Huawei Digital Power Technologies Co., Ltd.

Address: Huawei Digital Power Antuoshan Headquarters Futian, Shenzhen 518043 People's Republic of China
Website: https://e.huawei.com

Copyright © Huawei Digital Power Technologies Co., Ltd. 2021. All rights reserved.

No part of this document may be reproduced or transmitted in any form or by any means without prior written consent of Huawei Digital Power Technologies Co., Ltd.

Trademarks and Permissions

and other Huawei trademarks are trademarks of Huawei Technologies Co., Ltd.
All other trademarks and trade names mentioned in this document are the property of their respective holders.

Notice

The purchased products, services and features are stipulated by the contract made between Huawei Digital Power Technologies Co., Ltd. and the customer. All or part of the products, services and features described in this document may not be within the purchase scope or the usage scope. Unless otherwise specified in the contract, all statements, information, and recommendations in this document are provided "AS IS" without warranties, guarantees or representations of any kind, either express or implied.

The information in this document is subject to change without notice. Every effort has been made in the preparation of this document to ensure accuracy of the contents, but all statements, information, and recommendations in this document do not constitute a warranty of any kind, express or implied.

HUAWEI

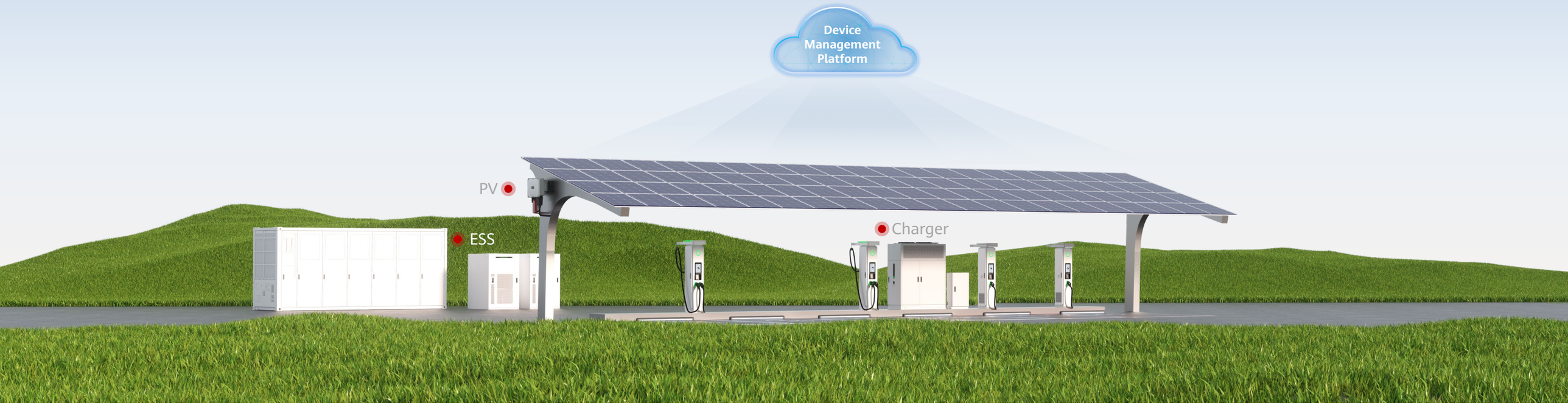
One-stop PV+ESS+Charger Solution

Jointly charging the road ahead



One-stop PV+ESS+Charger Solution

End-to-End Self-Developed with Full-Chain System-Level Safety



PV



Smart PV Controller

Power 30-150kW

ESS



AC BESS

0.45C Discharge Rate
Capacity 241kWh



DC BESS

1C Discharge Rate
Capacity 215kWh



AC BESS

0.25C/0.5C Discharge Rate
Capacity 5MWh

Charger



Liquid-cooled ultra-fast charging, compatible with all vehicle models on one platform.

