APsystems

APM1-W-2

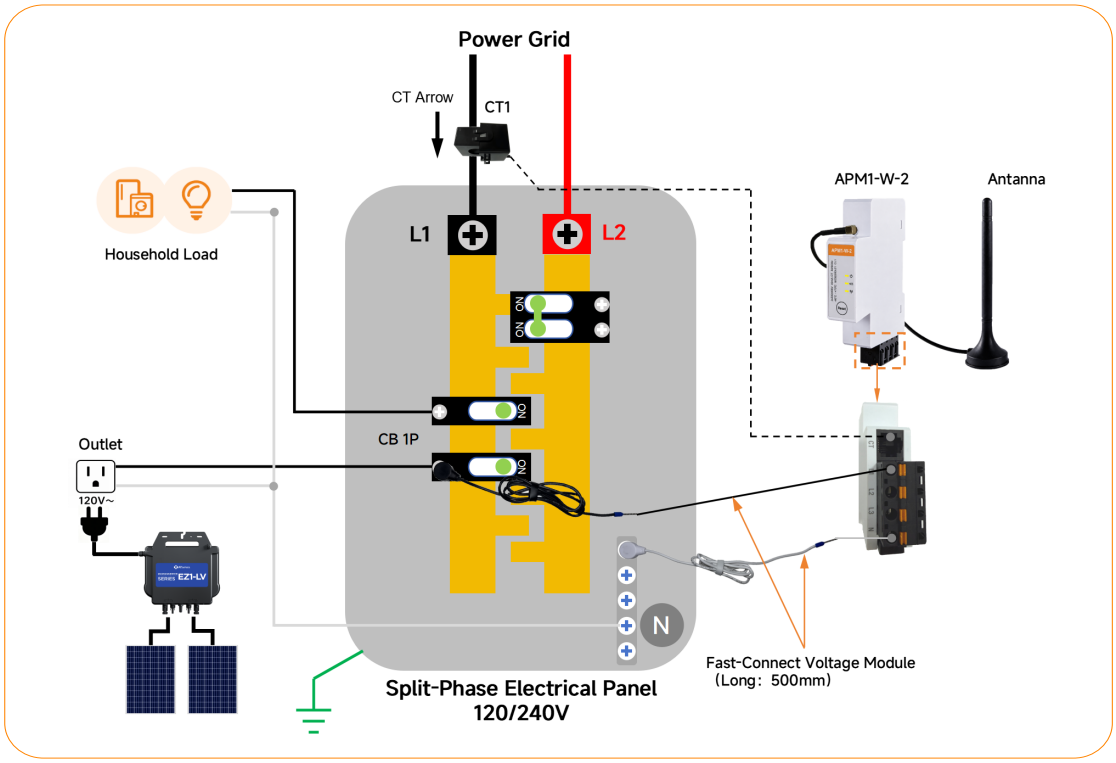
Multi-function single phase meter

- Multi-parameter measurements
- Accuracy Class 1 active energy
- Support Wi-Fi/Bluetooth dual-mode communication
- RS485 Modbus RTU
- Bi-directional measurement
- Easy connection solution
- Compact design

Introduction

The APM1 electricity meter is designed for single-phase two-wire power grids and can accurately measure various critical electrical parameters: voltage, current, power, frequency, active energy, reactive energy, forward and reverse energy, etc.It is suitable for real-time power monitoring systems, featuring multifunctionality, versatility, high stability, and long service life.

The APM1 electricity meter designed for power monitoring needs in power systems, public utilities, industrial and residential applications.It can be used in scenarios such as power transmission and distribution, AC charging and Solar PV systems.Its comprehensive communication capabilities make it highly suitable for various real-time power monitoring systems.



Datasheet | APM1 smart energy meter

Electrical Characteristics

Type of Measurement		RMS Including Harmonics
Measurement Accuracy	Power	± 1% IEC 61557-12 Class 1
	Active Energy	± 1%
	Reactive Energy	± 2%
	Frequency	± 0.2%
	Current	± 0.5% (4A to 120A) ± 1% (1A to 4A) ± 3% (0.06A to 1A)
	Voltage	± 0.5%
	Power Factor	± 0.1
Data Update Rate		Active Power:50mS(RS485), 500mS(Wi-Fi)
Input-Voltage	Nominal Voltage	3*230V(L-N)/400V(L-L)
	Working Voltage Range	100 - 277 VAC(L-N) / 173 - 480 VAC (L-L)
	Frequency Range	50/60Hz

Mechanical Characteristics

Net Weight	≈100g
IP Degree of Protection (IEC 60529)	IP51 Front Display IP20 Whole Meter
Dimensions (DxHxW)	68.5*90*19mm
Mounting	DIN Rail 35mm
Material of Meter Case	Self-extinguishing UL 94 V-0

Environmental Characteristics

Operating Temperature	-40 °C to +70°C
Storage Temperature	-40 °C to +85°C
Humidity Rating	≤95% RH , non-condensing
Pollution Degree	2
Altitude	Up to 2000m
Vibration	10Hz to 50Hz, IEC 60068-2-6

Electromagnetic Compatibility

EMC	IEC 61000-4-2/IEC 61000-4-3/IEC 61000-4-4/IEC 61000-4-5/IEC 61000-4-6/IEC 61000-4-8/IEC 61000-4-11

Safety

Measurement Category	Per IEC61010-1 CAT III
Current Inputs	Require External Current Transformer for Insulation
Over-voltage Category	CAT III
Protection Class	II

Communications

RS485	MODBUS RTU
Baud Rate	2400/4800/9600(Default)/19200/38400/115200bps
Wi-Fi	802.11 b/g/n
Max. RF Power	<20 dBm
RF Band	2.4 GHz to 2.5 GHz
Bluetooth	Bluetooth 4.2
Bluetooth Range	Up to 10m / 33ft indoors and 50m / 160ft outdoors (Depends on local conditions)

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