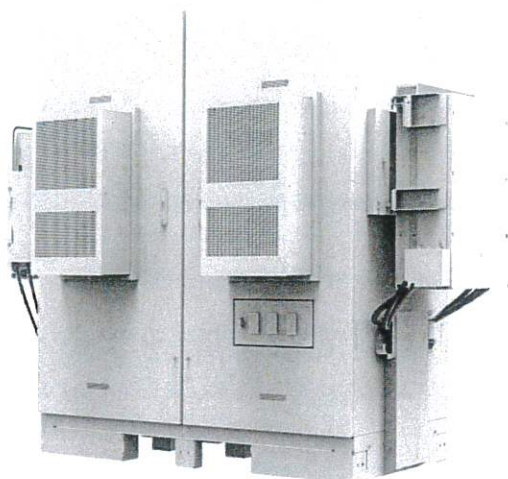


# LUNA2000 - 200/161/129KWH-2H1

## LUNA2000 - 97KWH-1H1

### Smart String ESS



More Energy



Simple O&M



Safe & Reliable

#### Energy Storage System Parameters

Model Type	LUNA2000-200KWH-2H1	LUNA2000-161KWH-2H1	LUNA2000-129KWH-2H1	LUNA2000 - 97KWH-1H1
Battery Configuration	12S1P	10S1P	8S1P	6S1P
Maximum battery capacity of the energy storage system	193.5kWh	161.3kWh	129.0kWh	96.8kWh
Max. Charging Power	≤100 kW			
Max. Discharging Power	≤100 kW	≤100 kW	≤100 kW	≤92 kW
Dimensions (W x H x D)	1810mm×2135mm×1200mm			
Dimensions (W x H x D), including Smart Rack Controller and Smart PCS	2570mm x 2135mm x 1200mm			
Weight (including the battery pack)	≤2950kg	≤2690kg	≤2430kg	≤2170kg
Weight (without the battery pack)	≤1070kg	≤1070kg	≤1090kg	≤1130kg
Operating temperature range	-30 °C ~ 55 °C			
Storage temperature range	-40 °C ~ 60 °C			
Operating humidity range	0 ~ 100% (non-condensing)			
Maximum operating altitude	4,000 m			
Installation Environment Requirement	Outdoor installation			
Battery temperature control mode	Industrial-grade air conditioner			
Fire suppression of energy storage system	YES			
Auxiliary Power Supply	220Vac, ≤4.2kW			
Communication port	Ethernet / SFP			
Communication protocol	Modbus TCP			
Protection degree	IP55			
EMC Protection Rating	ClassA			
DC Lightning Protection	Type II			

#### Standards

Environment

RoHS

Certification Standards

GB/T 36276-2018; GB/T 33582; UL9540A; UN38.3; ISO 9227:2017; IEC 60529; IEC/EN 62477-1 IEC/EN 62040-1; IEC/EN 61000-6-2; IEC/EN 61000-6-4; EN 55011;

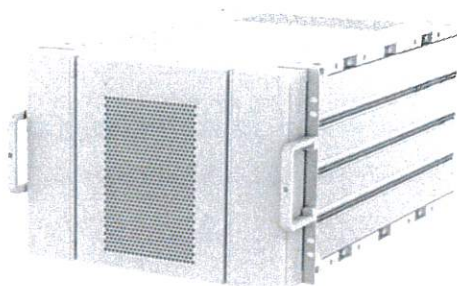
**Note:** In case the LUNA2000-100KTL-M1 PCS is used in conjunction with LUNA2000 - 97KWH-1H1 Smart String ESS, the Max Discharging Power is 92 kW.

