

Smart Energy Controller



Active Safety

AI Powered
Active Arcing Protection



Higher Yields

Up to 30% More Energy
with Optimizer ¹



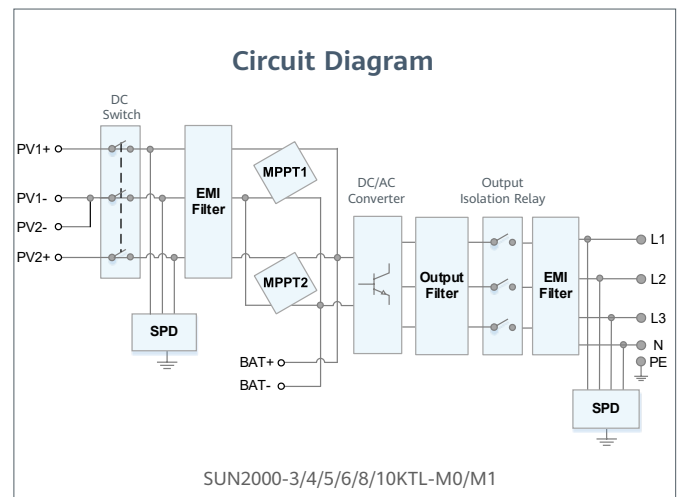
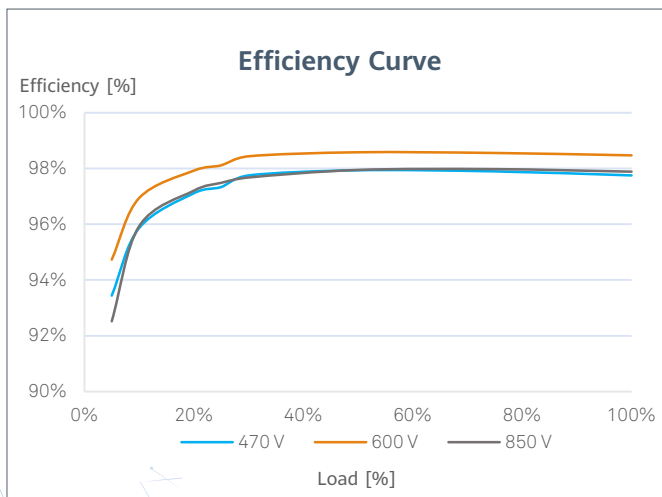
Battery Ready

Plug & Play battery interface ²



Flexible Communication

WLAN, Fast Ethernet, 4G
Communication Supported



¹ Only applicable to SUN2000-3/4/5/6/8/10KTL-M1 smart energy center.
² SUN2000-3/4/5/6/8/10KTL-M0 will be compatible with HUAWEI smart string ESS in Q1, 2021

SUN2000-3/4/5/6/8/10KTL-M1
Technical Specification

Technical Specification	SUN2000 -3KTL-M1	SUN2000 -4KTL-M1	SUN2000 -5KTL-M1	SUN2000 -6KTL-M1	SUN2000 -8KTL-M1	SUN2000 -10KTL-M1
Efficiency						
Max. efficiency	98.2%	98.3%	98.4%	98.6%	98.6%	98.6%
European weighted efficiency	96.7%	97.1%	97.5%	97.7%	98.0%	98.1%
Input (PV)						
Recommended max. PV power ¹	4,500 Wp	6,000 Wp	7,500 Wp	9,000 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	16 A					
Max charge Power	10,000 W					
Max discharge Power	3,300 W	4,400 W	5,500 W	6,600 W	8,800 W	10,000 W
Output (On Grid)						
Grid connection	Three-phase					
Rated output power	3,000 W	4,000 W	5,000 W	6,000 W	8,000 W	10,000 W
Max. apparent power	3,300 VA	4,400 VA	5,500 VA	6,600 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	5.1 A	6.8 A	8.5 A	10.1 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					
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					
Nighttime Power Consumption	< 5.5 W ⁶					
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					

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

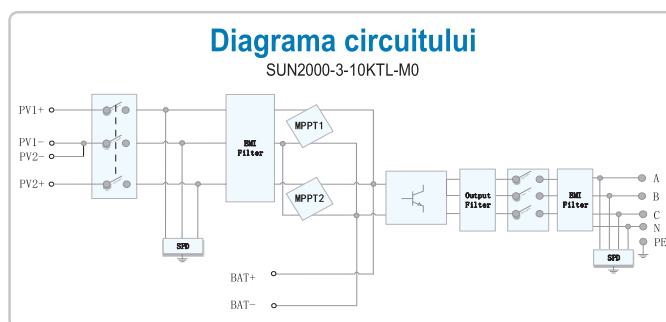
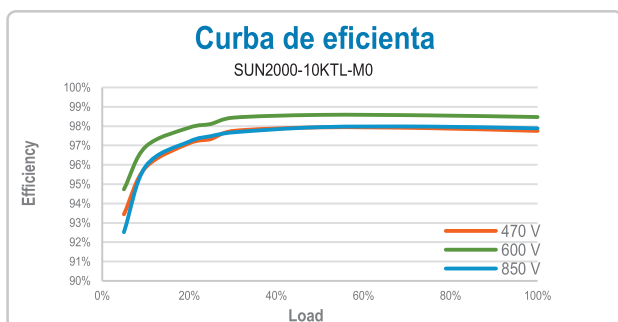
⁵ SUN2000-3~10KTL-M1 raises potential between PV- and ground to above zero through integrated PID recovery function to recover module degradation from PID. Supported module types include: P-type (mono, poly).

