

# SUN2000-20KTL-M3 Smart String Inverter



## Smart

8 strings intelligent monitoring



## Efficient

Max. efficiency 97.6%



## Safe

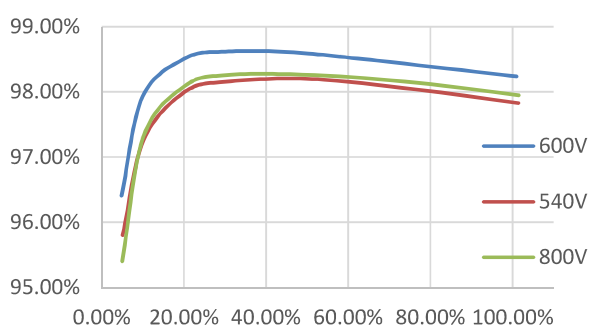
Fuse free design



## Reliable

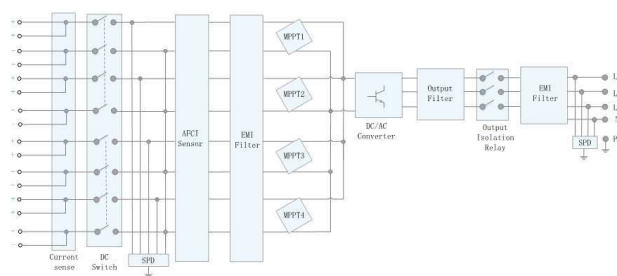
Type II surge arresters for DC & AC

### Efficiency Curve



SUN2000-20KTL-M3

### Circuit Diagram



# SUN2000-20KTL-M3

## Technical Specification

| Technical Specification                                  | SUN2000-20KTL-M3                                                                                 |
|----------------------------------------------------------|--------------------------------------------------------------------------------------------------|
| <b>Efficiency</b>                                        |                                                                                                  |
| Max. Efficiency                                          | 97.6%                                                                                            |
| European Efficiency                                      | 97.2%                                                                                            |
| <b>Input</b>                                             |                                                                                                  |
| Recommended Max. PV Power                                | 30,000 Wp                                                                                        |
| Max. Input Voltage <sup>1</sup>                          | 750 V                                                                                            |
| Max. Current per MPPT                                    | 26 A                                                                                             |
| Max. Short Circuit Current per MPPT                      | 40 A                                                                                             |
| Start Voltage                                            | 200 V                                                                                            |
| MPPT Operating Voltage Range <sup>2</sup>                | 200 V ~ 750V                                                                                     |
| Rated Input Voltage                                      | 360 V                                                                                            |
| Number of Inputs                                         | 8                                                                                                |
| Number of MPP Trackers                                   | 4                                                                                                |
| <b>Output</b>                                            |                                                                                                  |
| Rated AC Active Power                                    | 20,000 W                                                                                         |
| Max. AC Apparent Power                                   | 22,000 VA                                                                                        |
| Max. AC Active Power (cosφ=1)                            | 22,000 W                                                                                         |
| Rated Output Voltage                                     | 120 Vac / 208 Vac, 3W/N+PE<br>127 Vac / 220 Vac, 3W/N+PE                                         |
| Rated AC Grid Frequency                                  | 50 Hz / 60Hz                                                                                     |
| Rated Output Current                                     | 57.2 A / 202 Vac<br>52.5 A / 220 Vac                                                             |
| Max. Output Current                                      | 63.2 A / 202 Vac<br>58.0 A / 220 Vac                                                             |
| Adjustable Power Factor Range                            | 0.8 LG ... 0.8 LD                                                                                |
| Max. Total Harmonic Distortion                           | <3%                                                                                              |
| <b>Protection</b>                                        |                                                                                                  |
| Input-side Disconnection Device                          | Yes                                                                                              |
| Anti-islanding Protection                                | Yes                                                                                              |
| AC Overcurrent Protection                                | Yes                                                                                              |
| DC Reverse-polarity Protection                           | Yes                                                                                              |
| PV-array String Fault Monitoring                         | Yes                                                                                              |
| DC Surge Arrester                                        | Type II                                                                                          |
| AC Surge Arrester                                        | Type II                                                                                          |
| DC Insulation Resistance Detection                       | Yes                                                                                              |
| Residual Current Monitoring Unit                         | Yes                                                                                              |
| Arc Fault Protection                                     | Yes                                                                                              |
| Ripple Receiver Control                                  | Yes                                                                                              |
| Integrated PID Recovery <sup>3</sup>                     | Yes                                                                                              |
| <b>Communication</b>                                     |                                                                                                  |
| Display                                                  | LED Indicators, Integrated WLAN + FusionSolar APP                                                |
| RS485                                                    | Yes                                                                                              |
| Smart Dongle                                             | WLAN/Ethernet via Smart Dongle-WLAN-FE (Optional)<br>4G / 3G / 2G via Smart Dongle-4G (Optional) |
| Monitoring BUS (MBUS)                                    | Yes (Isolation Transformer required)                                                             |
| <b>General Data</b>                                      |                                                                                                  |
| Dimensions (W x H x D)                                   | 640 x 530 x 270 mm (25.2 x 20.9 x 10.6 inch)                                                     |
| Weight (with mounting plate)                             | 43 kg (94.8 lb)                                                                                  |
| Noise Level                                              | < 46 dB                                                                                          |
| Operating Temperature Range                              | -25 ~ + 60 °C (Derating above 45 °C @ Rated output power)                                        |
| Cooling Method                                           | Natural Convection                                                                               |
| Max. Operating Altitude                                  | 0 - 4,000 m (Derating above 3000 m)                                                              |
| Relative Humidity                                        | 0% RH ~ 100% RH                                                                                  |
| Protection Degree                                        | IP 66                                                                                            |
| Topology                                                 | Transformerless                                                                                  |
| Nighttime Power Consumption                              | ≤ 5.5W                                                                                           |
| <b>Optimizer Compatibility</b>                           |                                                                                                  |
| DC MBUS Compatible Optimizer                             | SUN2000-450W-P                                                                                   |
| <b>Standard Compliance (more available upon request)</b> |                                                                                                  |
| Safety                                                   | EN 62109-1/-2, IEC 62109-1/-2, EN 50530, IEC 62116, IEC 60068, IEC 61683                         |
| Grid Connection Standards                                |                                                                                                  |

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

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

3. SUN2000-30~40KTL-M3 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),

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