



## Active Safety

AI Powered  
Active Arcing Protection



## Higher Yields

Up to 30% More Energy  
with Optimizer



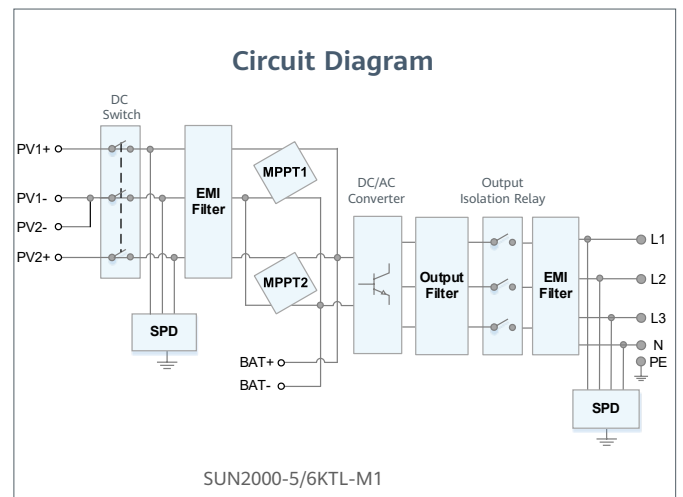
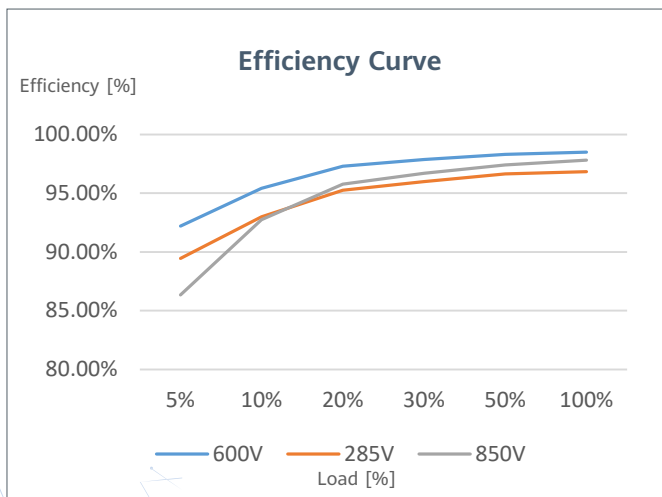
## Battery Ready

Plug & Play battery interface <sup>1</sup>



## Flexible Communication

WLAN, Fast Ethernet, 4G  
Communication Supported



<sup>1</sup>. Will be compatible with HUAWEI smart string ESS in Q1, 2021

# Technical Specification

Technical Specification	SUN2000-5KTL-M1	SUN2000-6KTL-M1
<b>Efficiency</b>		
Max. efficiency	98.4%	98.6%
European weighted efficiency	97.5%	97.7%
<b>Input (PV)</b>		
Recommended max. PV power <sup>1</sup>	7,500 Wp	9,000 Wp
Max. input voltage <sup>2</sup>	1,100 V	
Operating voltage range <sup>3</sup>	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	
<b>Input (DC Battery)</b>		
Compatible Battery	HUAWEI Smart String ESS 5kWh – 30kWh	
Cell Technology	Lithium-iron phosphate (LiFePO4)	
Operating voltage range	600 V ~ 980 V	
Max operating current	16A	
Max charge Power	10,000 W	
Max discharge Power	5,500 W	6,600 W
<b>Output (On Grid)</b>		
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 %	
<b>Output ( Backup Power via Backup Box-B1 )</b>		
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	
<b>Features &amp; Protections</b>		
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 <sup>4</sup>	Yes	
Battery reverse charging from grid	Yes	
Nighttime Power Consumption	< 5.5W <sup>5</sup>	
<b>General Data</b>		
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	
<b>Optimizer Compatibility</b>		
DC MBUS compatible optimizer	SUN2000-450W-P	
<b>Standard Compliance (more available upon request)</b>		
Certificate	EN/IEC 62109-1, EN/IEC 62109-2, IEC 62116	
Grid connection standards	AS/NZS4777:2015	

<sup>1</sup> Inverter max input PV power is 20,000 Wp when long strings are designed and fully connected with SUN2000-450W-P power optimizers.

<sup>2</sup> The maximum input voltage is the upper limit of the DC voltage. Any higher input DC voltage would probably damage inverter.

<sup>3</sup> Any DC input voltage beyond the operating voltage range may result in inverter improper operating.

<sup>4</sup> 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).

<sup>5</sup> <10 W when PID recovery function is activated