PM-3112/PM-3114

2/4 Loops single-phase Smart Power Meter

Features

- True RMS Power Measurements
- Energy Analysis for 1P2W, 1P4W
- Current Measurements Up to 200 A with Different CT Ratio
- Voltage Measurements Up to 300 V
- Clip-on CT for Easy Installation
- kWh Accuracy Better than 1% (PF=1)
- Supports RS-485, Ethernet or CAN bus/CANopen Interface
- Supports Modbus RTU, Modbus TCP or CAN Protocol
- Supports 2 Power Relay Output (Form A)
- Supports PoE (IEEE 802.3af, Class 1)

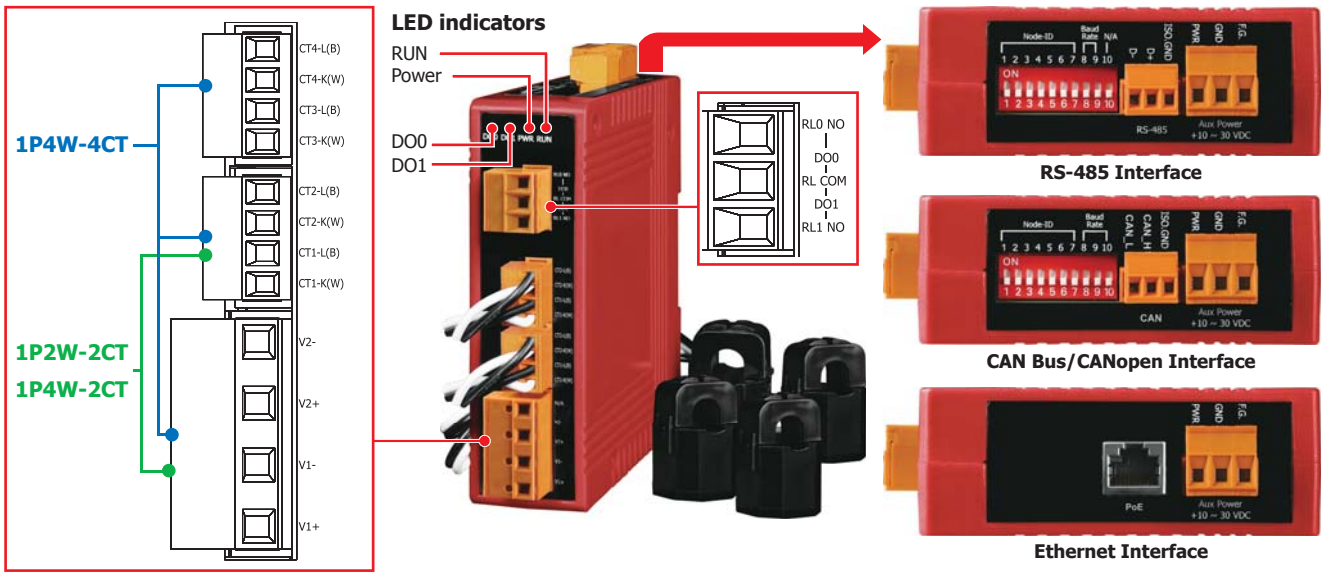
Introduction

ICP DAS brings the most powerful, cost-effective, advanced Smart Power Meters PM-3000 series that gives you access to real-time electric usage for single-phase power measurement. With its high accuracy (<1%, PF=1), the PM-3000 series can be applied to both low voltage primary side and/or medium/high voltage secondary side and enables the users to obtain reliable and accurate energy consumption readings from the monitored equipments in real time under operation. These compact size and cost-effective power meters are equipped with revolutionary wired clip-on CT (various types, support input current up to 200 A). It operates over a wide input voltages range 10 ~ 300 V_{AC} which allows worldwide compatibility. And with 2 channels relay outputs, it can be linked with sirens or lightings for alarm messages. It also supports Modbus RTU, Modbus TCP or CAN bus protocols for easy integration.

