Datasheets

Energieopslag pakket Back-up Huawei 3-fase 5kW/14kWh

VDH SOLAR

Smart Energy Controller

inter solar award 2019 WINNER

Active Safety

AI Powered
Active Arcing Protection

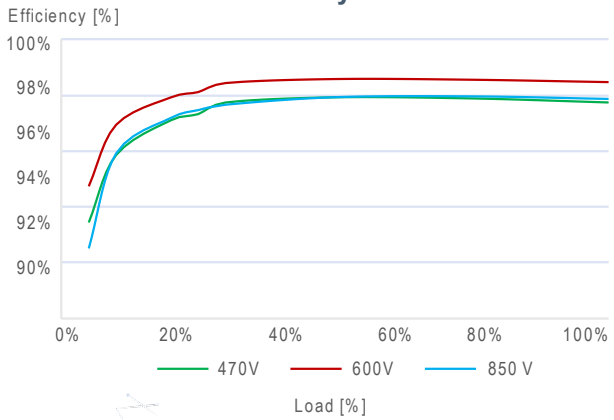
Higher Yields

Up to 30% More Energy
with Full Optimizer

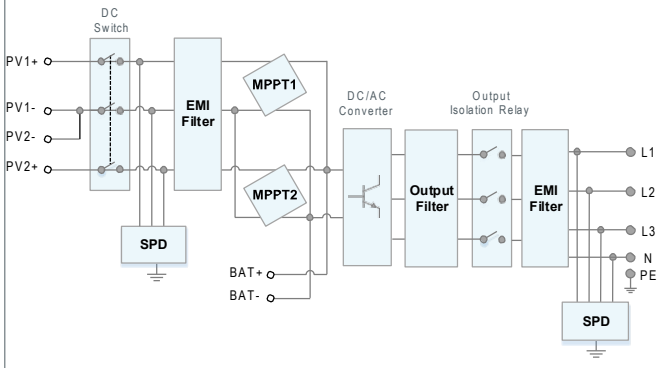
Flexible Communication

WLAN, Fast Ethernet, 4G
Communication Supported

Efficiency Curve



Circuit Diagram



SUN2000-5/6KTL-M1

SUN2000-5/6/8/10KTL-M1(High Current Version)

