

SUN2000-12/15/20KTL-M5 Smart PV Controller



Active Safety

AI Powered Arcing Protection



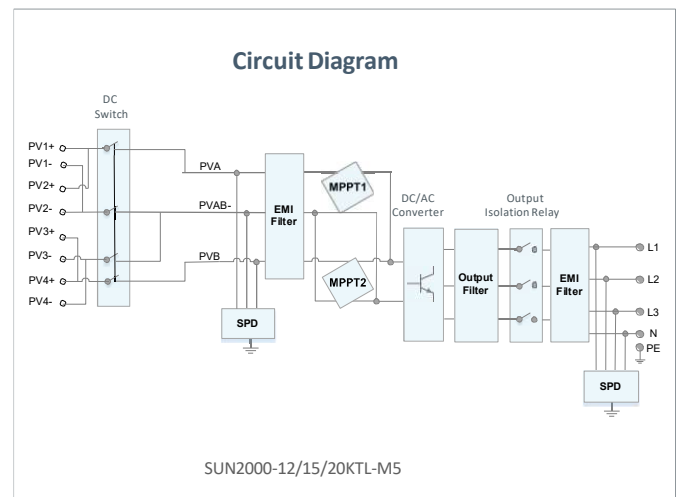
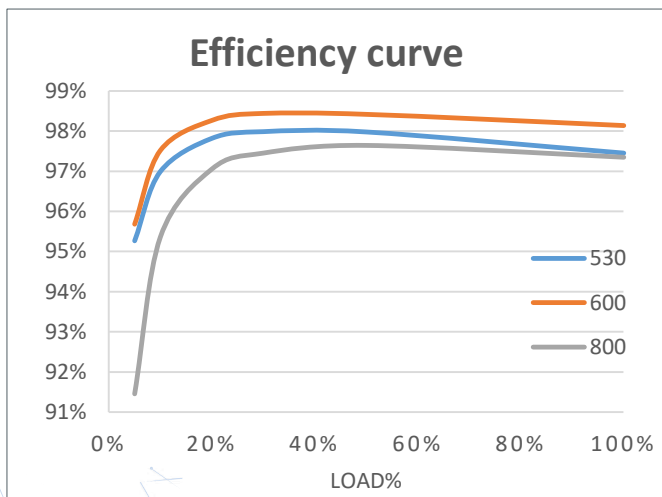
Higher Yields

Up to 30% More Energy with Optimizer



Flexible Communication

WLAN, Fast Ethernet, 4G
Communication Supported



SUN2000-12/15/20KTL-M5
Technical Specification

| Technical Specification | SUN2000 -12KTL-M5 | SUN2000 -15KTL-M5 | SUN2000 -20KTL-M5 |
|-------------------------|----------------------|----------------------|----------------------|
|-------------------------|----------------------|----------------------|----------------------|

Efficiency

| | | | |
|------------------------------|-------|-------|-------|
| Max. efficiency | 98.4% | 98.4% | 98.4% |
| European weighted efficiency | 97.9% | 98.0% | 98.1% |

Input

| | | | |
|---|-----------|--|-----------|
| Recommended max. PV power ¹ | 18,000 Wp | 22,500 Wp | 30,000 Wp |
| Max. input voltage ² | | 1100 V | |
| Full-load MPPT voltage range | 370V~800V | 410V~800V | 480V~800V |
| MPPT Operating voltage range ³ | | 200 V ~ 1000 V | |
| Start-up voltage | | 200 V | |
| Rated input voltage | | 600 V | |
| Max. input current per MPPT | | 30 A (two string) / 20 A (single string) | |
| Max. short-circuit current | | 40 A | |
| Number of MPP trackers | | 2 | |
| Max. number of inputs | | 4 | |

Output

| | | | |
|--------------------------------|------------------------------|---|------------------------------|
| Grid connection | | Three phase | |
| Rated output power | 12,000 W | 15,000 W | 20,000 W |
| Max. apparent power | 13,200 W | 16,500 VA | 22,000 VA |
| Rated output voltage | | 220 Vac / 380 Vac, 230 Vac / 400 Vac, 239.6 Vac / 415Vac, 3W + N + PE | |
| Rated AC grid frequency | | 50 Hz / 60 Hz | |
| Max. output current | 18.2A/380Vac 17.3A/400Vac | 25.2A/380Vac 23.9A/400Vac | 33.6A/380Vac 31.9A/400Vac |
| Adjustable power factor | | 0.8 leading ... 0.8 lagging | |
| Max. total harmonic distortion | | ≤ 3 % | |

Features & Protections

| | |
|--------------------------------------|----------|
| Input-side disconnection device | Yes |
| Anti-islanding protection | Yes |
| AC over-current protection | Yes |
| DC reverse-polarity protection | Yes |
| String fault detection | Yes |
| DC surge protection | TYPE II |
| AC surge protection | CLASS II |
| Residual current monitoring unit | Yes |
| Arc fault protection | Yes |
| Ripple control ripple control | Yes |
| Integrated PID recovery ⁴ | Yes |

General Data

| | |
|--|---|
| Operation temperature range | -25 ~ + 60 °C (-13 °F ~ 140 °F) |
| Relative humidity | 0 % RH ~ 100% RH |
| Max. operating altitude | 0 ~ 4,000 m (13,123 ft.) (Derating above 2000 m) |
| Cooling | Smart air cooling |
| 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) |
| Weight (with mounting plate) | 21kg (46.4 lb) |
| Dimensions (W x H x D) (incl. mounting plate) | 546 x 460 x 228mm (21.5 x 18.1 x 9.0 inch) |
| Degree of protection | IP66 |

Optimizer Compatibility

| | |
|------------------------------|-----------------------------------|
| DC MBUS compatible optimizer | SUN2000-600W-P, MERC-1100/1300W-P |
|------------------------------|-----------------------------------|

Standard Compliance (more available upon request)

| | |
|---------------------------|---|
| Safety | EN/IEC 62109-1, EN/IEC 62109-2 |
| Grid connection standards | G99, EN 50549, CEI 0-21, CEI 0-16, VDE-AR-N-4105, VDE-AR-N-4110, C10/11, ABNT, VFR 2019, UNE 217001, UNE 217002, RD 244, TOR D4, IEC61727, IEC62116,MEA |

*1 Inverter max input PV power will be changed when long strings are designed and fully connected with power optimizers.

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

*3 Any DC input voltage beyond the operating voltage range may result in inverter improper operating.

*4 SUN2000-12~20KTL-M5 raises 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)