# Battery Pack & Smart Rack Controller Smart String ESS



## Battery Pack

### General



Model Type	LUNA2000-200KWH-2H1	LUNA2000 - 161/129KWH-2H1 LUNA2000 - 97KWH-1H1
Cell Material	LFP	
Nominal Capacity	16.13 kWh	
Supported Charge & Discharge Rate	$\leq 0.5C$	$\leq 1C$
Weight	$\leq 140$ kg	
Dimensions (W x H x D)	442 x 308 x 660 mm	

## Smart Rack Controller

### Efficiency

Max. Efficiency	$\geq 98.5\%$
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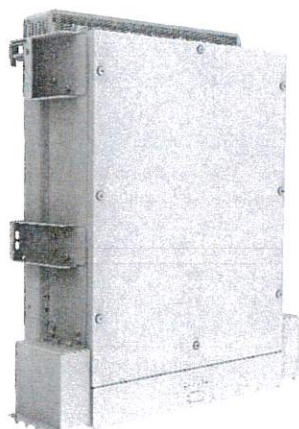
### Battery Side

Rated Voltage	691.2 V
Operating Voltage Range	40 V ~ 1,050 V
Min. Start Voltage	350 V

### Bus Side

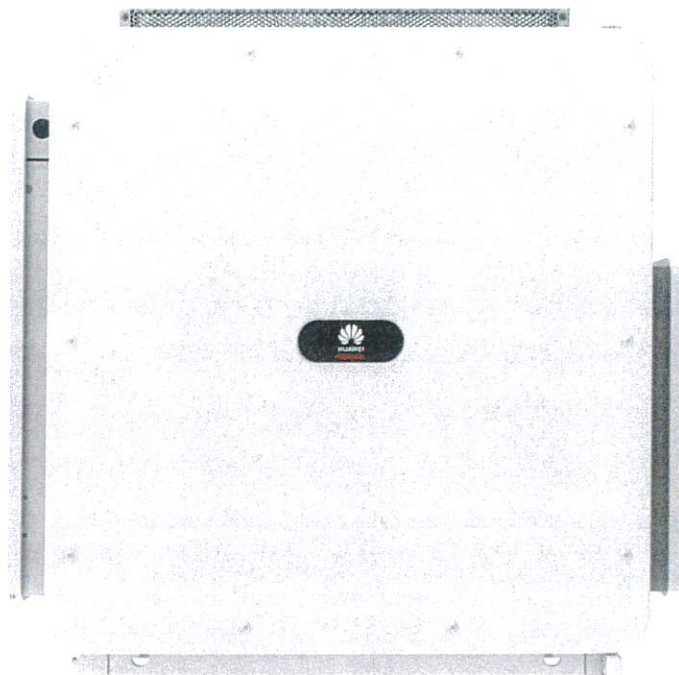
Max. DC Voltage	1,100 V
Rated Voltage	665 V
Rated Current	152.6 A

### General



Dimensions (W x H x D)	600 x 820 x 270 mm
Weight	$\leq 90$ kg
Cooling Method	Smart Air Cooling
Protection Degree	IP66

