

ALL-IN-ONE SERIES



MODEL ES

ESSM-4.2KW-100AH

PORTABLE POWER STATION



LFP Battery
LiFePO4

CLASS A

Battery Cells
of the highest class

PACEx

Professional BMS
PACE 100A

6000+

Battery Life Cycle
Battery retains >70% SoH



PV Support (built-in MPPT)
up to 6200 W

5120 Wh

Battery Capacity
51.2 V 100 Ah



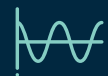
Fast Charging
100 A / 120 A

4200 W

Hybrid Inverter
Boost up to 7630 W

2x

Double the Output Power
PV + Battery



Pure Sine Wave
In battery mode

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PRODUCT SPECIFICATIONS

General Properties

| | |
|--------------------------|---------------------------------------|
| Model ES | ESSM-4.2KW-100AH |
| Battery Capacity | 5120 Wh 100 Ah 51.2 V \approx |
| Rated Output Power | 4200 W |
| Boost Output Power | up to 7630 W |
| External Battery Support | yes (Model B 5120 Wh) |
| Communication Ports | RS485 / WiFi* |
| Safety Certificates | CE, IEC 62619-2017, EMC, MSDS, UN38.3 |

Battery Specifications

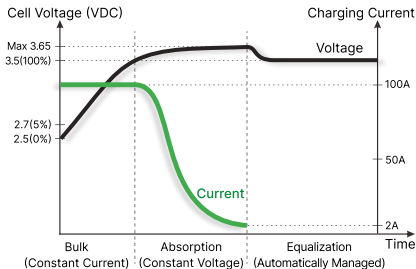
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|---------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|
| Nominal Capacity | 5120 Wh 100 Ah |
| Nominal Voltage | 51.2 V \approx |
| Battery Cell Technology | LFP (LiFePO4), class A |
| Cycle Life | The battery retains >70% SoH after 6000 cycles at 0.5C/0.5C, 25°C, 80% DoD |
| Recommended Charge Current (DC) | 50 A (0.5C) |
| Fast Charge Current (DC) | 100 A (1C, at 25°C \pm 5°C) |
| Maximum Charge Current (DC) | 60 A (when charging from a wall outlet) 100 A (when charging from an electrical pane) 120 A (with Model B; an electrical panel + PV) |
| BMS | PACE P16S150A |
| BMS Protection | Over Voltage, Overload, Over/Under Temp., Short Circuit, Low Voltage, Overcurrent |
| BMS Battery Cell Balancing | yes (automatically) |
| BMS Charge Cut-Off Voltage | 58.4 VDC |
| BMS Discharge Cut-Off Voltage | 43.2 VDC |

Grid Output (AC)

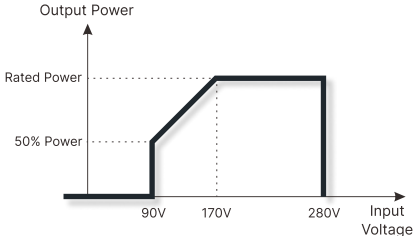
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|----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|
| Nominal Output Voltage | 220 / 230 / 240 VAC |
| Total Output Power | 4200 W |
| Boost Output Power | stable: up to 4494 W up to 5 sec: up to 6300 W up to 3 sec: up to 7630 W (from battery); up to 6350 W (from grid, bypass) |
| Max. Output Power and Current | 4200 W / 18.2 A (terminal block) 3680 W / 16 A (socket) |
| Battery Charge Level for "AC Out: Main" Disconnection (if the option is enabled) | by 55% (adjust range: 15%-85%) |
| Output Waveform | pure sine wave |
| Nominal Output Frequency | 50 / 60 Hz |



Battery Charging Curve



Output Power vs. Input Voltage



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Energy Storage System ESSM-4.2KW-100AH EN
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Note: Please read the safety and installation manual before using the product. We reserves the right of final interpretation. The specifications in this datasheet are subject to change without notice.

