



**POWERING YOUR LIFE**

For Australia



**3.6kW~12kW/5~50kWh All-In-One  
Single/Three Phase Energy Storage Solution**

**AI-W5.1-B-ESS (SPRING SERIES)**



**All-in-One**

Hybrid inverter and LFP battery in one sleek system



**Smarter Energy Use**

Peak-shaving, smart load, AC coupling, time of use



**Scalable Capacity**

Modular design expandable from 5 kWh to 50 kWh



**Uninterrupted Supply**

4 ms seamless switchover from grid to back-up for energy security



**Effortless Installation**

Tool-free stacking for quick and easy installation



**Smart Control**

Convenient management via App, PC, or touch display

[www.deyeess.com](http://www.deyeess.com) / [www.deyeinverter.com](http://www.deyeinverter.com)

Deye ESS / Deye New Energy

# ALL-IN-ONE POWER, READY IN MINUTES

## 6-in-One, Smart Integrated Design



**3.6-12kW**  
Single/Three-Phase  
Inverter



**5-50kWh**  
Flexible System  
Capacity



**Tool-Free**  
Stacking  
Installation

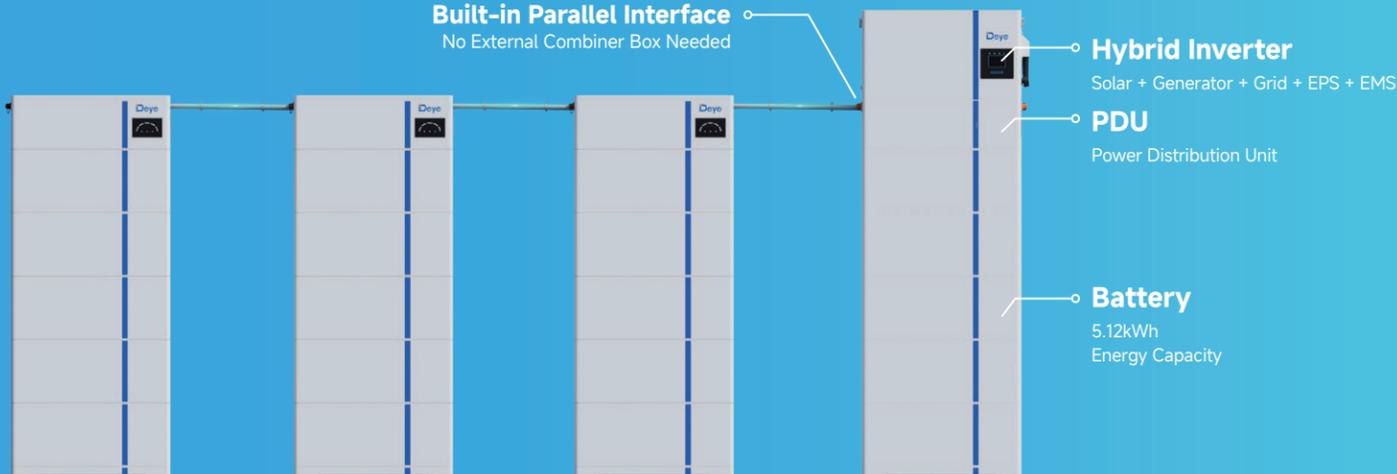


**One-Click**  
System  
Setup



**Gateway & DC Bus**  
Built-in

**Built-in Parallel Interface**  
No External Combiner Box Needed



## Scalable Energy for Every Need

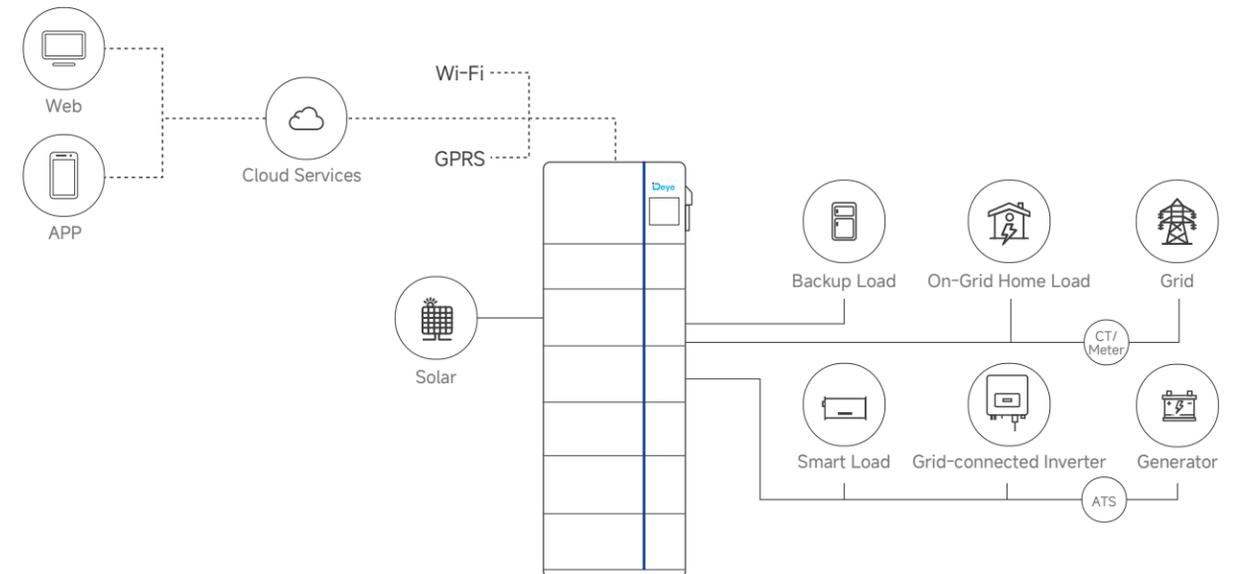


|                            |         |          |          |          |         |
|----------------------------|---------|----------|----------|----------|---------|
| Deye Hybrid Inverter + PDU | x1      | x1       | x1       | x1       | x1      |
| Battery                    | x1      | x2       | x3       | x4       | x5      |
| Energy Capacity            | 5.12kWh | 10.24kWh | 15.36kWh | 20.48kWh | 25.6kWh |



|                 |         |          |          |          |         |          |
|-----------------|---------|----------|----------|----------|---------|----------|
| Deye PDU        | x1      | x1       | x1       | x1       | x1      | x1       |
| Battery         | x1      | x2       | x3       | x4       | x5      | x6       |
| Energy Capacity | 5.12kWh | 10.24kWh | 15.36kWh | 20.48kWh | 25.6kWh | 30.72kWh |

