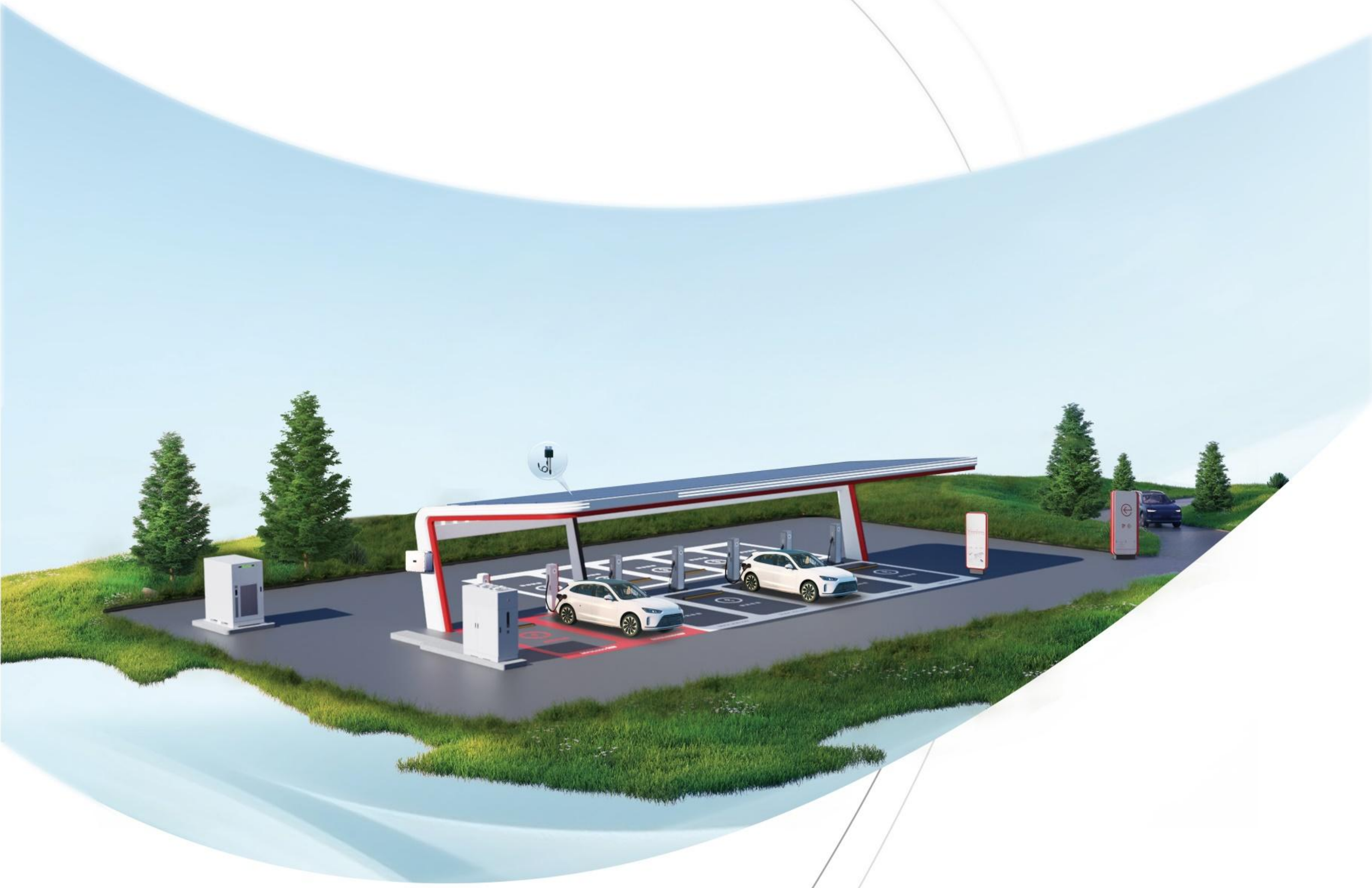


Huawei C&I Smart PV+ESS+EV Charging Solution

One Fits All

SOLAR .HUAWEI.COM

C&I Smart PV+ESS+EV Charging Solution

Huawei smart PV+ESS+EV charging solution provides 1+4+X products and one fits all solution, focusing on typical industrial and commercial scenarios. Empower industrial transition to prosumer, with green and economical energy.

Active Safety

Better TCO

Simplified O&M

Better Experience

150K Higher Power C&I Inverter

Huawei's 150K inverter, the world's largest low-voltage power, is suitable for medium or large-scale industrial and commercial scenarios, and has 6 key values as a all-rounder inverter.