Technical Specification

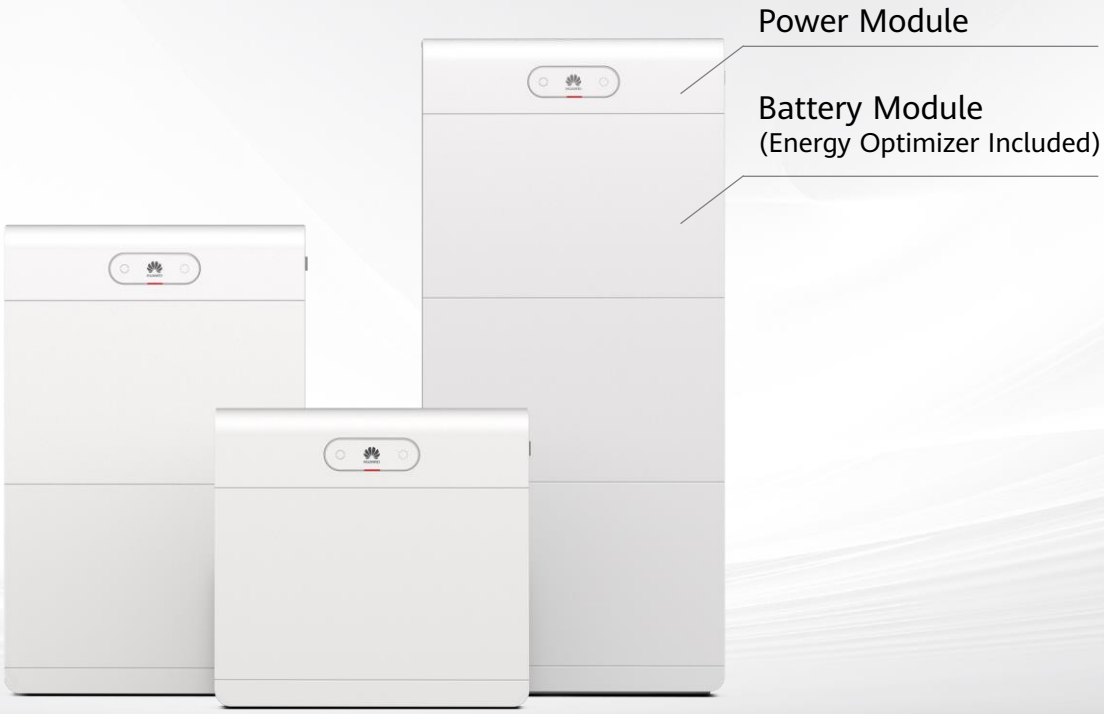
Technical Specification	SUN2000-5KTL-M1	SUN2000-6KTL-M1	SUN2000-8KTL-M1	SUN2000-10KTL-M1
Efficiency				
Max. efficiency	98.4%	98.6%	98.6%	98.6%
European weighted efficiency	97.5%	97.7%	98.0%	98.1%
Input (PV)				
Recommended max. PV power[1]	7,500 Wp	9,000 Wp	12,000 Wp	15,000 Wp
Max. input voltage [2]	1,100 V			
Operating voltage range [3]	140 V ~ 980 V			
Start-up voltage	200 V			
Rated input voltage	600 V			
Max. input current per MPPT	13.5 A			
Max. short-circuit current	19.5 A			
Number of MPP trackers	2			
Max. number of inputs	2			
Input (DC Battery)				
Compatible Battery	HUAWEI Smart String ESS 5kWh – 30kWh			
Max number of connected battery	2			
Operating voltage range	600 V ~ 980 V			
Max operating current	16.7 A			
Max charge Power	10,000 W			
Max discharge Power	5,000 W	6,000 W	8,000 W	10,000 W
Output				
Grid connection	Three-phase			
Rated output power	5,000 W	6,000 W	8,000 W	10,000 W
Rated AC apparent power	5,000 VA	6,000 VA	8,000 VA	10,000 VA
Max. apparent power	5,500 VA	6,600 VA	8,800 VA	11,000 VA
Rated output voltage	230 Vac / 400 Vac, 3W / N+PE			
Rated AC grid frequency	50 Hz/ 60 Hz			
Max. output current	8.5 A	10.1 A	13.5 A	16.9 A
Adjustable power factor	0.8 leading ... 0.8 lagging			
Max. total harmonic distortion	≤ 3 %			
Backup power output	Yes (via Backup Box-B1)			
Features & Protections				
Input-side disconnection device	Yes			
Anti-Islanding protection	Yes			
DC reverse polarity protection	Yes			
Insulation monitoring	Yes			
DC surge protection	Yes, compatible with TYPE II protection class according to EN/IEC 61643-11			
AC surge protection	Yes, compatible with TYPE II protection class according to EN/IEC 61643-11			
Residual current monitoring	Yes			
AC overcurrent protection	Yes			
AC short-circuit protection	Yes			
AC overvoltage protection	Yes			
Arc fault protection	Yes			
Ripple receiver control	Yes			
Integrated PID recovery [4]	Yes			
Battery reverse charging from grid	Yes			
General Data				
Operating temperature range	-25 ~ + 60 °C (-13 °F ~ 140 °F)			
Relative operating humidity	0 %RH ~ 100 %RH			
Operating altitude	0 ~ 4,000 m (13,123 ft.) (Derating above 2000 m)			
Cooling	Natural convection			
Display	LED Indicators; Integrated WLAN + Fusion Solar App			
Communication	RS485; WLAN/Ethernet via Smart Dongle-WLAN-FE; 4G / 3G / 2G via Smart Dongle-4G (Optional)			
Weight (incl. mounting bracket)	17 kg (37.5 lb)			
Dimension (incl. mounting bracket)	525 x 470 x 146.5 mm (20.7 x 18.5 x 5.8 inch)			
Degree of protection	IP65			
Country of Manufacture	China			
Optimizer Compatibility				
DC MBUS compatible optimizer	SUN2000-450W-P			
Standard Compliance (more available upon request)				
Certificate	EN/IEC 62109-1, EN/IEC 62109-2, IEC 62116			
Grid connection standards	AS/NZS 4777.2 2020			

*1 Inverter max input PV power is 20,000 Wp when long strings are designed and fully connected with SUN2000-450W-P power optimizers.
*2 The maximum input voltage is the upper limit of the DC voltage. Any higher input DC voltage would probably damage inverter. Please limit input voltage to maximum 600V dc according to AS4777.1 2016
*3 Any DC input voltage beyond the operating voltage range may result in inverter improper operating.
*4 SUN2000-5~10KTL-M1 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).

