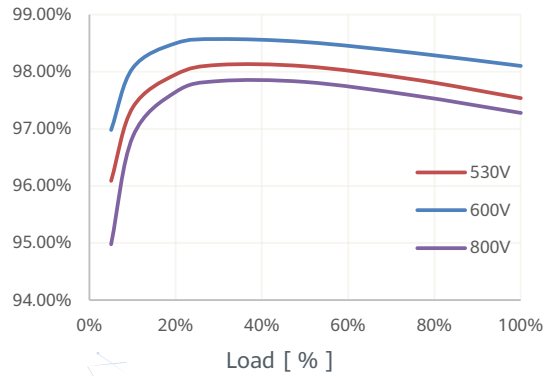
SUN2000-50K-MC0
Smart PV Controller

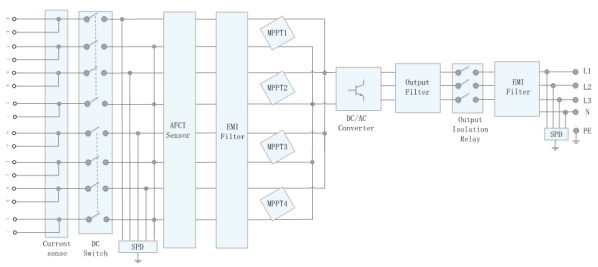


Smart **Efficient** **Safe** **Reliable**

Efficiency Curve



Circuit Diagram



SUN2000-50K-MC0

Technical Specification

Technical Specification	SUN2000-50K-MC0
Efficiency	
Max. Efficiency	98.5% @400V, 98.7% @480V
European Efficiency	98.2%
Input	
Max. Input Voltage [1]	1,100 V
Max. Current per MPPT	30/33/33/30A
Max. Current per Input	23 A
Max. Short Circuit Current per MPPT	40/44/44/40A
Start Voltage	180 V
MPPT Operating Voltage Range [2]	180 V ~ 1,000 V
Rated Input Voltage	600 V
Number of Inputs	8
Number of MPP Trackers	4
Output	
Rated AC Active Power	50,000 W
Max. AC Apparent Power	55,000 VA
Max. AC Active Power (cosϕ=1)	55,000 W
Rated Output Voltage	380 Vac / 400 Vac / 480 Vac, 3W+(N) + PE
Rated AC Grid Frequency	50 Hz / 60 Hz
Rated Output Current	76.0 A @ 380Vac, 72.2 A @ 400Vac, 60.1 A @ 480Vac
Max. Output Current	84.0 A @ 380Vac, 79.8 A @ 400Vac, 66.5 A @ 480Vac
Adjustable Power Factor Range	0.8 LG ... 0.8 LD
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 I + II [3]
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 [4]	Yes
Communication	
Display	LED Indicators, Integrated WLAN + APP
RS485	Yes
Smart Dongle	WLAN/Ethernet via Smart Dongle-WLAN-FE (Optional) 4G / 3G / 2G via Smart Dongle-4G (Optional)
Monitoring BUS (MBUS)	Yes (Isolation Transformer required)
Optimizer Compatibility	
DC MBUS Compatible Optimizer	MERC-1100/1300W-P
General Data	
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)	50 kg
Operating Temperature Range	-25°C ~ 60°C (-13°F ~ 140°F)
Cooling Method	Smart Air Cooling
Max. Operating Altitude	4,000 m (13,123 ft.)
Relative Humidity	0% RH ~ 100% RH
DC Connector	Amphenol HH4
AC Connector	Waterproof Connector + OT/DT Terminal
Protection Degree	IP 66
Topology	Transformerless
Standard Compliance (more available upon request)	
Safety	EN 62109-1/-2, IEC 62109-1/-2, IEC 62116, IEC 60068, IEC 61683
Grid Connection Standards	IEC 61727, VDE-AR-N4105, VDE 0124-1-1, UTE C 15-712-1, CEI 0-16, CEI 0-21, EN-50549, C10/11, MEA, PEA, DEWA, G99

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. SPD devices comply with IEC/EN 61643-11 and IEC/EN 61643-31 standards.
4. SUN2000-30~50K-MC0 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), N-type (nPERT, HIT)