

SUN2000-12/20KTL-M2 Smart String Inverter



Active Safety

AI Powered Arcing Protection



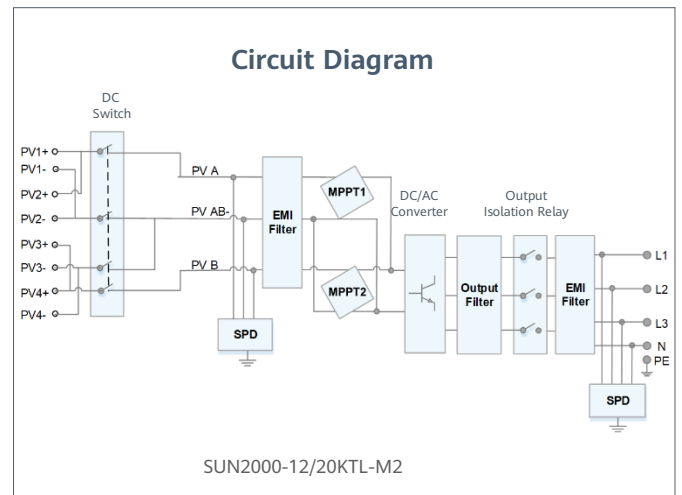
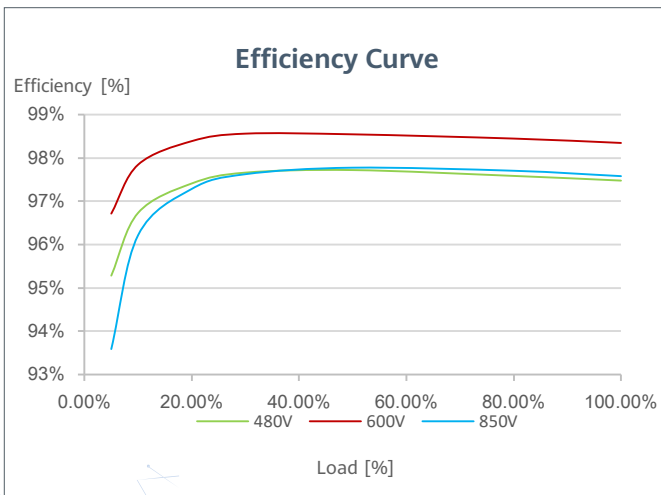
Higher Yields

Up to 30% More Energy with Optimizer



Flexible Communication

WLAN, Fast Ethernet, 4G
Communication Supported



SUN2000-12/20KTL-M2
Technical Specification

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Efficiency		
Max. efficiency	98.50%	98.65%
European weighted efficiency	98.00%	98.30%

Input		
Recommended max. PV power ¹	18,000 Wp	30,000 Wp
Max. input voltage ²	1,080 V	
Operating voltage range ³	160 V ~ 950 V	
Start-up voltage	200 V	
Rated input voltage	600 V	
Max. input current per MPPT	22 A	
Max. short-circuit current	30 A	
Number of MPP trackers	2	
Max. number of inputs	4	

Output		
Grid connection	Three phase	
Rated output power	12,000 W	20,000 W
Max. apparent power	13,200 VA	22,000 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	20 A	33.5 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	
AC over-current protection	Yes	
AC short-circuit protection	Yes	
AC over-voltage protection	Yes	
DC reverse-polarity protection	Yes	
DC surge protection	TYPE II	
AC surge protection	Yes, compatible with TYPE II protection class according to EN/IEC 61643-11	
Residual current monitoring unit	Yes	
Arc fault protection	Yes	
Ripple receiver control	Yes	
Integrated PID recovery ⁴	Yes	

General Data		
Operation temperature range	-25 ~ + 60 °C (-13 °F ~ 140 °F)	
Relative humidity	0 % RH ~ 100% RH	
Max. 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 (Optional) 4G / 3G / 2G via Smart Dongle-4G (Optional)	
Weight (with mounting plate)	25 kg	
Dimensions (W x H x D) (incl. mounting plate)	525 x 470 x 262 mm (20.7 x 18.5 x 10.3 inch)	
Degree of protection	IP65	

Optimizer Compatibility		
DC MBUS compatible optimizer	SUN2000-450W-P	

Standard Compliance (more available upon request)		
Safety	EN/IEC 62109-1, EN/IEC 62109-2	
Grid connection standards	G98, G99, EN 50549, CEI 0-21, CEI 0-16, VDE-AR-N-4105, VDE-AR-N-4110, AS 4777.2, C10/11, ABNT, VFR 2019, RD 1699, RD 661, PO 12.3, TOR D4, IEC61727, IEC62116, DEWA, MEA, PEA	

*1 Inverter max input PV power is 40,000 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 SUN2000-12~20KTL-M2 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)