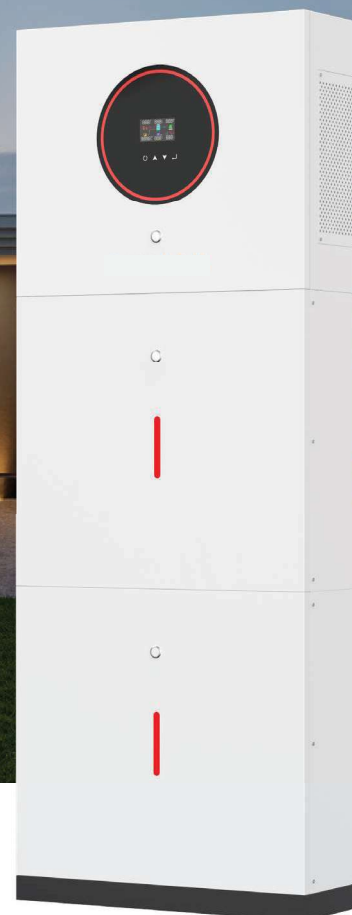


# ENERGY STORAGE SYSTEM

ESS Master

- Pure sine wave solar inverter(on/off Grid)
- Output power factor 1.0
- WIFI&GPRS available for IOS and Android
- Inverter can run without battery
- One-key restoration to factory Settings
- Built-in Lithium battery automatic activation
- Built-in anti-dust kit for harsh environment
- Built-in 140A (for 4.2KW)/120A(for 6.2KW)/160A(MPPT Solar charge: max 6200W(for 4.2KW),max6500(for 6.2KW),max10200W(for 10.2KW)
- High PV input voltage range(60~ 500VDC)
- Smart battery charge design to optimize battery life
- Dual output



INVERTER MODE



PV MODE



UTILITY MODE

**160A**

Max PV Charging



Pure Sine Wave

**RGB**

RGB lights



Works with and Without Battery



Upgraded MPPT



LI- ION



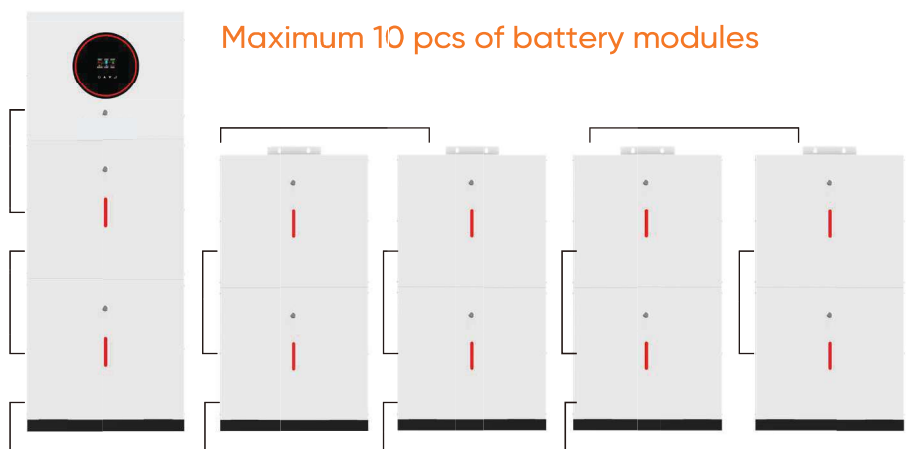
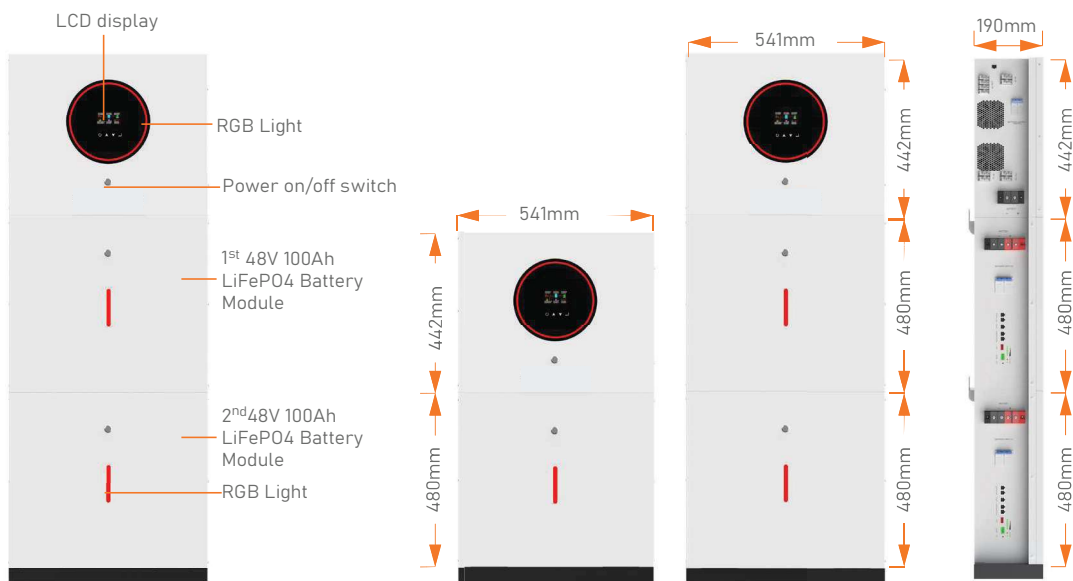
Built in Anti Dust Kit



