

SMART ENERGY CONTROLLER

SUN2000-5/6/8/10/12K-MAPO



Asymmetric Load
Three-phase asymmetric output
200% overload



Active Safety
AFCI & RSD (with optimizer)
Connector temperature detection



Future Ready
LUNA S0 or S1
Whole home backup (with SmartGuard)

SUN2000-5/6/8/10/12K-MAP0 Technical Specification

Technical Specification	SUN2000 -5K-MAP0	SUN2000 -6K-MAP0	SUN2000 -8K-MAP0	SUN2000 -10K-MAP0	SUN2000 -12K-MAP0
Max. efficiency	98.4%	98.6%	98.6%	98.6%	98.6%
European weighted efficiency	97.5%	97.7%	98.0%	98.1%	98.2%
Input (PV)					
Recommended max. PV power	9,000 Wp	11,000 Wp	14,600 Wp	18,000 Wp	22,000 Wp
Max. input voltage ¹			1,100 V		
Operating voltage range ²			160 - 1,000 V		
Startup voltage			160 V		
Rated input voltage			600 V		
Max. input current per MPPT			16 A		
Max. short-circuit current			22 A		
Number of MPP trackers			2		
Max. input per MPP tracker			1		
Input (DC Battery)					
Compatible battery			LUNA2000-5/10/15-S0 / LUNA2000-7/14/21-S1		
Operating voltage range			600 ~ 980 V		
Max. operating current			20 A		
Max. charging power			12,000 W		
Max. discharging power	5,500 W	6,600 W	8,800 W	11,000 W	12,000 W
Output (On Grid)					
Grid connection			Three-phase		
Rated output power	5,000 W	6,000 W	8,000 W	10,000 W	12,000 W
Max. apparent power	5,500 VA	6,600 VA	8,800 VA	11,000 VA	13,200 VA
Rated output voltage			220 V AC/380 V AC, 230 V AC/400 V AC, 240 V AC/415 V AC 3W/N + PE		
Overload capability			110%		
Rated AC grid frequency			50 Hz/60 Hz		
Max. output current	8.3 A	10.0 A	13.3 A	16.7 A	20.2 A
Adjustable power factor			0.8 leading ... 0.8 lagging		
Max. total harmonic distortion			≤ 3%		
Output (Off Grid)					
Compatible backup device			SmartGuard-63A-T0 (3 phase)		
Rated output power	5,000 W	6,000 W	8,000 W	10,000 W	12,000 W
Rated output voltage			220 V AC/380 V AC, 230 V AC/400 V AC, 240 V AC/415 V AC 3W/N + PE		
110% overload			Continuous		
150% overload			5 min (3-phase) / 5 min (Single-phase)		1 min (3-phase) / 5 min (Single-phase)
200% overload			10 seconds		
Automatic switchover time			≤ 20 ms (with SmartGuard-63A-T0)		
Protection Feature					
Asymmetric load			Yes, supports 100% three-phase asymmetric load		
Input-side disconnection device			Yes		
Anti-islanding protection			Yes		
DC reverse polarity protection			Yes		
Insulation detection			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 detection			Yes		
AC overcurrent protection			Yes		
AC short-circuit protection			Yes		
AC overvoltage protection			Yes		
Arc fault protection			Yes		
Connector temperature detection			Yes (PV & Battery connectors)		
Ripple receiver control			Yes		
Battery charging from grid			Yes		
General Specification					
Operating temperature range			-25°C - +60°C (-13°F - +140°F)		
Relative operating humidity			0 % - 100% RH		
Max. operating altitude			4,000 m		
Cooling			Natural convection		
Noise			≤ 29 dB		
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); EMMA (Optional)		
Weight (incl. mounting brackets)			21 kg		
Dimensions (incl. mounting brackets)			490 mm x 460 mm x 130 mm		
IP rating			IP66		
Nighttime power			< 5.5 W		
Optimizer Compatibility					
DC MBUS compatible optimizer			SUN2000-450W-P2, SUN2000-600W-P		
Safety			EN/IEC62109-1, EN/IEC62109-2		
Grid connection standards			IEC61727, IEC62116, MEA/PEA, G99, Philippine Grid Code Resolution No. 07, NRS 097-2-1, EN50549-1, VDE4105, UTE15-712-1/VFR 2019, UNE217002, NTS631, RD244(UNE217001), PPDS, ROGA, TOR Erzeuger, CEI 0-21:2020-12 V1, C10/C11		

*1 The max. input voltage is the upper limit of the DC voltage. Any higher input DC voltage would probably damage the inverter.

*2 Any DC input voltage beyond the operating voltage range may result in inverter malfunction.

Disclaimer: the preceding values are measured by an internal laboratory of Huawei in a specific environment. The actual values may vary with products, software versions, usage conditions, and environmental factors.