For Australia

Deye

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

ALL-IN-ONE POWER, READY IN MINUTES

6-in-One, Smart Integrated Design

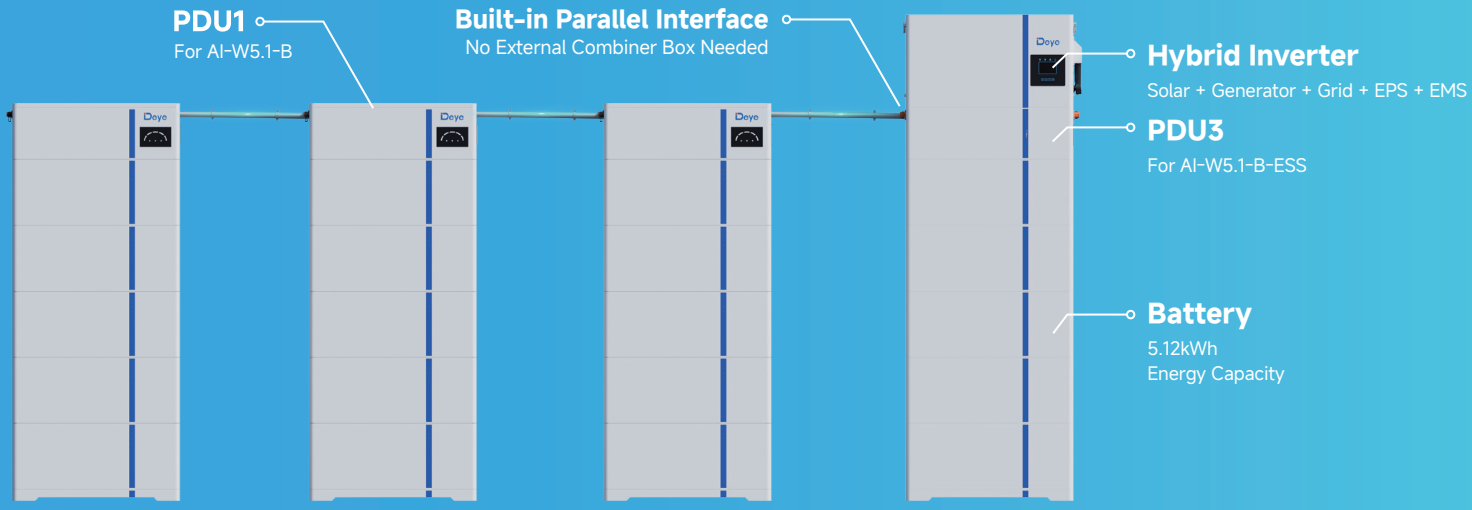
3.6-12kW
Single/Three-Phase Inverter

5-50kWh
Flexible System Capacity

Tool-Free
Stacking Installation

One-Click
System Setup

Gateway & DC Bus
Built-in



Scalable Energy for Every Need

Hybrid Inverter + PDU3 + Base	x1	x1	x1	x1	x1
Battery	x1	x2	x3	x4	x5
Energy Capacity	5.12kWh	10.24kWh	15.36kWh	20.48kWh	25.6kWh

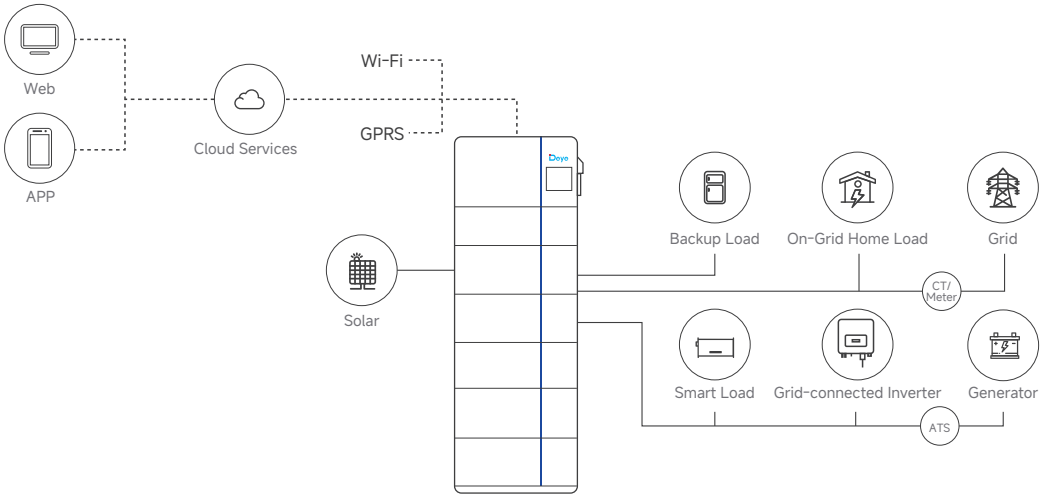
PDU1 + Base	x1	x1	x1	x1	x1	x1
Battery	x1	x2	x3	x4	x5	x6
Energy Capacity	5.12kWh	10.24kWh	15.36kWh	20.48kWh	25.6kWh	30.72kWh

