

About Huawei



Huawei is a leading global information and communications technology (ICT) solutions provider. We provide telecom carriers, enterprises, and consumers with competitive ICT solutions, products, and services. We work in more than 170 countries and regions, serving over one-third of the world's population. Among our 180,000 employees, there are more than 160 different nationalities with a localization rate of almost 70%. Huawei's vision and mission is to bring digital to every person, home and organization for a fully connected, intelligent world. We maintained our strategic focus, intensified efforts in improving operations quality, and created value for our customers. Our 2017 annual revenue was 92.549 billion USD.



Smart Energy Center



reddot award 2016
winner

Higher Revenue

- High efficiency inverter topology
- Max. efficiency 98.6%
- European weighted efficiency 98.0%

Simple & Easy

- 10.6kg, allows one person simple installation
- Optimized AC connector for quick wiring
- Supports quick inverter configuration via App

Battery Ready

- Integrated Plug & Play energy storage interface

Safe & Reliable

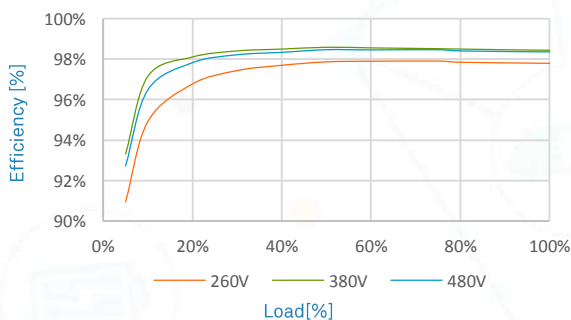
- IP65, natural convection
- Integrated lightning protection for both DC and AC
- Zero export function with smart power sensor

