

### Features

- Excellent dust-proof performance with separate compartment design
- Built-in LiFePO4 lithium battery
- Intuitive display of battery SOC via 5-bar indicator lights
- Multiple DC output ports (5VDC/3A ports, 12VDC/2A ports, Type C ports)
- Large-sized LCD screen to monitor and modify system parameters
- Optional 4G or WiFi module to remote control the inverter/charger by the RS485 com. port
- AC input overload relay for disconnecting from the grid when the fault occurs
- Circuit breaker on PV input for equipment safety
- Circuit breaker on battery output for battery safety
- AC charging with PFC technology, high power factor for efficient energy consumption
- Bidirectional high-frequency transformer isolation topology
- Advanced MPPT technology: maximum tracking efficiency  $\geq 99.5\%$
- EMC design on AC output to avoid interference with AC load
- Long-term continuous operation at full power
- Pure sine wave output
- Comprehensive electronic protection

### Home Battery Backup



MacBook  
7105mAh  $\approx 42$ +times



Rice Cooker  
600W  $\approx 1.6$ +hours



iPhone  
2942mAh  $\approx 105$ +times



Television Set  
100W  $\approx 10$ +hours



Coffee Maker  
900W  $\approx 1.1$ +hours



Electric Oven / Toaster Oven  
800W  $\approx 1.3$ hours



Impact Drill  
1100w  $\approx 0.9$ +hours

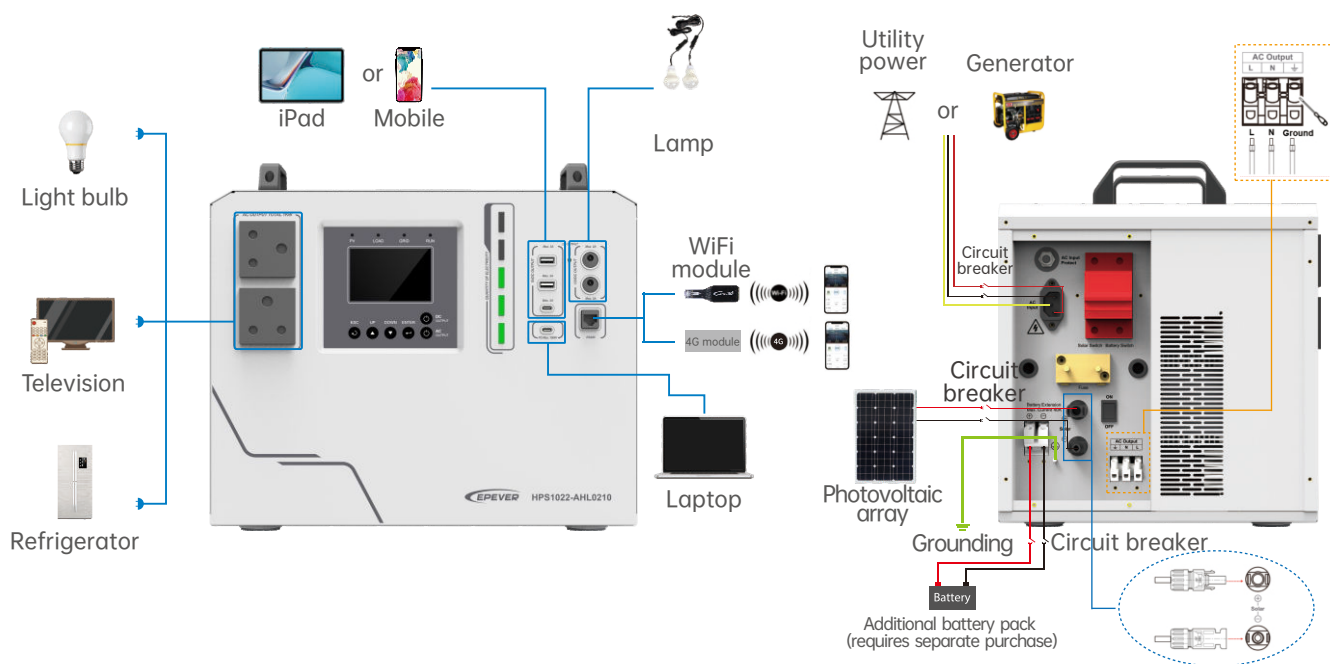


Car Refrigerator  
62W  $\approx 16$ +hours

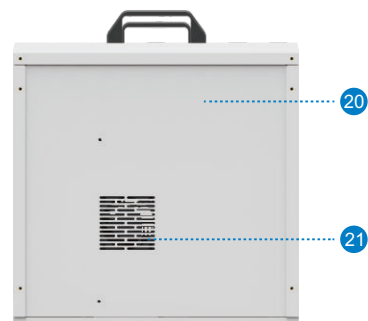
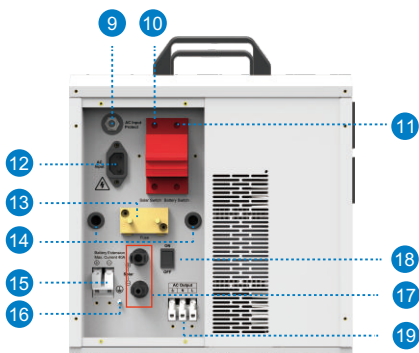
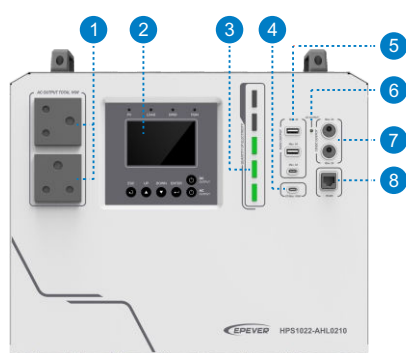


| Model                                            | HPS1022-AHL0210                                                                                                                                                        |
|--------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Utility Input                                    |                                                                                                                                                                        |
| Utility Rated Voltage                            | 220VAC                                                                                                                                                                 |
| Utility Voltage                                  | 200~240VAC                                                                                                                                                             |
| Failure Voltage                                  | 290VAC                                                                                                                                                                 |
| Utility Frequency                                | 50Hz/60Hz                                                                                                                                                              |
| Utility Maximum Work Current (Charging + Bypass) | 7A@220VAC                                                                                                                                                              |
| Switch Response Time                             | Switch Response Time-Utility to Inverter: $\leq 20\text{ms}$<br>Switch Response Time-Inverter to Utility: $\leq 20\text{ms}$                                           |
| AC Input Overload Relay                          | HAVE                                                                                                                                                                   |
| Inverter Output                                  |                                                                                                                                                                        |
| Inverter Rated Power (@25°C)                     | 1000W                                                                                                                                                                  |
| 4-second Transient Surge Output Power            | 1800W                                                                                                                                                                  |
| Inverter Output Voltage                          | 220VAC $\pm 3\%$                                                                                                                                                       |
| Inverter Frequency                               | 50Hz/60Hz $\pm 0.2\%$                                                                                                                                                  |
| Output Voltage Waveform                          | Pure sine wave                                                                                                                                                         |
| Output Voltage Harmonic Distortion Rate          | $\leq 3\%$ (Resistive load)                                                                                                                                            |
| Output Gradual Start                             | HAVE                                                                                                                                                                   |
| Solar Controller                                 |                                                                                                                                                                        |
| PV Maximum Input Withstand Voltage               | 95VDC (at minimum operating environment temperature)                                                                                                                   |
| Solar Controller Type                            | MPPT                                                                                                                                                                   |