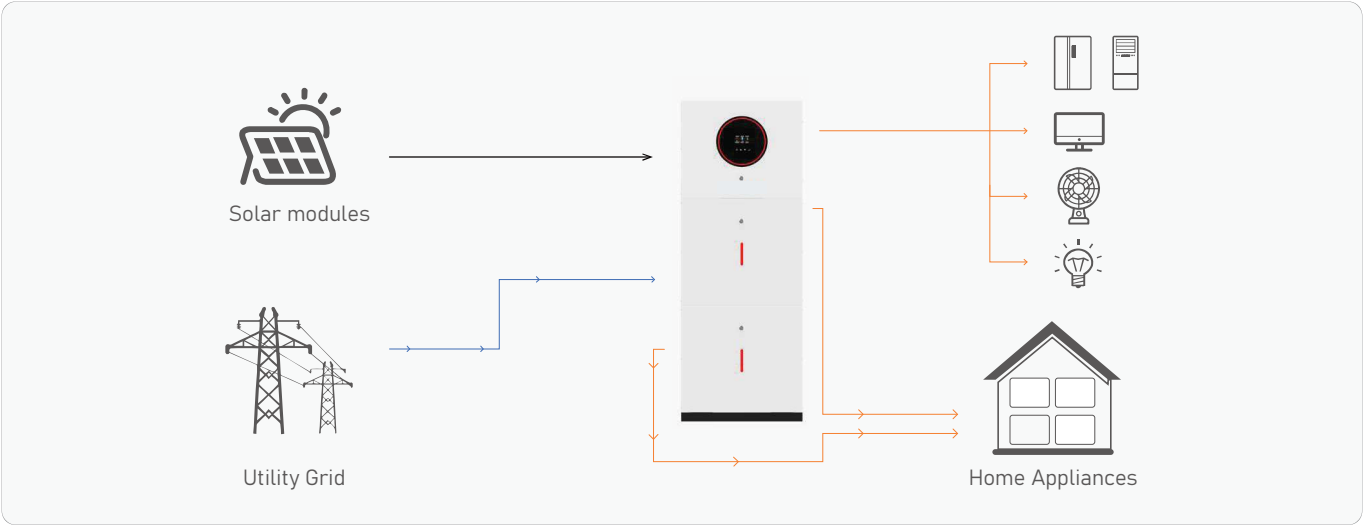
Dustproof

| Model                                      | ESS Master-4.2KW                            | ESS Master-6.2KW | ESS Master-10.2KW |
|--------------------------------------------|---------------------------------------------|------------------|-------------------|
| Phase                                      | 1-pase                                      |                  |                   |
| Maximum PV Input Power                     | 6200W                                       | 6500W            | 5400W +5400W      |
| Rated Output Power                         | 4200W/4200VA                                | 6200W/6200VA     | 10200W/10200VA    |
| Maximum Solar Charging Current             | 140A                                        | 120A             | 160A              |
| GRID-TIE OPERATION                         |                                             |                  |                   |
| PV INPUT (DC)                              |                                             |                  |                   |
| Nominal DC Voltage/Maximum DC Voltage      | 360/500VDC                                  |                  |                   |
| Start-up Voltage/Initial Feeding Voltage   | 60VDC/90VDC                                 | 90VDC/120VDC     |                   |
| MPPT Voltage Range                         | 60~450VDC                                   |                  | 90~450VDC         |
| Maximum Input Current                      | 1/18A                                       | 1/22A            | 2/18A             |
| GRID OUTPUT (AC)                           |                                             |                  |                   |
| Nominal Output Voltage                     | 220/230/240VAC                              |                  |                   |
| Output Voltage Range                       | 195.5~253VDC                                |                  | 190~253VDC        |
| Nominal Output Current                     | 18.2A                                       | 27.0A            | 44.3A             |
| Power Factor                               | >0.99                                       |                  |                   |
| EFFICIENCY                                 |                                             |                  |                   |
| Maximum Conversion Efficiency (DC/AC)      | 98%                                         |                  |                   |
| TWO LOAD OUTPUT POWER                      |                                             |                  |                   |
| Full Load                                  | 4200W                                       | 6200W            | 10200W            |
| Maxium Main Load                           | 4200W                                       | 6200W            | 10200W            |
| Maxium Second Load(battery mode)           | 1400W                                       | 2067W            | 3400W             |
| Maxium Load Cut Off Voltage                | 26VDC                                       | 52VDC            |                   |
| Maxium Load Return Voltage                 | 27VDC                                       | 54VDC            |                   |
| OFF-GRID OPERATION                         |                                             |                  |                   |
| AC INPUT                                   |                                             |                  |                   |
| AC Start-up Voltage/Auto Restart Voltage   | 120-140VAC/180VAC                           |                  |                   |
| Acceptable Input Voltage Range             | 90-280VACor170-280VAC                       |                  |                   |
| Frequency Range                            | 49-51±1HZ                                   |                  |                   |
| Maximum AC Input Current                   | 30A                                         | 40A              | 50A               |
| PV INPUT (DC)                              |                                             |                  |                   |
| Nominal DC Voltage/Maximum DC Voltage      | 360/500VDC                                  |                  |                   |
| MPPT Voltage Range                         | 60-450VDC                                   | 90-450VDC        |                   |
| Maximum Input Current                      | 1/18A                                       | 1/22A            | 2/18A             |
| BATTERY MODE OUTPUT (AC)                   |                                             |                  |                   |
