

## 8.3. Smart Power Meter



### Features

- True RMS Power Measurements
- Energy Analysis for 3P4W, 3P3W
- Current Measurements Up to 200 A with Different CT Ratio
- Voltage Measurements Up to 500 V
- Clip-on CT for Easy Installation
- kWh Accuracy Better than 1% (PF=1)
- RS-485, Ethernet or CAN Bus Communication Interface
- Modbus RTU, Modbus TCP or CANopen Protocol



### Introduction

It's always difficult but crucial to the supervisors to figure out how much energy is consumed. ICP DAS brings the most powerful, cost effective, advanced Compact Power Meters, PM-2133, to the markets.

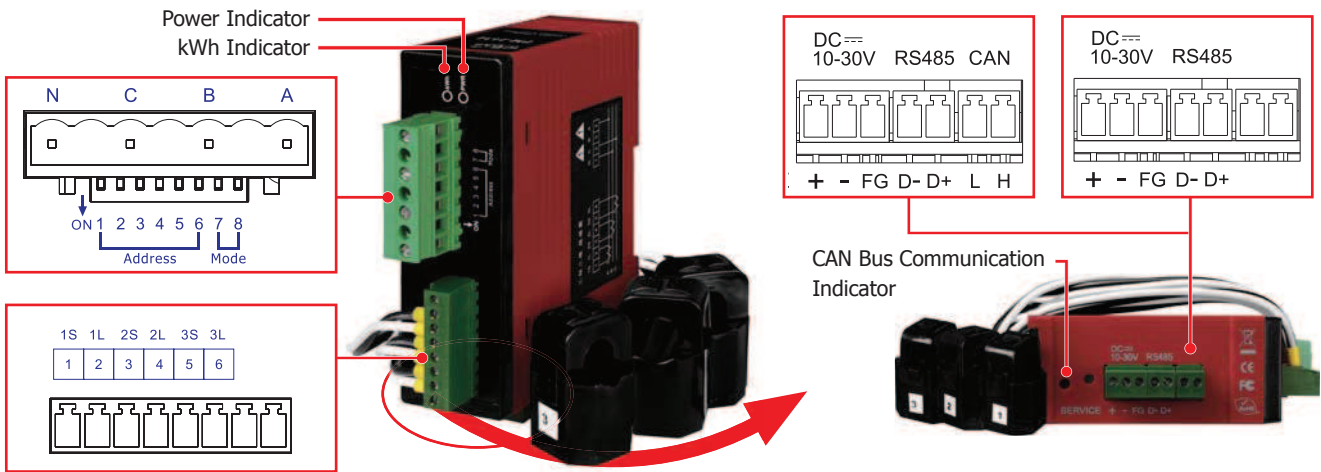
With its high accuracy (1%, PF=1), the PM-2133 can be applied both on low voltage primary side and/or medium/high voltage secondary side and enable the users to obtain in real time the reliable and accurate energy consumption readings from the monitored equipments while in operation. These compact size and cost effective power meters are equipped with revolutionary wired clip-on CT (various types support input current up to 200A). It supports Modbus RTU, Modbus TCP or CANopen protocols for easy integration. It works with input voltages ranging 10 ~ 500 VAC, supports a wide range of applications.

ICP DAS offers PM-2133 for 3-phase power measuring. The products offer a rich feature set combined with easy-to-integrate communications.

