SUN2000-5/8/10KTL-M0

Smart Energy Controller



Higher Revenue

Max. efficiency 98.6%

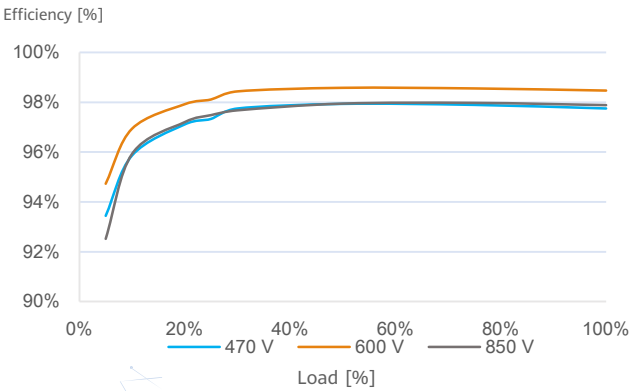
Simple & Easy

17 kg

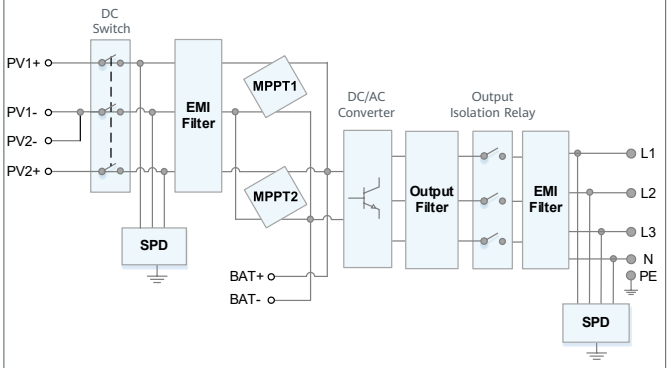
Safe & Reliable

Arc fault protection

Efficiency Curve



Circuit Diagram



SUN2000-5/8/10KTL-M0

Technical Specification

Technical Specification	SUN2000-5KTL-M0	SUN2000-8KTL-M0	SUN2000-10KTL-M0
Efficiency			
Max. efficiency	98.4%	98.6%	98.6%
European weighted efficiency	97.5%	98.0%	98.1%
Input			
Max. input voltage [1]	1,100 V		
Operating voltage range [2]	140 V ~ 980 V		
Start-up voltage	200 V		
Full power MPPT voltage range	240 V ~ 850 V	380 V ~ 850 V	470 V ~ 850 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		
Output			
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
Rated output voltage	220 Vac / 380 Vac, 230 Vac / 400 Vac , default 3W / N+PE ; 3W+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 %		
Features & Protections			
Input-side disconnection device	Yes		
Anti-Islanding protection	Yes		
DC reverse polarity protection	Yes		
Insulation monitoring	Yes		
DC surge protection	Yes, compatible TYPE II protection class according to EN/IEC 61643-11		
AC surge protection	Yes, compatible 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		
Ripple receiver control	Yes		
Arc fault protection (AFCI)	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.)		
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 * 470 * 166 mm (20.7 * 18.5 * 6.5 inch)		
Degree of protection	IP65		
Night Time Power Consumption	< 5.5 W		
Standard Compliance (more available upon request)			
Safety	EN/IEC 62109-1, EN/IEC 62109-2, IEC62116		
Grid connection standards	G98, G99, EN 50438, EN 50549-1. CEI 0-21, VDE-AR-N-4105, AS 4777, C10/11, ABNT, UTE C15-712, RD 1699, TOR D4, IEC61727, DEWA, MEA(5,10KTL-M0), PEA(5,10KTL-M0)		

*1 The maximum input voltage is the upper limit of the DC voltage. Any higher input DC voltage would probably damage inverter.
*2 Any DC input voltage beyond the operating voltage range may result in inverter improper operating.
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Smart Energy Controller



Active Safety

AI Powered
Active Arcing Protection

Higher Yields

Up to 30% More Energy
with Optimizer

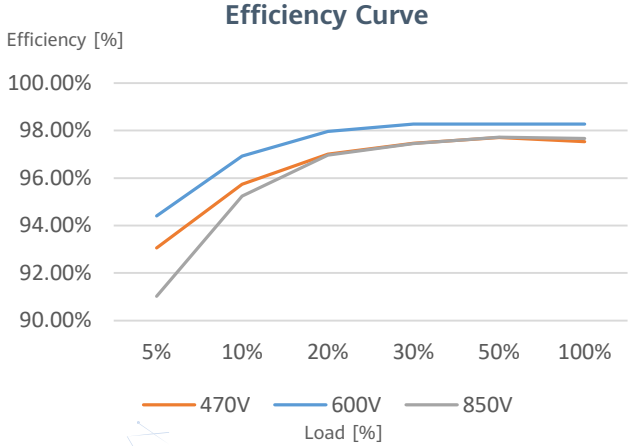
Battery Ready

Plug & Play battery interface [1]

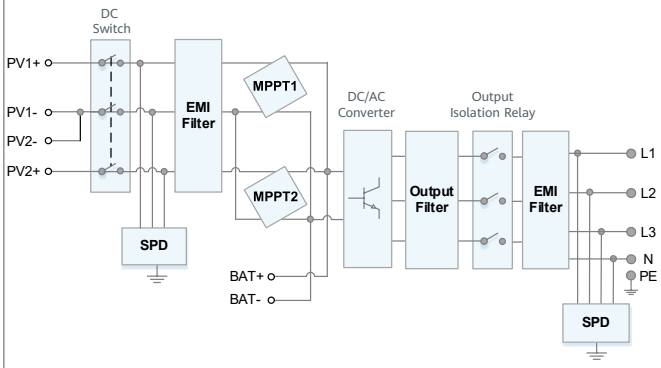
Flexible Communication

WLAN, Fast Ethernet, 4G
Communication Supported

Efficiency Curve



Circuit Diagram



SUN2000-5/8/10KTL-M1

*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