



About Huawei


Huawei is a leading global provider of information and communications technology (ICT) infrastructure and smart devices. With integrated solutions across four key domains – telecom networks, IT, smart devices, and cloud services – we are committed to bringing digital to every person, home and organization for a fully connected, intelligent world. Huawei's end-to-end portfolio of products, solutions and services are both competitive and secure. Through open collaboration with ecosystem partners, we create lasting value for our customers, working to empower people, enrich home life, and inspire innovation in organizations of all shapes and sizes. At Huawei, innovation focuses on customer needs. We invest heavily in basic research, concentrating on technological breakthroughs that drive the world forward.

 Employees
194,000+

 R&D Personnel
96,000+

 Countries
170+

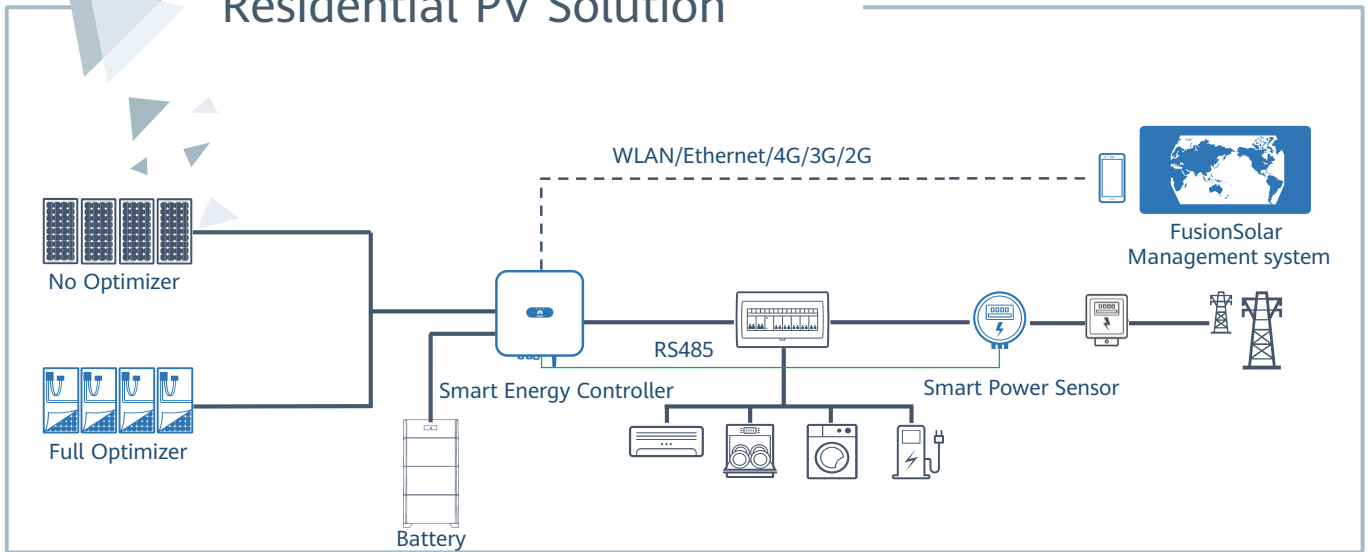
 Interbrand's Top 100 Best Global Brands
74