HUAWEI

SMART STRING ENERGY STORAGE SYSTEM

LUNA2000-7/14/21-S1



Flexible Capacity
6.9 kWh per Battery Module
Scalable from 6.9 kWh to 20.7 kWh per Group
Max. 4 Groups with 82.8 kWh for an Inverter[8]

More Usable Energy
Module+ Architecture, Built-in Energy Optimizer
Ultra-long Service Time
100% Depth of Discharge

5-layer Safety Protection
Cell-level, Electrical-level,
Structural-level
Active Protection, Emergency Protection

Ultimate Use Experience
-20 ℃ to +55℃ Operating Temperature
Max 10.5kW Charging & Discharging Power per Group
Super Quiet Operation

Easy Installation
Cable Free Connection Between Modules
Horizontal Adjustment Design
Quick Commissioning

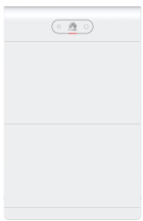
Aesthetically Pleasing Design
Breathing Star Ring Display
Silky Curve Design
Simplistic and Borderless

LUNA2000-7/14/21-S1

Technical Specification

LUNA2000-7-S1

LUNA2000-14-S1



LUNA2000-21-S1

Performance

Power module	LUNA2000-10KW-C1		
Number of power modules	1		
Battery module	LUNA2000-7-E1		
Battery module energy	6.9 kWh		
Number of battery modules	1	2	3
Battery usable energy[1]	6.9 kWh	13.8 kWh	20.7 kWh
Max. charging & discharging power	3.5 kW	7 kW	10.5 kW
Operating voltage range (single-phase system)	350 – 560 V		
Operating voltage range (three-phase system)	600 – 980 V		

Communication

Display	SOC status indicator, LED indicator
Communication[2]	RS485/FE/CAN

General Specification

Dimensions (W x D x H)	590 mm x 255 mm x 510 mm	590 mm x 255 mm x 870 mm	590 mm x 255 mm x 1230 mm
Weight (Floor stand toolkit included)	80 kg	148 kg	216 kg
Power module dimension (W x D x H)	590 mm x 255 mm x 150 mm		
Power module weight	10 kg		
Battery module dimensions (W x D x H)	590 mm x 255 mm x 360 mm		
Battery module weight[3]	68 kg		
Installation	Floor stand (standard), Wall mounting (optional)		
Operating temperature[4]	-20℃ to +55℃ (-4°F to +131°F)		
Max. operating altitude[5]	4,000 m (13,123 ft.) (Derating above 2,000 m)		
Environment[6]	Outdoor/Indoor		
Relative humidity	5%-95%		
Cooling	Natural convection		
Protection rating	IP 66		
Noise emission	< 29 dB[7]		
Cell technology	Lithium iron phosphate ($LiFePO_4$)		
Scalability[8]	Max. 4 systems in parallel operation		
Compatible inverters[9]	SUN2000-12/15/17/20/25K-MB0, SUN2000-3/4/5/6/8/10KTL-M1 SUN2000-8/10K-LC0, SUN2000-2/3/3.68/4/4.6/5/6KTL-L1		

Standards Compliance (more available upon request)

Certificates	CE, RCM, CEC, VDE2510-50, IEC62619, IEC 60730, UN38.3, ISO13849, REACH, RoHS

Ordering and Deliverable Part

Available for ordering[10]	LUNA2000-7-E1, LUNA2000-10KW-C1, Wall Mounting Bracket for LUNA2000-7/14/21-S1

