

# SUN2000-12/15/17/20/25K-MB0 Smart Energy Controller



## Active Safety

Active Arcing Protection



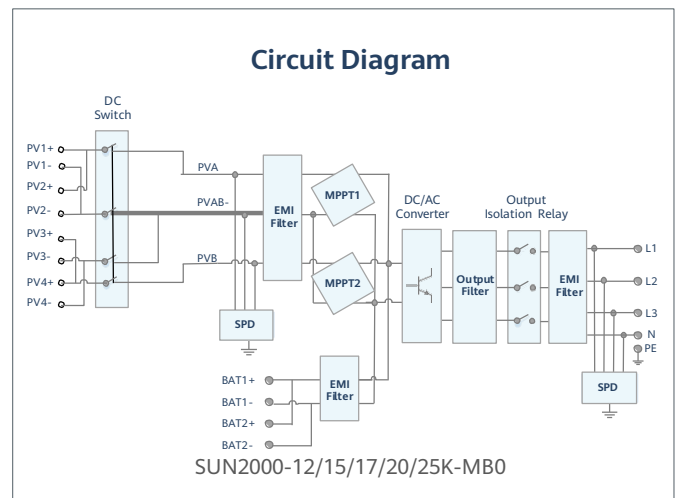
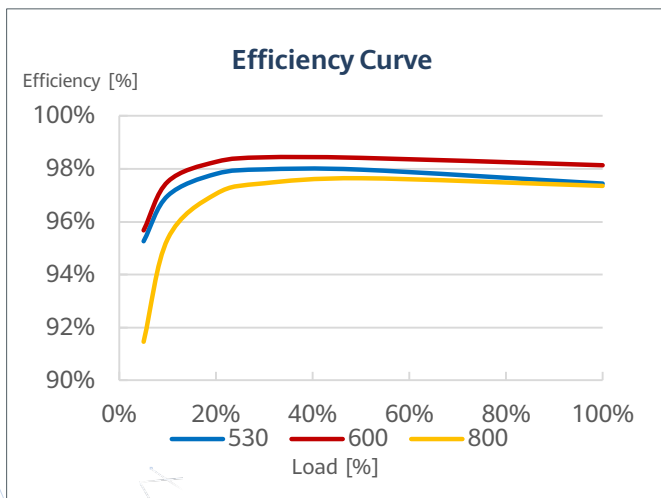
## Higher Yields