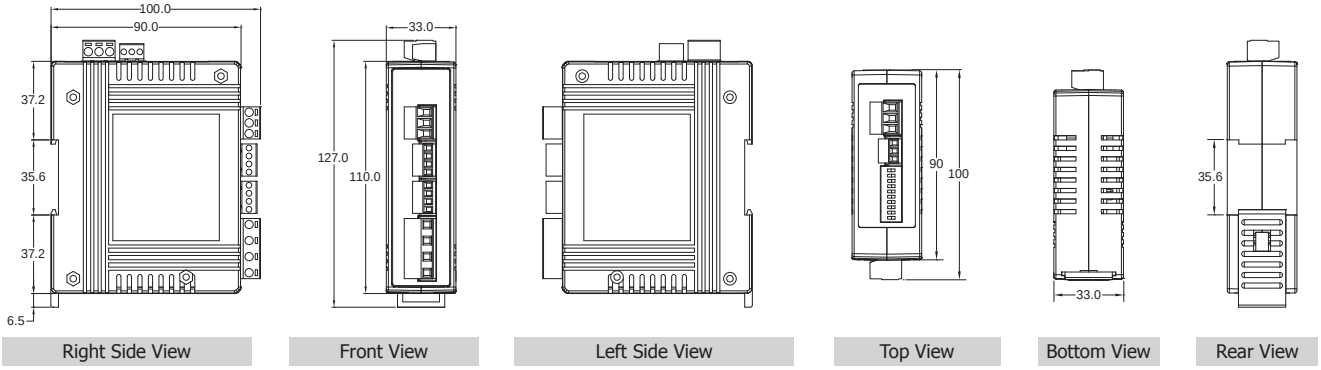
Specifications

Models		PM-3112	PM-3114	PM-3112-MTCP	PM-3114-MTCP	PM-3112-CAN PM-3112-CPS	PM-3114-CAN PM-3114-CPS
AC Power Measurement							
Wiring		1P2W/1P4W-2CT	1P2W/1P4W-4CT	1P2W/1P4W-2CT	1P2W/1P4W-4CT	1P2W/1P4W-2CT	1P2W/1P4W-4CT
Input Voltage		10 ~ 300 V					
Input Current		CTØ10 mm (60 A); CTØ16 mm (100 A); CTØ24 mm (200 A)					
Input Frequency		50/60 Hz					
kWh Accuracy		Better than 1% (PF=1)					
Starting Current		0.03A					
Power Parameter Measurement		True RMS voltage (Vrms), True RMS current (Irms), Active Power (kW), Active Energy (kWh), Apparent Power (kVA), Apparent Energy (kVAh), Reactive Power (kVAR), Reactive Energy (kVARh), Power Factor (PF)					
Data Update Rate		1 Second					
Communication							
RS-485	Protocol	Modbus-RTU		-		-	
	Baud rate	9600,19200 (default), 38400, 115200; DIP Switch Selectable		-		-	
	Data format	N,8,1		-		-	
	Isolation	2500 V_{DC}		-		-	
Ethernet	Protocol	-		Modbus TCP		-	
	PoE	-		Yes, IEEE 802.3af		-	
CAN Bus	Protocol	-		-		CAN Bus and CANopen	
	Baud rate	-		-		125 k (default), 250 k, 500 k, 1 M; DIP Switch Selectable	
Alarm Output							
Power Relay		Form A (Normal Open) x 2; Relay Contact Voltage Range: 5 A @ 250 V_{AC} (47 ~ 63Hz), 5 A @ 30 V_{DC}					
Power							
Input Range		+10 ~ 30 V_{DC}		+12 ~ 48 V_{DC}		+10 ~ 30 V_{DC}	
Power Consumption		2 W					
Mechanical							
Casing		Plastic (Flammability UL 94V-0)					
Dimensions (W x L x H)		127 mm x 105 mm x 33 mm					
Module Installation		DIN-Rail Mounting					
CT Installation		Clip-On					
Environment							
Operating Temperature		-10 ~ +70 °C					
Storage Temperature		-25 ~ +80 °C					
Ambient Relative Humidity		10% ~ 90% RH, Non-condensing					

Appearance



Dimensions (Units: mm)



Right Side View | Front View | Left Side View | Top View | Bottom View | Rear View

Selection Guide

PM-311 [X] [X X X] - [X X X]

Channel
2: 2 Loops
4: 4 Loops

CT size (measurement)
100: CTΦ10 mm (0 ~ 60 A)
160: CTΦ16 mm (0 ~ 100 A)
240: CTΦ24 mm (0 ~ 200 A)

