

An aerial photograph of a modern building's rooftop terrace. The terrace features a large area of solar panels on the left, a wooden deck on the right, and a planter box with various green plants. The building's architecture includes white walls and a grey tiled roof. A green rectangular overlay is positioned in the center-left of the image, containing white text.

# Commercial & Industrial Smart PV Solution

# Smart Energy Controller

SUN2000-30/36/40KTL-M3



**Smart**

8 strings intelligent monitoring



**Efficient**

Max. efficiency 98.7%



**Safe**

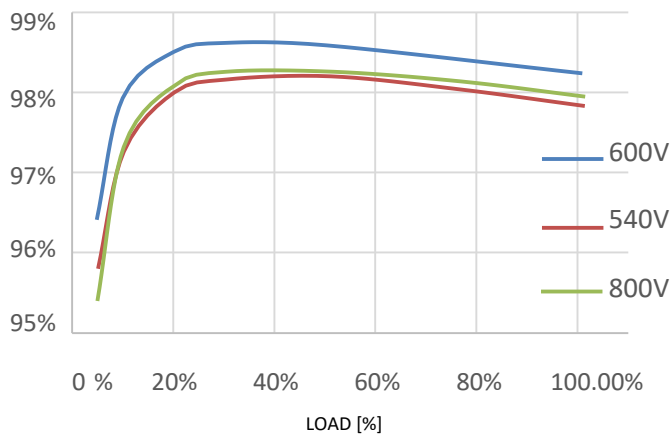
Fuse free design



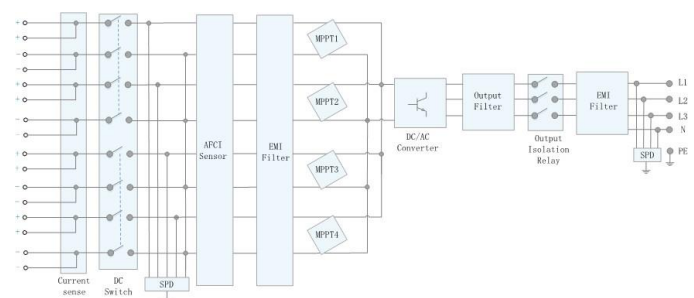
**Surge protection**

Type I + Type II

**Efficiency Curve**



**Circuit Diagram**



# SUN2000-30/36/40KTL-M3

## Technical Specification

SUN2000	-30KTL-M3	-36KTL-M3	-40KTL-M3
<b>Efficiency</b>			
Max. Efficiency	98.7%		
European Efficiency	98.4%		
<b>Input</b>			
Max. Input Voltage <sup>1</sup>	1100 V		
Max. Current per MPPT	27 A (per MPPT) / 20 A (per Input)		
Max. Short Circuit Current per MPPT	40 A		
Start Voltage	200 V		
MPPT Operating Voltage Range <sup>2</sup>	200 V - 1000 V		
Rated Input Voltage	600 V		
Number of Inputs	8		
Number of MPP Trackers	4		
<b>Output</b>			
Rated AC Active Power	30000 W	36000 W	40000 W
Max. AC Apparent Power	33000 VA <sup>3</sup>	40000 VA	44000 VA
Rated Output Voltage	230 Vac / 400 Vac, 3W/N+PE		
Rated AC Grid Frequency	50 Hz		
Rated Output Current	43.3 A	52.0 A	57.8 A
Max. Output Current	47.9 A	58.0 A	63.8 A
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	Yes		
AC Surge Arrester	Yes		
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		
Surge protection <sup>4</sup>	Type I + II		
<b>Communication</b>			
Display	LED Indicators, Integrated WLAN + FusionSolar APP		
RS485	Yes		
Smart Dongle	WLAN/Ethernet via Smart Dongle-WLAN-FE (Optional) 4G / 3G / 2G via Smart Dongle-4G (Optional)		
<b>General Data</b>			
Dimensions (W x H x D)	640 x 530 x 270 mm		
Weight (with mounting plate)	43 kg		
Operating Temperature Range	-25°C to + 60°C		
Cooling Method	Natural Convection		
Max. Operating Altitude	4000 m (Derating above 2000 m)		
Relative Humidity	0% RH - 100% RH		
DC Connector	Amphenol Helios H4		
AC Connector	Waterproof Connector + OT/DT Terminal		
Protection Degree	IP 66		
Topology	Transformerless		
Nighttime Power Consumption	≤ 5.5W		
<b>Optimizer Compatibility</b>			
DC MBUS Compatible Optimizer	SUN2000-450W-P2, SUN2000-600W-P, MERC-1100W/1300W-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	IEC 61727, VDE-AR-N4105, VDE 0126-1-1, BDEW, G59/3, UTE C 15-712-1, CEI 0-16, CEI 0-21, RD 661, RD 1699, P.O. 12.3, RD 413, EN-50438-Turkey, EN-50438-Ireland, C10/11, MEA, Resolution No.7, NRS 097-2-1, AS/NZS 4777.2, DEWA		

\*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).