Superior Quality

- **ALL-in-One Design:** One-click deployment, effortless long-term O&M
- **10-Year Design Life**

Optimal ROI

- **Intelligent PV+ESS+Charger Scheduling:** Maximize self-consumption & TOU arbitrage(charge low, sell high)
- **Power Pooling:** Maximize electricity utilization efficiency

Ultimate Safety

- **E2E In-House Development:** Full-chain integration & joint commissioning across PV, ESS & Charger
- **200+ Scenario-Based Safety Tests:** From component to system; anti-backflow protection against power surges

Liquid-cooled Power Unit

Huawei’s liquid-cooled power unit is a high-power charging architecture designed for new energy vehicles, featuring a fully liquid-cooled ultra-fast charging system that enables energy conversion and power distribution. Compared to traditional solutions, it innovatively employs a new liquid cooling technology and DC bus architecture. It can support up to 720 kW of power output (fully configured) and includes built-in 120 kW AC/DC and 60 kW DC/DC liquid-cooled modules along with a power sharing unit, allowing for expansion to support 12 charging connector outputs (fully configured).



Power Unit Specification

Basic Specifications	Model	DS720-720LEUA5	DS720-720LEUA5	DS720-720LEUA5	DS720-720LEUA5	DS720-720LEUA5
	Power Configuration (AC/DC-DC/DC)	720kW-720kW	600kW-720kW	480kW-600kW	240kW-360kW	240kW-720kW
	Dimensions (W x D x H)	1700mm × 800mm × 2150mm				
	Weight	1500kg (including coolant)	1500kg (including coolant)	1400kg (including coolant)	1250kg (including coolant)	1350kg (including coolant)
	Installation Mode	Floor-mounted				
	Efficiency (Maximum)	96%				
	Cooling	Liquid cooling				
	IP Rating	IP55				
	Communication Interface	4G,Ethernet(Northbound communication)				
	Standby Power *1	45W				
Input Specifications	Rated Input Voltage	400Vac±10%Vac, three-phase five-wire system				
	Rated Frequency	45-66 Hz				
	Rated Input Current	≤1117 A	≤931 A	≤745 A	≤373 A	≤373A
	Input Module	120kW AC/DC liquid-cooled module				
	Power Factor	≥0.99 (Load≥50%)				
	THDi	≤5% (Load≥50%)				
Output Specifications	Output Voltage	150~1000 Vdc				
	Output Module	60kW DC/DC liquid-cooled module				
	Current Ripple	≤ 1.5A @frequency<10Hz; ≤ 6A@frequency<5000Hz; ≤ 9A@frequency<150kHz				
	Voltage Ripple	≤ ±5V				
	Charging Connector Number	Max. 12	Max. 12	Max. 10	Max. 6	Max. 12
Environmental Specifications	Operating Temperature	-35 ℃ to +50 ℃				
	Storage Temperature	-40 ℃ to +70 ℃				
	Altitude	≤ 4000m				
	Relative Humidity	5%~95% (Non-condensing)				
	Noise	≤ 55 dB(A)@25℃ (silent Mode)				
Other Specifications	Compliance	IEC 61851-1, IEC 61851-23, IEC 61851-21-2				

*1: Not enable the reactive power compensation function

Dispenser

Huawei charging dispensers are user-side units designed for charging new energy vehicles, available with two cable length options: 5 m and 7.5 m. The liquid-cooled dispenser is equipped with a single charging connector capable of delivering a maximum current of 800 A, while the boost dispenser features two charging connectors, each capable of delivering up to 600 A.

Liquid-cooled Dispenser (5m cable length) | Boost Dispenser (5m cable length) | Boost Dispenser (7.5m cable length)



Dispenser Specification

Basic Specifications	Model	DT800L1-EUA1	DT600N2-EUA1	DT600N2-EUA2
	Dimensions (W x D x H)	395 mm*495 mm*2150 mm	395 mm*495 mm*2150 mm	395 mm*495 mm*2000 mm
	Charging Connector Number	1 (CCS2)	2 (CCS2)	2 (CCS2)
	Charging Cable Length	5m	5m	7.5m
	Installation Mode	Floor-mounted		
	IP Rating	IP55		
	Cable Cooling	Liquid cooling	Natural cooling	
	Authentication	RFID reader(ISO/IEC 14443 A / B, ISO/IEC 15693, NFC) / Credit card reader (Optional) / QR code		
	Standby Power*1	35W		
	Meter Certification	MID / LNE		
Environmental Specifications	Operating Temperature	-30°C to +55°C (derating from 40°C)		
	Noise	≤ 55 dB(A)@25℃ (silent Mode)		
	Storage Temperature	-40°C to +70°C		
	Relative Humidity	5%RH~95%RH		
	Altitude	≤4000m		
Output Specifications	Output Voltage Range	150~1000Vdc		
	Rated Output Current of Single Connector	600A	375A	375A
	Maximum Output Current of Single Connector	800A	600A	600A
Other Specifications	Compliance	IEC 61851-1, IEC 61851-23, IEC 61851-24, IEC 61851-21-2, IEC 62196-1, IEC 62196-3, DIN 70121, ISO15118-2		
	Safety Function	Output overvoltage protection, short circuit protection, grounding continuity detection, overtemperature protection, emergency stop protection (optional), insulation detection, door opening protection, battery reverse connection protection, and contactor adhesion protection		

