

Power Meter



PM-2133

PM-2134

3-phase and 1-phase Power Meter

Features

- True RMS Power Measurements
- Energy Analysis for 3P4W, 3P3W, 1P2W, 1P3W
- Current Measurements Up to 200 A with Different CT Ratio
- Voltage Measurements Up to 500 V with Different PT Ratio
- Clip-on CT for Easy Installation
- kWh Accuracy Better than 1% (PF=1)
- Starting Current < 0.025A
- RS-485, Ethernet or CAN Bus Communication Interface
- Modbus RTU, Modbus TCP or CANopen Protocol
- LED Pulse Output for Consumed kWh



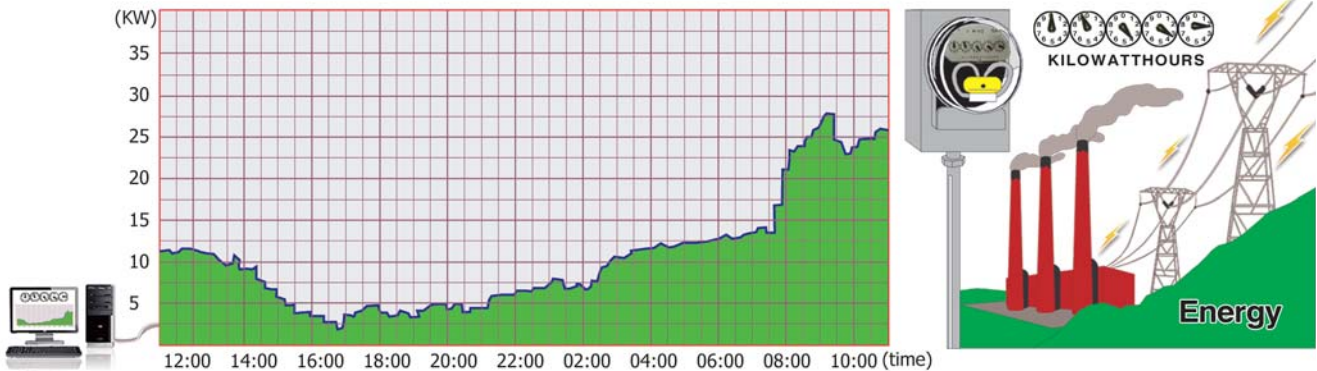
Introduction

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 and PM-2134, to the markets.

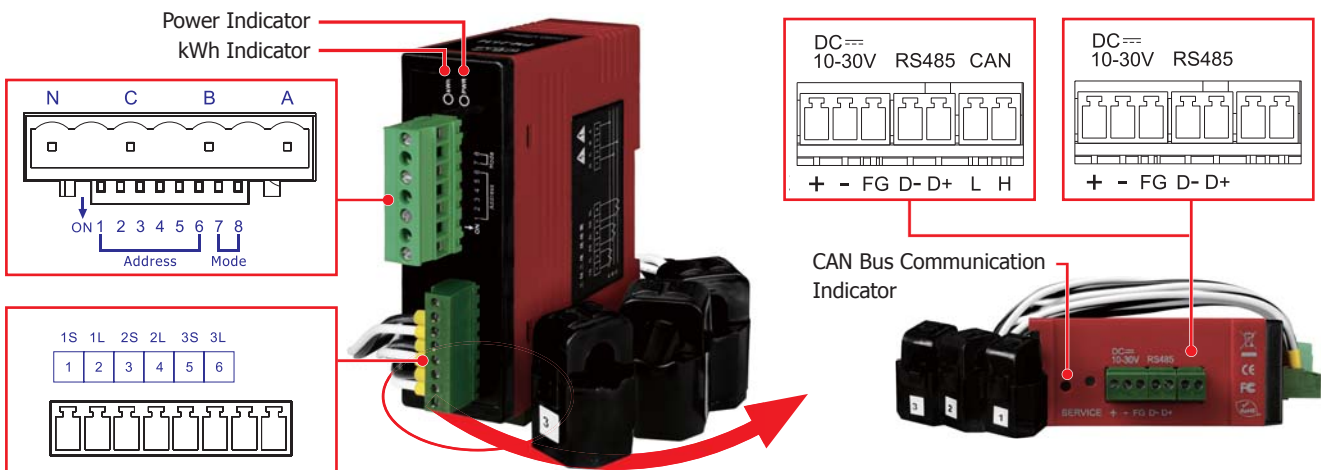
With its high accuracy (1%, PF=1), the PM-2133 and PM-2134 can be applied both on low voltage primary side and/or medium/high voltage secondary side and enable the users to obtain in real time the reliable and accurate energy consumption readings from the monitored equipments while in operation. These 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 V_{ac}, supporting a wide range of applications.