# LUNA2000-100KTL-M1 Smart PCS



Surge Arresters for  
DC & AC



Modular Design



IP66 Protection

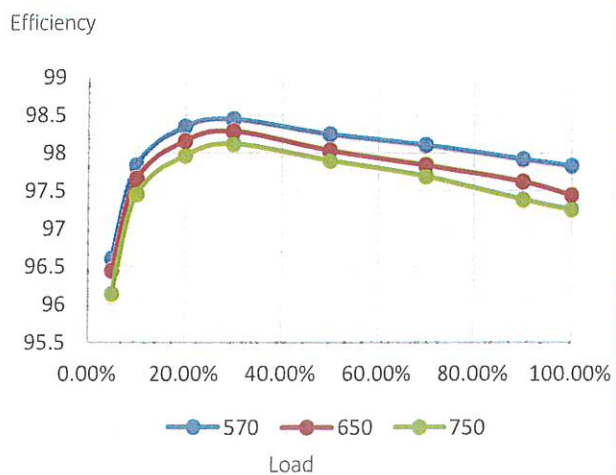


Ethernet  
Communication

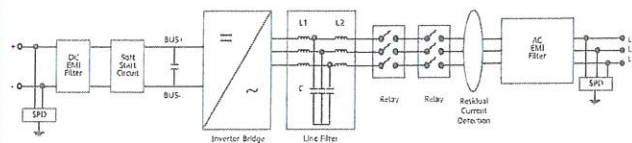


Smart Grid  
Algorithm

### Efficiency Curve



### Circuit Diagram



LUNA2000-100KTL-M1

# LUNA2000-100KTL-M1

## Technical Specifications



### Efficiency

Max. Efficiency 98.4%

### DC Side

Rated DC Voltage 645 V

Max. DC Voltage 1,100 V

Operating DC Voltage Range 570 V ~ 1100 V

Max. DC Current 215.8 A

Max. Number of Inputs 1

### AC Side

Rated AC Active Power 100k W @40°C

Rated AC Voltage 380 Vac / 400 Vac / 440 Vac

Rated AC Grid Frequency 50 Hz / 60 Hz

Max. AC Current 139.8 A (LUNA2000 - 97KWH-1H1) /  
173.2 A (LUNA2000 - 129/161KWH-2H1)

Adjustable Power Factor Range -1 ... +1

Max. Total Harmonic Distortion < 3%

### Protection

Anti-islanding Protection Yes

AC Overcurrent Protection Yes

DC Reverse-polarity Protection Yes

Insulation Resistance Detection Yes

Residual Current Protection Yes

DC Surge Protection Type II

AC Surge Protection Type II

### Communication

Display LED Indicators, WLAN + APP

Networking Mode Ethernet, CAN

### General

Dimensions (W x H x D) 875 x 820 x 365 mm

Weight < 95 kg

Operating Temperature Range -25°C ~ 60°C ( Derating above 40°C )

Cooling Method Smart Air Cooling

Max. Operating Altitude without Derating 4,000 m

Relative Humidity 0 ~ 100%

DC Connector OT/DT Terminal

AC Connector OT/DT Terminal

Protection Degree IP66

Topology Transformerless



# Typical System Configurations

Energy Volume kWh (Up to 3,870 kWh)	Recommended Combination of Models				
967.5					12 * 5p
935.3					12 * 4p + 10
903.0					12 * 4p + 8
870.8					12 * 4p + 6
838.5					12 * 3p + 8 * 2p
806.3					12 * 3p + 8 + 6
774.0				12 * 4p	
741.8				12 * 3p + 10	
709.5				12 * 3p + 8	
677.3				12 * 3p + 6	
645.0				12 * 2p + 8 * 2p	
612.8				12 * 2p + 8 + 6	
580.5			12 * 3p		
548.3			12 * 2p + 10		
516.0			12 * 2p + 8		
483.8			12 * 2p + 6		
451.5			12 + 8 * 2p		
419.3			12 + 8 + 6		
387.0		12 * 2p			
354.8		12 + 10			
322.5		12 + 8			
290.3		12 + 6			
258.0		8 * 2p			
225.8		8 + 6			
193.5	12				
161.3	10				
129.0	8				
96.8	6				
Power (Up to 2000kW)	100 kW	200 kW	300 kW	400 kW	500 kW
Smart String ESS (Up to 20x)	1x	2x	3x	4x	5x

## Note

1. The four capacity models can be used together. A maximum of 20 ESSs can be connected in parallel. This table only demonstrates the scenario where 5 or less ESSs are connected in parallel.
2. When different capacity models are connected in parallel, each ESS is charged and discharged according to its respective actual C rate.
3. 6, 8, 10 and 12 refer to the number of battery packs contained in different models, that is, LUNA2000-97KWH-1H1, LUNA2000-129KWH-2H1, LUAN2000-161KWH-2H1, LUNA2000-200KWH-2H1.
4. LUNA2000-161/129KWH-2H1, LUNA2000-97KWH-1H1 are not launched in Chinese Mainland and Japan.