*1: The assumption: ambient temperature is 25°C. The lamp on the top is off. The screen is off. No charging connector is inserted for charging and no solar radiation.

AC BESS

Huawei's AC BESS is a fully liquid-cooled heat dissipation energy storage product designed for solar, storage, and charging scenarios. A single energy storage system can accommodate up to 241 kWh of battery capacity.



AC BESS Specifications

Basic Specifications	Model type	LUNA2000-241-2S1
	Rated power	108 kW
	Rated capacity	241 kWh
	Dimensions (W x D x H)	1150mm × 1800mm × 2100mm
	Weight	≤2800kg
	Noise level*	65dB(A)
	Maximum cycle rate	0.45CP
	Maximum cycle efficiency	91.3%
	Depth of charge and discharge	0~100%
	System battery configuration	240S1P
	Protection degree	IP55
	Power consumption standby	≤150 W
	Auxiliary power supply	176~300Vac, Single phase, ≤5 kW
	Communication port	Ethernet / Optical fiber
	Communication protocol	Modbus TCP
Environmental Specifications	Operating temperature range	-30 °C ~ 55 °C (> 50℃ Derating)
	Storage temperature range	-35°C ~ 60 °C
	Operating humidity range	0 ~ 100% RH (non-condensing)
	Maximum operating altitude	4,000m
	Installation requirements	Outdoor installation
	Lightning protection	Type II (AC port)
	Heat dissipation mode	Hybrid cooling
	EMC protection rating	Class B
	Environment	RoHS6
Smart Security Mode	Balance mode	Pack-level active balance
	SOC calibration mode	Automatic
	Fire suppression mode	Directional gas exhaust, Top explosion vent, Aerosol
	Protection mode	Anti-islanding protection, residual current detection, insulation resistance detection, AC overcurrent protection, and AC cable connection protection
Battery Parameters (DC)	Cell material	LFP
	Rated battery capacity	314Ah
	Number of battery packs	4
	Operating voltage range	648~852 V
	Rated DC current	140A
PCS Parameters (AC)	PCS model type	PCS2000-108K-MB1
	Rated output power	108 kW
	Rated AC current	164.1 A
	AC voltage & frequency	380 / 400 V (3P4W) , 50 / 60 Hz
	Adjustable power factor range	-1 … +1
	AC current harmonics THDi*	≤1.5%
Compliance	Certification standards	GB/T 36276; GB/T34120; UL9540A; UN38.3; IEC 62477-1; IEC 62040-1; IEC 62619; IEC 61000-6-1/2/3/4; IEC 60529; VDE-AR-E 2510-2/50; IEC 62933-5-1/2

Note:
* Rated operating condition: In the on-grid scenario, the ambient temperature is 25°C, and the AC output voltage is 380 Vac.

DC BESS

Huawei's DC BESS is a fully liquid-cooled heat dissipation energy storage product designed for solar, storage, and charging scenarios. A single energy storage system can accommodate up to 215 kWh of battery capacity.



