HUAWEI

Smart Energy Controller

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

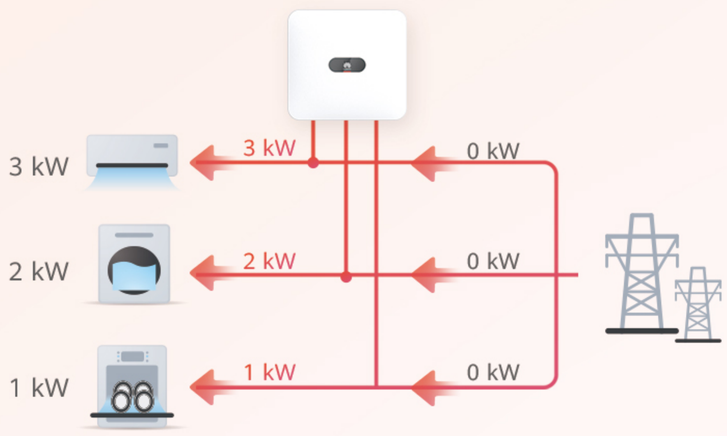
SUN5000-8/12K-MAP0

Asymmetric Output | Superb Capability | Active Safety | Superior Experience



Asymmetric Output

Unbalanced output, no need of additional electricity from grid



Improves self-consumption rate and saves electricity bills

Higher
self-consumption rate of PV system

Less
electricity bills

Superb Off-grid Backup Capability

Powerful overload adaptability

100~110% overload	Contiuous working
150% overload	5min
200% overload	10s

Superb Off-grid Adaptability

Perfect combination for 3-phase whole home backup

(with SmartGuard-63A-T0)

max.36 kW



Supports up to 3 **inverters** in off-grid

≤20ms
Seamless switchover

Active Safety

	AFCI	RSD with optimizer	Connector temperature detection	Protection level
Huawei MAP0	✓	✓	✓	IP66
Product from Vendor A	✗	✗	✗	IP66
Product from Vendor B	✓	✓	✗	IP65
Product from Vendor C	✓	✗	✗	IP65

Superior Experience

Quiet operation

Natural heat dissipation with no fan design

≤29dB
Operation noise

Easy installation

>30%
Higher power density by volume

TYPE II
Surge protection,
no need additional SPD

Datasheet

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

Technical Specification	SUN2000-5K-MAP0	SUN2000-6K-MAP0	SUN2000-8K-MAP0	SUN2000-10K-MAP0	SUN2000-12K-MAP0
Efficiency					
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	9000 Wp	11,000 Wp	14,600 Wp	18,000 Wp	22,000 Wp
Max. input voltage [1]	1100 V				
Operating voltage range [2]	160–1000 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	5500 W	6600 W	8800 W	11,000 W	12,000 W
Output (On Grid)					
Grid connection	Three-phase				
Rated output power	5000 W	6000 W	8000 W	10,000 W	12,000 W
Max. apparent power	5500 VA	6600 VA	8800 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	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	5000 W	6000 W	8000 W	10,000 W	10,000 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 to +60°C (–13°F to +140°F)				
Relative operating humidity	0 % - 100% RH				
Max. operating altitude	4000 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				
Standards Compliance (More Available Upon Request)					
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.

Preliminary