

# SUN2000-100KTL-M2 Smart PV Controller



10  
MPP Trackers



98.8% (@480V)  
Max. Efficiency



String-level  
Management



Smart I-V Curve Diagnosis  
Supported



MBUS  
Supported



Support AFCI &  
Smart String Level  
Disconnect



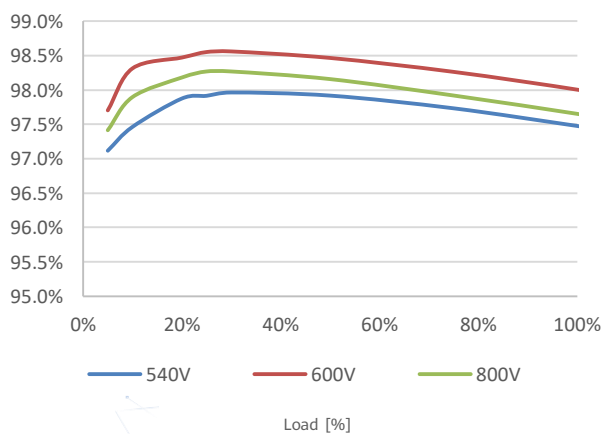
Surge Arresters for  
DC & AC



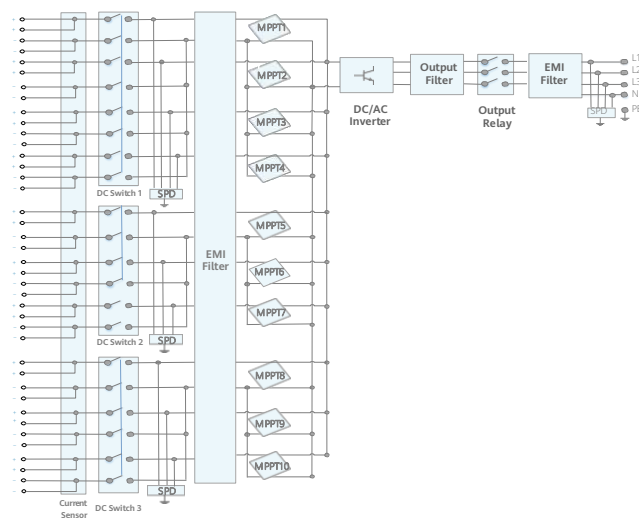
IP66  
Protection

## Efficiency Curve

SUN2000-100KTL-M2 @400 V



## Circuit Diagram



|                         |                   |
|-------------------------|-------------------|
| Technical Specification | SUN2000-100KTL-M2 |
|-------------------------|-------------------|

| Efficiency          |                              |
|---------------------|------------------------------|
| Max. efficiency     | 98.6% @ 400 V, 98.8% @ 480 V |
| European efficiency | 98.4% @ 400 V, 98.6% @ 480 V |

| Input                                     |                                  |
|-------------------------------------------|----------------------------------|
| Max. Input Voltage <sup>1</sup>           | 1,100 V                          |
| Max. Current per MPPT                     | 30 A                             |
| Max. Current per Input <sup>3</sup>       | 20 A                             |
| Max. Short Circuit Current per MPPT       | 40 A                             |
| Start Voltage                             | 200 V                            |
| MPPT Operating Voltage Range <sup>2</sup> | 200 V ~ 1,000 V                  |
| Nominal Input Voltage                     | 600 V @ 400 Vac, 720 V @ 480 Vac |
| Number of MPP trackers                    | 10                               |
| Max. input number per MPP tracker         | 2                                |

| Output                         |                                  |
|--------------------------------|----------------------------------|
| Nominal AC Active Power        | 100,000 W                        |
| Max. AC Apparent Power         | 110,000 VA                       |
| Max. AC Active Power (cosφ=1)  | 110,000 W                        |
| Nominal Output Voltage         | 380 V/ 400 V/ 480 V, 3W+(N)+PE   |
| Rated AC Grid Frequency        | 50 Hz / 60 Hz                    |
| Nominal Output Current         | 144.4 A @ 400 V, 120.3 A @ 480 V |
| Max. Output Current            | 160.4 A @ 400 V, 133.7 A @ 480 V |
| Adjustable Power Factor Range  | 0.8 leading... 0.8 lagging       |
| Max. Total Harmonic Distortion | < 3%                             |

| Protection                         |         |
|------------------------------------|---------|
| 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     |
| Smart String Level Disconnecter    | Yes     |

| Communication         |                                                |
|-----------------------|------------------------------------------------|
| Display               | LED indicators; WLAN adaptor + FusionSolar APP |
| RS485                 | Yes                                            |
| USB                   | Yes                                            |
| Smart Dongle-4G       | Smart Dongle – 4G / WLAN (Optional)            |
| Monitoring BUS (MBUS) | Yes (isolation transformer required)           |

| General Data                 |                                       |
|------------------------------|---------------------------------------|
| Dimensions (W x H x D)       | 1,035 x 700 x 365 mm                  |
| Weight (with mounting plate) | ≤93 kg                                |
| Operating Temperature Range  | -25°C ~ 60°C                          |
| Cooling Method               | Smart Air Cooling                     |
| Max. Operating Altitude      | 4,000 m (13,123 ft.)                  |
| Relative Humidity            | 0 ~ 100%                              |
| DC Connector                 | Amphenol Helios H4                    |
| AC Connector                 | Waterproof Connector + OT/DT Terminal |
| Protection Degree            | IP66                                  |
| Topology                     | Transformerless                       |
| Nighttime Power Consumption  | < 3.5 W                               |

| Standard Compliance (more available upon request) |                                                                                     |
|---------------------------------------------------|-------------------------------------------------------------------------------------|
| Certificate                                       | EN 62109-1/-2, IEC 62109-1/-2, EN 50530, IEC 62116, IEC 61727, IEC 60068, IEC 61683 |
| Grid Connection Standards                         | VDE-AR-N4105, EN 50549-1, EN 50549-2, RD 661, RD 1699, C10/11                       |

\*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 Single-string access.