

# Smart Energy Controller



## Active Safety

AI Powered  
Active Arcing Protection



## Higher Yields

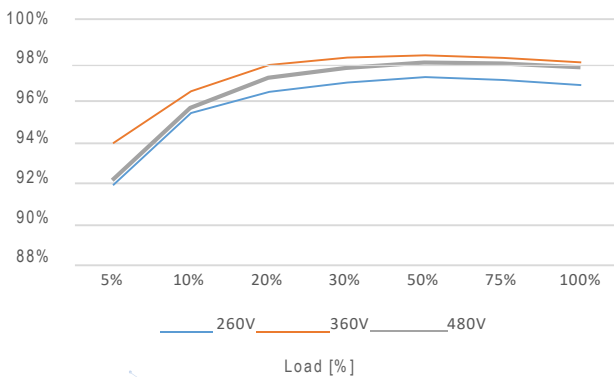
Up to 30% More  
Energy with Optimizer



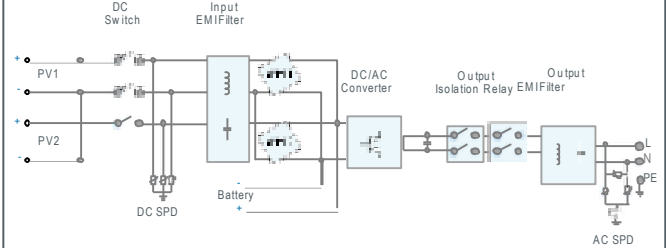
## 2x POWER BatteryReady

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
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**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 W <sub>p</sub>	4,500 W <sub>p</sub>	6,000 W <sub>p</sub>	6,900 W <sub>p</sub>	7,500 W <sub>p</sub>	9,000 W <sub>p</sub>
Max. input voltage	600 V <sup>1</sup>					
Start-up voltage	100 V					
MPPT operating voltage range	90 V – 560 V <sup>1</sup>					
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 V <sub>dc</sub>					
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
Compatible Battery	HUAWEI Smart ESS Battery 5kWh – 30kWh					
Operating voltage range	350 ~ 560 V <sub>dc</sub>					
Max operating current	15 A					
Max charge power	5,000 W <sup>2</sup>					
Max discharge power	2,200 W	3,300 W	4,400 W	4,600 W	5,000 W	5,000 W

**Output**

	Single phase					
Grid connection	Single phase					
Rated AC Active power	2,000 W	3,000 W	4,000 W	4,600 W	5,000 W <sup>3</sup>	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 <sup>3</sup>	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 <sup>3</sup>	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
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**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