Communication
□: RS-485
CAN: CAN Bus
CPS: CANopen
MTCP: Modbus TCP

Ordering Information

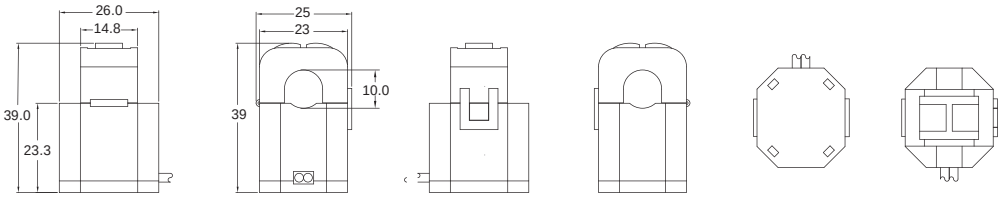
RS-485 Interface (NEW)	
PM-3112-100	Modbus RTU; 2 loops single-phase Power Meter with 2 CTs (60 A)
PM-3112-160	Modbus RTU; 2 loops single-phase Power Meter with 2 CTs (100 A)
PM-3112-240	Modbus RTU; 2 loops single-phase Power Meter with 2 CTs (200 A)
Ethernet Interface (Available soon)	
PM-3112-100-MTCP	Modbus TCP; 2 loops single-phase Power Meter with 2 CTs (60 A)
PM-3112-160-MTCP	Modbus TCP; 2 loops single-phase Power Meter with 2 CTs (100 A)
PM-3112-240-MTCP	Modbus TCP; 2 loops single-phase Power Meter with 2 CTs (200 A)
CAN Bus Interface	
PM-3112-100-CAN	CAN Bus; 2 loops single-phase Power Meter with 2 CTs (60 A)
PM-3112-160-CAN	CAN Bus; 2 loops single-phase Power Meter with 2 CTs (100 A)
PM-3112-240-CAN	CAN Bus; 2 loops single-phase Power Meter with 2 CTs (200 A)
CANopen Interface (Available soon)	
PM-3112-100-CPS	CANopen; 2 loops single-phase Power Meter with 2 CTs (60 A)
PM-3112-160-CPS	CANopen; 2 loops single-phase Power Meter with 2 CTs (100 A)
PM-3112-240-CPS	CANopen; 2 loops single-phase Power Meter with 2 CTs (200 A)

RS-485 Interface (NEW)	
PM-3114-100	Modbus RTU, 4 loops single-phase power meter (60 A)
PM-3114-160	Modbus RTU, 4 loops single-phase power meter (100 A)
PM-3114-240	Modbus RTU, 4 loops single-phase power meter (200 A)
Ethernet Interface (Available soon)	
PM-3114-100-MTCP	Modbus TCP, 4 loops single-phase power meter (60 A)
PM-3114-160-MTCP	Modbus TCP, 4 loops single-phase power meter (100 A)
PM-3114-240-MTCP	Modbus TCP, 4 loops single-phase power meter (200 A)
CAN Bus Interface (Available soon)	
PM-3114-100-CAN	CAN Bus, 4 loops single-phase power meter (60 A)
PM-3114-160-CAN	CAN Bus, 4 loops single-phase power meter (100 A)
PM-3114-240-CAN	CAN Bus, 4 loops single-phase power meter (200 A)
CANopen Interface (Available soon)	
PM-3114-100-CPS	CANOpen, 4 loops single-phase power meter (60 A)
PM-3114-160-CPS	CANOpen, 4 loops single-phase power meter (100 A)
PM-3114-240-CPS	CANOpen, 4 loops single-phase power meter (200 A)

• CT for Smart Power Meter

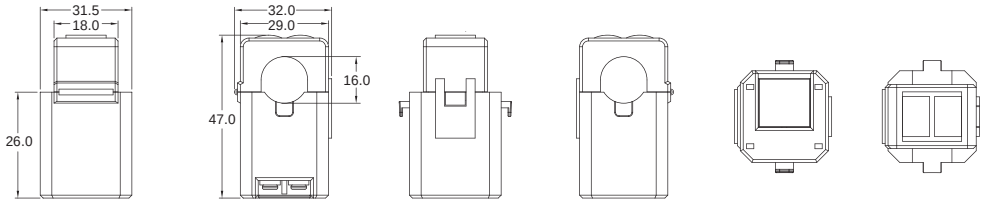
Dimensions (Units: mm)

