

Application

- Hotel, Hospital, Dormitory
- Commercial Building, Office
- Residential Building
- Reconstruction Project



Feature

- **Small Size** – Can be install at the closest point, integrate in existing space-constrained installations.
- **Ultra-compact Design** - Consists of control unit and current sensors (with RJ12 port, optional solid core or split core)
- **Wide Measurement Range** - Max. Support 63A
- **Multi Circuit** - Support **30 single phase circuit or 10 three phase circuit** AC measuring
- **High Accuracy** –Voltage & Current class 0.5 , kWh class 1.0
- **Multi Network Type** - 1 phase 2 wires, 3 phase 4 wire



Main Function

Real-time Measurement

- Voltage, Current, Active power , Reactive power, Apparent Power
- Power Factor, Frequency

Energy Consumption

- Active energy, Reactive energy

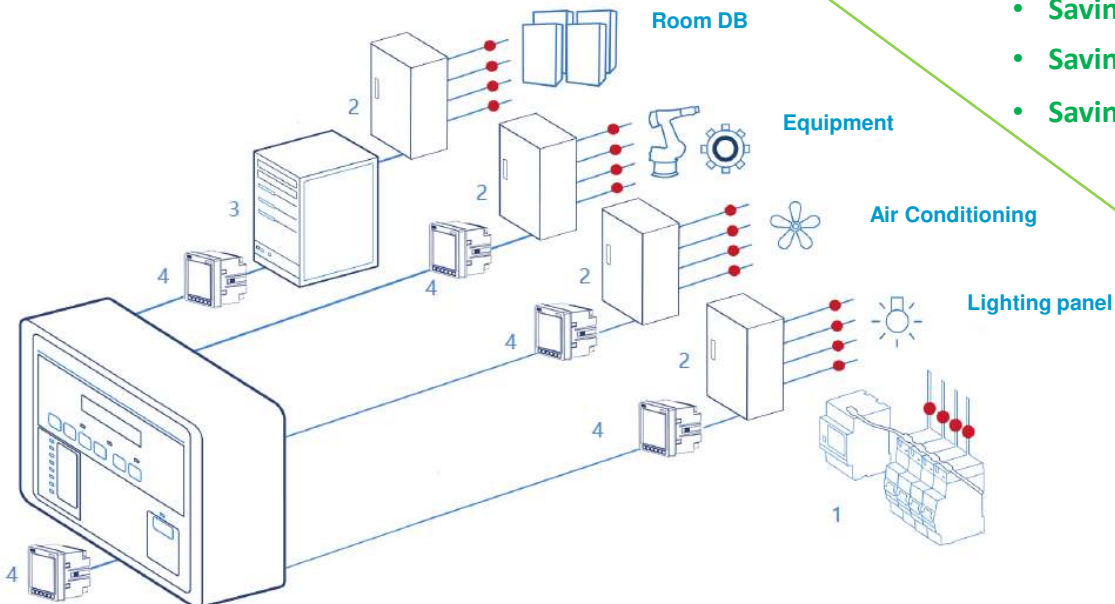
Alarm Function

- Overload, Under load, Over current, Sensor fault

Communication

- 1 RS485 port, MODBUS-RTU protocol

Typical Connection



Compare With Traditional Din-rail Energy Meter

- Saving 50% Installation Space
- Saving 50% Installation Hour
- Saving 50% System Debug Time