If adapt to the optimizers, the 150K can also implement more power generation and module-level RSD protection.

C&I All-Rounder-150K Inverter

- higher yield
- active safety
- higher reliability
- optimal BOS
- simplified O&M
- grid friendly

SUN2000-150K-MG0
Smart PV Controller

Arc Fault Protection

PV Ground-Fault Protection

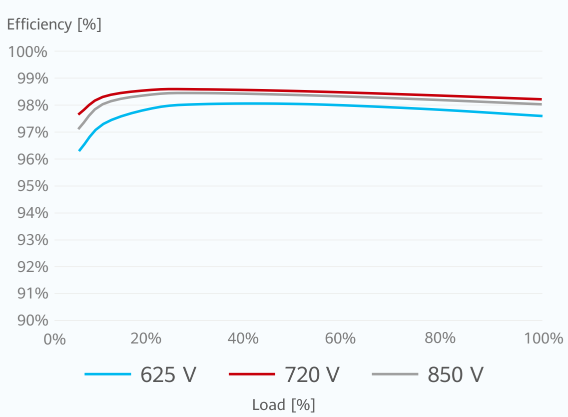
PID Recovery

Smart String Level Disconnector

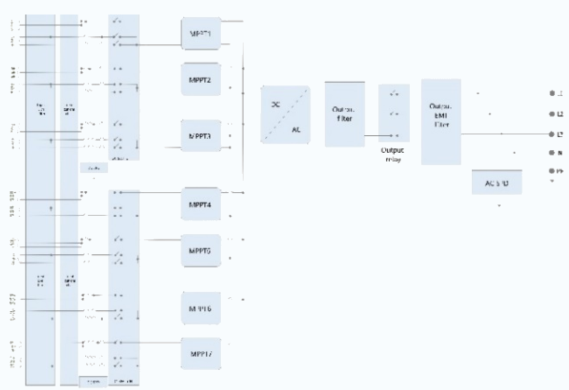
Smart Connector Temperature Detector

MBUS

Efficiency Curve



Circuit Diagram

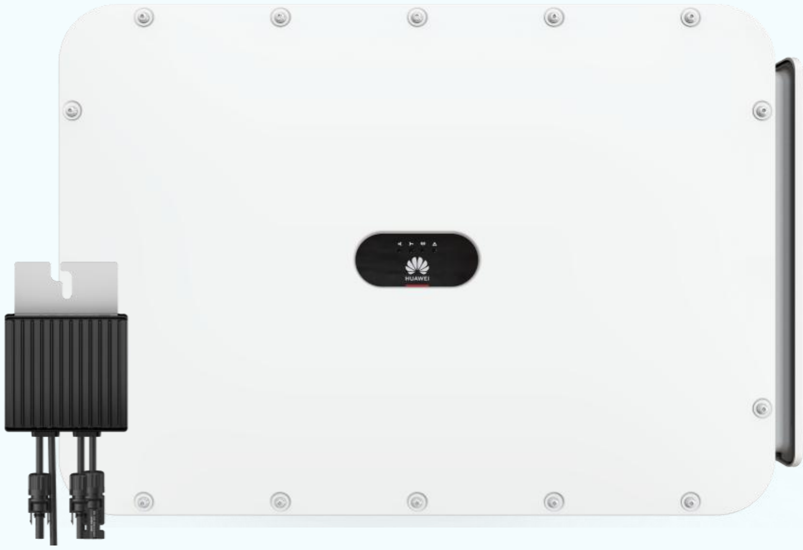


SUN2000-150K-MG0-ZH **Technical Specification**

Technical Specification	SUN2000-150K-MG0
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/ Ⅰ (optional)
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; 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)	1,000 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.

Fusionsolar C&I SmartPV Solution
SUN5000 Series



ProfiLink

PV Module Optimization
Links Inverter to Increase
Energy Yield by 5% to 30%

SafeLink

Links Varies Safety Function
AFCI+ RSD
To Cover the Breakpoint of PV Safety

SmartLink

One-stop Smart Platform Links Smartdesign &
Module-level Management
To Provide Lifecycle Intelligent Experience