 Fortune Global 500
49

 Research institutes /labs/centers
14

 **130GW+**
Accumulated global shipment at the end of 2019

Residential PV Solution



Optimal Electricity Cost

Up to 30% More Energy by Optimizers

2x POWER Battery Ready for More Energy Consumption

Active Safety

AI Powered Active Arcing Protection

Pinpoint Arc Fault Positioning

Better Experience

One-Fits-All Solution, Easier Business

Module Auto-Mapping within 5 sec





Active Safety

AI Powered
Active Arcing Protection



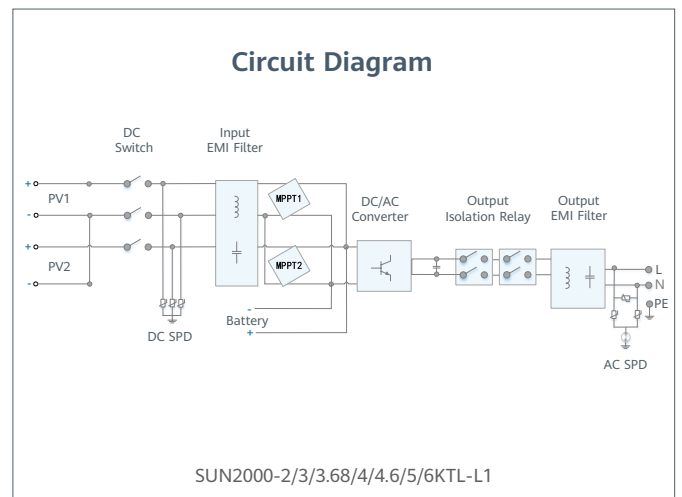
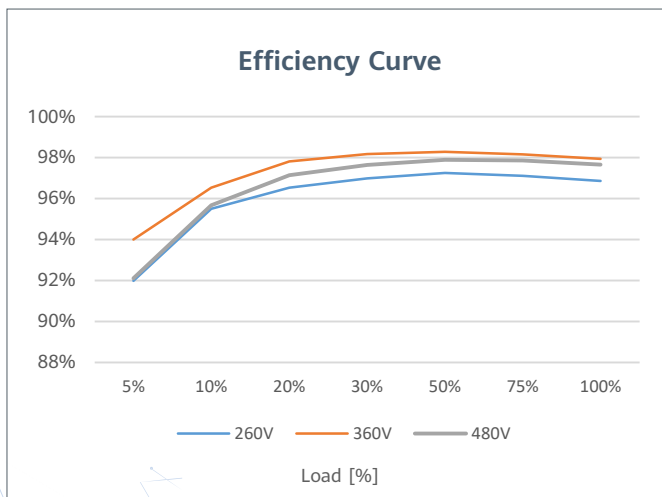
Higher Yields

Up to 30% More
Energy with Optimizer



2x POWER Battery Ready

5KW AC Output plus
5KW Battery Charge



Technical Specification

Technical Specification	SUN2000 -2KTL-L1	SUN2000 -3KTL-L1	SUN2000 -3.68KTL-L1	SUN2000 -4KTL-L1	SUN2000 -4.6KTL-L1	SUN2000 -5KTL-L1	SUN2000 -6KTL-L1 ¹
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Efficiency

Max. efficiency	98.2 %	98.3 %	98.4 %	98.4 %	98.4 %	98.4 %	98.4 %
European weighted efficiency	96.7 %	97.3 %	97.3 %	97.5 %	97.7 %	97.8 %	97.8 %

Input (PV)

Recommended max. PV power ²	3,000 Wp	4,500 Wp	5,520 Wp	6,000 Wp	6,900 Wp	7,500 Wp	9,000 Wp
Max. input voltage	600 V ³						
Start-up voltage	100 V						
MPPT operating voltage range	90 V – 560 V ³						
Rated input voltage	360 V						
Max. input current per MPPT	12.5 A						
Max. short-circuit current	18 A						
Number of MPP trackers	2						
Max. number of inputs	2						

Input (DC Battery)

Compatible Battery	LG Chem RESU 7H_R / 10H_R						
Operating voltage range	350 ~ 450 Vdc						
Max operating current	10 A @7H_R / 15 A @10H_R						
Max charge power	3,500 W @7H_R / 5,000 W @10H_R						
Max discharge Power @7H_R	2,200 W	3,300 W	3,500 W	3,500 W	3,500 W	3,500 W	3,500 W
Max discharge Power @10H_R	2,200 W	3,300 W	3,680 W	4,400 W	4,600 W	5,000 W	5,000 W
Compatible Battery	HUAWEI Smart ESS Battery 5kWh – 30kWh ¹						
Operating voltage range	350 ~ 560 Vdc						
Max operating current	15 A						
Max charge Power	5,000 W ⁴						
Max discharge Power	2,200 W	3,300 W	3,680 W	4,400 W	4,600 W	5,000 W	5,000 W