SUN2000L-2/3/4/4.6/5KTL

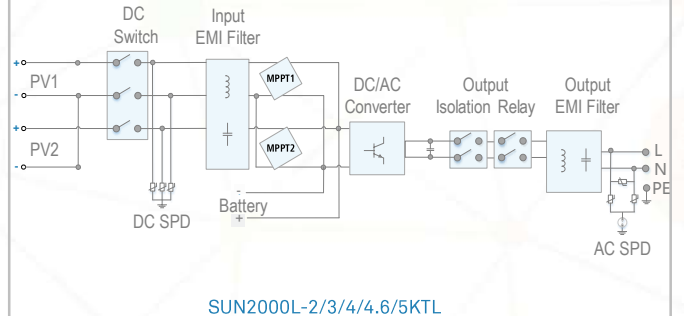


Technical Specification	SUN2000L-2KTL	SUN2000L-3KTL	SUN2000L-4KTL	SUN2000L-4.6KTL	SUN2000L-5KTL
Efficiency					
Max. efficiency	98.4 %	98.5 %	98.6 %	98.6 %	98.6 %
European weighted efficiency	97.0 %	97.6 %	97.9 %	98.0 %	98.0 %
Input					
Recommended max. PV power	3,000 Wp	4,500 Wp	6,000 Wp	6,900 Wp	7,500 Wp
Max. input voltage ¹	600 V / 495 V ¹				
Operating voltage range ¹	90 V ~ 600 V / 90 V ~ 495 V ¹				
Start-up voltage	120 V				
Full power MPPT voltage range	120 V ~ 480 V	160 V ~ 480 V	210 V ~ 480 V	260 V ~ 480 V	260 V ~ 480 V
Rated input voltage	380 V				
Max. input current per MPPT	11 A				
Max. short-circuit current	15 A				
Number of MPP trackers	2				
Max. number of inputs per MPPT	1				
Output					
Grid connection	Single phase				
Rated output power	2,000 W	3,000 W	4,000 W	4,600 W	4,990 W
Maximum apparent power	2,200 VA	3,300 VA	4,400 VA	4,990 VA	4,990 VA
Rated output voltage	220 V / 230 V / 240 V				
Rated AC grid frequency	50 Hz / 60 Hz				
Maximum output current	10 A	15 A	20 A	21.7 A	21.7 A
Adjustable power factor	0.8 leading ... 0.8 lagging				
Max. total harmonic distortion	≤ 3 %				
Protection					
Anti-islanding protection	Yes				
DC reverse polarity protection	Yes				
Insulation monitoring	Yes				
DC lightning protection	Yes				
AC lightning protection	Yes				
Residual current monitoring	Yes				
AC overcurrent protection	Yes				
AC short-circuit protection	Yes				
AC over-voltage protection	Yes				
Over-heat protection	Yes				
General Data					
Operating temperature range	-30 °C ~ 60 °C (Derating above 45°C @ Rated output power)				
Relative operating humidity	0 %RH ~ 100 %RH				
Operating altitude	0 ~ 4,000 m (Derating above 2,000 m)				
Cooling	Natural convection				
Display	LED indicators				
Communication	RS485, WLAN				
Weight (incl. mounting bracket)	10.6 kg (23.4 lb)				
Dimension (incl. mounting bracket)	375 * 375 * 161.5 mm (14.8 * 14.8 * 6.4 inch)				
Degree of protection	IP65				
Battery Compatibility					
Battery	LG Chem RESU 7H_R / 10H_R				
Voltage range	350 ~ 450 Vdc				
Max. current	10 A				
Communication	RS485				
Standard Compliance (more available upon request)					
Safety	EN/IEC 62109-1, EN/IEC 62109-2				
Grid connection standards	AS/NZS 4777:2015				

Efficiency Curve



Circuit Diagram



*1. Only applicable for PV string. The maximum input voltage and operating voltage upper limit will be reduced to 495 V when inverter connects and works with LG battery.

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Smart PV Optimiser



Higher Revenue

- Max. efficiency 99.5%, weighted efficiency 99.0%
- Allows more panels on each roof to achieve higher system yields

Simple & Easy

- Supports installation in shade prone areas and in different directions
- Quick frame mount at warehouse, less rooftop installation time
- Supports remote module-level monitoring with Smart PV Safety Box
- Communication through DC power line

Safe & Reliable

- IP68, support outdoor application
- Module-level shutdown capability to secure people and assets safety

Technical Specification	SUN2000P-375W
	Input
Rated input power	375 W
Absolute maximum input voltage	80 V
MPPT operating voltage range	10 - 80 V
Max. input current	12 A
Max. efficiency	99.5 %
Weighted efficiency	99.0 %
Overvoltage category	II
	Output
Max. output voltage	80 V
Max. output current	10 A
Output bypass	Yes
	Standard Compliance
Safety	IEC62109-1 (class II safety)
RoHS	Yes
	General Specification
Maximum allowed system voltage	1,000 V
Communication	PLC
Dimensions (W * H * D)	125 * 85 * 25.5 mm (4.9 * 3.3 * 1.0 inch)
Weight (including cables)	0.7 kg (1.5 lb)
Installation part	PV module frame / Aluminum extrusion profile (optional)
Input connector	MC4
Output connector	MC4
Output wire length	1.2 m (3.9 ft.)
Operating temperature / humidity range	-40 °C ~ 85 °C / 0 ~ 100 %
Protection rating	IP68

Smart PV Safety Box



Simple & Easy

- Communicate with optimizers through DC power line
- Support module-level real-time monitoring & management

Safe & Reliable

- Module-level shutdown capability to secure people and assets safety
- IP65, support outdoor application

Technical Specification	SmartPSB2000L
DC Input	
Maximum input voltage	600 V
Number of inputs	2
Maximum input current per input	15 A
DC Output	
Maximum output voltage	600 V
Number of outputs	2
Maximum output current per output	15 A
Features	
Module-level remote management	Yes
Onsite master module shutdown	Yes
General Specification	
Dimensions (W * H * D)	149 * 149 * 49 mm (5.9 * 5.9 * 1.9 inch)
Weight	0.8 kg (1.8 lb)
Display	LED
Communication	PLC, RS485
Input type	Ampheno HH4
Operating temperature range	-30 °C ~ 55 °C
Protection rating	IP65

