

Smart Energy Controller



Active Safety

AI Powered
Active Arcing Protection



Higher Yields

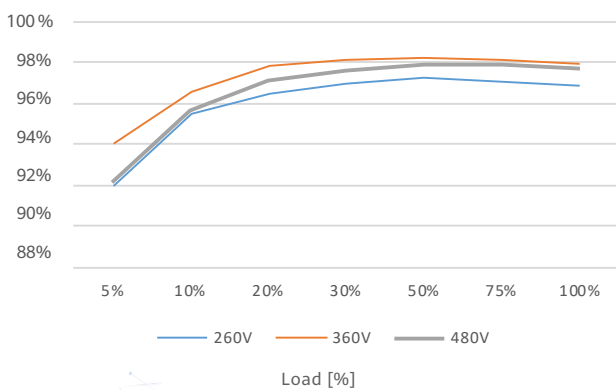
Up to 30% More
Energy with Optimizer



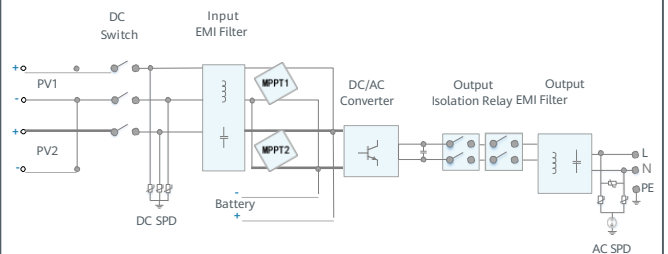
2x POWER Battery Ready

5KWAC Output plus
5KW Battery Charge

Efficiency Curve



Circuit Diagram



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

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

Technical Specification	SUN2000-2KTL-L1	SUN2000-3KTL-L1	SUN2000-4KTL-L1	SUN2000-5KTL-L1	SUN2000-6KTL-L1 ¹
Efficiency					
Max. efficiency	98.2 %	98.3 %	98.4 %	98.4 %	98.4 %
European weighted efficiency	96.7 %	97.3 %	97.5 %	97.8 %	97.8 %
Input (PV)					
Recommended max. PV power ²	3,000 Wp	4,500 Wp	6,000 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
Max discharge Power @10H_R	2,200 W	3,300 W	4,400 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	4,400 W	5,000 W	5,000 W
Output					
Grid connection	Single phase				
Rated output power	2,000 W	3,000 W	4,000 W	5,000 W ⁵	6,000 W
Max. apparent power	2,200 VA	3,300 VA	4,400 VA	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	20 A	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-5000 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 (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				
Optimizer Compatibility					
DC MBUS compatible optimizer	SUN2000-450W-P				
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, NOM, LAPEM				

^{*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: 4999W. ^{*6} VDE-AR-N 4105: 4600VA / AS4777.2: 4999VA. ^{*7} AS4777.2: 4999VA. ^{*8} AS4777.2: 21.7A.