Output

Grid connection	Single phase						
Rated output power	2,000 W	3,000 W	3,680 W	4,000 W	4,600 W	5,000 W ⁵	6,000 W
Max. apparent power	2,200 VA	3,300 VA	3,680 VA	4,400 VA	5,000 VA ⁶	5,500 VA ⁷	6,000 VA
Rated output voltage	220 Vac / 230 Vac / 240 Vac						
Rated AC grid frequency	50 Hz / 60 Hz						
Max. output current	10 A	15 A	16 A	20 A	23 A ⁸	25 A ⁸	27.3 A
Adjustable power factor	0.8 leading ... 0.8 lagging						
Max. total harmonic distortion	≤ 3 %						
Backup power output	Yes (via Backup Box-B0 ¹)						

Protection & Feature

Anti-Islanding protection	Yes
DC reverse polarity protection	Yes
Insulation monitoring	Yes
DC surge protection	Yes, compatible with TYPE II protection class according to EN/IEC 61643-11
AC surge protection	Yes, compatible with TYPE II protection class according to EN/IEC 61643-11
Residual current monitoring	Yes
AC overcurrent protection	Yes
AC short-circuit protection	Yes
AC overvoltage protection	Yes
Over-heat protection	Yes
Arc fault protection	Yes
Battery reverse charging from grid	Yes

General Data

Operating temperature range	-25 ~ +60 °C
Relative operating humidity	0 %RH ~ 100 %RH
Operating altitude	0 ~ 4,000 m (Derating above 2,000 m)
Cooling	Natural convection
Display	LED indicators; integrated WLAN + FusionSolar APP
Communication	RS485, WLAN via inverter built-in WLAN module Ethernet via Smart Dongle-WLAN-FE (Optional); 4G / 3G / 2G via Smart Dongle-4G (Optional)
Weight (incl. mounting bracket)	12.0 kg (26.5 lb)
Dimension (incl. mounting bracket)	365mm * 365mm * 156 mm (14.4 x 14.4 x 6.1 inch)
Degree of protection	IP65

Optimizer Compatibility

DC MBUS compatible optimizer	SUN2000-450W-P
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Standard Compliance (more available upon request)

Safety	EN/IEC 62109-1, EN/IEC 62109-2
Grid connection standards	G98, G99, EN 50549-1, CEI 0-21, VDE-AR-N 4105, AS 4777.2, C10/11, ABNT, UTE C15-712, RD 1699, TOR D4, IEC61727, IEC62116, IEC60068, IEC61683

¹ Available in 2020 Q3.

² Inverter max input PV power is 10,000 Wp when long strings are designed and fully connected with SUN2000-450W-P power optimizers.

³ The maximum input voltage and operating voltage upper limit will be reduced to 495 V when inverter connects and works with LG battery.

⁴ 2,500 W @ 5kWh HUAWEI ESS battery

⁵ AS4777.2: 4,991W. ⁶ VDE-AR-N 4105: 4,600VA / AS4777.2: 4,999VA. ⁷ AS4777.2: 4,999VA / C10/11: 5,000VA ⁸ AS4777.2: 21.7A.