## Typical Scenario



# Deye Hybrid Inverter

3.6-8 kW Single-Phase | 5-12 kW Three-Phase  
5-50kWh System

## 3.6kW~12kW/5~50kWh Energy Storage System



**4 ms** ultra-fast grid to  
back-up power switching time



**2x** rated power  
for 10 seconds



**Quick and simple**  
setup



Smart **EMS** with  
**real-time** monitoring



**One-click** diagnostics  
via Deye Cloud



**IP65** protection for reliable  
outdoor performance



1 × PDU1 + 5 × Battery + 1 × Base

1 × Inverter + 1 × PDU3 + 5 × Battery + 1 × Base

## Deye Hybrid Inverter | 3.6-8 kW Single-Phase

| Model (Single-phase)                             | AI-W5.1-3.6P1-AU-B                                     | AI-W5.1-5P1-AU-B | AI-W5.1-6P1-AU-B | AI-W5.1-8P1-AU-B |
|--------------------------------------------------|--------------------------------------------------------|------------------|------------------|------------------|
| <b>Battery Input Data</b>                        |                                                        |                  |                  |                  |
| Battery Type                                     | Lithium-ion                                            |                  |                  |                  |
| Battery Voltage                                  | 40-60                                                  |                  |                  |                  |
| Max. Charging Current(A)                         | 90                                                     | 120              | 135              | 190              |
| Max. Discharging Current(A)                      | 90                                                     | 120              | 135              | 190              |
| Charging Strategy for Li-Ion Battery             | Self-adaption to BMS                                   |                  |                  |                  |
| Number of Battery Input                          | 1                                                      |                  |                  |                  |
| <b>PV String Input Data</b>                      |                                                        |                  |                  |                  |
| Max. PV access power(W)                          | 7200                                                   | 10000            | 12000            | 16000            |
| Max. PV Input Power(W)                           | 5760                                                   | 8000             | 9600             | 12800            |
| Max. PV Input Voltage(V)                         | 500                                                    |                  |                  |                  |
| Start-up Voltage(V)                              | 125                                                    |                  |                  |                  |
| PV Input Voltage Range(V)                        | 125-500                                                |                  |                  |                  |
| MPPT Voltage Range(V)                            | 150-425                                                |                  |                  |                  |
| Full Load MPPT Voltage Range(V)                  | 300-425                                                |                  | 200-425          |                  |
| Rated PV Input Voltage(V)                        | 370                                                    |                  |                  |                  |
| Max. Operating PV Input Current(A)               | 18+18                                                  |                  | 32+32            |                  |
| Max. Input Short-Circuit Current(A)              | 27+27                                                  |                  | 48+48            |                  |
| No.of MPPT Trackers/No.of String MPPT Tracker    | 2/1+1                                                  |                  | 2/2+2            |                  |
| Max. Inverter Backfeed Current to The Array      | 0                                                      |                  |                  |                  |
| <b>AC Input/Output Data</b>                      |                                                        |                  |                  |                  |
| Rated AC Input/Output Active Power(W)            | 3600                                                   | 5000             | 6000             | 8000             |
| Max. AC Input/Output Apparent Power(VA)          | 3600                                                   | 5000             | 6000             | 8000             |
| Peak Power (off-grid)(W)                         | 2 times of rated power, 10s                            |                  |                  |                  |
| Rated AC Input/Output Current(A)                 | 15.7                                                   | 21.8             | 26.1             | 34.8             |
| Max. AC Input/Output Current(A)                  | 15.7                                                   | 21.8             | 26.1             | 34.8             |
| Max. Continuous AC Passthrough (grid to load)(A) | 35                                                     |                  | 40               |                  |
| Max. Output Fault Current(A)                     | 31.4                                                   | 43.4             | 52.2             | 66               |
| Max. Output Overcurrent Protection(A)            | 80                                                     |                  |                  |                  |
| Rated Input/Output Voltage/Range(V)              | 230V/240V 0.85Un-1.1Un                                 |                  |                  |                  |
| Grid Connection Form                             | L+N+PE                                                 |                  |                  |                  |
| Rated Input/Output Grid Frequency/Range          | 50Hz/45Hz-55Hz                                         |                  |                  |                  |
| Power Factor Adjustment Range                    | 0.8 leading-0.8 lagging                                |                  |                  |                  |
| Total Current Harmonic Distortion THDi           | <3% (of nominal power)                                 |                  |                  |                  |