| Nominal Output Voltage                     | 220/230/240VAC                              |                  |                   |
| Output Waveform                            | Pure sine wave                              |                  |                   |
| Efficiency (DC to AC)                      | 94%                                         |                  |                   |
| BATTERY & CHARGER                          |                                             |                  |                   |
| Nominal DC Voltage                         | 24VDC                                       | 48VDC            |                   |
| Maximum Solar Charging Current             | 140A                                        | 120A             | 160A              |
| Maximum AC Charging Current                | 100A                                        | 100A             | 140A              |
| Maximum Solar+AC Charging Current          | 140A                                        | 120A             | 160A              |
| HYBRID OPERATION                           |                                             |                  |                   |
| PV INPUT (DC)                              |                                             |                  |                   |
| Nominal DC Voltage/Maximum DC Voltage      | 360/500VDC                                  |                  |                   |
| Start-up Voltage / Initial Feeding Voltage | 90VDC/120VDC                                |                  |                   |
| MPPT Voltage Range                         | 60~450VDC                                   | 90~450VDC        |                   |
| Maximum Input Current                      | 1/18A                                       | 1/22A            | 2/18A             |
| GRID OUTPUT (AC)                           |                                             |                  |                   |
| Nominal Output Voltage                     | 220/230/240VAC                              |                  |                   |
| Output Voltage Range                       | 195.5~253VDC                                |                  | 190~253VDC        |
| Nominal Output Current                     | 18.2A                                       | 27.0A            | 44.3A             |
| AC INPUT                                   |                                             |                  |                   |
| AC Start-up Voltage / Auto Restart Voltage | 120-140VAC/180VAC                           |                  |                   |
| Acceptable Input Voltage Range             | 90-280VAC or170-180VAC                      |                  |                   |
| Maximum AC Input Current                   | 30A                                         | 40A              | 50A               |
| Maximum AC Charging Current                | 100A                                        |                  | 140A              |
| GENERAL                                    |                                             |                  |                   |
| PHYSICAL                                   |                                             |                  |                   |
| Dimension,D*W*H(mm)                        | 541*442*190                                 |                  |                   |
| Cartoon Dimension,D *W *H(mm)              | 600*550*240                                 |                  |                   |
| Net Weight (kgs)                           | 18.5                                        | 27.8             | 25.5              |
| Gross Weight(kgs)                          | 20.5                                        | 29.4             | 27.5              |
| INTERACE                                   |                                             |                  |                   |
| Communication Port                         | RS232/RS485/WIFI/GPRS/LITHIUM BATTERY       |                  |                   |
| ENVIRONMENT                                |                                             |                  |                   |
| Humidity                                   | 5% to 95% Relative Humidity(Non-condensing) |                  |                   |
| Operating Temperature                      | -10°C-50°C                                  |                  |                   |
| STANDARD                                   |                                             |                  |                   |
| Compliance Safety                          | CE                                          |                  |                   |