100: CTΦ10mm (0~60A)



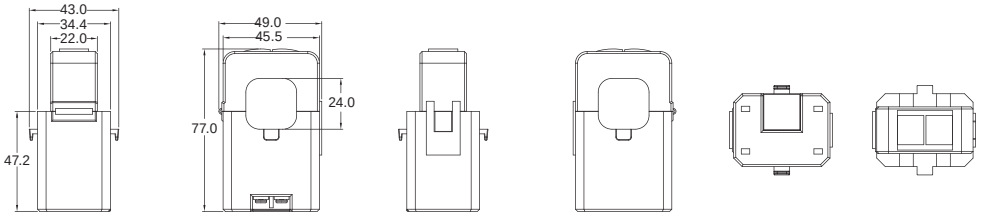
Left View | Front View | Right View | Rear View | Bottom View | Top View

160: CTΦ16mm (0~100A)



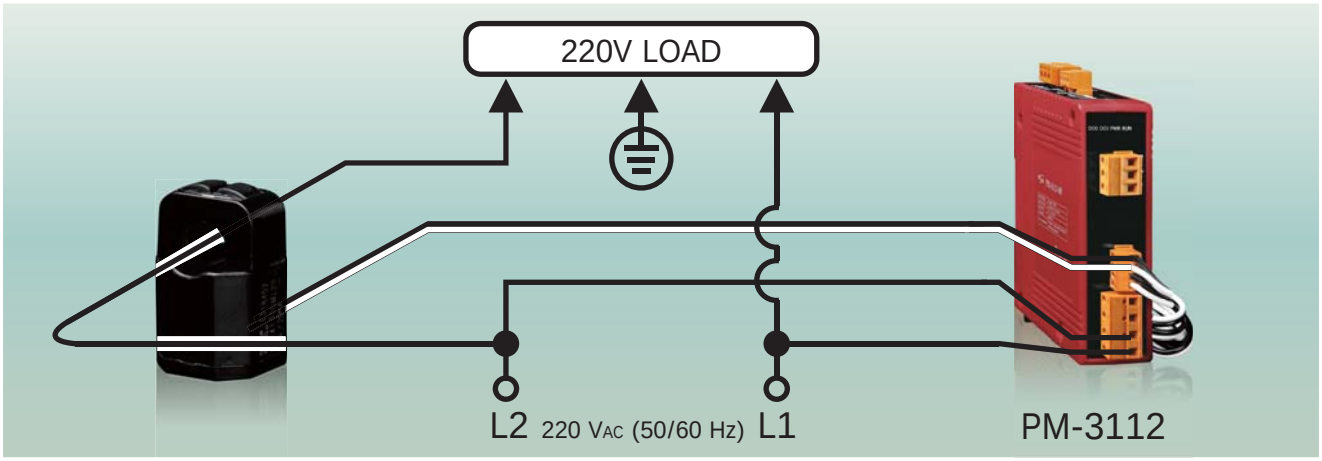
Left View | Front View | Right View | Rear View | Bottom View | Top View

240: CTΦ24mm (0~200A)



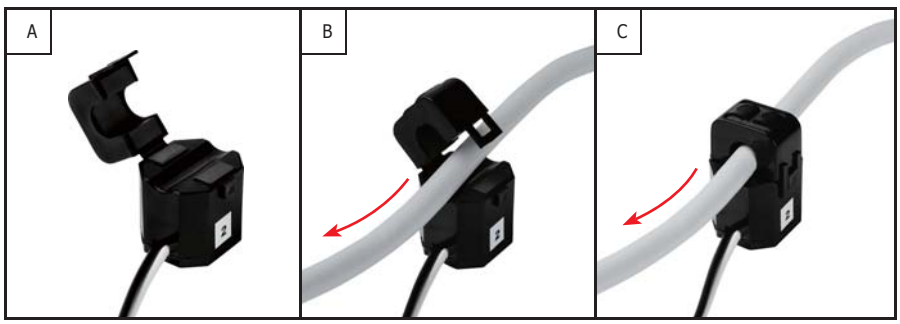
Left View | Front View | Right View | Rear View | Bottom View | Top View

Wiring for 220V with no neutral



Installation

DIN-Rail Mounting



Clip-on CT Installation