DC BESS Specifications

Basic Specifications	Model type	DES-215-2S10
	Rated power	108 kW
	Maximum output power	215 kW
	Rated voltage	820Vdc
	Rated capacity	215kWh
	Dimensions (W x D x H)	1150mm*1800mm*2100mm
	Weight	< 2800kg
	Noise level	65dB(A)
	Maximum cycle rate	≤1C@40℃ (Max 30min)
	Maximum cycle efficiency	92.1%
	System battery configuration	(1P60S) 4S
	Protection degree	IP55
	Power consumption standby *	138 W
	Auxiliary power supply	176V AC~300V AC, Single-phase, ≤5kVA
	Communication port	Ethernet / Optical fiber
	Communication protocol	BIN4
Environmental Specifications	Operating temperature range	-30 °C ~ +55 °C (> 50℃ Derating)
	Storage temperature range	-35°C ~ 60 °C
	Operating humidity range	0%–100% RH (no failure under condensation)
	Maximum operating altitude	4000 m (power derating at > 2000 m)
	Lightning protection	Type II (DC port)
	Heat dissipation mode	Hybrid cooling
	EMC protection rating	Class A
	Environment	RoHS6
Smart Security Mode	Balance mode	Pack-level active balance
	SOC calibration mode	Automatic
	Fire suppression mode	Directional gas exhaust, Top explosion vent, Aerosol
	Protection mode	Residual current detection, insulation resistance detection, DC overcurrent protection, and DC cable connection protection
Battery Parameters (DC)	Cell material	LFP
	Rated battery capacity	280Ah
	Operating voltage range	648~851.9 V
	Rated Current	131.7A
Compliance	Certification standards	IEC62477-1

DC Power Distribution Cabinet Specifications

Basic Specifications	Model type	PDC800300DCNA1
	Rated voltage	820Vdc
	Rated current	293A
	Dimensions (W x D x H)	650mm*350mm*1200mm
	Weight	≤ 117 kg (including packaging materials and base pallets)
	Noise level	Silent mode: ≤ 55 dB(A)@1 m, 25°C
	Number of access paths	2
	Entry and exit methods	Inlet and outlet at the bottom
	Protection degree	IP55
	Communication methods	RS485
Environmental Specifications	Operating temperature range	-30 °C ~ +55 °C
	Operating humidity range	5%–95% RH (non-condensing)
	Maximum operating altitude	0–4000 m (Working at full load is allowed when the altitude is less than or equal to 1000 m and the ambient temperature is less than or equal to 40°C.)
	Installation requirements	Floor-mounted
	Lightning protection	10kA,8/20us
	Heat dissipation mode	Natural heat dissipation
	EMC protection rating	IEC 61851-21-2, GB/T 18487.2, Class A (compliant when working with the power unit)
	DC leakage protection	Support
	Short circuit protection	Support
Compliance	Certification standards	IEC 61439-1, IEC 61439-2, IEC 61439-7, GB/T 7251.1, GB/T 7251.2 (single cabinet)

5MWh ESS

Huawei's Smart String Grid-Forming Energy Storage System manages the charging and discharging of DC energy received from the external power grid through the intelligent energy storage controller. Designed for solar, storage, and charging scenarios, a single energy storage system can reach up to 5 MWh of battery capacity.



5MWh ESS Specifications

Technical Specifications	Model Type	LUNA2000-5015-2S
	Battery Rack Model	LUNA2000-835-2R
	Nominal Energy per Box	5015 kWh
	Nominal power of the entire container	2507.5 kW
	Number of battery packs in the container	6
	Total weight of the container	≤42t *1
	Protection level of the container	IP55
	Container dimensions (width × height × depth)	20 feet: 6058mm × 2896mm × 2438mm
	Battery temperature control method	Liquid cooling
	Rated voltage of a single battery cluster	1331.2V
	Single battery cluster voltage range	1123V ~ 1497.6V
	Nominal energy of a single battery cluster	836 kWh
	Supported charge/discharge rate	≤0.5 CP @ 45° C
	Nominal power per cluster	418 kW
	Rated charge/discharge current per cluster	314 A
	Rated Voltage of Single Battery Cluster	1331.2V
	Balancing Method within the Cluster	Passive balancing between cells + Active balancing between PACKs *2
	Operating Temperature Range of the Entire System	-30° C to +55° C
	Storage Temperature Range for the Entire Unit	-40° C to +60° C
	Operating Humidity Range for the Entire Unit	0~100% (no condensation)
	EMC requirements for the entire unit	Class A
	Noise requirements for the entire unit	75 dBA @ 25° C
	Maximum operating altitude of the entire unit	4700m *3
	Coolant type	Ethylene glycol water solution
	Electrical protection	RCD Detection Protection, ISO Detection Protection
	System Communication Interface	Fiber Optic/Ethernet
	System Communication Protocol	Modbus TCP
	Power Communication Interface	CAN
	Certification Standards	IEC/EN 62477-1, EN 55011/CISPR 11, UL 9540A; UN38.3, etc.

*1 Weight reduction scenario for transportation: weight after reduction ≤ 30.5t.
*2 Supported only on certain models, depending on whether the battery pack has an active balancing interface.
*3 Supported only on certain models, as indicated by the nameplate on the side of the container.