| DC Injection Current                             | <0.5%In                                                |                  |                  |                  |
| <b>Efficiency</b>                                |                                                        |                  |                  |                  |
| Max. Efficiency                                  | 97.60%                                                 |                  |                  |                  |
| Euro Efficiency                                  | 96.50%                                                 |                  |                  |                  |
| MPPT Efficiency                                  | >99%                                                   |                  |                  |                  |
| <b>Equipment Protection</b>                      |                                                        |                  |                  |                  |
| DC Polarity Reverse Connection Protection        | Yes                                                    |                  |                  |                  |
| AC Output Overcurrent Protection                 | Yes                                                    |                  |                  |                  |
| AC Output Overvoltage Protection                 | Yes                                                    |                  |                  |                  |
| AC Output Short Circuit Protection               | Yes                                                    |                  |                  |                  |
| Thermal Protection                               | Yes                                                    |                  |                  |                  |
| Arc fault circuit interrupter (AFCI)             | Optional                                               |                  |                  |                  |
| Power Network Monitoring                         | Yes                                                    |                  |                  |                  |
| Island Protection Monitoring                     | Yes                                                    |                  |                  |                  |
| Earth Fault Detection                            | Yes                                                    |                  |                  |                  |
| DC Input Switch                                  | Yes                                                    |                  |                  |                  |
| Overvoltage Load Drop Protection                 | Yes                                                    |                  |                  |                  |
| Residual Current (RCD) Detection                 | Yes                                                    |                  |                  |                  |
| Anti-islanding Protection                        | Yes(Active Frequency Shift)                            |                  |                  |                  |
| Surge Protection Level                           | TYPE II(DC), TYPE II(AC)                               |                  |                  |                  |
| <b>Interface</b>                                 |                                                        |                  |                  |                  |
| Display                                          | LCD+LED                                                |                  |                  |                  |
| Communication Interface                          | RS232, RS485, CAN                                      |                  |                  |                  |
| Monitor Mode                                     | GPRS/WIFI/Bluetooth/4G/LAN (optional)                  |                  |                  |                  |
| PV Connection                                    | VP-D4                                                  |                  |                  |                  |
| <b>General Data</b>                              |                                                        |                  |                  |                  |
| Operating Temperature Range                      | -40 to +60°C, >45°C Derating                           |                  |                  |                  |
| Permissible Ambient Humidity                     | 0-100%                                                 |                  |                  |                  |
| Permissible Altitude                             | 2000m                                                  |                  |                  |                  |
| Noise                                            | <30 dB(A)                                              |                  |                  |                  |
| Ingress Protection(IP) Rating                    | IP 65                                                  |                  |                  |                  |
| Inverter Topology                                | Non-Isolated                                           |                  |                  |                  |
| Over Voltage Category                            | OVC II(DC), OVC III(AC)                                |                  |                  |                  |
| Protection Level                                 | Class I                                                |                  |                  |                  |
| Cabinet size(W*H*D) [mm]                         | 720W×399.2H×256D (Excluding connectors and brackets)   |                  |                  |                  |
| Weight(kg)                                       | 31.6                                                   |                  |                  |                  |
| Warranty                                         | 10 Years                                               |                  |                  |                  |
| Type of Cooling                                  | Intelligent Air Cooling                                |                  |                  |                  |
| Grid Regulation                                  | AS/NZS 4777.2                                          |                  |                  |                  |
| Safety EMC/Standard                              | IEC/EN 61000-6-1/2/3/4, IEC/EN 62109-1, IEC/EN 62109-2 |                  |                  |                  |