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Smart Power Sensor



🎯 Accurate

- Measurement accuracy: class 1

📄 Simple & Easy

- Standard din-rail mounting of DIN 35 mm
- Small volume, 1P2W 36 mm, 3P4W 72 mm
- LCD display, convenient for users to set and check
- Coupling connection for installation
- CT and RS485 cables included in accessories

🌱 Energy-efficient

- Overall power consumption ≤ 1 W

Technical Specification	DDSU666-H	DTSU666-H
General Specification		
Dimension (W * H * D)	36 * 100 * 65.5 mm (1.4 * 3.9 * 2.6 inch)	72 * 100 * 65.5 mm (2.8 * 3.9 * 2.6 inch)
Mounting type	DIN35 Rail	
Weight (including cables)	1.2 kg (2.6 lb)	1.5 kg (3.3 lb)
Power Supply		
Power grid type	1P2W	3P4W
Input power (phase voltage)	176 Vac ~ 288 Vac	
Power consumption	≤ 0.8 W	≤ 1 W
Measurement Range		
Line voltage	/	304 Vac ~ 499 Vac
Phase voltage	176 Vac ~ 288 Vac	
Current	0 ~ 100 A	
Measurement Accuracy		
Voltage	$\pm 0.5\%$	
Current / Power / Energy	$\pm 1\%$	
Frequency	± 0.01 Hz	
Communication		
Interface	RS485	
Baud rate	9600 bps	
Communication protocol	Modbus-RTU	
Environment		
Operating temperature range	-25 °C ~ 60 °C	
Storage temperature range	-40 °C ~ 70 °C	
Operating humidity range	5 %RH ~ 95 %RH (non-condensing)	
Others		
Accessories	RS485 Cable (10 m / 33 ft.)	
	1 CT 100 A / 40 mA (6 m / 19 ft.)	3 CT 100 A / 40 mA (6 m / 19 ft.)



FusionSolar Smart PV Management System



Simple & Swift

- Simple commissioning of all local components by Local APP
- One-click commissioning by import saved configuration

