

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 ¹ | 9,000 Wp | 11,000 Wp | 14,600 Wp | 18,000 Wp | 22,000 Wp |
| Max. input voltage ² | 1,100 V | | | | |
| Operating voltage range ³ | 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.