## Deye Hybrid Inverter | 5-12 kW Three-Phase

| Model (Three-phase)                              | AI-W5.1-5P3-AU-B                                       | AI-W5.1-6P3-AU-B | AI-W5.1-8P3-AU-B | AI-W5.1-10P3-AU-B | AI-W5.1-12P3-AU-B |
|--------------------------------------------------|--------------------------------------------------------|------------------|------------------|-------------------|-------------------|
| <b>Battery Input Data</b>                        |                                                        |                  |                  |                   |                   |
| Battery Type                                     | Lithium-ion                                            |                  |                  |                   |                   |
| Battery Voltage                                  | 40-60                                                  |                  |                  |                   |                   |
| Max. Charging Current(A)                         | 120                                                    | 150              | 190              | 210               | 240               |
| Max. Discharging Current(A)                      | 120                                                    | 150              | 190              | 210               | 240               |
| Charging Strategy for Li-Ion Battery             | Self-adaption to BMS                                   |                  |                  |                   |                   |
| Number of Battery Input                          | 1                                                      |                  |                  |                   |                   |
| <b>PV String Input Data</b>                      |                                                        |                  |                  |                   |                   |
| Max. PV access power(W)                          | 10000                                                  | 12000            | 16000            | 20000             | 24000             |
| Max. PV Input Power(W)                           | 7500                                                   | 9000             | 12000            | 15000             | 18000             |
| Max. PV Input Voltage(V)                         | 800                                                    |                  |                  |                   |                   |
| Start-up Voltage(V)                              | 160                                                    |                  |                  |                   |                   |
| PV Input Voltage Range(V)                        | 160-800                                                |                  |                  |                   |                   |
| MPPT Voltage Range(V)                            | 200-650                                                |                  |                  |                   |                   |
| Full Load MPPT Voltage Range(V)                  | 350-650                                                |                  |                  |                   |                   |
| Rated PV Input Voltage(V)                        | 550                                                    |                  |                  |                   |                   |
| Max. Operating PV Input Current(A)               | 20+20                                                  |                  | 36+20            |                   |                   |
| Max. Input Short-Circuit Current(A)              | 30+30                                                  |                  | 54+30            |                   |                   |
| No.of MPPT Trackers/No.of String MPPT Tracker    | 2/1+1                                                  |                  | 2/2+1            |                   |                   |
| Max. Inverter Backfeed Current to The Array      | 0                                                      |                  |                  |                   |                   |
| <b>AC Input/Output Data</b>                      |                                                        |                  |                  |                   |                   |
| Rated AC Input/Output Active Power(W)            | 5000                                                   | 6000             | 8000             | 10000             | 12000             |
| Max. AC Input/Output Apparent Power(VA)          | 5000                                                   | 6000             | 8000             | 10000             | 12000             |
| Peak Power (off-grid)(W)                         | 2 times of rated power, 10s                            |                  |                  |                   |                   |
| Rated AC Input/Output Current(A)                 | 7.2                                                    | 8.7              | 11.6             | 14.5              | 17.4              |
| Max. AC Input/Output Current(A)                  | 7.2                                                    | 8.7              | 11.6             | 14.5              | 17.4              |
| Max. Continuous AC Passthrough (grid to load)(A) | 45                                                     |                  |                  |                   |                   |
| Max. Output Fault Current(A)                     | 14.4                                                   | 17.4             | 23.2             | 29                | 34.8              |
| Max. Output Overcurrent Protection(A)            | 70                                                     |                  |                  |                   |                   |
| Rated Input/Output Voltage/Range(V)              | 230V/400V 240V/415V 0.85Un-1.1Un                       |                  |                  |                   |                   |
| Grid Connection Form                             | 3L+N+PE                                                |                  |                  |                   |                   |
| Rated Input/Output Grid Frequency/Range          | 50Hz/45Hz-55Hz                                         |                  |                  |                   |                   |
| Power Factor Adjustment Range                    | 0.8 leading-0.8 lagging                                |                  |                  |                   |                   |
| Total Current Harmonic Distortion THDi           | <3% (of nominal power)                                 |                  |                  |                   |                   |
| DC Injection Current                             | <0.5%In                                                |                  |                  |                   |                   |
| <b>Efficiency</b>                                |                                                        |                  |                  |                   |                   |
