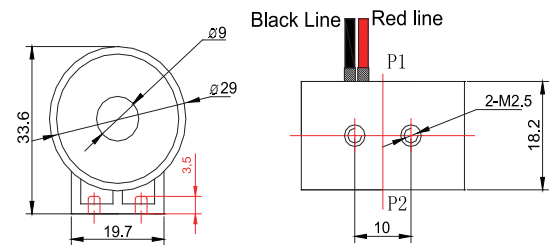
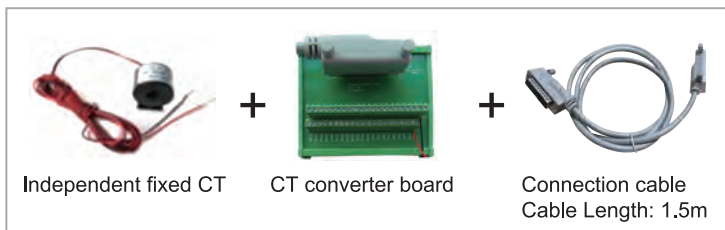
- 1) **Multiple fixed CT strip:** Multiple fixed CT strip, rated current 50A/ 25mA, Each CT strip has 21 fixed CTs, accuracy: class 0.5

Unit: mm



- 2) **Independent fixed CT:** Rated current 50A/ 25mA, standard CT cable length : 2.5m, accuracy : class 0.5

Unit: mm

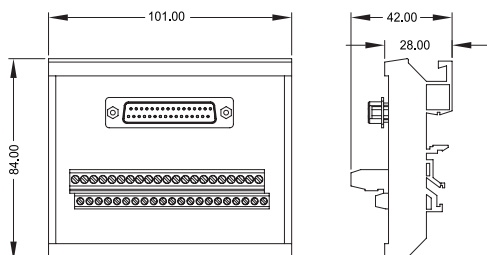
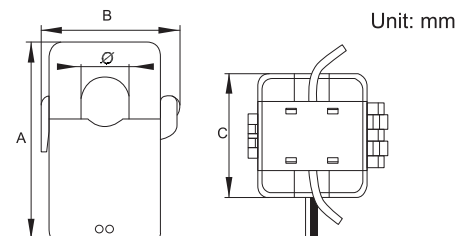


- 3) **Split Core CTs:** Rated Current: 50A/ 25mA. Diameter: 10mm or 16mm (Optional). Standard CT cable length: 2m.

Accuracy: class 1.0 (for 10mm) or class 0.5 (for 16mm)

**Rated Current: 100A/50mA or 100A/100mA.** Diameter: 16mm. Standard CT cable length: 2m. Accuracy : class 0.5

**Rated Current: 200A/100mA.** Diameter 24mm. Standard CT cable length: 2m. Accuracy : class 0.5



Dimensions (mm/ inch)			
Ø	A	B	C
10.0 (0.39)	41.5 (1.63)	30.0 (1.18)	26.5 (1.04)
16.0 (0.63)	53.0 (2.09)	36.0 (1.42)	30.5 (1.20)

Optional devices:

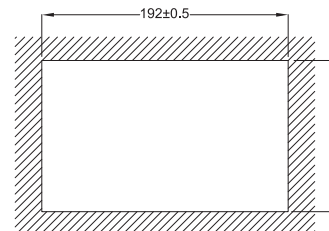
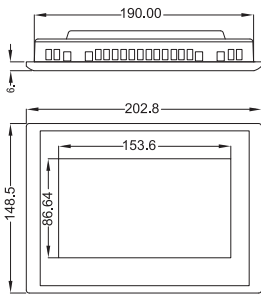
1) HMI: 7" touch screen LCD. One HMI monitors max. 4 units of PMAC202 main module

