

# 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), including Smart Rack Controller and Smart PCS	1810mm×2135mm×1200mm			
Dimensions (W x H x D)	2570mm x 2135mm x 1200mm			
Weight (including the battery module)	≤2950kg	≤2690kg	≤2430kg	≤2170kg
Weight (without the battery module)	≤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	RoHS6
Certification Standards	GBT 36276-2018; IEC62619; UL9540A;UN38.3;

# 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	≤0.5C	≤1C
Weight	≤ 140 kg	
Dimensions (W x H x D)	442 x 308 x 660 mm	



### Smart Rack Controller

#### Efficiency

Max. Efficiency	≥ 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	76.3 A

#### General

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

# LUNA2000-100KTL-M1 Smart PCS



Surge Arresters for  
DC & AC



Modular Design



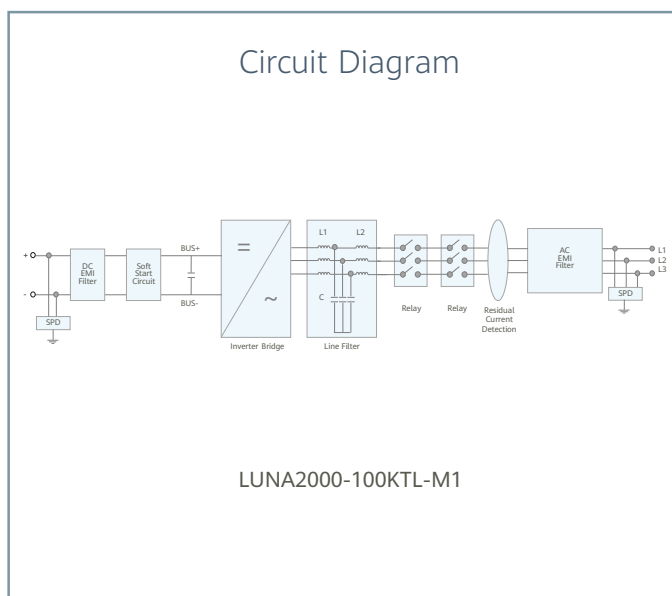
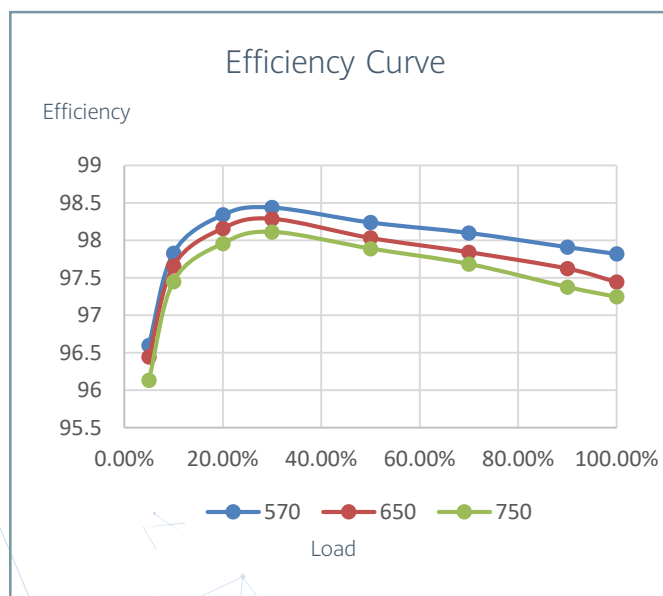
IP66 Protection



Ethernet  
Communication



Smart Grid  
Algorithm



# 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	6 * 8p
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	6 * 6p	
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	6 * 4p		
354.8		12 + 10			
322.5		12 + 8			
290.3		12 + 6			
258.0		8 * 2p			
225.8		8 + 6			
193.5	12	6 * 2p			
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 used together, the system's C rate is subject to the model with the lowest C rate. For example, if LUNA2000-97KWH-1H1, LUNA2000-129KWH-2H1, LUNA2000-161KWH-2H1, and LUNA2000-200KWH-2H1 are connected in parallel, the system's C rate is  $\leq 0.5C$ .
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, LUNA2000-161KWH-2H1, LUNA2000-200KWH-2H1.