| Max. Efficiency                                  | 97.6%                                                  |                  |                  |                   |                   |
| Euro Efficiency                                  | 97.0%                                                  |                  |                  |                   |                   |
| MPPT Efficiency                                  | >99%                                                   |                  |                  |                   |                   |
| <b>Equipment Protection</b>                      |                                                        |                  |                  |                   |                   |
| DC Polarity Reverse Connection Protection        | Yes                                                    |                  |                  |                   |                   |
| AC Output Overcurrent Protection                 | Yes                                                    |                  |                  |                   |                   |
| AC Output Overvoltage Protection                 | Yes                                                    |                  |                  |                   |                   |
| AC Output Short Circuit Protection               | Yes                                                    |                  |                  |                   |                   |
| Thermal Protection                               | Yes                                                    |                  |                  |                   |                   |
| Arc fault circuit interrupter (AFCI)             | Optional                                               |                  |                  |                   |                   |
| Power Network Monitoring                         | Yes                                                    |                  |                  |                   |                   |
| Island Protection Monitoring                     | Yes                                                    |                  |                  |                   |                   |
| Earth Fault Detection                            | Yes                                                    |                  |                  |                   |                   |
| DC Input Switch                                  | Yes                                                    |                  |                  |                   |                   |
| Overvoltage Load Drop Protection                 | Yes                                                    |                  |                  |                   |                   |
| Residual Current (RCD) Detection                 | Yes                                                    |                  |                  |                   |                   |
| Anti-islanding Protection                        | Yes(Active Frequency Shift)                            |                  |                  |                   |                   |
| Surge Protection Level                           | TYPE II(DC), TYPE II(AC)                               |                  |                  |                   |                   |
| <b>Interface</b>                                 |                                                        |                  |                  |                   |                   |
| Display                                          | LCD+LED                                                |                  |                  |                   |                   |
| Communication Interface                          | RS232, RS485, CAN                                      |                  |                  |                   |                   |
| Monitor Mode                                     | GPRS/WIFI/Bluetooth/4G/LAN (optional)                  |                  |                  |                   |                   |
| PV Connection                                    | VP-D4                                                  |                  |                  |                   |                   |
| <b>General Data</b>                              |                                                        |                  |                  |                   |                   |
| Operating Temperature Range                      | -40 to +60°C, >45°C Derating                           |                  |                  |                   |                   |
| Permissible Ambient Humidity                     | 0-100%                                                 |                  |                  |                   |                   |
| Permissible Altitude                             | 2000m                                                  |                  |                  |                   |                   |
| Noise                                            | ≤ 55 dB                                                |                  |                  |                   |                   |
| Ingress Protection(IP) Rating                    | IP 65                                                  |                  |                  |                   |                   |
| Inverter Topology                                | Non-Isolated                                           |                  |                  |                   |                   |
| Over Voltage Category                            | OVC II(DC), OVC III(AC)                                |                  |                  |                   |                   |
| Protection Level                                 | Class I                                                |                  |                  |                   |                   |
| Cabinet size(W*H*D) [mm]                         | 720W×440H×254D (Excluding connectors and brackets)     |                  |                  |                   |                   |
| Weight(kg)                                       | 39.75                                                  |                  |                  |                   |                   |
| Warranty                                         | 10 Years                                               |                  |                  |                   |                   |
| Type of Cooling                                  | Intelligent Air Cooling                                |                  |                  |                   |                   |
| Grid Regulation                                  | AS/NZS 4777.2                                          |                  |                  |                   |                   |
| Safety EMC/Standard                              | IEC/EN 61000-6-1/2/3/4, IEC/EN 62109-1, IEC/EN 62109-2 |                  |                  |                   |                   |