ICP DAS offers PM-2133 for 3-phase and PM-2134 for 1-phase power measuring. The products offer a rich feature set combined with easy-to-integrate communications.

Applications



Appearance



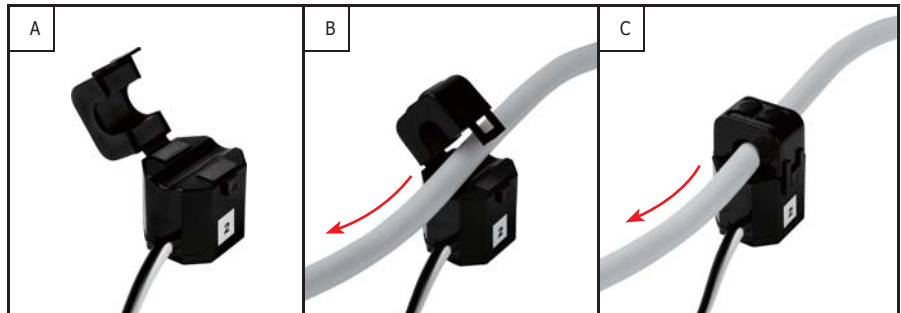
Specifications

Models	PM-2133	PM-2134
Power Measurement		
Wiring	3P4W-3CT, 3P3W-3CT, 1P2W-1CT, 1P3W-2CT	1P4W-4CT
Input Voltage	10 ~ 500 V _{AC}	10 ~ 300 V _{AC}
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 (V_{rms}), true RMS current (I_{rms}), Active Power (kW), Active Energy (kWh), Apparent Power (kVA), Apparent Energy (kVAh), Reactive Power (kVAR), Reactive Energy (kVARh), Power Factor (PF),	
Communication		
RS-485	Protocol	Modbus RTU
	Baudrate	9600, 19200 (Default), 38400
	Data format	N,8,1
	Isolation	1000 V _{rms}
Ethernet	Protocol	Modbus TCP
	Default IP	192.168.255.1.
CAN Bus	Protocol	CAN or CANopen
	Baudrate	125K (Default), 250K, 500K
Power		
Input Range	+10 ~ 30 V _{DC}	
Power Consumption	2.4 W	
Mechanical		
Dimensions (W x L x H)	33 mm x 96 mm x 112 mm	
Module Installation	DIN-Rail Mounting	
CT Installation	Clip-On	
Environment		
Operating Temperature	-10 ~ +70 °C	
Storage Temperature	-25 ~ +85 °C	
Ambient Relative Humidity	10% ~ 90% RH, Non-condensing	

Installation

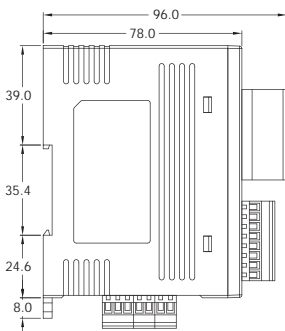


DIN-Rail Mounting

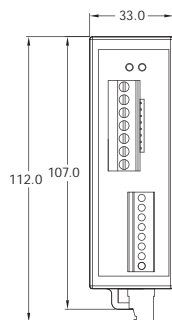


Clip-on CT Installation

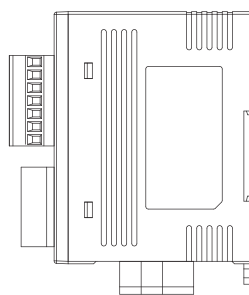
Module Dimensions (Units: mm)