Power Distribution Unit

Model：AI-W5.1-PDU1-B
Application：For AI-W5.1-B，supporting inter-cluster capacity expansion and parallel operation
Details：720 × 254 × 239.8（W × D × H，mm），18.5kg
Built-in Circuit Breaker：Two-pole Molded Case，250A，1000V

Model：AI-W5.1-PDU3-B-ESS
Application：For AI-W5.1-B-ESS，supporting inter-cluster capacity expansion and parallel operation
Details：720 × 254 × 239.8（W × D × H，mm），18.5kg
Built-in Circuit Breaker：Two-pole Molded Case，250A，1000V

Typical Scenario



Deye Hybrid Inverter

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

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

2× 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

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

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	AI-W5.1-10P1-AU-B
Battery Input Data					
Battery Type	Lithium-ion				
Battery Voltage	40-60				
Max. Charging Current(A)	90	120	135	190	210
Max. Discharging Current(A)	90	120	135	190	210
Charging Strategy for Li-Ion Battery	Self-adaption to BMS				
Number of Battery Input	1				
PV String Input Data					
Max. PV access power(W)	7200	10000	12000	16000	20000
Max. PV Input Power(W)	5760	8000	9600	12800	16000
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	250-425
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				
AC Input/Output Data					
Rated AC Input/Output Active Power(W)	3600	5000	6000	8000	9999
Max. AC Input/Output Apparent Power(VA)	3600	5000	6000	8000	9999
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	43.5
Max. AC Input/Output Current(A)	15.7	21.8	26.1	34.8	43.5
Max. Continuous AC Passthrough (grid to load)(A)	35		40	50	
Max. Output Fault Current(A)	31.4	43.4	52.2	66	100
Max. Output Overcurrent Protection(A)	80			140	
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				
Efficiency					
Max. Efficiency	97.60%				
Euro Efficiency	96.50%				
MPPT Efficiency	>99%				
Equipment Protection					
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)				
Interface					
Display	LCD+LED				
Communication Interface	RS232, RS485, CAN				
Monitor Mode	GPRS/WIFI/Bluetooth/4G/LAN (optional)				
PV Connection	VP-D4				
General Data					
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
Battery Input Data					
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				
PV String Input Data					
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				
AC Input/Output Data					
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				
Efficiency					
Max. Efficiency	97.6%				
Euro Efficiency	97.0%				
MPPT Efficiency	>99%				
Equipment Protection					
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)				
Interface					
Display	LCD+LED				
Communication Interface	RS232, RS485, CAN				
Monitor Mode	GPRS/WIFI/Bluetooth/4G/LAN (optional)				
PV Connection	VP-D4				
General Data					
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 Al-W5.1-B Battery

5.12kWh I LFP I 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 fimware 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
Main Parameter		
Battery Chemistry		LiFePO4
Built-in Circuit Breaker		125A 2P, 60Vdc
Nominal Energy (kWh)		5.12
Usable Energy (kWh)[1]		5.12
Capacity (Ah)		100
Nominal Voltage (V)		51.2
Operating Voltage(V)		44.8~57.6
Rated DC Power （kW）		2.5
Charge/Discharge Current (A) [2]	Recommend	50
	Max.	100
	Peak(10s,25°C)	150
Other Parameter		
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), 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 [3]		10 years
Certification		UN38 .3, IEC62619, CE, UK, VDE2510-50, CEI0-21,CE-LVD, CEC, FCC, UL1973, UL9540A

Parallel expansion

	Battery Pack Quantity	1	2	3	4	5	6
Battery system	System Usable Energy (kWh) [1]	5.12	10.24	15.36	20.48	25.6	30.72
	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