# Deye AI-W5.1-B Battery

5.12kWh | LFP | Stacked Battery Module  
5.12kWh~30.72kWh Per Stack

 Highly **scalable** and **flexible** capacity

 Intelligent **BMS** for safety and longer lifespan

 **Real-time** battery monitoring via Deye Cloud

 **Auto-networking** and remote firmware upgrades

 **Wide** operating temperature range with natural cooling

 **IP65** protection for reliable outdoor performance

 **100% DOD**  
Maximises subsidies at lower cost

 Built-in **Parallel Interface**  
No External Combiner Box Needed

## Stacked Battery (LV)

| Model                                       | AI-W5.1-B       |
|---------------------------------------------|-----------------|
| <b>Main Parameter</b>                       |                 |
| Battery Chemistry                           | LiFePO4         |
| Built-in Circuit Breaker                    | 125A 2P, 60Vdc  |
| Nominal Energy (kWh)                        | 5.12            |
| Usable Energy (kWh) <sup>[1]</sup>          | 5.12            |
| Capacity (Ah)                               | 100             |
| Nominal Voltage (V)                         | 51.2            |
| Operating Voltage(V)                        | 44.8~57.6       |
| Rated DC Power ( kW)                        | 2.5             |
|                                             | Recommend       |
|                                             | 50              |
| Charge/Discharge Current (A) <sup>[2]</sup> | Max.            |
|                                             | 100             |
|                                             | Peak( 10s,25°C) |
|                                             | 150             |

| <b>Other Parameter</b>         |                                                                                                                               |
|--------------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| Recommend Depth of Discharge   | 100%                                                                                                                          |
| Battery Dimension (W/D/H, mm)  | 720*255*300 (without terminal parts)                                                                                          |
| Battery Weight (kg)            | 53                                                                                                                            |
| Master LED Indicator           | Battery module: 3LED (working, alarming, protecting),<br>PDU module: 5LED(SOC:20%~ 100%)&3LED (working, alarming, protecting) |
| Operating Temperature          | Charge: 0~55°C ( -20°C~55°C when heating on) / Discharge: -20°C~55°C                                                          |
| Storage Temperature            | 0°C ~ 35°C                                                                                                                    |
| IP Rating of Enclosure         | IP65 (after stacking)                                                                                                         |
| Humidity                       | 5%~95%, non-condensing                                                                                                        |
| Altitude                       | ≤3000m                                                                                                                        |
| Installation                   | Floor-Mounted                                                                                                                 |
| Communication Port             | CAN2.0, RS485                                                                                                                 |
| Cycle Life                     | ≥6000(25°C±2°C ,0.5C/0.5C,70%EOL)                                                                                             |
| Energy Throughput              | 16MWh(Battery Module @70%EOL)                                                                                                 |
| Warranty Period <sup>[3]</sup> | 10 years                                                                                                                      |
| Certification                  | UN38 .3, IEC62619, CE, UK, VDE2510-50, CEI0-21,CE-LVD, CEC, FCC, UL1973, UL9540A                                              |