Resolution ratio: 800×480

Unit: mm



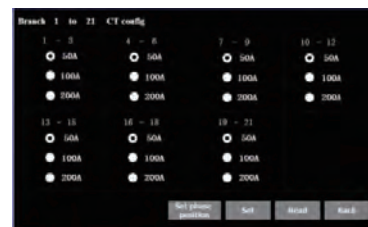
PMAC201V



Circuit diagram



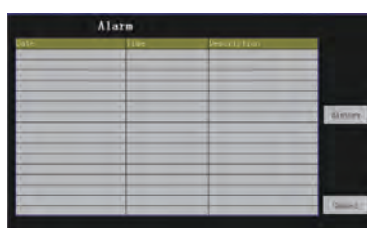
Real time measurement



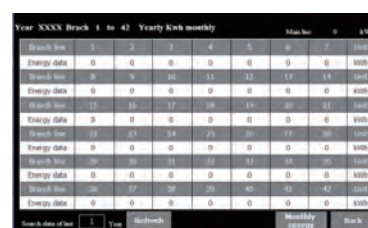
1/3 Phase adjustment



Parameter and Alarm Setting



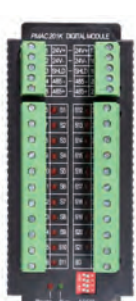
History and Alarm record



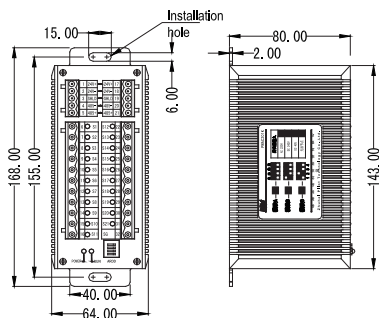
History Energy Record

2) DI module: Each DI module has 21 digital input

Unit: mm



PMAC201K

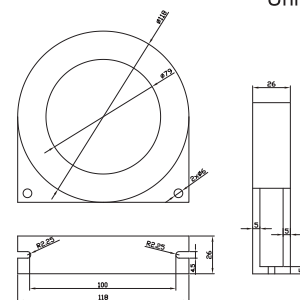


3) Leakage Current CT Module

Unit: mm



PMAC503L-250



Accessories

4) Temperature Sensor

Unit: mm

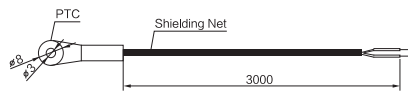
24Vdc Power supply: 220Vac to 24Vdc,

Unit: mm

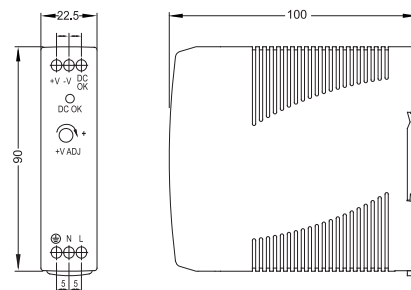
24W Single Output Industrial DIN Rail Power Supply, Output 24VDC



PT100



MDR-20-24



## Technical Specification

<b>Incoming circuit</b>	1 circuit, three phase 220V/380V ac	<b>Demand</b>	Demand Interval: 15 mins Slip interval: 1 min.
<b>Outgoing circuit</b>	Max. up to 42 circuit per unit	<b>Communication</b>	RS485 port Baud rate: 2400, 4800, 9600, 19200, 38400 (optional)
<b>Power supply</b>	24V DC , range: 18~30V DC	<b>DI module</b>	Incoming circuit: Dry contact Outgoing circuit: wet contact, 220Vac Range: 70%~120% or Dry contact
<b>MTBF</b>	≥50000h	<b>Relay output capacity</b>	250Vac/5A or 30Vdc/5A
<b>Service Life</b>	10 years	<b>IP index</b>	Main Module: IP20 HMI (Front board): IP65
<b>Rated Voltage</b>	220V/380V ac Range: 10%~120%, Accuracy: 0.5%	<b>Insulation Resistance</b>	≥100MΩ
<b>Rated incoming circuit current</b>	5A, Range: 1%~120%, Accuracy: 0.5%	<b>Environment</b>	Operation: -10℃~ +55℃ Storage : -25℃~ +70℃ Humidity: 5%~95%, non-condensing
<b>Rated outgoing circuit current</b>	<b>CT Strip:</b> 50A/25mA (Max. 65A), Accuracy:0.5% <b>Independent CT:</b> 50A/25mA(Max.65A), Accuracy: 1.0% or 0.5% <b>Split core CT:</b> 50A(65A), 100A, 200A, Accuracy: 0.5%		
<b>Rated Frequency</b>	50Hz, Range: 45~65Hz, ±0.01Hz		

## Order Information

BCPM PMAC202	Order code		Description
<b>Main module</b>	PMAC202-42	- M	for multiple fixed CT strip
		- S1	For 25mA input CT
		- S2	For 50mA input CT
		- S3	For 100mA input CT
<b>Optional module</b>	PMAC201V PMAC201K PMAC503L-250 PT100		HMI - 7" touch screen LCD DI module - Each DI module has 21 digital input Leakage Current CT for 250A Temperature sensor
<b>Accessory</b>	MDR-20-24		24VDC Power supply
<b>CT Accessory</b> (for other measure range, please contact us )	CT for - M (25mA Secondary)		50A CT Strip : Φ8.5mm , 50A/ 25mA, Class 0.5 21 unit CT in one Strip.
	CT for - S1 (25mA Secondary)		Independent Fixed CT: Φ9mm, 50A/25mA, Class 0.5 Split Core CT: Φ10mm, 50A/25mA, Class 1.0 Split Core CT: Φ16mm, 50A/25mA, Class 0.5
	CT for - S2 (50mA Secondary)		Split Core CT: Φ16mm, 100A/50mA, Class 0.5
	CT for - S3 (100mA Secondary)		Split Core CT: Φ16mm, 100A/100mA, Class 0.5 Split Core CT: Φ24mm, 200A/100mA, Class 0.5

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