

SMART ENERGY CONTROLLER

Model: SUN2000-3/4/5/6/8/10KTL-M1
(High Current Version)



Active Safety
AFCI Active Arcing
Protection



Higher Yields
Up to 30% More Energy
with Optimizer ¹



Battery Ready
Plug & Play Battery
Port ²

SUN2000-3/4/5/6/8/10KTL-M1 (High Current Version)

Technical Specification

| Technical Specification | SUN2000 -3KTL-M1 | SUN2000 -4KTL-M1 | SUN2000 -5KTL-M1 | SUN2000 -6KTL-M1 | SUN2000 -8KTL-M1 | SUN2000 -10KTL-M1 |
|--|---|---------------------|---------------------|---------------------|---------------------|------------------------|
| Efficiency | | | | | | |
| Max. efficiency | 98.2% | 98.3% | 98.4% | 98.6% | 98.6% | 98.6% |
| European weighted efficiency | 96.7% | 97.1% | 97.5% | 97.7% | 98.0% | 98.1% |
| Input (PV) | | | | | | |
| Recommended max. PV power ¹ | 4,500 Wp | 6,000 Wp | 7,500 Wp | 9,000 Wp | 12,000 Wp | 15,000 Wp |
| Max. input voltage ² | 1,100 V | | | | | |
| Operating voltage range ³ | 140–980 V | | | | | |
| Startup voltage | 200 V | | | | | |
| Rated input voltage | 600 V | | | | | |
| Max. input current per MPPT | 13.5 A | | | | | |
| Max. short-circuit current | 19.5 A | | | | | |
| Number of MPP trackers | 2 | | | | | |
| Max. input number 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 | 16.7 A | | | | | |
| Max. charge power | 10,000 W | | | | | |
| Max. discharge power | 3300 W | 4400 W | 5500 W | 6600 W | 8800 W | 10000 W |
| Output (On Grid) | | | | | | |
| Grid connection | Three-phase | | | | | |
| Rated output power | 3000 W | 4000 W | 5000 W | 6000 W | 8000 W | 10,000 W |
| Max. apparent power | 3300 VA | 4400 VA | 5500 VA | 6600 VA | 8800 VA | 11,000 VA ⁴ |
| Rated output voltage | 220 V AC/380 V AC, 230 V AC/400 V AC, 3W/N+PE | | | | | |
| Rated AC grid frequency | 50 Hz/60 Hz | | | | | |
| Max. output current | 5.1 A | 6.8 A | 8.5 A | 10.1 A | 13.5 A | 16.9 A |
| Adjustable power factor | 0.8 leading ... 0.8 lagging | | | | | |
| Max. total harmonic distortion | ≤ 3% | | | | | |
| Output (Off Grid) | | | | | | |
| BackupBox | BackupBox-B1 | | | | | |
| Max. apparent power | 3000 VA | 3300 VA | 3300 VA | 3300 VA | 3300 VA | 3300 VA |
| Rated output voltage | 220 V/230 V | | | | | |
| Max. output current | 13.6 A | 15 A | 15 A | 15 A | 15 A | 15 A |
| Power factor range | 0.8 leading ... 0.8 lagging | | | | | |
| Protection Feature | | | | | | |
| 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 monitoring | Yes | | | | | |
| AC overcurrent protection | Yes | | | | | |
| AC short-circuit protection | Yes | | | | | |
| AC overvoltage protection | Yes | | | | | |
| Arc fault protection | Yes | | | | | |
| 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 (13,123 ft.) (Derated above 2000 m) | | | | | |
| Cooling | Natural convection | | | | | |
| Display | LED Indicators; Integrated WLAN + FusionSolar app | | | | | |
| Communication | RS485; WLAN/Ethernet via Smart Dongle-WLAN-FE; 4G/3G/2G via Smart Dongle-4G (Optional) | | | | | |
| Weight (incl. mounting brackets) | 17 kg (37.5 lb) | | | | | |
| Dimensions (incl. mounting brackets) | 525 mm x 470 mm x 146.5 mm (20.7 in. x 18.5 in. x 5.8 in.) | | | | | |
| IP rating | IP65 | | | | | |
| Nighttime power | < 5.5 W | | | | | |
| Optimizer Compatibility | | | | | | |
| DC MBUS compatible optimizer | SUN2000-450W-P2, SUN2000-600W-P | | | | | |
| Standards Compliance (More Available Upon Request) | | | | | | |
| Safety | EN/IEC 62109-1, EN/IEC 62109-2, IEC 62116 | | | | | |
| Grid connection standards | G98, G99, EN 50438, CEI 0-21, VDE-AR-N-4105, AS 4777, C10/11, ABNT, UTE C15-712, RD 1699, TOR D4, NRS 097-2-1, IEC61727, IEC62116, DEWA | | | | | |

*1 The inverter max input PV power is 20,000 Wp when long strings are designed and connected to SUN2000-450W-P2 or SUN2000-600W-P power optimizers.

*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.

*4 C10/11: 10,000 VA

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.