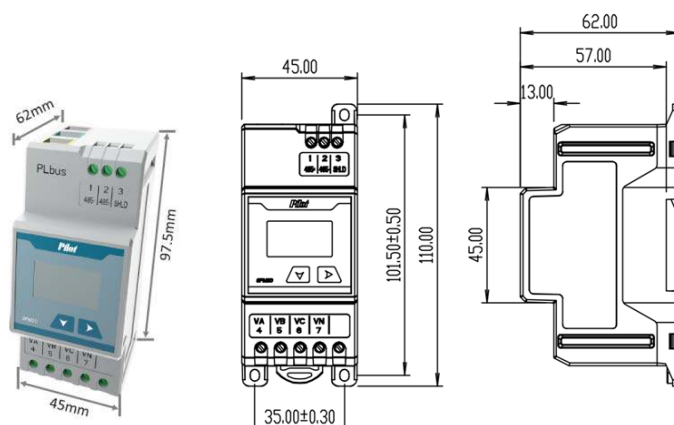
Description

1. SPM20 (● measurement point)
2. Branching Cabinet
3. UPS
4. Pilot Energy Meter

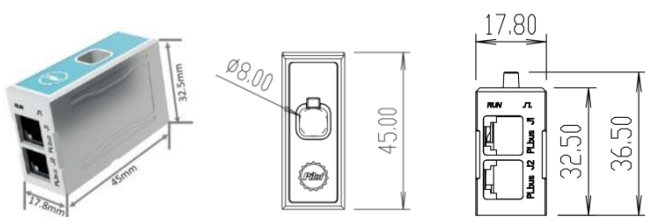
SPM20 & Accessories

❖ SPM20-M: Main Module

Connection Mode	1 phase 2 wires, 3 phase 4 wires	
Power Supply	Self-supply, by A phase	
Voltage Input	1 phase 2 wires	220V Range: 40%-150%
	3 phase 4 wires	3×220/380V Range: 40%-150%
Frequency	45-65Hz	
Power Loss	Power supply circuit: ≤ 10W	
Communication	RS485 serial, support Modbus-RTU Baudrate: 4800, 9600, 19200bps Address: 1~247	

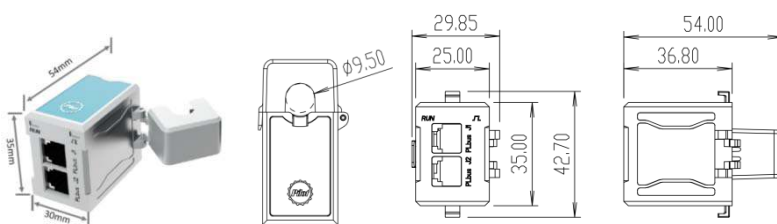


❖ SPM20-C: Solid Core Sensor



Connection Mode	Bus connection (2 x RJ12 Port)
Rated Current Input	5(63) A
Installation	Solid core
Open hole	Φ8 mm
Sampling Rate	28k Hz

❖ SPM20-O: Split Core Sensor



Connection Mode	Bus connection (2 x RJ12 Port)
Rated Current Input	10(50) A
Installation	Split Core
Open hole	Φ9.5 mm
Sampling Rate	28k Hz

Parameter		Accuracy	Measuring Range
Voltage		0.5%	40%~120%
Current	Solid Core Sensor (C)	0.5%	0-63A, 1%~120%
	Split Core Sensor (O)	1.0%	0-50A, 1%~120%
Power factor		1.0%	-1~1
Active power		1.0%	Single phase: 0~±14kW/var/VA Total: 0~±42kW/var/VA
Reactive power		2.0%	
Apparent power		2.0%	
Active energy	Solid Core Sensor (C)	1.0%	0~99,999,999.9 kWh
	Split Core Sensor (O)	2.0%	0~99,999,999.9 kWh
Reactive energy		2.0%	0~99,999,999.9 kVarh
Frequency		0.01	45 ~ 65Hz

Environment & Standard

Power frequency withstand voltage	2000V AC
Insulation resistance	≥ 100MΩ
Impulse withstand voltage	6kV (peak)
IP index	IP52 (front panel)

