HUAWEI

SMART ENERGY CONTROLLER

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

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)

Version No.: 202506

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 [3]	SUN2000-450W-P2, SUN2000-600W-P, MERC-600W-PA0				
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.
*3 SUN2000-450W-P2/600W-P, MERC-600W-PA0 can NOT be used in mixture under the same Smart Energy/PV Controller.

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.

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