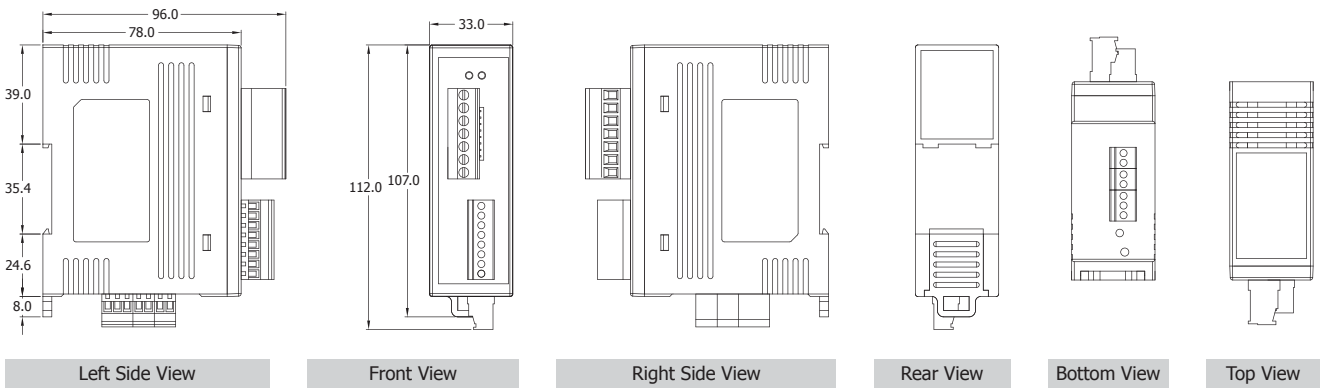
### Specifications

Models		PM-2133
<b>Power Measurement</b>		
Wiring		3P4W-3CT, 3P3W-3CT
Input Voltage		10 ~ 500 VAC
Input Current		60 A, 100 A, 200 A; with different CT ratio
Input Frequency		50/60 Hz
kWh Accuracy		Better than 1% (PF=1)
Starting Current		0.025A
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)
<b>Communication</b>		
RS-485	Protocol	Modbus RTU
	Baudrate	9600, 19200 (Default), 38400
	Data format	N,8,1
	Isolation	1000 Vrms
Ethernet	Protocol	Modbus TCP
	Default IP	192.168.255.1
CAN Bus	Protocol	CAN or CANopen
	Baudrate	125K (Default), 250K, 500K
<b>Power</b>		
Input Range		+10 ~ 30 VDC
Power Consumption		2.4 W
<b>Mechanical</b>		
Casing		Plastic
Flammability		UL 94V-0 materials
Dimensions (W x L x H)		33 mm x 96 mm x 112 mm
Module Installation		DIN-Rail Mounting
CT Installation		Clip-On
<b>Environment</b>		
Operating Temperature		-10 ~ +70 °C
Storage Temperature		-25 ~ +85 °C
Ambient Relative Humidity		10% ~ 90% RH, Non-condensing

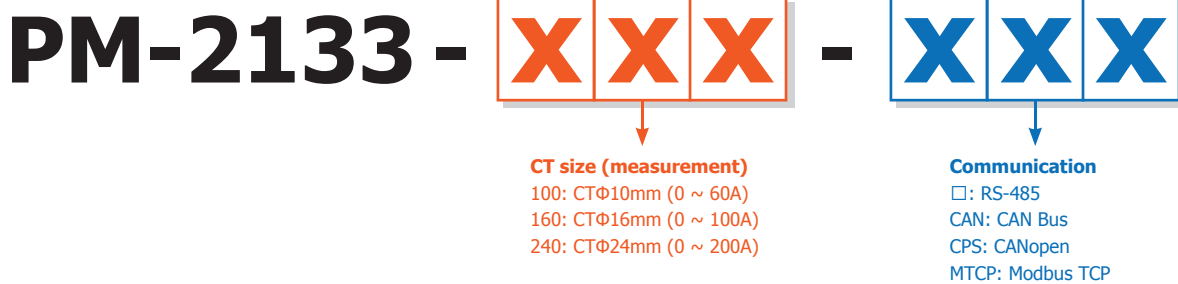
**Appearance**



**Dimensions (Units: mm)**



**Selection Guide**



**Ordering Information**

RS-485 Series (NEW)	
PM-2133-100	RS-485 with Modbus RTU protocol; 1 loop 3-phase Smart Power Meter with 3 CTs (ø10 mm, 60 A)
PM-2133-160	RS-485 with Modbus RTU protocol; 1 loop 3-phase Smart Power Meter with 3 CTs (ø16 mm, 100 A)
PM-2133-200	RS-485 with Modbus RTU protocol; 1 loop 3-phase Smart Power Meter with 3 CTs (ø24 mm, 200 A)
CAN Bus Series (NEW)	
PM-2133-100-CAN	CAN Bus; 1 loop 3-phase Smart Power Meter with 3 CTs (ø10 mm, 60 A)
PM-2133-160-CAN	CAN Bus; 1 loop 3-phase Smart Power Meter with 3 CTs (ø16 mm, 100 A)
PM-2133-200-CAN	CAN Bus; 1 loop 3-phase Smart Power Meter with 3 CTs (ø24 mm, 200 A)

CANopen Series (Available soon)	
PM-2133-100-CPS	CANopen; 1 loop 3-phase Smart Power Meter with 3 CTs (ø10 mm, 60 A)
PM-2133-160-CPS	CANopen; 1 loop 3-phase Smart Power Meter with 3 CTs (ø16 mm, 100 A)
PM-2133-200-CPS	CANopen; 1 loop 3-phase Smart Power Meter with 3 CTs (ø24 mm, 200 A)
Ethernet Series (Available soon)	
PM-2133-100-MTCP	Ethernet with Modbus TCP protocol; 1 loop 3-phase Smart Power Meter with 3 CTs (ø10 mm, 60 A)
PM-2133-160-MTCP	Ethernet with Modbus TCP protocol; 1 loop 3-phase Smart Power Meter with 3 CTs (ø16 mm, 100 A)
PM-2133-200-MTCP	Ethernet with Modbus TCP protocol; 1 loop 3-phase Smart Power Meter with 3 CTs (ø24 mm, 200 A)