Smart Power Meter

PM-3133/-MTCP/-CPS

Three Phases Smart Power Meter

Features

- True RMS Power Measurements
- Energy Analysis for 3P4W, 3P3W, 1P3W, 1P2W
- Current Measurements Up to 400 A with Different CT Ratio
- Voltage Measurements Up to 500 V
- Clip-on CT for Easy Installation
- W Accuracy Better than 0.5% (PF=1)
- Supports RS-485, Ethernet (PoE) or CANopen Interface
- Supports Modbus RTU, Modbus TCP or CANopen Protocol
- Supports 2 Power Relay Output (Form A)
- Total Harmonic Distortion (THD)
- IEC 61010-1and EN 61010-1

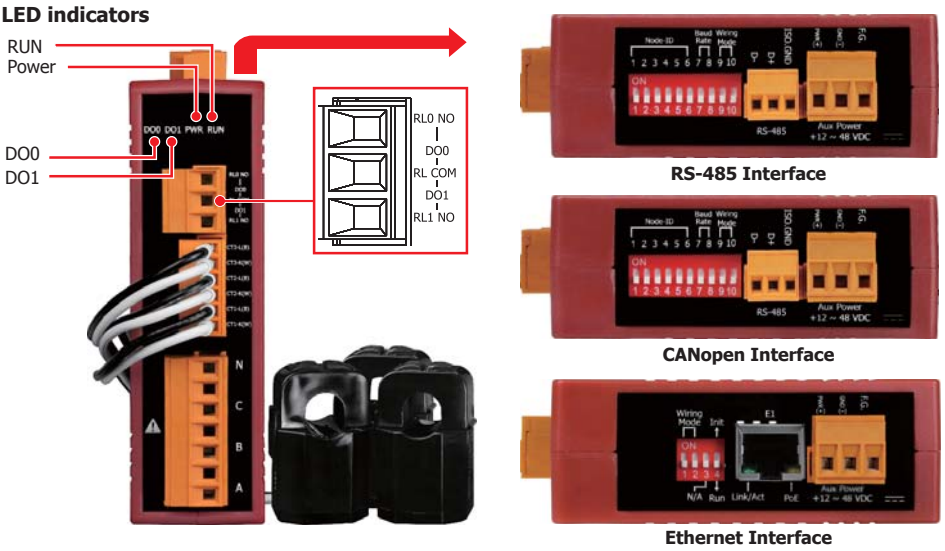
Introduction

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 three-phase power measurement. With its high accuracy (<0.5%, 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 400 A). It operates over a wide input voltages range 10 ~ 500 VAC 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 CANopen protocols for easy integration. You can use CT's that you currently own with PM-3133P (without CTs) Power Meter. The CT inputs of the PM-3133P can handle a maximum of 333mV of AC current.

