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 Smart Guard)

Version No.: 202605

## 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 to +60°C | | | | |
| Relative operating humidity | 0 % - 100% RH | | | | |
| Max. operating altitude | 4,000 m (Derating above 2,000 m) | | | | |
| Cooling | Natural convection | | | | |
| Noise | ≤ 29 dB | | | | |
| Display | LED Indicators; Integrated WLAN + FusionSolar APP | | | | |
| Communication | RS485; WLAN / Ethernet via Smart Dongle-WLAN-FE (Optional)<br>4G/3G/2G via Smart Dongle-4G (Optional); SA4H (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, SUN2000-600W-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 inverter.

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.