Technical Specification	MERC-1100W-P	MERC-1300W-P
Input		
Rated Input DC Power[1]	1100 W	1300 W
Max. input voltage	125 V	
MPPT operating voltage range	12.5 – 105 V	
Max. short-circuit current (Isc)	20 A	
Max. efficiency	99.5 %	
Weighted efficiency	99.0 %	
Overvoltage category	II	
Output		
Max. output voltage	80 V	
Max. output current	22 A	
Output bypass[2]	Yes	
Shutdown output voltage per optimizer[3]	1 V	
Standards Compliance		
Safety	IEC62109-1 (class II safety)	
RoHS	Yes	
General Data		
Dimension (W x H x D)	149 mm x 104 mm x 49 mm (5.9 in. x 4.1 in. x 1.9 in.)	
Weight (including cables)	1.0 kg (2.2 lb.)	
Installation part (optional)	PV Module Frame Plate/T-shaped Bolt[4]	
Input connector	Staubli MC4	
Input wire length	0.1 m (short input cable version)[5]	
Output connector	Staubli MC4	
Output wire length	0.1 m (+), 5.1 m (–) (short input cable version)[5]	
Operating temperature / humidity range	–40°C to +85°C [6]/ 0%–100% RH	
Degree of protection	IP68	

SUN5000 Series **Technical Specification**

Technical Specification	SUN5000-150K-MG0
Efficiency	
Max. efficiency	98.6% @400V, 98.8% @480V
European efficiency	98.4%
Input	
Max. Input Voltage	1,100 V
Max. Short Circuit Current	66 A
Operating Voltage Range	200 V ~ 1,000 V
Max. input number	12
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 Surge Arrester	Type Ⅱ/Ⅰ (optional)
AC Surge Arrester	Type II
DC Insulation Resistance Detection	Yes
Residual Current Monitoring Unit	Yes
Smart String Level Disconnector	Yes
Arc Fault Protection	Yes
Smart Connector Temperature Detector	Yes
PID Recovery	Yes
PV Ground-Fault Protection	Yes

Communication	
Display	LED indicators; WLAN adaptor + FusionSolar APP
RS485 / 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)	≤ 100 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

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

String Configuration (Full Optimizer Configuration)[7/8/9] * **MERC-1100/1300W-P support full optimizer configuration only**		SUN5000-150K-MG0 DC/AC Ratio Recommendation			
Max Input Power Per String	Max Number of Strings	9 Strings	10 Strings	11 Strings	12 Strings
20kW	12-20	0.8-1.0	1.0-1.1	1.1-1.2	1.2-1.6

1. The maximum power of PV module at STC shall NOT exceed the “Rated input DC power” of MERC -1100/1300W-P. PV Modules with up to +5% power tolerance are allowed.
2. Any power optimizer, which is connected to an operating inverter in a PV string, will be bypassed when it fails.
3. When the MERC -1100/1300W-P is disconnected from inverter or when the inverter is off, its output voltage will be 1 V.
4. It is for PV module frame/extruded aluminum profile racking system installation.
5. Pay attention to PV module wire length. To match PV modules with a split junction box and short output wire, the long-input-cable version (input wire: 1.3 m(+/-); output wire 0.1m(+)/2.9m (-)) of MERC -1100/1300W-P is available upon request.
6. When the operating temperature of the MERC -1100/1300W-P reaches 70 ℃ to 85 ℃, it may shut down due to over-temperature protection and report an over-temperature alarm. After the temperature decreases, it can automatically resume working without any damage.
7. Each PV module under the same inverter must be equipped with a MERC -1100/1300W-P.
8. SUN2000-450W-P2/600W-P and MERC -1100/1300W-P can NOT be used in mixture under the same Smart Energy/PV controller.
9. It is recommended that strings under the same inverter have an equal capacity. If it is not feasible, the capacity difference between strings under the same inverter must not exceed 2 kW. Otherwise, the energy yield will be reduced.

LUNA2000-107~241kWh Series
Smart String ESS

More Energy

Simple O&M

Safe & Reliable

Energy Storage System Parameters	
Model type	LUNA2000-241-2S1
Rated capacity	241.0kWh
Maximum cycle efficiency	91.3%
Depth of charge and discharge	0~100%
Dimensions (W x D x H)	1150mm×1800mm×2100mm
Weight	≤ 2.8 T
Operating temperature range	-30 °C ~ 55 °C (＞50°C Derating)
Storage temperature range	-35 °C ~ 60 °C
Operating humidity range	0 ~ 100% (non-condensing)
Maximum operating altitude	4,000 m
System temperature control mode	Hybrid cooling
Balance mode	Active balance
SOC calibration mode	Automatic
Fire suppression mode	Directional gas exhaust, Top explosion vent, Aerosol
Auxiliary power supply	176~300 Vac, single phase, ≤5 kW
Power consumption standby	≤150 W
Communication port	Ethernet / Optical fiber
Communication protocol	Modbus TCP
Protection degree	IP55
EMC protection rating	Class B
Noise (rated operating condition)	65 dB(A)
Lightning protection	Type II (AC port)
Protection mode	Anti-islanding protection, residual current detection, insulation resistance detection, AC overcurrent protection, and AC cable connection protection
Environment	RoHS6
Certification standards	UL9540A; UN38.3; IEC 62477-1; IEC 62040-1; IEC 61000-6-1/2/3/4; IEC61727
Battery Parameters (DC)	
Cell material	LFP
Rated battery capacity	314Ah
System battery configuration	240S1P
Number of battery packs	4
Operating voltage range	648~852 V
Rated DC current	140 A
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 (3P4W), 50 / 60 Hz
Adjustable power factor range	-1 ... +1
AC current harmonics THDi (rated operating condition)	≤1.5 %

