

# SMART ENERGY CONTROLLER

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



**Asymmetric load**  
100% three-phase  
asymmetric load



**Active Safety**  
AFCI & Connector  
temperature detection



**Battery Ready**  
Support LUNA S0  
and S1

# 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 <sup>1</sup>	9,000 Wp	11,000 Wp	14,600 Wp	18,000 Wp	22,000 Wp
Max. input voltage <sup>2</sup>	1,100 V				
Operating voltage range <sup>3</sup>	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 number per MPP tracker	1				
Input (DC Battery)					
Compatible battery	LUNA S0 / LUNA S1				
Operating voltage range	600 ~ 980 V				
Max. operating current	20 A				
Max. charging power	12,000 W				
Max. discharging power	5,000 W	6,000 W	8,000 W	10,000 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				
Rated AC grid frequency	50 Hz/60 Hz				
Max. output current	8.3 A / 380 V AC 8.0 A / 400 V AC 7.7 A / 415 V AC	10.0 A / 380 V AC 9.6 A / 400 V AC 9.2 A / 415 V AC	13.3 A / 380 V AC 12.8 A / 400 V AC 12.2 A / 415 V AC	16.7 A / 380 V AC 15.9 A / 400 V AC 15.3 A / 415 V AC	20.2 A / 380 V AC 19.1 A / 400 V AC 18.5 A / 415 V AC
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 unbalanced load				
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 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 Inputs)				
Ripple receiver control	Yes				
Battery charging from grid	Yes				
General Specification					
Operating temperature range	-25°C to +60°C (-13°F to +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, MERC-600W-PA0				
Safety	-				
Grid connection standards	-				

\*1 For Thailand, only SUN2000-5K-MAP0 and SUN2000-10K-MAP0 are available.

\*2 The max. input voltage is the upper limit of the DC voltage. Any higher input DC voltage would probably damage the inverter.

\*3 Any DC input voltage beyond the operating voltage range may result in inverter malfunction.