| <b>Parallel expansion</b>      |                                               | 1           | 2           | 3             | 4             | 5             | 6             |
|--------------------------------|-----------------------------------------------|-------------|-------------|---------------|---------------|---------------|---------------|
| Battery Pack Quantity          |                                               | 1           | 2           | 3             | 4             | 5             | 6             |
| System Usable Energy (kWh) [1] |                                               | 5.12        | 10.24       | 15.36         | 20.48         | 25.6          | 30.72         |
| Battery system                 | System Recommend Charge/Discharge Current (A) | 50          | 100         | 150           | 200           | 250           | 250           |
|                                | System Max. Charge/Discharge Current (A) [2]  | 100         | 200         | 250           | 250           | 250           | 250           |
|                                | System Rated DC Power ( kW)                   | 2.5         | 5           | 7.5           | 10            | 12            | 12            |
|                                | System Dimension (W/D/H, mm) (With PDU, Base) | 720*255*569 | 720*255*850 | 720*255* 1131 | 720*255* 1412 | 720*255* 1693 | 720*255* 1974 |
|                                | System Weight (kg) (With PDU, Base)           | 74.5        | 127.5       | 180.5         | 233.5         | 286.5         | 339.5         |

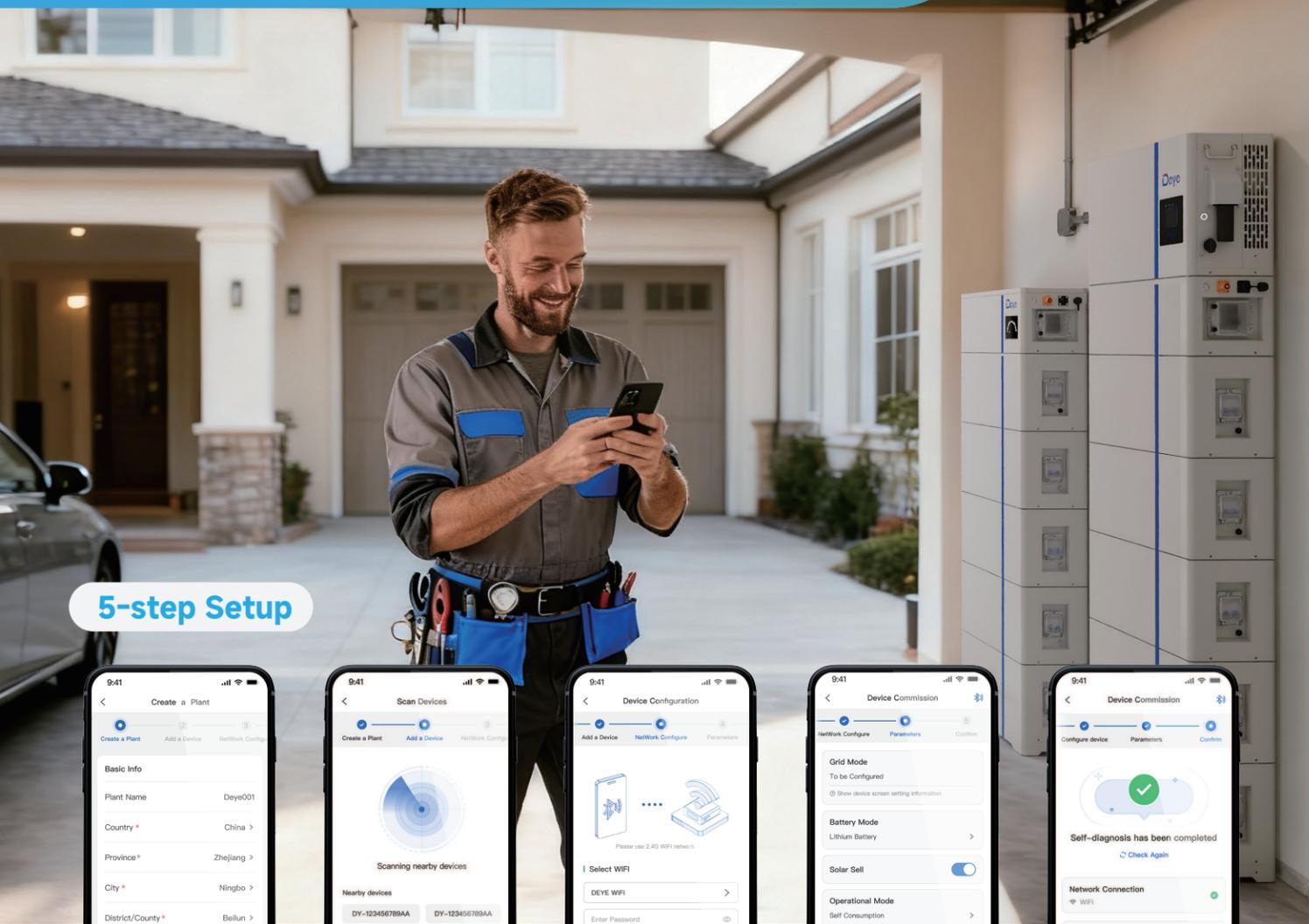
[1]DC Usable Energy, test conditions: 100%DOD, 0.5C charge & discharge at 25°C . System usable energy may vary due to system configuration parameters.

