

Smart Energy Controller



Active Safety

AI Powered
Active Arcing Protection



Higher Yields

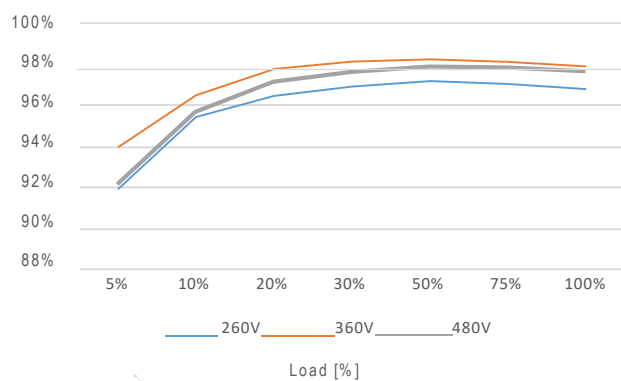
Up to 30% More
Energy with Optimizer



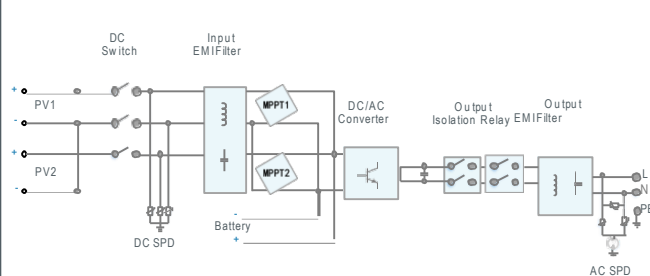
2x POWER BatteryReady

5KW AC Output plus
5KW Battery Charge

Efficiency Curve



Circuit Diagram



SUN2000-2/3/3.68/4/4.6/5/6KTL-L1

SUN2000-2/3/4/4.6/5/6KTL-L1
Technical Specification

Technical Specification	SUN2000 -2KTL-L1	SUN2000 -3KTL-L1	SUN2000 -4KTL-L1	SUN2000 -4.6KTL-L1	SUN2000 -5KTL-L1	SUN2000 -6KTL-L1
Efficiency						
Max. efficiency	98.2 %	98.3 %	98.4 %	98.4 %	98.4 %	98.4 %
European weighted efficiency	96.7 %	97.3 %	97.5 %	97.7 %	97.8 %	97.8 %
Input (PV)						
Recommended max. PV power	3,000 Wp	4,500 Wp	6,000 Wp	6,900 Wp	7,500 Wp	9,000 Wp
Max. input voltage	600 V ¹					
Start-up voltage	100 V					
MPPT operating voltage range	90 V – 560 V ¹					
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
Max discharge Power @10H_R	2,200 W	3,300 W	4,400 W	4,600 W	5,000 W	5,000 W
HUAWEI Smart ESS Battery 5kWh – 30kWh						
Compatible Battery						
Operating voltage range	350 ~ 560 Vdc					
Max operating current	15 A					
Max charge power	5,000 W ²					
Max discharge power	2,200 W	3,300 W	4,400 W	4,600 W	5,000 W	5,000 W
Output						
Grid connection	Single phase					
Rated AC Active power	2,000 W	3,000 W	4,000 W	4,600 W	5,000 W ³	6,000 W
Rated AC Apparent power	2,000 VA	3,000 VA	4,000 VA	4,600 VA	5,000 VA	6,000 VA
Max. apparent power	2,200 VA	3,300 VA	4,400 VA	4,999 VA	5,000 VA ³	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	20 A	20.9 A	21.7 A ³	27.3 A
Adjustable power factor	0.8 leading ... 0.8 lagging					
Max. total harmonic distortion	≤ 3 %					
Backup power output	Yes (via Backup Box-5000)					
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 (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; 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					
Country of Manufacture	China					
Optimizer Compatibility						
DC MBUS compatible optimizer	SUN2000-450W-P					
Standard Compliance (more available upon request)						
Safety	EN/IEC 62109-1, EN/IEC 62109-2, IEC 62116					
Grid connection standards	AS/NZS 4777.2 2020					

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

*2 2,500 W @ 5kWh HUAWEI ESS battery

*3 According to AS/NZS 4777.2 2020 standard