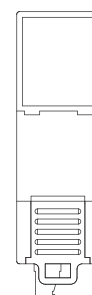
Left Side View



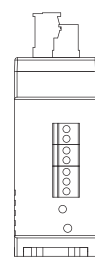
Front View



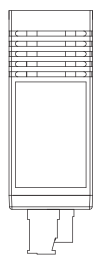
Right Side View



Rear View



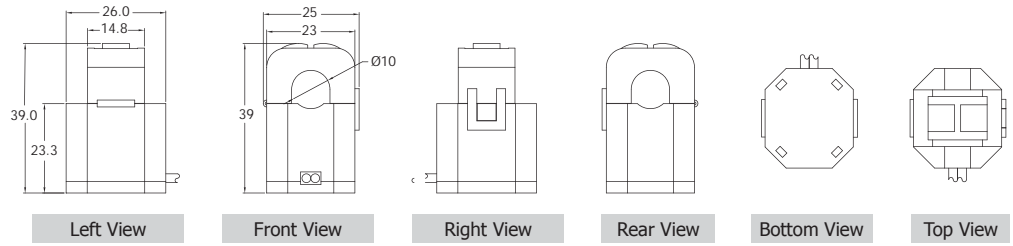
Bottom View



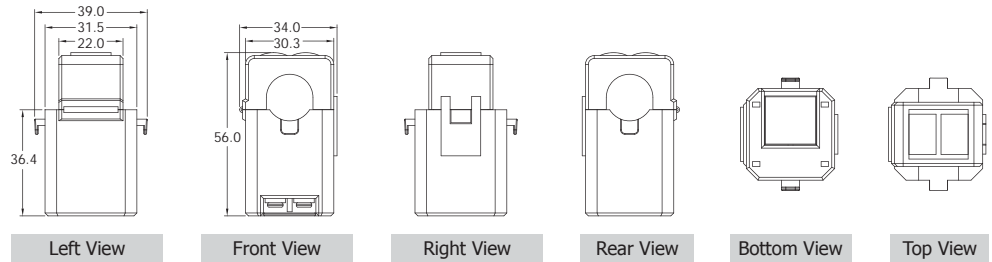
Top View

CT Dimensions (Units: mm)

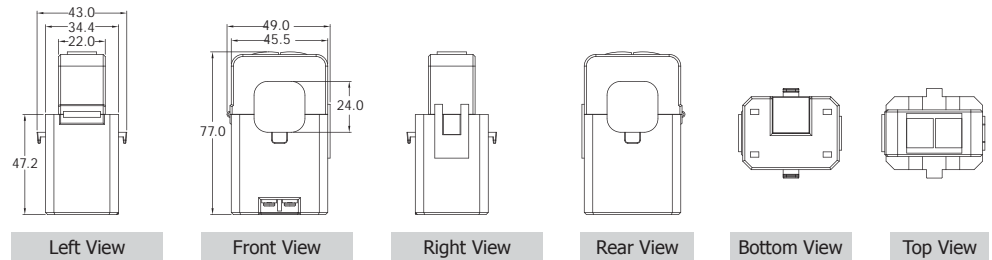
100: CTΦ10mm (0~60A)



160: CTΦ16mm (0~100A)



240: CTΦ24mm (0~200A)



Selection Guide

PM-213



Model

- 4: 4 Loop 1 Phase Compact Smart Meter *4CT's
- 3: 3 Phase Compact Smart Meter *3CT's

CT size (measurement)

- 100: CTΦ10mm (0 ~ 60A)
- 160: CTΦ16mm (0 ~ 100A)
- 240: CTΦ24mm (0 ~ 200A)

Communication

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

Ordering Information

RS-485 Series (NEW)	
PM-2133-100	RS-485 3-phase power meter with 3 CTs (ø10 mm, 60 A)
PM-2133-160	RS-485 3-phase power meter with 3 CTs (ø16 mm, 100 A)
PM-2133-200	RS-485 3-phase power meter with 3 CTs (ø24 mm, 200 A)
PM-2134-100	RS-485 1-phase power meter with 4 CTs (ø10 mm, 60 A)
CAN Bus Series (NEW)	
PM-2133-100-CAN	CAN Bus 3-phase power meter with 3 CTs (ø10 mm, 60 A)
PM-2133-160-CAN	CAN Bus 3-phase power meter with 3 CTs (ø16 mm, 100 A)
PM-2133-200-CAN	CAN Bus 3-phase power meter with 3 CTs (ø24 mm, 200 A)
PM-2134-100-CAN	CAN Bus 1-phase power meter with 4 CTs (ø10 mm, 60 A)

CANopen Series (Available soon)	
PM-2133-100-CPS	CANopen 3-phase power meter with 3 CTs (ø10 mm, 60 A)
PM-2133-160-CPS	CANopen 3-phase power meter with 3 CTs (ø16 mm, 100 A)
PM-2133-200-CPS	CANopen 3-phase power meter with 3 CTs (ø24 mm, 200 A)
PM-2134-100-CPS	CANopen 1-phase power meter with 4 CTs (ø10 mm, 60 A)
Ethernet Series (Available soon)	
PM-2133-100-MTCP	Modbus-TCP 3-phase power meter with 3 CTs (ø10 mm, 60 A)
PM-2133-160-MTCP	Modbus-TCP 3-phase power meter with 3 CTs (ø16 mm, 100 A)
PM-2133-200-MTCP	Modbus-TCP 3-phase power meter with 3 CTs (ø24 mm, 200 A)
PM-2134-100-MTCP	Modbus-TCP 1-phase power meter with 4 CTs (ø10 mm, 60 A)