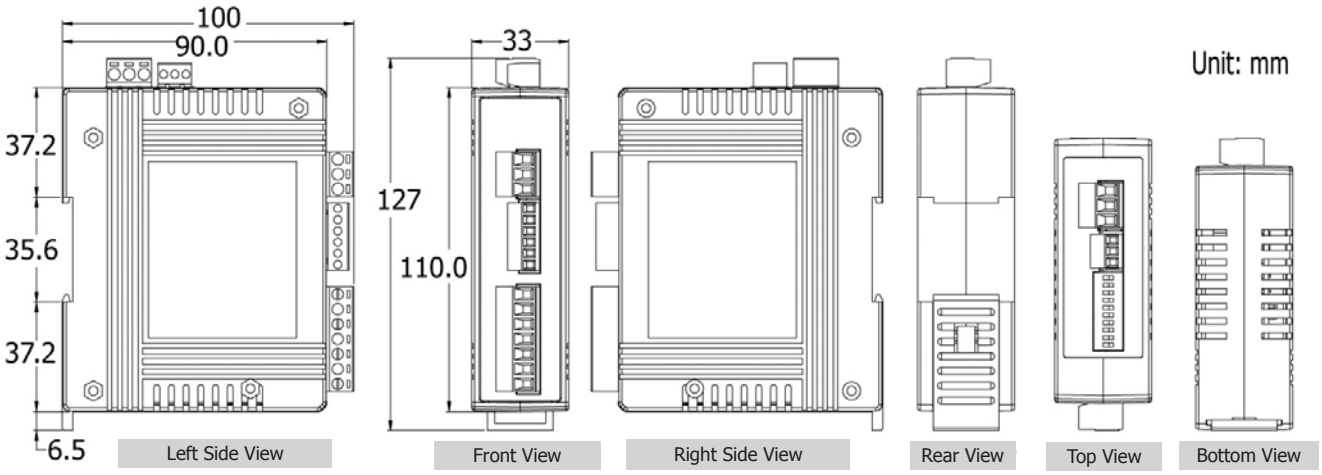
Specifications

Models		PM-3133P	PM-3133	PM-3133-MTCP	PM-3133-CPS
AC Power Measurement					
Wiring		3P4W-3CT, 3P3W-2CT, 3P3W-3CT, 1P2W-1CT, 1P3W-2CT			
Measurement Voltage		10 ~ 500 V			
Measurement Current		Compatible with CTs from 50 to 1200A (333mV output)	CTØ10 mm (60 A); CTØ16 mm (100 A); CTØ24 mm (200 A); CTØ36 mm (300 A); CTØ36 mm (400 A)		
Measurement Frequency		50/60 Hz			
W Accuracy		-	Better than 0.5% (PF=1)		
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), Frequency			
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 VDC		-	-
Ethernet (PoE)	Protocol	-		Modbus TCP	-
CANopen	Protocol	-		-	CANopen
	Baud rate	-		-	125 k (default), 250 k, 500 k, 1 M; DIP Switch Selectable
	Isolation	-		-	2500 VDC
Alarm Output					
Power Relay		Form A (Normal Open) x 2; Relay Contact Voltage Range: 5 A @ 250 VAC (47 ~ 63Hz), 5 A @ 30 VDC			
Power					
Power Input		+12 ~ 48 VDC		+12 ~ 48 VDC or PoE	+12 ~ 48 VDC
Power Consumption		4 W			
Mechanical					
Casing		Plastic			
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		-20 ~ +70 °C			
Storage Temperature		-25 ~ +80 °C			
Ambient Relative Humidity		10% ~ 90% RH, Non-condensing			

Appearance



Dimensions (Units: mm)



Selection Guide

PM-3133 - XXXP - XXX

CT size (measurement)
100: CTΦ10 mm, 60 A Max.
160: CTΦ16 mm, 100 A Max.
240: CTΦ24 mm, 200 A Max.
360P: CTΦ36 mm, 300 A Max.
400P: CTΦ36 mm, 400 A Max.

Current Transformers (Secondary voltage 333mV)
Note: 333mV CT resistor built-in, 333 mV voltage output at rated full scale current, no shorting blocks needed.

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

Ordering Information

RS-485 Interface	
PM-3133P	Modbus RTU, 3-phase power meter (Compatible with CTs from 50 to 1000A/333mV output)
PM-3133-100	Modbus RTU, 3-phase power meter (60 A)
PM-3133-160	Modbus RTU, 3-phase power meter (100 A)
PM-3133-240	Modbus RTU, 3-phase power meter (200 A)
PM-3133-360P	Modbus RTU, 3-phase power meter (300 A)
PM-3133-400P	Modbus RTU, 3-phase power meter (400 A)

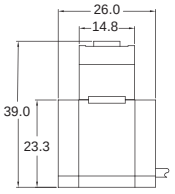
Ethernet Interface (NEW)	
PM-3133-100-MTCP	Modbus TCP, 3-phase power meter (60 A)
PM-3133-160-MTCP	Modbus TCP, 3-phase power meter (100 A)
PM-3133-240-MTCP	Modbus TCP, 3-phase power meter (200 A)
PM-3133-360P-MTCP	Modbus TCP, 3-phase power meter (300 A)
PM-3133-400P-MTCP	Modbus TCP, 3-phase power meter (400 A)