Smart Energy Controller



Active Safety

AI Powered
Active Arcing Protection



Higher Yields

Up to 30% More Energy
with Optimizer



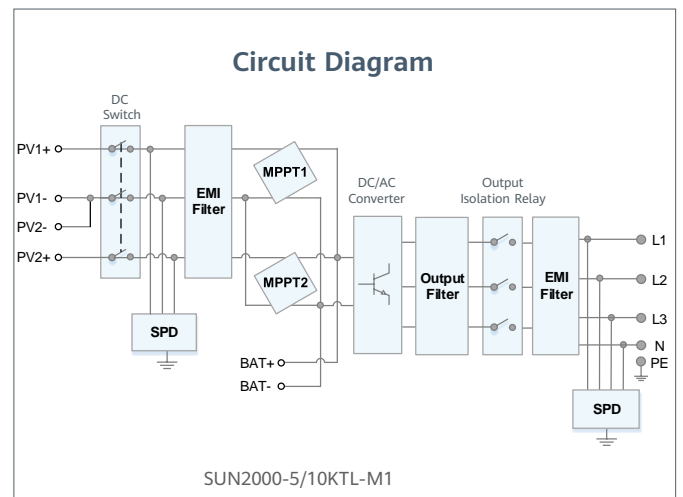
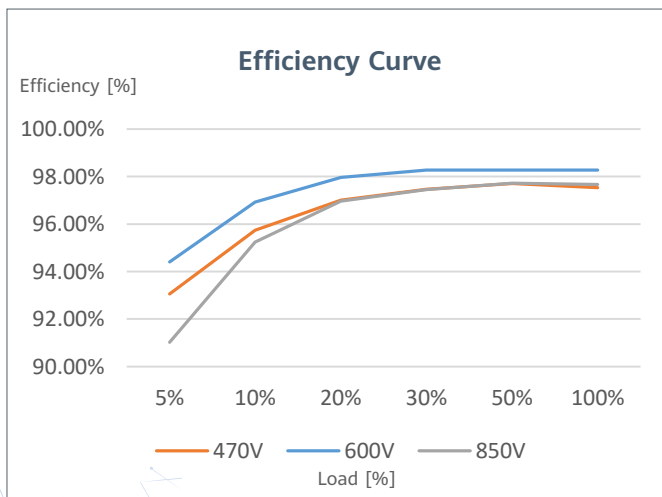
Battery Ready