1. Test conditions: 100% depth of discharge (DoD), 0.2C rate charge & discharge at 25℃, at the beginning of service life.
2. CAN is for communication between energy storage in parallel scenarios only. Launch time of FE communication is to be determined, please confirm with your local product manager of Huawei for final version.
3. The weight of the battery modules varies with products, with a tolerance of ±3%.
4. The output power may be affected by temperature. Please refer to the output derating curve for details.
5. The output power may be affected by altitude. Please refer to the output derating curve for details.
6. Outdoor installation is recommended. For indoor installation instructions, please refer to the user manual.
7. The data is from Huawei lab, and the test condition is 1m distance and typical working voltage.
8. Only SUN2000-12/15/17/20/25K-MB0 supports 4 energy storage systems in parallel operation.
9. For details on the timetable of compatibility with SUN2000-8/10K-LC0 and SUN2000-2/3/3.68/4/4.6/5/6KTL-L1, please confirm with your local product manager of Huawei for final version.
10. The power module and battery modules of the storage system are separately order in the required quantity.

Smart Power Sensor

Accurate
Class 1 measurement accuracy

Simple & Easy
LCD display, easy to set and check

Energy Efficient
Overall power consumption ≤ 1 W

Technical Specification	DDSU666-H	DTSU666-H	DTSU666-H 250A/50mA
General Data			
Dimension (H x W x D)	100 x 36 x 65.5 mm (3.9 x 1.4 x 2.6 inch)	100 x 72 x 65.5 mm (3.9 x 2.8 x 2.6 inch)	100 x 72 x 65.5 mm (3.9 x 2.8 x 2.6 inch)
Mounting type	DIN35 Rail		
Weight (including cables)	1.2 kg (2.6 lb)	1.5 kg (3.3 lb)	1.5 kg (3.3 lb)
Power Supply			
Power grid type	1P2W	3P4W	3P4W/3P3W
Input voltage (phase voltage)	176 Vac ~ 288 Vac		
Power consumption	≤ 0.8 W	≤ 1 W	≤ 1 W
Measurement Range			
Line voltage	/	304 Vac ~ 499 Vac	304 Vac ~ 499 Vac
Phase voltage	176 Vac ~ 288 Vac		
Current	0 ~ 100 A	0 ~ 100 A	0 ~ 250 A
Measurement Accuracy			
Voltage	±0.5 %		
Current / Power / Energy	±1 %		
Frequency	±0.01 Hz		
Communication			
Interface	RS485		
Baud rate	9,600 bps		
Communication protocol	Modbus-RTU		
Environment			
Operating temperature range	-25 ℃ ~ 60 ℃		
Storage temperature range	-40 ℃ ~ 70 ℃		
Operating humidity	5 %RH ~ 95 %RH (non-condensing)		
Others			
Accessories	RS485 Cable (10 m / 33 ft.) 1 CT 100A / 40mA (5 m / 16.4 ft.) 	3 CT 100A / 40mA (5m / 16.4 ft.) 	3 CT 250A / 50mA (5m / 16.4 ft.) 

Backup Box

Simple

Automatic detection & switchover

Reliable

Provide Reliable backup power

Technical Specification	Backup Box-B0	Backup Box-B1
AC Output (On grid)		
Grid connection	Single Phase	Three Phase
Rated voltage	220 V / 230 V	380 V / 400 V
AC frequency	50Hz / 60Hz	
AC output voltage range	198 V ~ 253 V	342 V ~ 440 V
AC Output (Backup)		
Load connection	Single Phase	Single Phase
Rated voltage	220 V / 230 V	220 V / 230 V
AC frequency	50Hz / 60Hz	
Maximum apparent power	5,000 VA	3,300 VA
Maximum output current	22.7 A	15.2 A
Switchover time	< 3 s	
AC Input (Inverter)		
Rated voltage	220 V / 230 V	380 V / 400 V
AC frequency	50Hz / 60Hz	
Compatible inverter	SUN2000-2/3/3.68/4/4.6/5/6KTL-L1	SUN2000-3/4/5/6/8/10KTL-M1
General Specification		
Operating temperature range	-20 ℃ to +45 ℃ (-4 ℉ to 113 ℉)	
Relative humidity range	0 %RH ~ 100 %RH	
Dimensions (W * H * D)	400 x 350 x 130 mm (15.8 x 13.8 x 5.1 inch)	
Weight	11 kg	
Degree of protection	IP 65	

Distributeur: VDH Solar Groothandel B.V.
Finlandlaan 1, 2391 PV Hazerswoude-Dorp, Holland
+31 (0)172 235 990 info@vdh-solar.nl | www.vdh-solar.nl