SUN2000-30/40KTL-MC0

Smart PV Controller



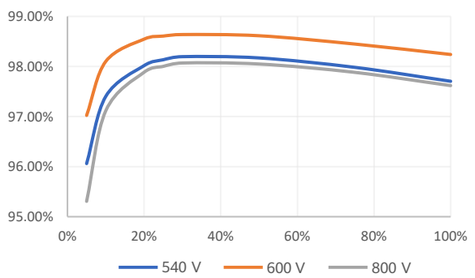
Smart

Efficient

Safe

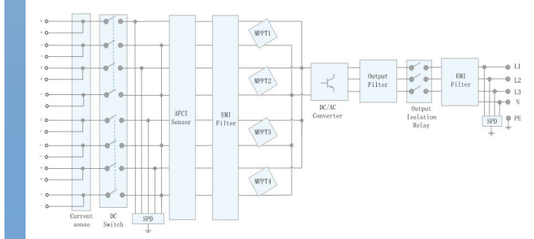
Reliable

Efficiency Curve



SUN2000-30/40KTL-MC0

Circuit Diagram



Technical Specification

		SUN2000-30KTL-MC0	SUN2000-40KTL-MC0
Efficiency	Max. Efficiency	98.6% @400V, 98.7% @480V	
	European Efficiency	98.4%	
Input	Max. Input Voltage *1	1,100 V	
	Max. Current per MPPT	27 A (per MPPT) / 23 A (per Input)	
	Max. Short Circuit Current per MPPT	40 A	
	Start Voltage	180 V	
	MPPT Operating Voltage Range *2	180 V ~ 1000 V	
	Rated Input Voltage	600 V	
	Number of Inputs	8	
	Number of MPP Trackers	4	
Output	Rated AC Active Power	30,000 W	40,000 W
	Max. AC Apparent Power	33,000 VA *3	44,000 VA
	Rated Output Voltage	380 Vac / 400 Vac / 480 Vac, 3W/N+PE	
	Rated AC Grid Frequency	50 Hz / 60 Hz	
	Rated Output Current	45.6A@380V, 43.3 A@400V, 36.1A@480V	60.8A@380V, 57.7 A@400V, 48.1A@480V
	Max. Output Current	50.4A@380V, 47.9 A@400V, 39.9A@480V	67.2A@380V, 63.8 A@400V, 53.2A@480V
	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 + FusionSolar APP	
	RS485	Yes	
	Smart Dongle	WLAN/Ethernet via Smart Dongle-WLAN-FE(Optional) 4G / 3G / 2G via Smart Dongle-4G (Optional)	
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)	45 kg	
	Operating Temperature Range	-25 ~ + 60 °C (-13 °F ~ 140 °F)	
	Cooling Method	Natural Convection	
	Max. Operating Altitude	4,000 m (13,123 ft.) (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	
Optimizer Compatibility	DC MBUS Compatible Optimizer	MERC-1100/1300W-P	
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. SUN2000-30~40KTL-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)

SUN2000-50KTL-MC0

Smart PV Controller



Smart

Efficient

Safe

Reliable

Efficiency Curve

SUN2000-50KTL-MC0

Circuit Diagram

Technical Specification

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)
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)

SUN2000-100KTL-M2

Smart PV Controller



Surge Arresters for DC & AC

98.8% (@480V) Max. Efficiency

IP66 Protection

Smart I-V Curve Diagnosis Supported

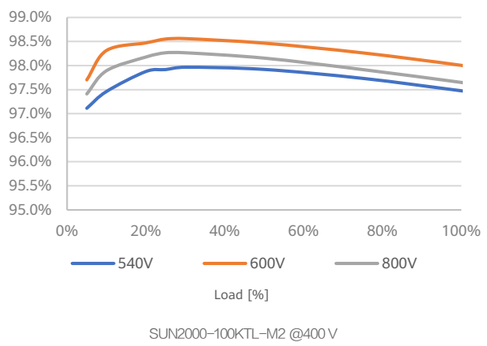
String-level Management

10 MPP Trackers

MBUS Supported

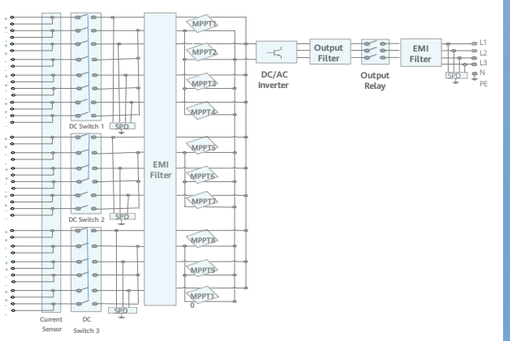
Support AFCI & Smart String Level Disconnector