Plug & Play battery interface ¹



Flexible Communication

WLAN, Fast Ethernet, 4G
Communication Supported



¹. Will be compatible with HUAWEI smart string ESS in Q1, 2021

Technical Specification

Technical Specification	SUN2000-5KTL-M1	SUN2000-10KTL-M1
Efficiency		
Max. efficiency	98.4%	98.6%
European weighted efficiency	97.5%	98.1%
Input (PV)		
Recommended max. PV power ¹	7,500 Wp	15,000 Wp
Max. input voltage ²		1,100 V
Operating voltage range ³		140 V ~ 980 V
Start-up voltage		200 V
Rated input voltage		600 V
Max. input current per MPPT		11 A
Max. short-circuit current		15 A
Number of MPP trackers		2
Max. input number per MPP tracker		1
Input (DC Battery)		
Compatible Battery	HUAWEI Smart String ESS 5kWh – 30kWh	
Operating voltage range	600 V ~ 980 V	
Max operating current	16A	
Max charge Power	10,000 W	
Max discharge Power	5,500 W	10,000 W
Output (On Grid)		
Grid connection	Three-phase	
Rated output power	5,000 W	10,000 W
Max. apparent power	5,500 VA	11,000 VA ⁴
Rated output voltage	220 Vac / 380 Vac, 230 Vac / 400 Vac, 3W / N+PE	
Rated AC grid frequency	50 Hz / 60 Hz	
Max. output current	8.5 A	16.9 A
Adjustable power factor	0.8 leading ... 0.8 lagging	
Max. total harmonic distortion	≤ 3 %	
Output (Backup Power via Backup Box-B1)		
Maximum apparent power	3,300 VA	
Rated output voltage	220 V / 230 V	
Maximum output current	15 A	
Power factor range	0.8 leading ... 0.8 lagging	
Features & Protections		
Input-side disconnection device	Yes	
Anti-Islanding protection	Yes	
DC reverse polarity protection	Yes	
Insulation monitoring	Yes	
DC surge protection	Yes, compatible with TYPE II protection class according to EN/IEC 61643-11	
AC surge protection	Yes, compatible with TYPE II protection class according to EN/IEC 61643-11	
Residual current monitoring	Yes	
AC overcurrent protection	Yes	
AC short-circuit protection	Yes	
AC overvoltage protection	Yes	
Arc fault protection	Yes	
Ripple receiver control	Yes	
Integrated PID recovery ⁵	Yes	
Battery reverse charging from grid	Yes	
General Data		
Operating temperature range	-25 ~ + 60 °C (-13 °F ~ 140 °F)	
Relative operating humidity	0 %RH ~ 100 %RH	
Operating altitude	0 ~ 4,000 m (13,123 ft.) (Derating above 2000 m)	
Cooling	Natural convection	
Display	LED Indicators; Integrated WLAN + FusionSolar App	
Communication	RS485; WLAN/Ethernet via Smart Dongle-WLAN-FE; 4G / 3G / 2G via Smart Dongle-4G (Optional)	
Weight (incl. mounting bracket)	17 kg (37.5 lb)	
Dimension (incl. mounting bracket)	525 x 470 x 146.5 mm (20.7 x 18.5 x 5.8 inch)	
Degree of protection	IP65	
Optimizer Compatibility		
DC MBUS compatible optimizer	SUN2000-450W-P	
Standard Compliance (more available upon request)		
Certificate	EN/IEC 62109-1, EN/IEC 62109-2, IEC 62116	
Grid connection standards	G98, G99, EN 50438, CEI 0-21, VDE-AR-N-4105, AS 4777, C10/11, ABNT, UTE C15-712, RD 1699, TOR D4, NRS 097-2-1, IEC61727, IEC62116, DEWA 2.0, IEC60068, IEC61683	

¹ Inverter max input PV power is 20,000 Wp when long strings are designed and fully connected with SUN2000-450W-P power optimizers.

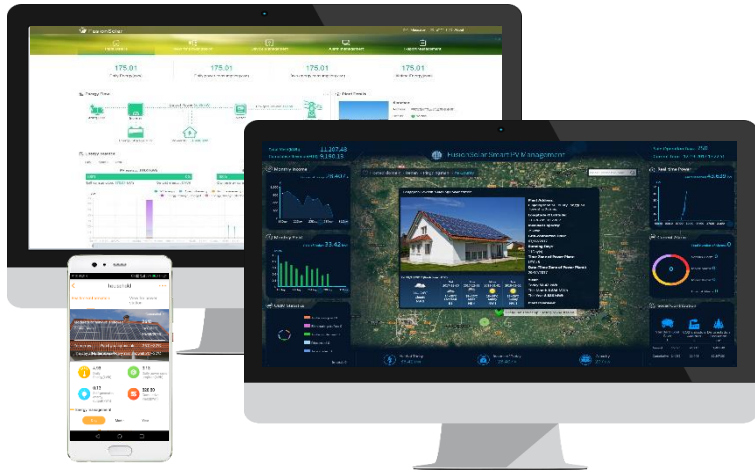
² The maximum input voltage is the upper limit of the DC voltage. Any higher input DC voltage would probably damage inverter.

³ Any DC input voltage beyond the operating voltage range may result in inverter improper operating.

⁴ C10 / 11: 10,000 VA

⁵ SUN2000-3~10KTL-M1 raises potential between PV- and ground to above zero through integrated PID recovery function to recover module degradation from PID. Supported module types include: P-type (mono, poly).

FusionSolar Smart PV Management System



Simple & Swift

- Simple commissioning by APP
- Auto-detection of system equipment
- Registering your plant by scanning any device



Convenient & Reliable

- Energy flow illustration
- Real-time data at anytime from anywhere
- Performance data back-up



Improved O&M Experience

- Physical & logical module layout
- Module-level performance management*
- Smart I-V Diagnosis

*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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