

Smart Energy Controller



Active Safety

AI Powered
Active Arcing Protection



Higher Yields

Up to 30% More Energy
with Optimizer



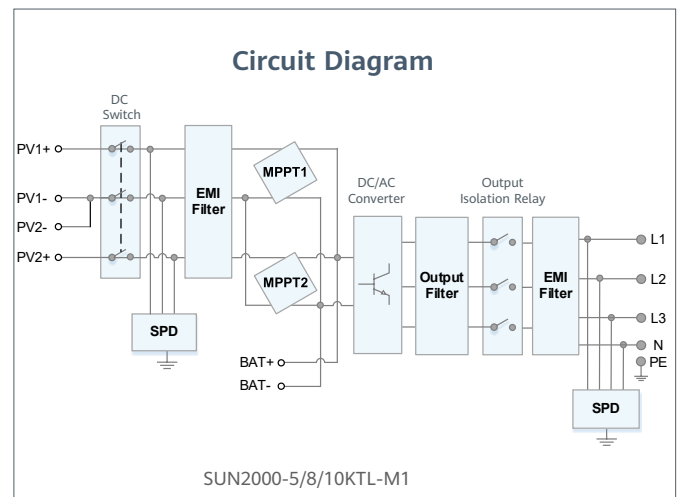
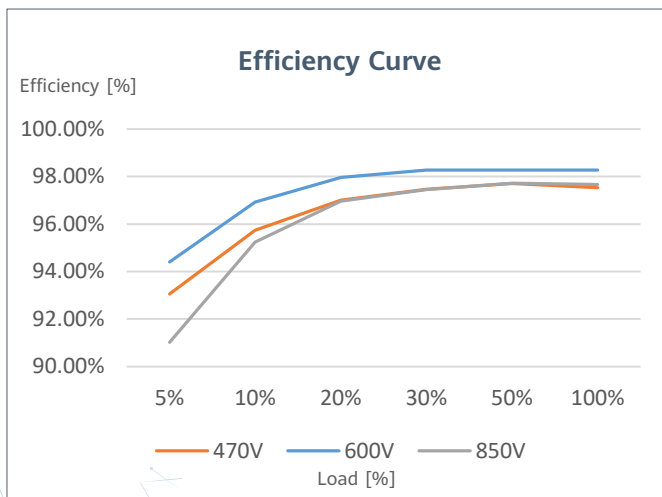
Battery Ready

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 -8KTL-M1	SUN2000 -10KTL-M1
Efficiency			
Max. efficiency	98.4%	98.6%	98.6%
European weighted efficiency	97.5%	98.0%	98.1%
Input (PV)			
Recommended max. PV power ¹	7,500 Wp	12,000 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	8,800 W	10,000 W
Output (On Grid)			
Grid connection	Three-phase		
Rated output power	5,000 W	8,000 W	10,000 W
Max. apparent power	5,500 VA	8,800 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	13.5 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		
Nighttime Power Consumption	< 5.5W ⁶		
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		

^{*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).

^{*6} <10 W when PID recovery function is activated
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