\*4. SPD Type I+II for inverters with a manufacturing date after 09/01/2024, see self-declaration for more details.

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.

# Smart Energy Controller

SUN2000-50KTL-M3



### Higher Yields

Up to 30% More Energy with Optimizer



### Active Safety

AI Powered Active Arcing Protection



### Flexible Communication

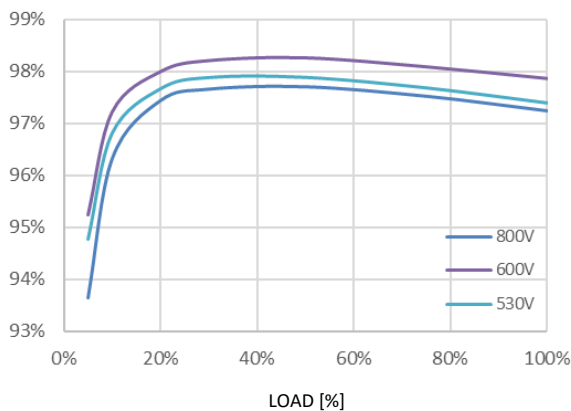
WLAN, Fast Ethernet, 4G Communication Supported



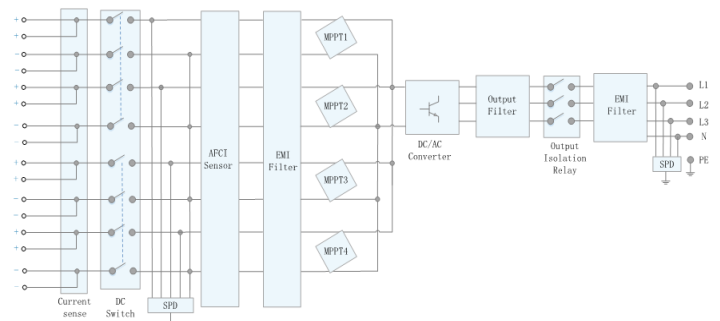
### Surge protection

Type I + Type II

Efficiency Curve



Circuit Diagram



# SUN2000-50KTL-M3

## Technical Specification

SUN2000	-50KTL-M3
	<b>Efficiency</b>
Max. Efficiency	98.5%
European Efficiency	98.0%
	<b>Input</b>
Max. Input Voltage <sup>1</sup>	1100 V
Max. Current per MPPT	30 A
Max. Current per Input	20 A
Max. Short Circuit Current per MPPT	40 A
Start Voltage	200 V
MPPT Operating Voltage Range <sup>2</sup>	200 V - 1000 V
Rated Input Voltage	600 V
Number of Inputs	8
Number of MPP Trackers	4
	<b>Output</b>
Rated AC Active Power	50000 W
Max. AC Apparent Power	55000 VA
Max. AC Active Power (cosφ=1)	55000 W
Rated Output Voltage	400 Vac, 3W+(N) + PE
Rated AC Grid Frequency	50 Hz / 60 Hz
Rated Output Current	72.2 A @ 400Vac
Max. Output Current	79.8 A @ 400Vac
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
Surge protection <sup>4</sup>	Type I + II
	<b>Communication</b>
Display	LED Indicators, 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)
	<b>Optimizer Compatibility</b>
DC MBUS Compatible Optimizer	MERC-1100/1300W-P
	<b>General Data</b>
Dimensions (W x H x D)	640 x 530 x 270 mm
Weight (with mounting plate)	49 kg
Operating Temperature Range	-25°C to +60°C
Cooling Method	Smart Air Cooling
Max. Operating Altitude	4000 m
Relative Humidity	0% RH - 100% RH
DC Connector	Amphenol HH4
AC Connector	Waterproof Connector + OT/DT Terminal
Protection Degree	IP 66
Topology	Transformerless
Nighttime Power Consumption	≤ 5.5W
	<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	IEC 61727, VDE-AR-N4105, VDE 0126-1-1, BDEW, G59/3, UTE C 15-712-1, CEI 0-16, CEI 0-21, RD 661, RD 1699, P.O. 12.3, RD 413, EN-50438-Turkey, EN-50438-Ireland, C10/11, MEA, Resolution No.7, NRS 097-2-1, DEWA

\*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. SUN2000-30-50KTL-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), N-type (nPERT, HIT).