Environment

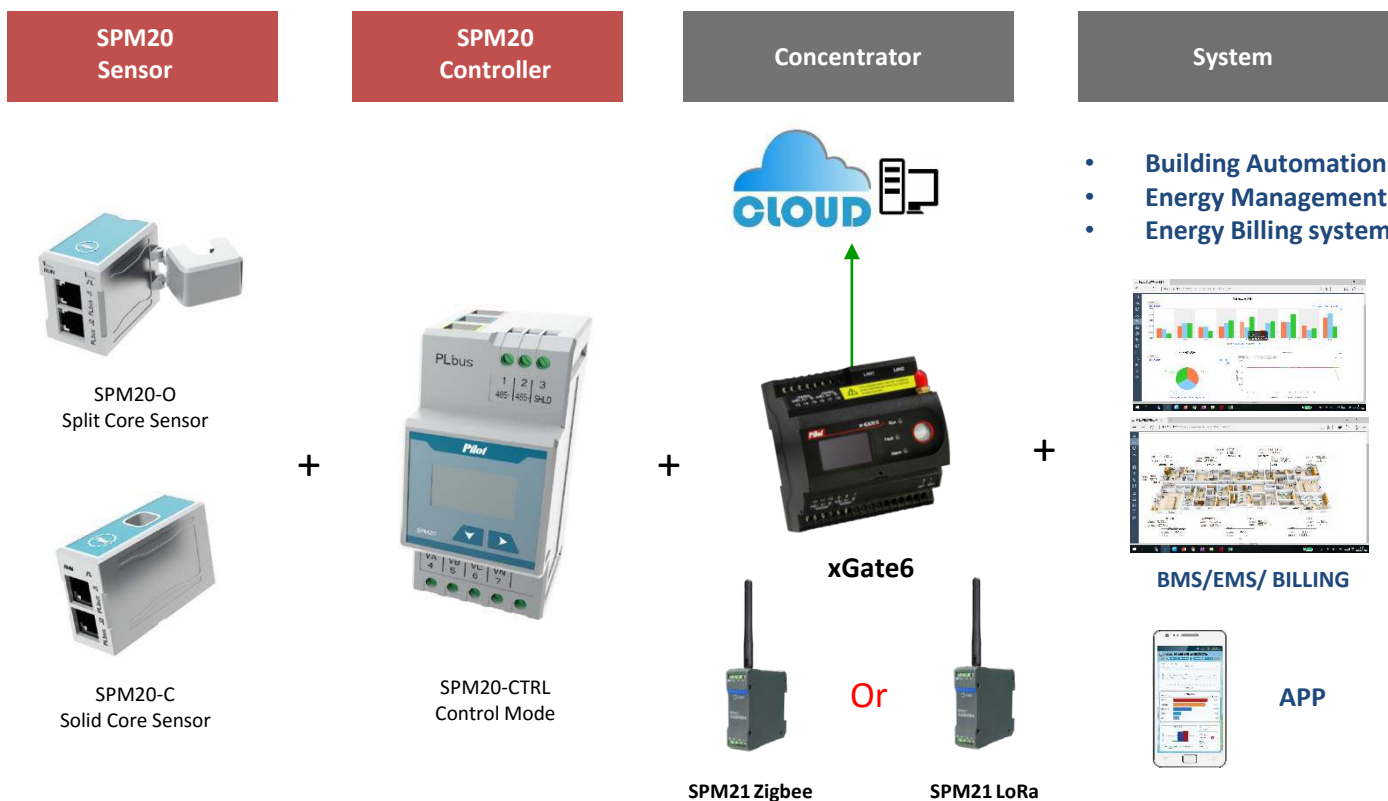
Normal operating temperature: -20℃~+55℃
 Operating temperature: -20℃~+50℃
 Storage temperature: -30℃~+80℃
 Humidity: <95% non-condensing

Standard (EMC)

- Electrostatic discharge immunity test IEC 61000-4-2, Level 4
- Radiated radio-frequency electromagnetic field immunity (RFEMS) IEC61000-4-3, Level 4
- Electrical fast transient test IEC 61000-4-4, Level 4
- Surge immunity test (1,2/50μs~8/20μs) IEC 61000-4-5, Level 4

- Conduction disturbance rejection of radio frequency field induction IEC61000-4-6, Level 3
- Electromagnetic emission limits CISPR22: 2006, Pass
- Voltage sag and short time interrupt immunity IEC61000-4-11, Pass
- Power frequency withstand voltage IEC 62052-11 2003

Solution



❖ xGate6 Smart Gateway

- Support XML / Json (FTP/ HTTP) forward
- Build in SQL for historical data
- Remote Web configuration
- ARM Cortex A8, 512MB DDR3
- Flash 512MB, 8GB TF-card
- 1 x GPRS & 2 x LAN port
- 4 x RS485 port for 200 devices
- AI / DI / DO signal input terminal

❖ SPM21 Zigbee / LoRa Module

- Transparent transmission
- 470MHz LoRa, 0.12 - 1kbps
- 2.4GHz Zigbee, 250kbps
- Transparent data transmission.
- LoRa distance : 0 - 2.5km
- Zigbee distance: 0 - 100m - 500m
- Support networking function
- 35mm DIN Rail

Order Information

Module	Order code		Description
Main Module	SPM20	- M	Suitable for 1 phase 2 wire & 3 phase 4 wire
Measure Sensor	SPM20	- C	Solid Core Sensor: 5 (63)A, Φ 8.0 mm, Class 1.0
		- O	Split Core Sensor: 10(50)A, Φ 9.5 mm, Class 2.0

Example:

Model No. 1pcs SPM20-M + 20pcs SPM20-C indicate 1 SPM20 Main module and 20pcs SPM20-C solid core sensor

Markets



School Dormitory, Residential Building



Commercial Building, Shopping Mall



Hotel, Hospital

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