PRODUCT SPECIFICATIONS

AC Input

| | |
|--------------------------------|---------------------------------------------------------------------------|
| Acceptable Input Voltage Range | 90 - 280 VAC (for home Appliances) 170 - 280 VAC (UPS) |
| Maximum Input Current / Power | 16 A / 3680 W (from wall outlet) 40 A / 7850 W (from electrical panel) |
| Input Frequency Range | 50±1 Hz / 60±1 Hz (auto detection) |

PV Input (DC)

| | |
|----------------------------------------------------------------------------|-------------------|
| Built-in MPPT | yes |
| Maximum PV Input Power | 6200 W |
| Nominal / Maximum DC Voltage | 360 VDC / 500 VDC |
| MPPT Voltage Range | 60 VDC ~ 450 VDC |
| Start-up Voltage / Initial Feeding Voltage | 60 VDC / 90 VDC |
| Grid-Tie (Hybrid) operation: Start-up Voltage / Initial Feeding Voltage | 90 VDC / 120 VDC |
| Maximum Input Current | 22 A |
| Maximum Charging Current (AC Charger + Solar Charger) | 120 A |

Grid-Tie Operation (Supply Power back to Grid)

| | |
|---------------------------------------|---------------------|
| Nominal Output Voltage | 220 / 230 / 240 VAC |
| Output Voltage Range | 195 ~ 253 VAC |
| Feed-in Grid Frequency Range | 50 / 60 Hz |
| Nominal Output Current | 27 A |
| Power Factor | > 0.99 |
| Maximum Conversion Efficiency (DC/AC) | 98% |

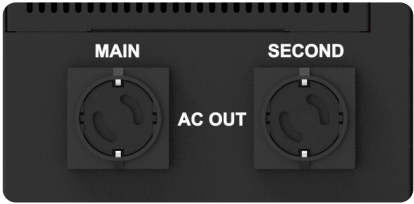
Environmental and Operational Specifications

| | |
|-----------------------------|-------------------------------------------|
| Discharge Temperature | -20°C ~ 55°C |
| Charging Temperature | 0°C ~ 55°C |
| Storage Temperature | -10°C ~ 40°C |
| Humidity | 10% - 90% (non-condensing) |
| Temperature Sensor Quantity | 4 for cells; 1 for BMS; 1 for ambient air |

Physical Properties

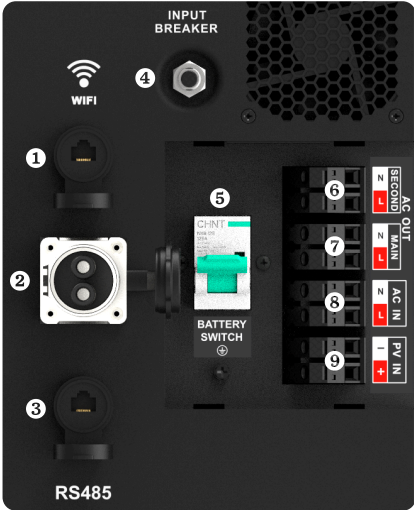
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|-------------------------------|---------------------|
| Case Material | Powder-coated steel |
| Dimensions (L × W × H) | 478×234×778 mm |
| Dimensions of Box (L × W × H) | 500×300×830 mm |
| Weight (Net / Gross) | 58.7 kg / 61.8 kg |

AC Output Sockets



- **Main Socket**
220 / 230 / 240 VAC ~ 16A, 3680 W
Can be set to turn off at a certain discharge level. Sockets with lock.
- **Second Socket**
220 / 230 / 240 VAC ~ 16A, 3680 W
Can be reserved for critical load from 840 W to 2940 W.

Switchboard



- ① WiFi Prort
for connecting WiFi module
- ② Extra Battery Port
for connecting Model B
- ③ Battery Communication Port
data exchange
- ④ AC Input Fuse
for overcurrent protection - 150 A
- ⑤ Battery Switch
max. safe DC current - 125 A
- ⑥ AC OUT: Second Terminal
220 / 230 / 240 VAC ~ 18.2A, 4200W
- ⑦ AC OUT: Main Terminal
220 / 230 / 240 VAC ~ 18.2A, 4200W
- ⑧ AC Input Terminal
90-280 VAC, 40 A, 7850 W
- ⑨ PV Input Terminal
60-450 VDC, 22 A, 6200 W

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