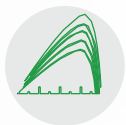
\*4. SPD Type I-II for inverters with a manufacturing date after 09/01/2024, see self-declaration for more details

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# Smart Energy Controller

SUN2000-100KTL-M2



**10 MPP Trackers**



**98.6% Max. Efficiency**



**String-level Management**



**Surge protection Type I + Type II**



**MBUS Supported**



**Support AFCI & Smart String Level Disconnect**

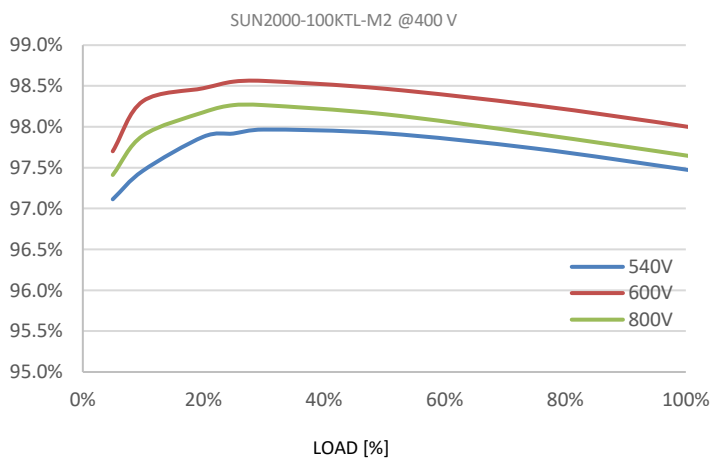


**Surge Arresters for DC & AC**

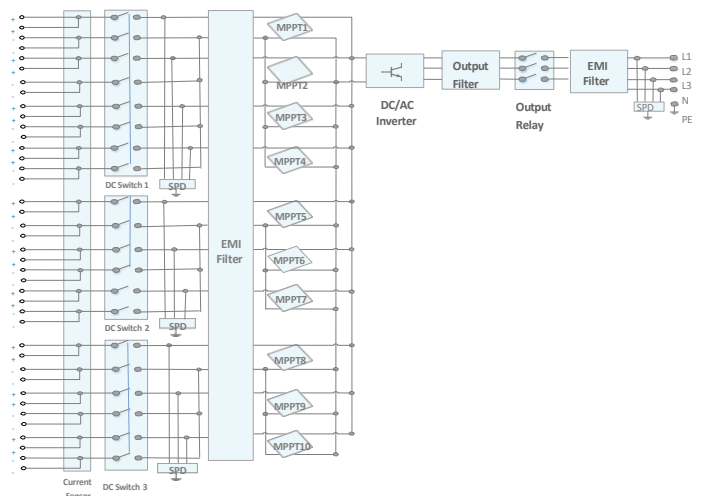


**IP66 Protection**

**Efficiency Curve**



**Circuit Diagram**



# SUN2000-100KTL-M2

## Technical Specification

SUN2000	-100KTL-M2
<b>Efficiency</b>	
Max. efficiency	98.6% @ 400 V
European efficiency	98.4% @ 400 V
<b>Input</b>	
Max. Input Voltage <sup>1</sup>	1100 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 - 1000 V
Nominal Input Voltage	600 V @ 400 Vac
Number of MPP trackers	10
Max. input number per MPP tracker	2
<b>Output</b>	
Nominal AC Active Power	100000 W
Max. AC Apparent Power	110000 VA
Max. AC Active Power (cosφ=1)	110000 W
Nominal Output Voltage	400 V, 3W+(N)+PE
Rated AC Grid Frequency	50 Hz / 60 Hz
Nominal Output Current	144.4 A @ 400 V
Max. Output Current	160.4 A @ 400 V
Adjustable Power Factor Range	0.8 leading... 0.8 lagging
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
Smart String Level Disconnect	Yes
Surge protection <sup>4</sup>	Type I + II
<b>Communication</b>	
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)
<b>General Data</b>	
Dimensions (W x H x D)	1035 x 700 x 365 mm
Weight (with mounting plate)	93 kg
Operating Temperature Range	-25°C to +60°C
Cooling Method	Smart Air Cooling
Max. Operating Altitude	4000 m
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
<b>Standard Compliance (more available upon request)</b>	
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.