Up to 30% More Energy with Optimizer



## Battery-ready

2 Battery Terminals



# Technical Specification

| Technical Specification <sup>1</sup>                     | SUN2000-12K-MB0   | SUN2000-15K-MB0  | SUN2000-17K-MB0  | SUN2000-20K-MB0  | SUN2000-25K-MB0  |
|--|---|------------------|------------------|------------------|------------------|
| <b>Efficiency</b>  |   |                  |                  |                  |                  |
| Max. efficiency  | 98.4 %  | 98.4 %           | 98.4 %           | 98.4 %           | 98.4 %           |
| European weighted efficiency                             | 97.9 %  | 98.0 %           | 98.1 %           | 98.1 %           | 98.2 %           |
| <b>DC Input</b>  |   |                  |                  |                  |                  |
| Recommended max. PV power                                | 18,000 Wp   | 22,500 Wp        | 25,500 Wp        | 30,000 Wp        | 37,500 Wp        |
| Max. input voltage <sup>2</sup>                          | 1,100 V   |                  |                  |                  |                  |
| Max. input current per MPPT                              | 30 A (two strings) / 20 A (single string)   |                  |                  |                  |                  |
| Max. short-circuit current                               | 40 A  |                  |                  |                  |                  |
| Start-up voltage   | 200 V   |                  |                  |                  |                  |
| MPPT operating voltage range <sup>3</sup>                | 200 V ~ 1,000 V   |                  |                  |                  |                  |
| Full-load MPPT voltage range                             | 370 V ~ 800 V   | 410 V ~ 800 V    | 440 V ~ 800 V    | 480 V ~ 800 V    | 530 V ~ 800 V    |
| Rated input voltage                                      | 600 V   |                  |                  |                  |                  |
| Max. number of inputs                                    | 4   |                  |                  |                  |                  |
| Number of MPP trackers                                   | 2   |                  |                  |                  |                  |
| <b>Smart String Energy Storage System Terminal</b>       |   |                  |                  |                  |                  |
| Compatible Smart String ESS                              | LUNA2000-5/10/15-S0   |                  |                  |                  |                  |
| Number of terminals                                      | 2   |                  |                  |                  |                  |
| Max. charging power                                      | 21 kW (Single string) / 25 kW (Two strings)   |                  |                  |                  |                  |
| Max. discharging power                                   | 13.2 kW   | 16.5 kW          | 18.7 kW          | 22.0 kW          | 25.0 kW          |
| Max. operating current                                   | 26.25 A (per string)  |                  |                  |                  |                  |
| Operating voltage range                                  | 600 V ~ 980 V   |                  |                  |                  |                  |
| <b>Output</b>  |   |                  |                  |                  |                  |
| Rated output power                                       | 12,000 W  | 15,000 W         | 17,000 W         | 20,000 W         | 25,000 W         |
| Max. apparent power                                      | 13,200 VA   | 16,500 VA        | 18,700 VA        | 22,000 VA        | 27,500 VA        |
| Max. active power (cosφ = 1)                             | 13,200 W  | 16,500 W         | 18,700 W         | 22,000 W         | 27,500 W         |
| Rated output voltage                                     | 220 Vac / 380 Vac, 230 Vac / 400 Vac, 240 Vac / 415 Vac; 3 W / N + PE   |                  |                  |                  |                  |
| Rated output current                                     | 18.2 A / 380 Vac  | 22.8 A / 380 Vac | 25.8 A / 380 Vac | 30.4 A / 380 Vac | 38.0 A / 380 Vac |
|  | 17.3 A / 400 Vac  | 21.7 A / 400 Vac | 24.5 A / 400 Vac | 28.9 A / 400 Vac | 36.1 A / 400 Vac |
|  | 16.7 A / 415 Vac  | 20.9 A / 415 Vac | 23.7 A / 415 Vac | 27.8 A / 415 Vac | 34.8 A / 415 Vac |
| Max. output current                                      | 20.2 A / 380 Vac  | 25.2 A / 380 Vac | 28.6 A / 380 Vac | 33.6 A / 380 Vac | 42.0 A / 380 Vac |
|  | 19.1 A / 400 Vac  | 23.9 A / 400 Vac | 27.1 A / 400 Vac | 31.9 A / 400 Vac | 39.9 A / 400 Vac |
|  | 18.5 A / 415 Vac  | 23.1 A / 415 Vac | 26.1 A / 415 Vac | 30.8 A / 415 Vac | 38.5 A / 415 Vac |
| Rated AC grid frequency                                  | 50 Hz / 60 Hz   |                  |                  |                  |                  |
| Adjustable power factor                                  | 0.8 leading ... 0.8 lagging   |                  |                  |                  |                  |
| Max. total harmonic distortion                           | < 3 %   |                  |                  |                  |                  |
| <b>Feature &amp; Protection</b>                          |   |                  |                  |                  |                  |
| Overvoltage category                                     | PV II / AC III  |                  |                  |                  |                  |
| Input-side disconnection device                          | Yes   |                  |                  |                  |                  |
| Anti-islanding protection                                | Yes   |                  |                  |                  |                  |
| AC over-current protection                               | Yes   |                  |                  |                  |                  |
| DC reverse-polarity protection                           | Yes   |                  |                  |                  |                  |
| DC surge protection                                      | TYPE II   |                  |                  |                  |                  |
| AC surge protection                                      | Yes, compatible with TYPE II protection class according to EN/IEC 61643-11  |                  |                  |                  |                  |
| DC insulation resistance detection                       | Yes   |                  |                  |                  |                  |
| Residual current monitoring unit                         | Yes   |                  |                  |                  |                  |
| Arc fault protection                                     | Yes   |                  |                  |                  |                  |
| Integrated PID recovery <sup>4</sup>                     | Yes   |                  |                  |                  |                  |
| <b>General Data</b>                                      |   |                  |                  |                  |                  |
| Operation temperature range                              | -25 °C ~ +60 °C (-13 °F ~ 140 °F)   |                  |                  |                  |                  |
| Relative humidity  | 0 % RH ~ 100 % RH   |                  |                  |                  |                  |
| Max. operating altitude                                  | 4,000 m (13,123 ft.) (Derating above 2,000 m)   |                  |                  |                  |                  |
| Cooling  | Smart air cooling   |                  |                  |                  |                  |
| 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); EMMA (Optional; available from 30/11/2023)   |                  |                  |                  |                  |
| Weight   | 21 kg   |                  |                  |                  |                  |
| Dimensions (W x H x D)                                   | 546 x 460 x 228 mm (21.5 x 18.1 x 9.0 inch)   |                  |                  |                  |                  |
| Protection level   | IP66  |                  |                  |                  |                  |
| Max. number of paralleled unit (with Smart String ESS)   | 3   |                  |                  |                  |                  |
| <b>Optimizer Compatibility</b>                           |   |                  |                  |                  |                  |
| Compatible optimizer                                     | SUN2000-450W-P2, SUN2000-600W-P, MERC-1100W-P, MERC-1300W-P   |                  |                  |                  |                  |
| <b>Standard Compliance (more available upon request)</b> |   |                  |                  |                  |                  |
| Certificates   | EN/IEC62109-1, EN/IEC62109-2  |                  |                  |                  |                  |
| Grid connection standards                                | IEC61727, IEC62116, IEC61683, EN50530, ABNT NBR 16149/16150, MEA/PEA, G99, IRR-DCC-MV/IRR-TIC, 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 |                  |                  |                  |                  |

<sup>\*1</sup> For Thailand, only SUN2000-12K-MB0, SUN2000-15K-MB0 & SUN2000-20K-MB0 are available.

<sup>\*2</sup> The maximum input voltage is the upper limit of the DC voltage. Any higher input DC voltage would probably damage inverter.

<sup>\*3</sup> Any DC input voltage beyond the operating voltage range may result in inverter improper operating.

<sup>\*4</sup> SUN2000-12~25KTL-MB0 raises the potential between PV- and ground to above zero through integrated PID recovery function to recover module degradation from PID. Supported module types include: P-type (mono, poly).

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.