KPM31 Single-phase DIN rail smart energy meter

KPM31 single phase energy meter is with 80A rated current, which meets the vast majority of application scenarios. integrates a DSP measurement chip with high measurement accuracy, built-in magnetic holding relay, prepaid function.
It supports energy consumption data network disconnection and continuation function, four quadrant energy statistics, 4G/WIFI wireless communication, which can automatically and accurately collect electricity data, greatly reducing the workload and errors of manual meter reading and improving the accuracy of electricity billing.

Product Features

Network disconnection and continuation function
- Energy consumption data disconnection and continuation function
- Upto 7 days of 15 minutes energy consumption data storage and supplementation.

Prepaid function
- Built in magnetic holding relay, easy to control power on/off
- Prepaid function with remote charging

Communication Interface Protocol
- RS485, WIFI, 4G communication
- Modbus RTU protocol
- MQTT protocol

High precision measurement
- Voltage and current level D
- Active energy level B
- Power level B

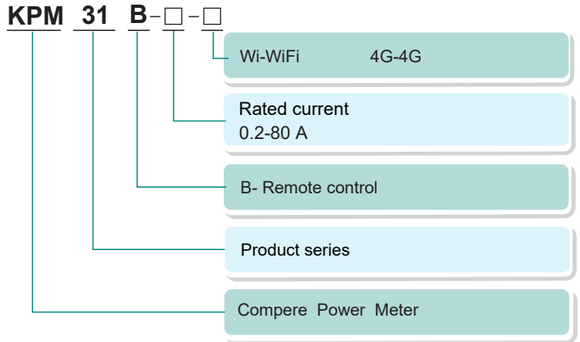
Four quadrant energy statistics
- Import / export, active / reactive energy measurement
- 3 phase split phase energy measurement
- 12 month frozen consumption data record

Multiple rate electricity statistics
- Up to 5 rates per days, 14 time zones per year, 24 time periods per day, and up to 8 time period tables.

Function features

- Measure single-phase voltage, current, active power, reactive power, apparent power, active energy, reactive energy, apparent energy, power factor, frequency, etc.
- Supports multi-rate energy statistics with 14 time zones, 24 time periods, and 5 rate types.
- Supports 12 months frozen energy consumption data record.
- Standard RS485 communication interface supporting the Modbus-RTU protocol.
- Expandable with WiFi/4G CAT1 communication modules, offering optional standard MQTT protocol (supporting last 7 days' 15-minute energy consumption data record and continuation after disconnection) or Modbus-RTU transparent transmission protocol.
- Direct current input with a rated current range of 0.2-1 (80) A.
- LED indicator for pulse output.
- 1 channel of passive optocoupler collector active pulse output.
- Integrated DSP metering chip for Level B (Class 1.0) high measurement accuracy.
- Built-in clock and maintenance-free battery, ensuring permanent data storage after power loss. Integrated magnetic latching relay for prepaid functionality.
- Supports infrared communication for Wi-Fi or 4G network configuration and APN settings.
- 35mm standard rail mounting, aesthetically pleasing and easy to install.

Products list



◆ E.g.: KPM31B-Wi: Rated AC220V/0.2-80A, WiFi wireless communication, remote control, multi rate power consumption statistics, single phase DIN rail smart energy meter

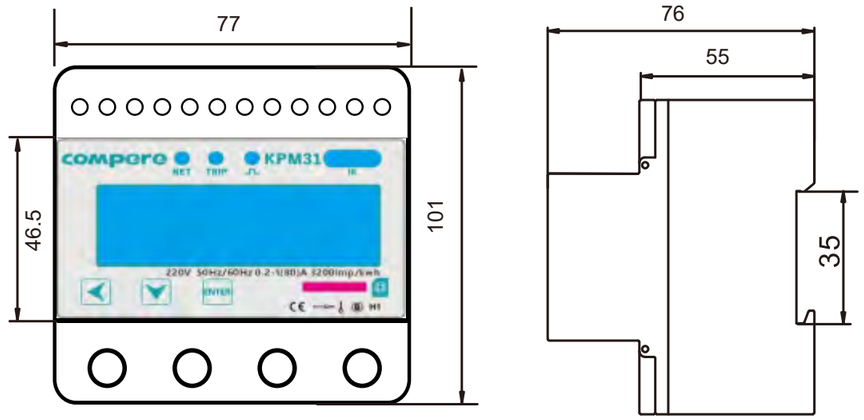
Application occasion

Energy Billing | Automatic Reading | Remote Control | Microgrid Power Measurement

Technical Parameters

Input voltage	Rated voltage	AC 110V/220V
	Overall power consumption	<2VA
	Frequency range	45~65Hz
Input current	Rated current	0.2-80A
	Frequency range	45~65Hz
Measure-ment accuracy	Voltage	±0.2%(0.01V)
	Current	±0.2%(0.01A)
	Active power	±0.5%(0.1W)
	Reactive power	±2.0%(0.1var)
	Active energy	±0.5%(0.1kWh)
	Reactive energy	±2.0%(0.1kvarh)
	Power factor	±0.5%(0.001)
	Frequency	±0.02Hz(0.01Hz)
Clock	Clock accuracy	<0.5S/D
Comm unication	Communication interface	RS485 / WIFI / 4G
	Communication protocol	Modbus-RTU,1200~9600bps
Electrical insulation	Power frequency withstand voltage	AC2kV/min~1mA Input-output-power source
	Insulation resistance	>50MΩ
	Impact voltage	5kV (Peak),1.2/50us
Working environ-ment	Operating temperature	-10℃ ~ +55℃
	Relative humidity	5%~95% No condensation
	Storage temperature	-20℃ ~ +75℃
	Altitude	No more than 3000m
Electrom-agnetic Compati-bility	Surge (impact) immunity	IEC61000-4-5,Level4
	Electrical fast burst immunity	IEC61000-4-4,Level4
	Electrostatic discharge immunity	IEC61000-4-2,Level4
	Power frequency magnetic field immunity	IEC61000-4-8,Level4

Product size



Typical wiring