Convenient & Reliable

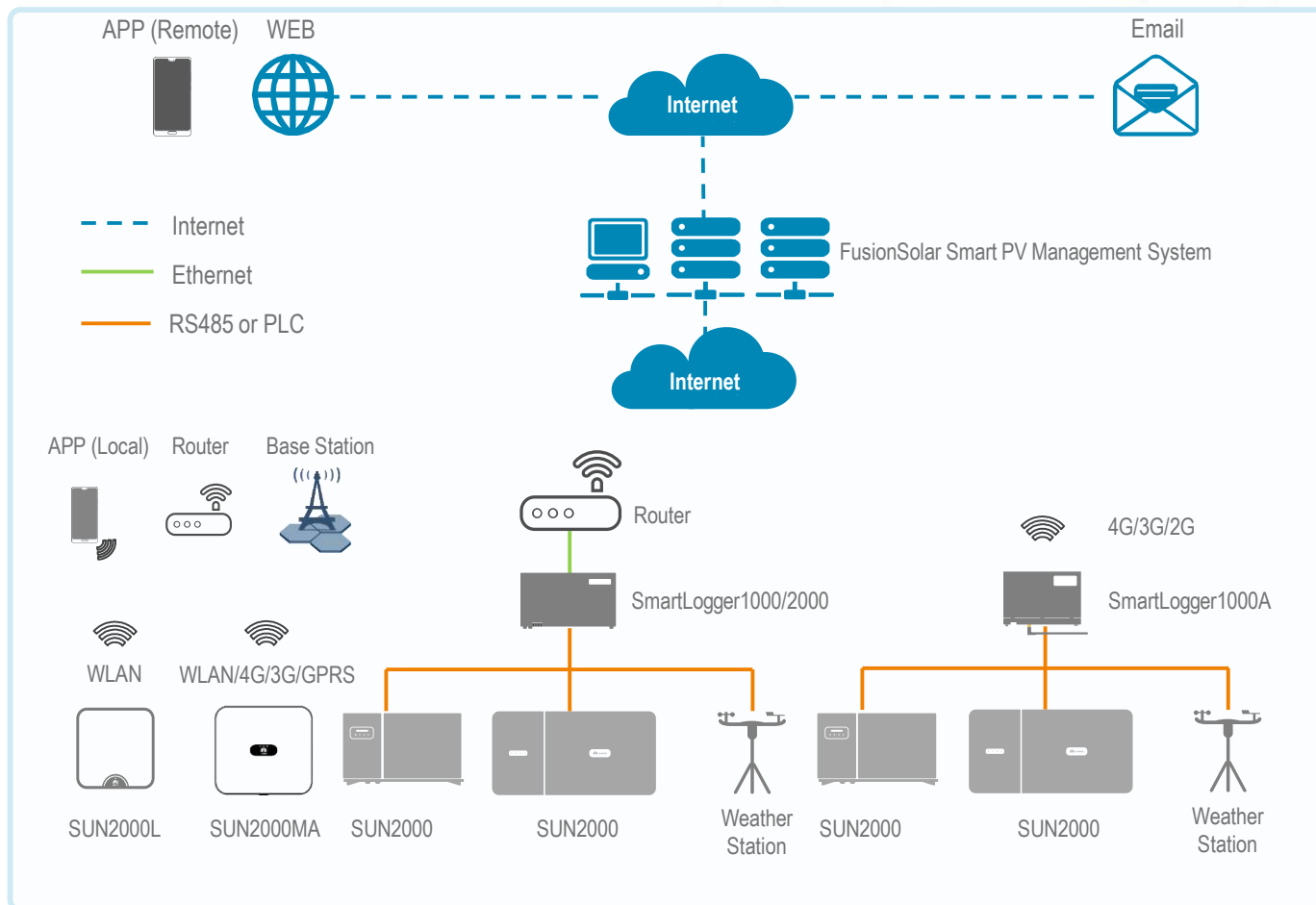
- Clear illustration on your home energy flow, indicating your home energy generation and self-consumption
- Real-time data on PV module*, inverter and plant
- Access your historical data at anytime from anywhere
- Data back-up for all plant performance data

Improved O&M Experience

- Support module-level physical layout display
- Module-level fault detection & performance management
- Proactive O&M via smart I-V curve diagnosis and dispersion rate analysis
- Remote O&M to issue the ticket and finish fault recovery

*Full optimizer solution with Smart PV Safety Box required

Network Structure



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FusionSolar Smart PV Management System



WEB

APP

- Overall management on all plants, including yields, power output, alarms and O&M statistics
- Real-time plant-, inverter- and panel-level data collection, access your plant at anytime from anywhere
- Online diagnosis to find out low performance device
- Remote O&M, one-click ticket issuing, simple and efficient for fault recovery

- Swift commissioning for all local components
- Installer & end-user account available
- Real-time status on each plant and module*
- Mobile O&M for fault recovery

*Full optimizer solution with Smart PV Safety Box required

	Feature List	WEB	APP
Basic Feature	Swift Installation & Registration	●	●
	Data Collection	●	●
	Dashboard	●	●
	Energy Flow	●	●
	Energy Generation & Consumption	●	●
	Device Management	●	●
	Report Management	●	●
	Alarm Management	●	●
Advanced Feature	System Configuration	●	●
	Intelligent O&M	○	○
	Mobile O&M	○	○
	Proactive Diagnosis	○	○
	Smart I-V Curve Diagnosis	○	○

