

# Smart PV Controller

SUN2000-12/15/17/20KTL-M2 (High Current Version)



## Active Safety

AI Powered Arcing Protection



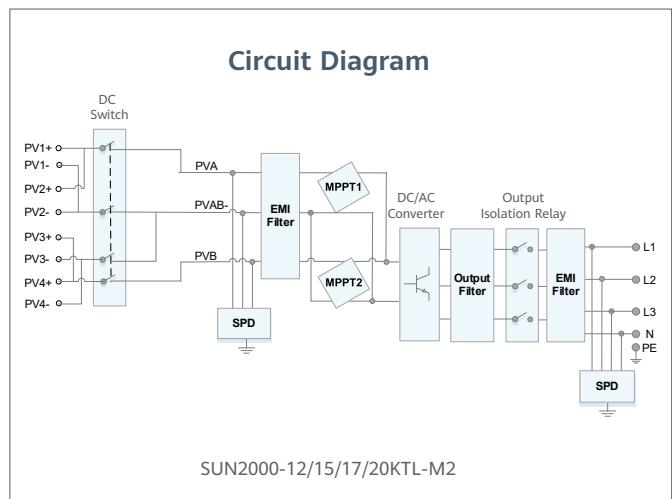
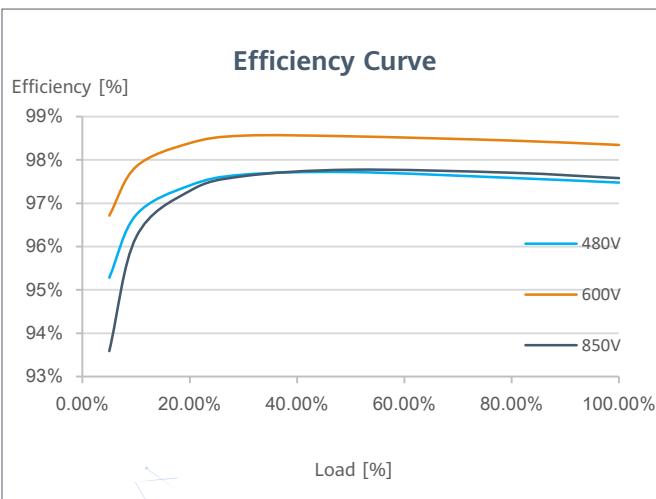
## Higher Yields

Up to 30% More Energy with Optimizer



## Flexible Communication

WLAN, Fast Ethernet, 4G  
Communication Supported



**Technical Specification**

Technical Specification	SUN2000 -12KTL-M2	SUN2000 -15KTL-M2	SUN2000 -17KTL-M2	SUN2000 -20KTL-M2			
<b>Efficiency</b>							
Max. efficiency	98.50%	98.65%	98.65%	98.65%			
European weighted efficiency	98.00%	98.30%	98.30%	98.30%			
<b>Input</b>							
Recommended max. PV power <sup>1</sup>	18,000 Wp	22,500 Wp	25,500 Wp	30,000 Wp			
Max. input voltage <sup>2</sup>		1,080 V					
Operating voltage range <sup>3</sup>		160 V ~ 950 V					
Start-up voltage		200 V					
Rated input voltage		600 V					
Max. input current per MPPT		27 A <sup>4</sup>					
Max. short-circuit current		39 A					
Number of MPP trackers		2					
Max. number of inputs		4					
<b>Output</b>							
Grid connection		Three phase					
Rated output power	12,000 W	15,000 W	17,000 W	20,000 W			
Max. apparent power	13,200 VA	16,500 VA	18,700 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	25.2 A	28.5 A	33.5 A			
Adjustable power factor		0.8 leading ... 0.8 lagging					
Max. total harmonic distortion		≤ 3 %					
<b>Features &amp; Protections</b>							
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		Yes					
AC surge protection		TYPE II					
Residual current monitoring unit		Yes, compatible with TYPE II protection class according to EN/IEC 61643-11					
Arc fault protection		Yes					
Ripple receiver control		Yes					
Integrated PID recovery <sup>5</sup>		Yes					
<b>General Data</b>							
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					
Nighttime Power Consumption		< 5.5W <sup>6</sup>					
<b>Optimizer Compatibility</b>							
DC MBUS compatible optimizer		SUN2000-450W-P					
<b>Standard Compliance (more available upon request)</b>							
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						

<sup>1</sup> Inverter max input PV power is 40,000 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> The MPPT voltage of each PV string must exceed the lower limit of Full Power MPPT Voltage Range. (Full Power MPPT Voltage Range: 12KTL@360~850V, 15KTL@380~850V, 17KTL@400~850V, 20KTL@450~850V)<sup>5</sup> 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)<sup>6</sup> <10W when PID recovery function is activated<sup>7</sup> Smart IV Curve Diagnosis feature will be made available in a future firmware upgrade, which expected available 2021 Q4