

# Intelligent Power Panel

## IPP-B Series

### Multi-circuit power meter for single/three phase

IPP series gain multi-circuits power information by Modbus



IPP series is a single/three phase remotely monitored power meter, built-in 12 independent measurement modules. User may select any one phase of the input voltage as a measurement reference. It supports the monitoring of twelve loops of 1P2W, or four loops of 3P3W/3P4W, or a hybrid combination, providing flexible application.

Each built-in power measurement module supports to monitor voltage, current, power, power factor, kWh and other information in real time. All information can be displayed sequentially on LED monitor by manual and communicated with monitoring device via Modbus. IPP series built-in three groups isolated PT and 12 sets of removable external isolated CT, supports the most secure way to indirectly measure branches of power information in the power distribution panel. IPP series is small and may be easily surface mounted on anywhere you prefer.

## Features

### Hot line installation

IPP series provide CT clamps for installation on the monitored circuit. The installation could be executed under power-on status.

### Dedicated Loops Measurement

There are 12 built-in measurement modules. Each module with independent and complete power measurement capabilities, provides real time measurement data.

### Flexibility

12 measurement modules may be configured optionally as single-phase, three-phase power or a combination of hybrid.

### Multi-functions

Each loop may measure single and three-phase of the real time voltage (V), current (A), power (W), power factor (PF) and the totalization of kWh, kVARh, kVAh.

### Full Range

The voltage range is 60V-440V (50 / 60Hz.); the current range is 0.5A-50A and maximum to 200A.

### High Resolution

Active power measurement shows 0.001kW-50kW; energy measurement displays 0.001kWh-99999kWh.

### Safety

IPP series adopts U.S. high-precision industrial microprocessor with a ferroelectric memory (FRAM), being free from power outages and restriction of erase/write cycles. It is highly anti-noise and reliable on saving data.

### High Precision

The accuracy rate of kWh measurement is within  $\pm 1.0\%$  (@PF=1.0, Rated Current), and W, V, A, VA, PF within  $\pm 1.0\%$  (@Rated Current).

### Remote Monitor

Communication with the central site via RS-485 MODBUS, can read complete power information of each loop once per second. External power are DC 24 V and provided via RS-485 CABLE.

### Reliability

IPP series adopts indirect measurement through PT and CT, isolated from measurement device. After installation all wiring and terminals are protected by terminal cover. IPP series also grants FCC & CE EMC certification.

### Low power consumption

The power consumption of IPP series is less than 3W.

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### Specification

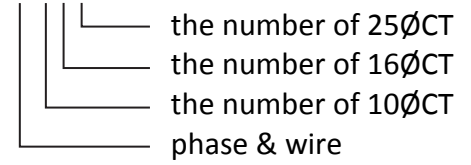
Model	IPP-B series
Phase& Wire	1P2W / 1P3W / 3P3W / 3P4W
Module	12 power monitoring modules with 1P2W
<b>Communication</b>	
Display	5 digits LED display power information 1 digit LED load number
Comm. Protocols	RS485, Modbus
<b>Operation</b>	
Power Usage	lower than 3W, AC 115V/230V
Certification	FCC & CE EMC EN61326-1
Operation Temperature	-20~+60 Celsius degree
Operation Humidity	20%~95% RH
Size	181x186x37mm
Weight	1 kg

IPP series can work with the following current transducer

CT inner diameter(mm)	25 $\phi$	16 $\phi$	10 $\phi$
Rated. Current (Max.)	50 (200) A	30 (120) A	15 (60) A
Rated Voltage	220V / 60Hz		
<b>Measurement</b>			
Voltage	60.00V ~ 440.00V		
Current	0.5A ~ 200A	0.2A ~ 120A	0.1A ~ 60A
Active Power	0.001kW ~ 50kW	0.001kW ~ 30kW	0.001kW ~ 15kW
Apparent Power	0.001kVA ~ 50kVA	0.001kVA ~ 30kVA	0.001kVA ~ 15kVA
PF	0 ~ 1.00		
kWH	0.001kWh ~ 99999kWh		
Active Power	0.001kVARh ~ 99999kVARh		
Apparent Power	0.001kVAh ~ 99999kVAh		
<b>Precision</b>			
kW	1% (PF=1.0 , rated current)		
Power	1% (W,V.A.VA.PF , rated current)		

### Model number

IPP-BB-CDE



B= 1	1P2W
B= 2	1P3W
B= 3	3P3W
B= 4	3P4W
C= 1-9,A-C	CT number: 1-12
D= 1-9,A-C	CT number: 1-12
E= 1-9,A-C	CT number: 1-12

Note: the max. CT number is 12 (C+D+E)

### Application Diagram