Efficiency Curve



SUN2000-100KTL-M2 @400 V

Circuit Diagram



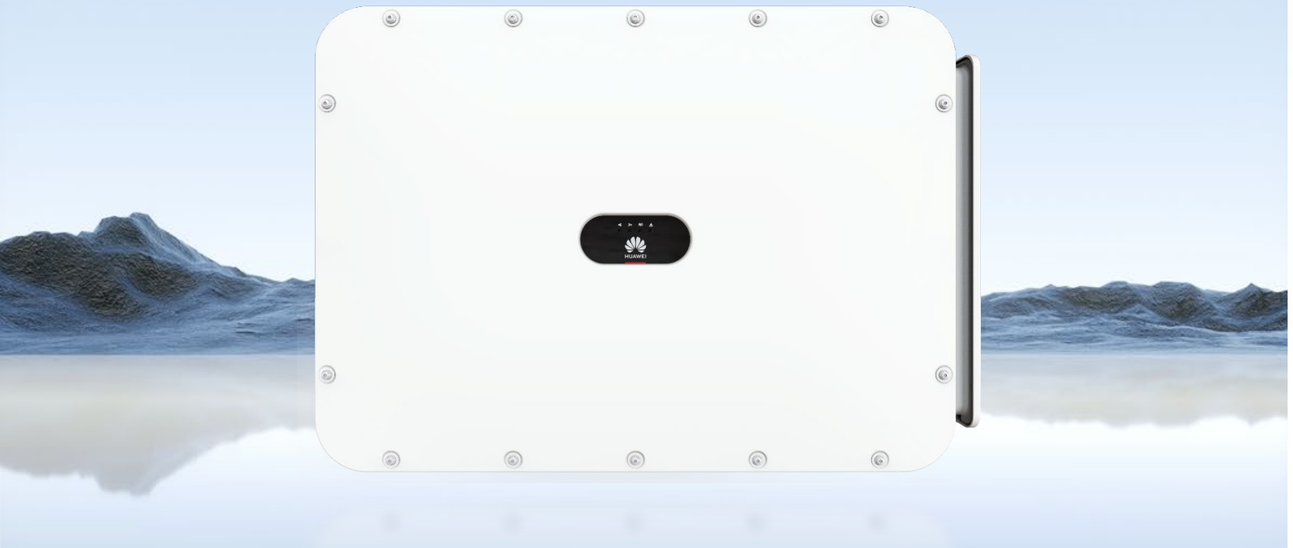
Technical Specification

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 *1	1,100 V
	Max. Current per MPPT	30 A
	Max. Current per Input *3	20 A
	Max. Short Circuit Current per MPPT	40 A
	Start Voltage	200 V
	MPPT Operating Voltage Range *2	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 Disconnector	Yes
Communication	Display	LED indicators; FusionSolar APP
	RS485	Yes
	USB	Yes
	Smart Dongle	Smart Dongle – 4G / Smart Dongle – WLAN-FE (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, 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.

