# 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<br>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% |
| **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 | ≤ 90 kg |
| Cooling Method | Smart Air Cooling |
| Protection Degree | IP66 |

# LUNA2000-100KTL-M1
# Smart PCS



Surge Arresters for DC & AC

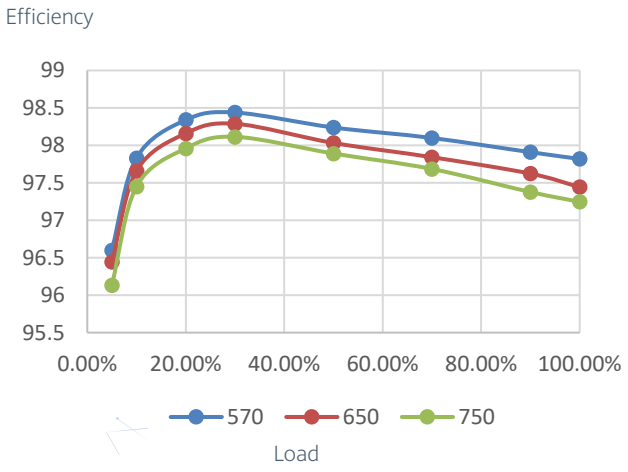
Modular Design

IP66 Protection

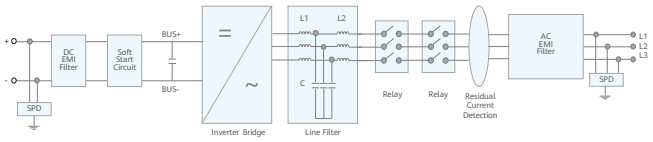
Ethernet Communication

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）/<br>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.