⁶ <10 W when PID recovery function is activated.

SUN2000-3/4/5/6/8/10KTL-M0



Specificatii tehnice	SUN2000-3KTL-M0 ¹	SUN2000-4KTL-M0 ¹	SUN2000-5KTL-M0	SUN2000-6KTL-M0	SUN2000-8KTL-M0 ¹	SUN2000-10KTL-M0 ¹
Eficienta						
Eficienta max.	98.2%	98.3%	98.4%	98.6%	98.6%	98.6%
Eficienta ponderata europeana	96.7%	97.1%	97.5%	97.7%	98.0%	98.1%
Intrari						
Puterea recomandata instalata in panouri	6,150 Wp	8,200 Wp	10,250 Wp	12,300 Wp	14,880 Wp	14,880 Wp
Tensiunea de intrare maxima	1,100 V					
Domeniul de operare al tensiunii	140 V ~ 980 V					
Tensiunea de pornire a invertorului	200 V					
Domeniul de tensiune pentru MPPT	140 V ~ 850 V	190 V ~ 850 V	240 V ~ 850 V	285 V ~ 850 V	380 V ~ 850 V	470 V ~ 850 V
Tensiune de intrare	600 V					
Curentul maxim pe MPPT	11 A					
Curentul maxim de scurt-circuit	15 A					
Numarul MPP-uri	2					
Numarul maxim de stringuri pe MPPT	2					
Iesiri						
Tipul de conexiune la retea	Trifazic					
Puterea activa maxima de iesire	3,000 W	4,000 W	5,000 W	6,000 W	8,000 W	10,000 W
Puterea aparenta maxima (cosφ=1)	3,300 VA	4,400 VA	5,500 VA	6,600 VA	8,800 VA	11,000 VA ²
Tensiune retea	220 Vac / 380 Vac, 230 Vac / 400 Vac, 3W / N+PE					
Frecventa retea	50 Hz / 60 Hz					
Curentul maxim de iesire	5.1 A	6.8 A	8.5 A	10.1 A	13.5 A	16.9 A
Domeniul factor de putere	0.8 leading ... 0.8 lagging					
Distorsiune armonica totala maxima	≤ 3 %					
Protectii						
Dispozitiv de deconectare DC	Da					
Monitorizare izotatie	Da					
Protectie anti-insularizare	Da					
ProtectieDC polaritate inversa	Da					
ProtectieDC la fulger	Da					
AC la fulger Monitorizare	Da					
curent rezidual	Da					
Protectie AC supracurent	Da					
Protectie AC scurt circuit	Da					
Protectie AC supratensiune	Da					
Protectie supraincalzire	Da					
Funcție de detectare a defectelor pe string	Da					
Monitorizare grid	Da					
Controlul puterii de la distanta	Da					
PID integrat	Da ³					
Date generale						
Domeniu operare temperatura	-25 ~ + 60 °C (-13 °F ~ 140 °F) (Derating above 45 °C @ Rated output power)					
Umiditatea relativa de operare	0 % RH ~ 100% RH					
Altitudinea de operare	0 - 4,000 m (13,123 ft.) (Derating above 3000 m)					
Racire	Racire naturala					
Ecran	Indicatoare LED; WLAN integrat + FusionSolar App					
Comunicare	RS485; WLAN via Smart Dongle-WLAN; 4G / 3G / 2G via Smart Dongle-4G					
Masa (incl. brachet de montaj)	17 kg (39.5 lb)					
Dimensiuni (L x l x G) (incl. brachet de montaj)	525 * 470 * 166 mm (20.7 * 18.5 * 6.5 inch)					
Clasa de protectie	IP65					
Baterii compatibile						
Baterie	Integrata					
Standarde de conformitate (mai multe la cerere)						
Siguranta	EN/IEC 62109-1, EN/IEC 62109-2					
Coduri de retea	VDE-AR-N-4105, CEI 0-21, C10/C11, AS/NZS 4777, UTE C15-712-1, EN 50438, NEN-EN 50438					



1: SUN2000-3KTL/4KTL/8KTL/10KTL-M0 este disponibil doar in Europa.

2: VDE-AR-N-4105: 10,000 VA; C10 / 11: 10,000 VA

3: SUN2000-3-10KTL-M0 amplifica diferenta de potential dintre polul negativ si impamantare peste zero prin intermediul functiei PID care reduce degradarea panoului. Tipuri de panouri compatibile: tip P (monocristalin, policristalin, tip n (nPERT, HIT).

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