Note：

(1) * Rated operating condition: In the on-grid scenario, the ambient temperature is 25°C, the charge/discharge rate is 0.5 CP, and the AC output voltage is 400 Vac.

Fully Liquid-Cooled Ultra-Fast Charging

Liquid-cooled power unit is the core part of ultra-fast DC charging system for public charging station and other sites demanding multiple fast chargers. An innovative liquid-cooled architecture with DC bus enables enhanced charging, superior quality and flexible architecture.

Enhanced Charging | **Superior Quality** | **Flexible Architecture**

Power Unit Specification

Basic Specifications	Dimensions (W x D x H)	800 mm × 1700 mm × 2150 mm	
	Model	DS720-720LEUA2	DS720-720LEUA3
	Power Configuration (AC/DC+DC/DC)	600kW+720kW	240kW+360kW
	Installation Mode	Floor-mounted	
	Efficiency (Full load)	94.7%	
	Efficiency (Maximum)	95.8%	
	Cooling	Liquid cooling	
	IP Rating	IP55	
	Communication Interface	4G, Ethernet (Northbound communication)	
	Standby Power	35W	
Input Specifications	Rated Input Voltage	2 X 400Vac, three-phase five-wire system	
	Rated Frequency	50/60 Hz	
	Rated Input Current	≤931 A (Output: 600kW, Input: 400Vac)	≤373 A (Output: 240kW, Input: 400Vac)
	Input Module	120kW AC/DC liquid-cooled module	
	Power Factor	≥0.99 (Load≥50%)	
	THDi	≤5% (Load≥50%)	
Output Specifications	Output Voltage	200~1000 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. 8 x 500A)	Max. 6 (Max. 4 x 500A)
Environmental Specifications	Operating Temperature	-35°C to +50°C	
	Storage Temperature	-35°C to +70°C	
	Altitude	≤4000m	
	Relative Humidity	5%~95% (Non-condensing)	
	Noise	≤ 60 dB@25°C (1m, full load)	
Compliance		IEC 61851-1, IEC 61851-23, IEC 61851-21-2	

Huawei Reference Dispenser Specification

	Type	Liquid-cooled	Boost
Basic Specifications	Model	DT500L1-EUA1	DT500N2-EUA1
	Dimensions (W x D x H)	≤395 mm × 495 mm × 2150 mm	≤395 mm × 495 mm × 2150mm
	Charging Connector Number	1 (CCS2)	2 (CCS2)
	Charging Cable Length	≥5m	≥5m
	Installation Mode	Floor-mounted	Floor-mounted
	IP Rating	IP55	IP55
	Cooling	Liquid cooling	Natural cooling
	Authentication	RFID reader(ISO/IEC 14443 A / B, ISO/IEC 15693, NFC) / Credit card reader (Optional) / QR code	RFID reader(ISO/IEC 14443 A / B, ISO/IEC 15693, NFC) / Credit card reader (Optional) / QR code
	Standby Power	45W	50W
	Meter Certification	MID / LNE	MID / LNE
Environmental Specifications	Operating Temperature	-30°C to +55°C (derating from 40°C)	-30°C to +55°C (derating from 40°C)
	Noise	≤50dB@25°C (1m, full load)	≤55dB@25°C (1m, full load)
	Storage Temperature	-40°C to +70°C	-40°C to +70°C
	Relative Humidity	5%RH~95%RH	5%RH~95%RH
	Altitude	≤2000m	≤2000m
Output Specifications	Output Voltage	200~1000Vdc	200~1000Vdc
	Rated Output Current	425A (continuous)	2 × 375A (continuous)
	Maximum Output Current	500A (30min@25℃)	2 × 500A (10min@25℃)
Compliance	IEC 61851-1, IEC 61851-23, IEC 61851-21-2, IEC 62196-1, IEC 62196-3, DIN 70121, ISO 15118-2		
Protections	Overvoltage protection, short circuit protection, grounding protection, overtemperature protection, leakage protection, insulation detection, door opening protection		

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