[2]The current is affected by temperature and SOC.

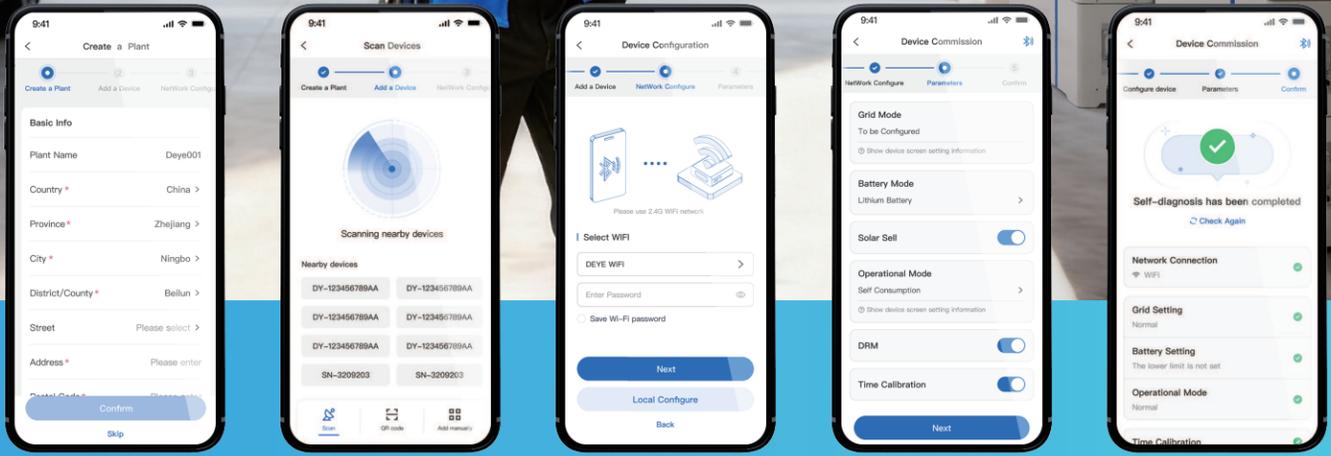
[3]Conditions apply, refer to Deye Warranty Letter.

[4]Made in China.

# Deye Cloud - Installation Guide for Hybrid Inverter Commissioning



## 5-step Setup



1. Create a Plant
2. Discover Devices
3. Configure Network
4. Set Parameters
5. Confirm

### Easy Step-by-Step Guide

Clear instructions take you from wiring to config, right in the app, simplifying the process.

### Full Communication Checks

Scans WiFi, Bluetooth to ensure everything's linked up perfectly.

### Smart Parameter Setup

The app checks and sets key settings like voltage, grid, and battery automatically, making the process faster while eliminating any chance of mistakes.

### Quick and Hassle-Free

Built-in tips and tracking keeps things efficient, saving time and avoiding the need for return trips.

## Deye Cloud All-in-one Energy & Device Management Platform

- Unlock Significant Savings
- Individual Add-On for Dynamic Tariff
- Intelligent Charging/Discharging Strategies
- Tailored Solution to Deye Devices
- Real-time Equipment Monitoring



## Smarten Up Your Home Energy

Download Deye Cloud APP to join us!  
Embrace a seamless, effortless energy experience that's both eco-friendly and budget-friendly with our intelligent assistant



### All in One

Smarter home energy and device management



### Cloud-edge Collaboration

Faster and more efficient control



### Accelerated Connectivity

Optimized for speed and performance



### Advanced Smart Energy

A smarter way to manage your electricity bills