CANopen Interface (NEW)	
PM-3133-100-CPS	CANopen, 3-phase power meter (60 A)
PM-3133-160-CPS	CANopen, 3-phase power meter (100 A)
PM-3133-240-CPS	CANopen, 3-phase power meter (200 A)
PM-3133-360P-CPS	CANopen, 3-phase power meter (300 A)
PM-3133-400P-CPS	CANopen, 3-phase power meter (400 A)

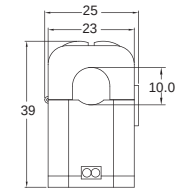
• CT for Smart Power Meter

Dimensions (Units: mm)

100: CTΦ10mm (60 A Max.)

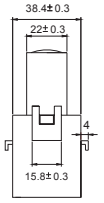


Left View

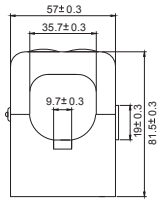


Front View

360P: CTΦ36mm (300 A Max.)

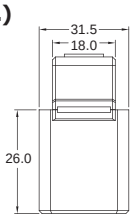


Left View

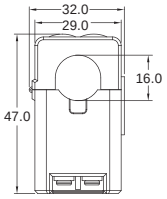


Front View

160: CTΦ16mm (100 A Max.)

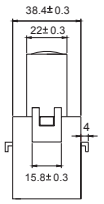


Left View

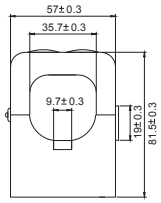


Front View

400P: CTΦ36mm (400 A Max.)

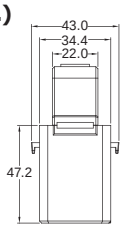


Left View

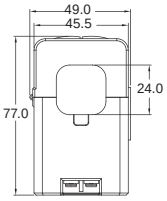


Front View

240: CTΦ24mm (200 A Max.)

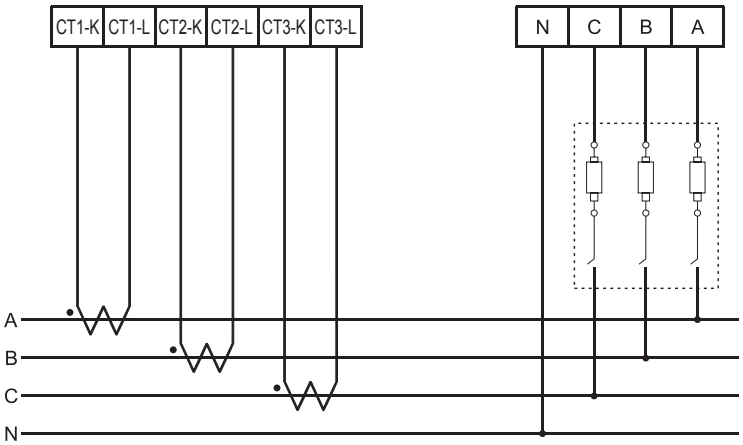


Left View



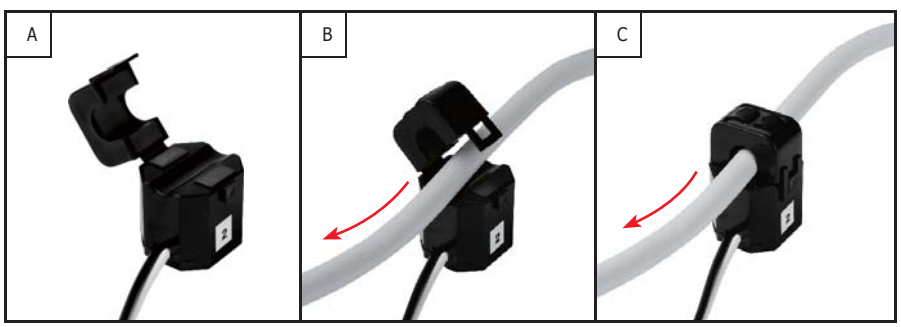
Front View

Wiring for 3P4W-3CT



Installation

DIN-Rail Mounting



Clip-on CT Installation