| MPPT Maximum Efficiency                          | $\geq 99.5\%$                                                                                                                                                          |
| MPPT Voltage Range                               | 24~76VDC                                                                                                                                                               |
| MPPT Input Channels                              | One way                                                                                                                                                                |
| PV Maximum Charging Current                      | 20A                                                                                                                                                                    |
| Battery                                          |                                                                                                                                                                        |
| Battery Type                                     | LFP8S2P                                                                                                                                                                |
| Battery Rated Capacity                           | 40Ah                                                                                                                                                                   |
| Cell Dimension                                   | Diameter: 40.0 $\pm 0.5$ -0mm<br>Height: 136.25 $\pm 0.5$ mm                                                                                                           |
| Battery Rated Voltage                            | 25.6VDC                                                                                                                                                                |
| Maximum Continuous Charging Current              | 1C                                                                                                                                                                     |
| Maximum Continuous Discharging Current           | 1.8C                                                                                                                                                                   |
| Battery Work Voltage Range                       | 21.0VDC~30.0VDC                                                                                                                                                        |
| Battery Work Temperature Range                   | Discharging Mode: -20°C~50°C    Charging Mode: 0°C~50°C                                                                                                                |
| Cycle Times                                      | 2000 times                                                                                                                                                             |
| DC Output                                        |                                                                                                                                                                        |
| 12V DC Output (x2)                               | 12V=2A, Max. 24W/port, Total 48W                                                                                                                                       |
| USB-A Output (x2)                                | 5V=3A, Max. 15W/port, Total 30W                                                                                                                                        |
| USB-C Output (x1)                                | 5V=3A, Max. 15W                                                                                                                                                        |
| USB-C Output (x1)                                | 5/9/12/15V=3A, 20V=5A, Max. 100W                                                                                                                                       |
| DC Output Switch                                 | HAVE                                                                                                                                                                   |
| Others                                           |                                                                                                                                                                        |
| Work Temperature Range                           | -20°C~50°C<br>(when the environment temperature exceeds 30°C, the charging power and load power will be reduced appropriately; working of full load is not supported.) |
| Enclosure                                        | IP30                                                                                                                                                                   |
| Communication Method                             | Bluetooth, RS485 (WiFi optional)                                                                                                                                       |
| LCD                                              | Monochrome LCD, English interface                                                                                                                                      |
| Warranty                                         | Two years                                                                                                                                                              |
| Dimension (Length x Width x Height)              | 385x307x345mm (with floor mats and handles)                                                                                                                            |
| Net Weight                                       | 20.0kg                                                                                                                                                                 |