● Basic ○ Optional

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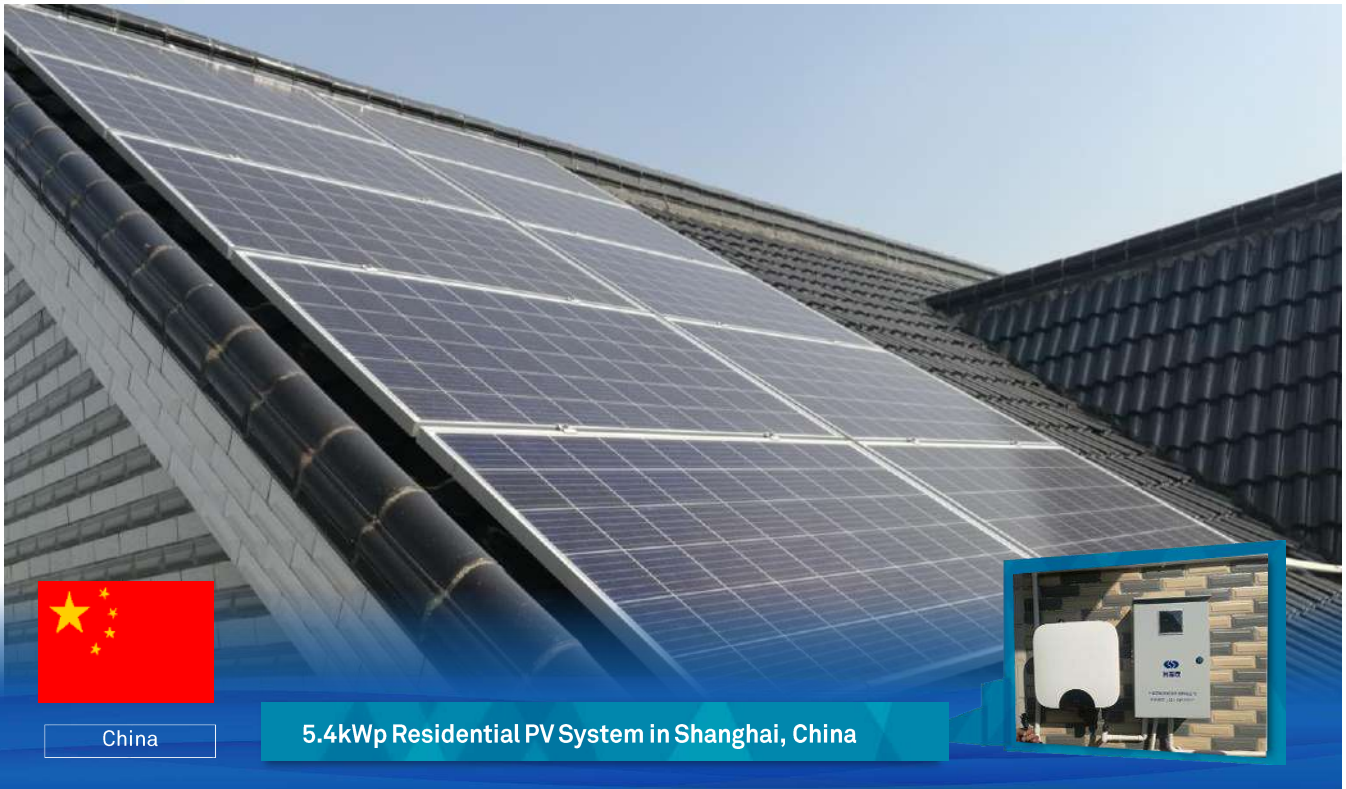


FusionHome Smart Energy Solution Reference



FusionHome Smart Energy Solution Reference





China

5.4kWp Residential PV System in Shanghai, China



China

5.8kWp Residential PV System in Shanghai, China







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