Smart Energy Controller

inter solar award 2019 WINNER

Active Safety

AI Powered
Active Arcing Protection

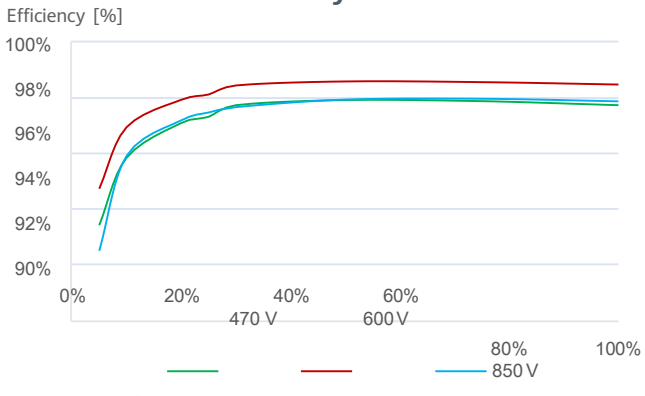
Higher Yields

Up to 30% More Energy
with Full Optimizer

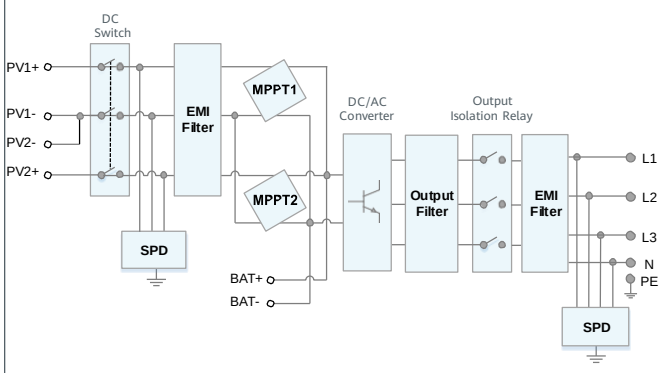
Flexible Communication

WLAN, Fast Ethernet, 4G
Communication Supported

Efficiency Curve



Circuit Diagram



SUN2000-5/6KTL-M1

Technical Specification

Technical Specification	SUN2000-5KTL-M1	SUN2000-6KTL-M1
Efficiency		
Max. efficiency	98.4%	98.6%
European weighted efficiency	97.5%	97.7%
Input (PV)		
Recommended max. PV power[1]	7,500 Wp	9,000 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. number of inputs	2	
Input (DC Battery)		
Compatible Battery	HUAWEI Smart ESS Battery 5kWh – 30kWh	
Max number of connected battery	2	
Voltage range	600 V ~ 980 V	
Max Input current	16.7 A	
Max charge Power	10,000 W	
Max discharge Power	5,000 W	6,000 W
Output		
Grid connection	Three-phase	
Rated output power	5,000 W	6,000 W
Max. apparent power	5,500 VA	6,600 VA
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	10.1 A
Adjustable power factor	0.8 leading ... 0.8 lagging	
Max. total harmonic distortion	≤ 3 %	
Backup power output	Yes (via Backup Box-B1)	
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[4]	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	AS/NZS4777:2015	

*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. Please limit input voltage to maximum 600Vdc according to AS/NZS 4777.1:2016
*3 Any DC input voltage beyond the operating voltage range may result in inverter improper operating.
*4 SUN2000-5~6KTL-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)..