SUN2000-150K-MG0

Smart PV Controller



PV Ground-Fault Protection

Arc Fault Protection

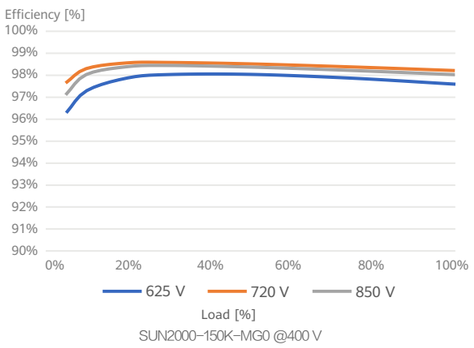
PID Recovery

Smart Connector Temperature Detector

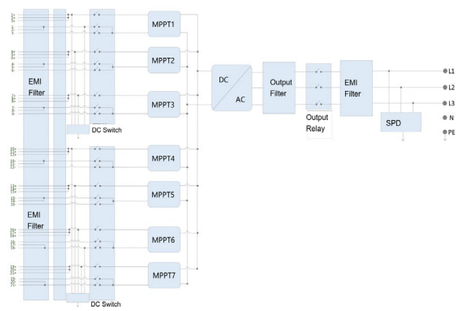
Smart String Level Disconnector

MBUS

Efficiency Curve



Circuit Diagram



Technical Specification

Efficiency	Max. efficiency	98.6% @400V, 98.8% @480V
	European efficiency	98.4%
Input	Max. Input Voltage *1	1,100 V
	Max. Current per MPPT	48A
	Max. Current per Input	23A
	Max. Short Circuit Current per MPPT	66A
	Start Voltage	200 V
	MPPT Operating Voltage Range *2	200 V ~ 1,000 V
	Number of MPP trackers	7
	Max. input number per MPP tracker	3
Output	Nominal AC Active Power	150,000 W
	Max. AC Apparent Power	165,000 VA
	Max. AC Active Power (cosϕ=1)	165,000 W
	Nominal Output Voltage	380 V/400 V/480Vac
	Rated AC Grid Frequency	50 Hz / 60 Hz
	Nominal Output Current	227.9 A @380 V, 216.5 A @400 V, 180.4A @480Vac
	Max. Output Current	253.2 A @380 V, 240.5 A @400 V, 200.5A @480Vac
	Adjustable Power Factor Range	0.8 leading... 0.8 lagging
	alternating current THDi	< 1%
Protection	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 Disconnector	Yes
	Arc Fault Protection	Yes
	Terminal Temperature Detection	Yes
	PID Recovery	Yes
	PV Ground-Fault Protection	Yes
Communication	Display	LED indicators; 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)	1,000 x 710 x 395 mm
	Weight (without mounting plate)	≤ 99 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 HH4
	AC Connector	Waterproof Connector + OT/DT Terminal
	Protection Degree	IP66
	Topology	Transformerless
Standard Compliance (more available upon request)	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

SmartLogger3000A



Smart
Smart zero export control design

Simple
Easy to install on site

Reliable
Safety by lightning protection module

Technical Specification

		SmartLogger3000A01EU
Device Management	Max. Number of Connected Devices	80
Communication Interface	WAN	WAN x 1, 10 / 100 / 1000 Mbps
	LAN	LAN x 1, 10 / 100 / 1000 Mbps
	RS485	COM x 3, 1200 / 2400 / 4800 / 9600 / 19200 / 115200 bps, 1000 m
	MBUS	No MBUS Communication Interface
	2G / 3G / 4G *1	LTE(FDD): B1,B2,B3,B4,B5,B7,B8,B20DC-HSPA+/HSPA+/HSPA/UMTS: 850/900/1900/2100 MHz GSM/GPRS/EDGE: 850/900/1800/1900 MHz *2
	Digital / Analog Input / Output	DI x 4, DO x 2, AI x 4
	Active DO	12V, 100mA (connection with relay, sensor)
Communication Protocol	Ethernet	Modbus-TCP, IEC 60870-5-104
	RS485	Modbus-RTU, IEC 60870-5-103 (standard), DL / T645
Interaction	LED	LED Indicator x 3 – RUN, ALM, 4G
	WEB	Embedded Web
	USB	USB 2.0 x 1
	APP	Communication by WLAN for Commissioning
Environment	Operating Temperature Range	-40°C ~ 60°C (-40°F ~ 140°F)
	Storage Temperature	-40°C ~ 70°C (-40°F ~ 158°F)
	Relative Humidity (Non-condensing)	5% ~ 95%
	Max. Operating Altitude	4,000 m (13,123 ft.)
Electrical	AC Power Supply	100 V ~ 240 V, 50 Hz / 60 Hz
	DC Power Supply	12 V / 24 V
	Power Consumption	Typical 8 W, Max. 15 W
Mechanical	Dimensions (W x H x D)	225 x 160 x 44 mm (8.9 x 6.3 x 1.7 inch, without mounting ears and antenna)
	Weight	2 kg (4.4 lb.)
	Protection Degree	IP20
	Installation Options	Wall Mounting, DIN Rail Mounting, Tabletop Mounting

*1: When putting inside metal box, extended antenna will be needed.
*2: For recommended carriers list and details on supported frequencies, please contact local distributors.