

# SMART ENERGY CONTROLLER

Model: SUN2000-3/3.68/4/4.6/5/6K-LB0



**Active Safety**  
Active Arcing Protection



**Higher Yields**  
Up to 30% More Energy  
with Optimizer



**Battery Ready**  
Plug & Play Battery  
Interface

# **SUN2000-3/3.68/4/4.6/5/6K-LB0** **Technical Specification**

| Technical Specification                            | SUN2000<br>-3K-LB0                                                                                                                                      | SUN2000<br>-3.68K-LB0 | SUN2000<br>-4K-LB0 | SUN2000<br>-4.6K-LB0 | SUN2000<br>-5K-LB0 | SUN2000<br>-6K-LB0 |
|----------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|--------------------|----------------------|--------------------|--------------------|
| Efficiency                                         |                                                                                                                                                         |                       |                    |                      |                    |                    |
| Max. efficiency                                    | 97.8%                                                                                                                                                   | 97.8%                 | 97.8%              | 97.8%                | 97.8%              | 97.8%              |
| European weighted efficiency                       | 96.6%                                                                                                                                                   | 96.8%                 | 96.8%              | 97.0%                | 97.1%              | 97.2%              |
| Input (PV)                                         |                                                                                                                                                         |                       |                    |                      |                    |                    |
| Recommended max. PV power                          | 4,500 Wp                                                                                                                                                | 5,520 Wp              | 6,000 Wp           | 6,900 Wp             | 7,500 Wp           | 9,000 Wp           |
| Max. input voltage <sup>1</sup>                    | 600 V                                                                                                                                                   |                       |                    |                      |                    |                    |
| Start-up voltage                                   | 50 V                                                                                                                                                    |                       |                    |                      |                    |                    |
| MPPT operating voltage range <sup>3</sup>          | 40–560 V                                                                                                                                                |                       |                    |                      |                    |                    |
| Rated input voltage                                | 360 V                                                                                                                                                   |                       |                    |                      |                    |                    |
| Max. input current per MPPT                        | 16 A                                                                                                                                                    |                       |                    |                      |                    |                    |
| Max. short-circuit current                         | 20 A                                                                                                                                                    |                       |                    |                      |                    |                    |
| Number of MPP trackers                             | 2                                                                                                                                                       |                       |                    |                      |                    |                    |
| Max. inputs per MPP tracker                        | 1                                                                                                                                                       |                       |                    |                      |                    |                    |
| Input (DC Battery)                                 |                                                                                                                                                         |                       |                    |                      |                    |                    |
| Compatible battery                                 | LUNA2000-5/10/15-S0, LUNA2000-7/14/21-S1                                                                                                                |                       |                    |                      |                    |                    |
| Operating voltage range                            | 350–560 Vdc                                                                                                                                             |                       |                    |                      |                    |                    |
| Max. operating current                             | 16.5 A                                                                                                                                                  |                       |                    |                      |                    |                    |
| Max. charge power                                  | 6,000 W                                                                                                                                                 |                       |                    |                      |                    |                    |
| Max. discharge power                               | 3,300 W                                                                                                                                                 | 3,680 W               | 4,400 W            | 4,600 W              | 5,500 W            | 6,600 W            |
| Output (On Grid)                                   |                                                                                                                                                         |                       |                    |                      |                    |                    |
| Grid connection                                    | Single-phase                                                                                                                                            |                       |                    |                      |                    |                    |
| Rated output power                                 | 3,000 W                                                                                                                                                 | 3,680 W               | 4,000 W            | 4,600 W              | 5,000 W            | 6,000 W            |
| Max. apparent power                                | 3,300 W                                                                                                                                                 | 3,680 VA              | 4,400 VA           | 5,000 VA             | 5,500 VA           | 6,600 VA           |
| Rated output voltage                               | 220 V AC/230 V AC/240 V AC                                                                                                                              |                       |                    |                      |                    |                    |
| Rated AC grid frequency                            | 50 Hz/60 Hz                                                                                                                                             |                       |                    |                      |                    |                    |
| Max. output current                                | 15 A                                                                                                                                                    | 16 A                  | 20 A               | 23 A                 | 25 A               | 30 A               |
| Adjustable power factor                            | 0.8 leading ... 0.8 lagging                                                                                                                             |                       |                    |                      |                    |                    |
| Max. total harmonic distortion                     | ≤ 3%                                                                                                                                                    |                       |                    |                      |                    |                    |
| Backup power output                                | Yes (via SmartGuard-63A-S0)                                                                                                                             |                       |                    |                      |                    |                    |
| Protection Feature                                 |                                                                                                                                                         |                       |                    |                      |                    |                    |
| 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                                                                                                                                                     |                       |                    |                      |                    |                    |
| 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                                                                                                                                              |                       |                    |                      |                    |                    |
| Operating altitude                                 | 0–4,000 m (Derated above 2000 m)                                                                                                                        |                       |                    |                      |                    |                    |
| Cooling                                            | Natural convection                                                                                                                                      |                       |                    |                      |                    |                    |
| Display                                            | LED Indicators; Integrated WLAN + FusionSolar App                                                                                                       |                       |                    |                      |                    |                    |
| Communication                                      | RS485, WLAN via inverter built in WLAN module<br>Ethernet via Smart Dongle-WLAN FE (Optional);<br>4G / 3G / 2G via Smart Dongle-4G (Optional); SA4H-A02 |                       |                    |                      |                    |                    |
| Weight (incl. mounting brackets)                   | < 15 kg                                                                                                                                                 |                       |                    |                      |                    |                    |
| Dimensions (incl. mounting plate)                  | 425 mm x 376.5 mm x 150 mm                                                                                                                              |                       |                    |                      |                    |                    |
| IP rating                                          | IP66                                                                                                                                                    |                       |                    |                      |                    |                    |
| Nighttime power                                    | < 3 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                                                                                                                          |                       |                    |                      |                    |                    |
| Grid connection standards                          | G98, G99, G100, EN 50549-1, CEI 0-21, VDE-AR-N-4105, C10/11, P140,<br>UTE C15-712, TOR Erzeuger, IEC61727, IEC62116                                     |                       |                    |                      |                    |                    |

\*1 The maximum input voltage is the upper limit of the DC voltage. Any higher input DC voltage would probably damage 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.