## Solar System Connection



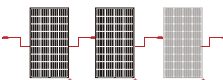
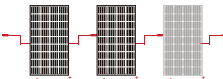
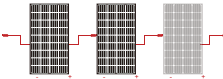
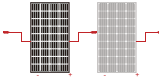
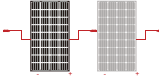
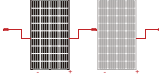
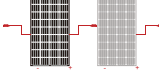
## Product Information



- |                           |                                   |                               |
|---------------------------|-----------------------------------|-------------------------------|
| 1 AC outlet               | 8 RS485 com. port                 | 15 Extension battery terminal |
| 2 LCD                     | 9 Utility bypass overload relay   | 16 Grounding terminal         |
| 3 Battery SOC indicator   | 10 PV input circuit breaker       | 17 PV input terminals         |
| 4 USB-C port (100W PD)    | 11 Battery output circuit breaker | 18 Power switch               |
| 5 5VDC/3A output port *3  | 12 AC input port                  | 19 AC output terminal         |
| 6 DC output indicator     | 13 Extension battery fuse         | 20 Battery container          |
| 7 12VDC/2A output port *2 | 14 Outlet holes                   | 21 Cooling fan                |



## Recommended Component Configuration Table

| Specification   | Size           | Power    | Recommended PV module                                                               | PV voltage range | Recommended PV connection |
|-----------------|----------------|----------|-------------------------------------------------------------------------------------|------------------|---------------------------|
| Polycrystalline | 1470x670x28mm  | 165~170W |    | 30VDC~95VDC      | Two in series 45VDC       |
|                 |                |          |                                                                                     |                  | Three in series 68VDC     |
| Monocrystalline | 1580x710x28mm  | 220~235W |    | 30VDC~95VDC      | Two in series 53VDC       |
|                 |                |          |                                                                                     |                  | Three in series 80VDC     |
| Monocrystalline | 1570x765x28mm  | 250~260W |    | 30VDC~95VDC      | Two in series 53VDC       |
|                 |                |          |                                                                                     |                  | Three in series 80VDC     |
| Polycrystalline | 1640x992x30mm  | 270~280W |    | 30VDC~95VDC      | One in series 38VDC       |
|                 |                |          |                                                                                     |                  | Two in series 76VDC       |
| Polycrystalline | 1956x992x30mm  | 330~350W |   | 30VDC~95VDC      | One in series 45VDC       |
|                 |                |          |                                                                                     |                  | Two in series 90VDC       |
| Monocrystalline | 1755x1038x30mm | 370~380W |  | 30VDC~95VDC      | One in series 45VDC       |
|                 |                |          |                                                                                     |                  | Two in series 90VDC       |
| Monocrystalline | 2094x1038x30mm | 450~470W |  | 30VDC~95VDC      | One in series 53VDC       |
| Monocrystalline | 1722x1134x28mm | 400~415W |  | 30VDC~95VDC      | One in series 40VDC       |
|                 |                |          |                                                                                     |                  | Two in series 80VDC       |
| Monocrystalline | 2279x1134x30mm | 540~555W |  | 30VDC~95VDC      | One in series 53VDC       |
| Monocrystalline | 2204x1303x35mm | 590~600W |  | 30VDC~95VDC      | One in series 53VDC       |
| Monocrystalline | 2384x1303x35mm | 650~670W |  | 30VDC~95VDC      | One in series 53VDC       |

\*This table should be validated based on the limit open-circuit voltage at the lowest temperature , and it is not allowed to exceed 95V under any conditions.