\*4. SPD Type I+II for inverters with a manufacturing date after 09/01/2024, see self-declaration for more details

# Smart Energy Controller

SUN2000-150K-MG0



Arc Fault Protection



PV Ground-Fault Protection



PID Recovery



Smart String Level Disconnect

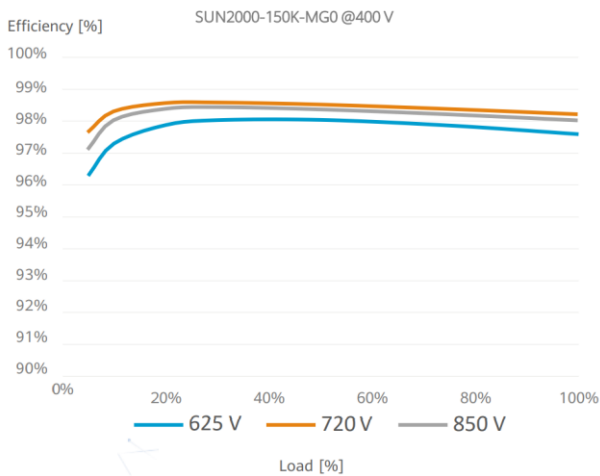


Smart Connector Temperature Detector

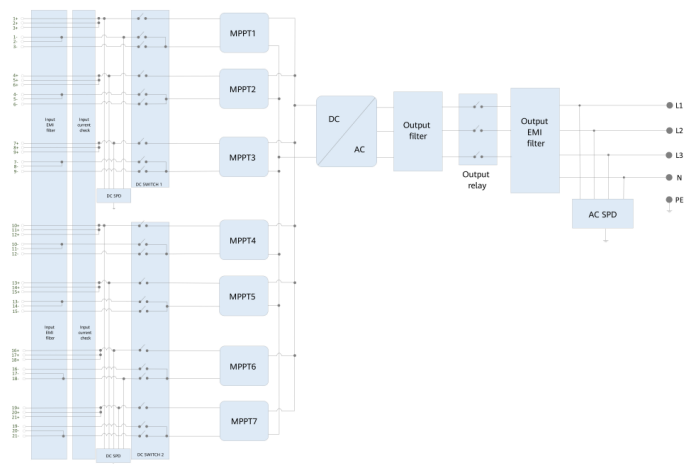


Surge protection Type I + Type II

## Efficiency Curve



## Circuit Diagram





# SUN2000-150K-MG0

## Technical Specification

SUN2000	-150K-MG0
<b>Efficiency</b>	
Max. efficiency	98.6% @400 V
European efficiency	98.4% @400 V
<b>Input</b>	
Max. Input Voltage <sup>1</sup>	1100 V
Max. Current per MPPT	48 A
Max. Current per Input	23 A
Max. Short Circuit Current per MPPT	66 A
Start Voltage	200 V
MPPT Operating Voltage Range <sup>2</sup>	200 V - 1000 V
Number of MPP trackers	7
Max. input number per MPP tracker	3
<b>Output</b>	
Nominal AC Active Power	150000 W
Max. AC Apparent Power	165000 VA
Max. AC Active Power (cosφ=1)	165000 W
Nominal Output Voltage	400 V, 3W+(N)+PE
Rated AC Grid Frequency	50 Hz / 60 Hz
Nominal Output Current	216.5.0 A @400 V
Max. Output Current	240.5 A @400 V
Adjustable Power Factor Range	0.8 leading... 0.8 lagging
Alternating current THDi	< 1%
<b>Protection</b>	
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
Smart String Level Disconnect	Yes
Arc Fault Protection	Yes
Terminal Temperature Detection	Yes
PID Recovery	Yes
PV Ground-Fault Protection	Yes
Surge protection <sup>3</sup>	Type I + II
<b>Communication</b>	
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)
<b>General Data</b>	
Dimensions (W x H x D)	1000 x 710 x 395 mm
Weight (with mounting plate)	≤ 99kg
Operating Temperature Range	-25°C to 60°C
Cooling Method	Smart Air Cooling
Max. Operating Altitude	4000 m
Relative Humidity	0 - 100%
DC Connector	Amphenol Helios H4
AC Connector	Waterproof Connector + OT/DT Terminal
Protection Degree	IP66
Topology	Transformerless
<b>Standard Compliance (more available upon request)</b>	
Certificate	EN 62109-1/-2, IEC 62109-1/-2, 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. SPD Type I+II for inverters with a manufacturing date after 09/01/2024, see self-declaration for more details

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