# Product Overview



# System Diagram



| Model                                            |                 | 25.6V 100AH                                                                                                                                                                                                                                                          | 25.6V 200AH | 48V 100AH   | 48V 200AH   |
|--------------------------------------------------|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-------------|-------------|
| Normal charging voltage                          |                 | 29.2V                                                                                                                                                                                                                                                                | 29.2V       | 54.75V      | 54.75V      |
| Maximum charging current                         |                 | 100A                                                                                                                                                                                                                                                                 | 100A        | 100A        | 100A        |
| Discharge termination voltage                    |                 | 21.6V                                                                                                                                                                                                                                                                | 21.6V       | 40.5V       | 40.5V       |
| Recommended discharge termination voltage        |                 | 22.4V                                                                                                                                                                                                                                                                | 22.4V       | 42V         | 42V         |
| Maximum discharge current                        |                 | 100A                                                                                                                                                                                                                                                                 | 100A        | 100A        | 100A        |
| Single cell charging overvoltage protection      |                 | 3.8V                                                                                                                                                                                                                                                                 | 3.8V        | 3.8V        | 3.8V        |
| Overvoltage protection for the whole battery     |                 | 29.2V                                                                                                                                                                                                                                                                | 29.2V       | 54.75V      | 54.75V      |
| Low voltage protection for single cell discharge |                 | 2.7V                                                                                                                                                                                                                                                                 | 2.7V        | 2.7V        | 2.7V        |
| Low voltage protection for whole group discharge |                 | 21.6V                                                                                                                                                                                                                                                                | 21.6V       | 40.5V       | 40.5V       |
| Charge overcurrent protection                    |                 | 102~112A                                                                                                                                                                                                                                                             | 102~112A    | 102~112A    | 102~112A    |
| Discharge overcurrent protection                 |                 | 102~122A                                                                                                                                                                                                                                                             | 102~122A    | 102~122A    | 102~122A    |
| BMS Features                                     |                 | High accuracy cell level voltage, current measuring<br>Over-charge, over-discharge protection<br>Short-circuit protection<br>Self-learning intelligent SOC calculation<br>Cell level active equalization<br>Multiple communication type<br>Parallel connect function |             |             |             |
| Working temperature                              |                 | -15°C~-+55°C                                                                                                                                                                                                                                                         |             |             |             |
| Storage temperature                              |                 | -20°C~-+50°C                                                                                                                                                                                                                                                         |             |             |             |
| Single Battery Module                            | Dimensions (mm) | 541*480*190                                                                                                                                                                                                                                                          | 541*480*190 | 541*480*190 | 541*960*190 |
|                                                  | Weight (Kg)     | 27KG                                                                                                                                                                                                                                                                 | 54KG        | 54KG        | 110KG       |