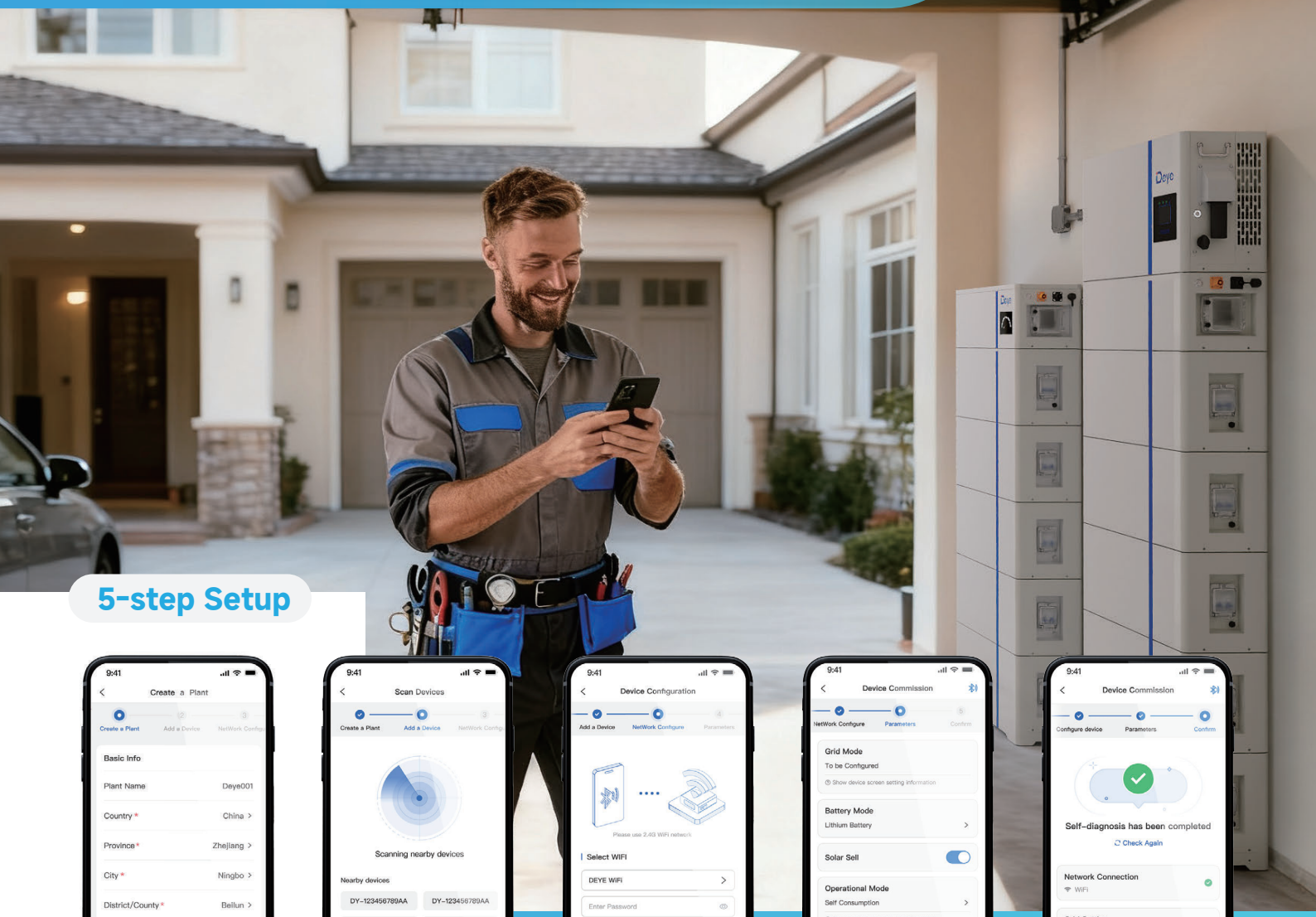
[1]DC Usable Energy, test conditions: 100%DOD, 0.5C charge & discharge at 25°C . System usable energy may vary due to system configuration parameters.

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

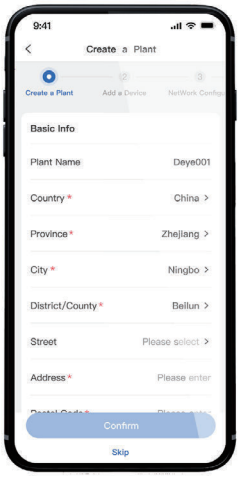
[3]Conditions apply, refer to Deye Warranty Letter.

[4]Made in China.

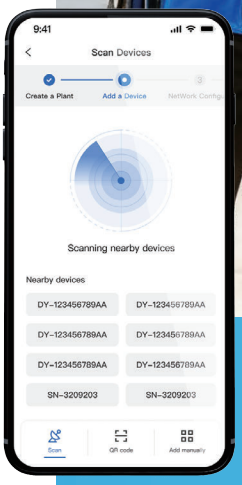
Deye Cloud - Installation Guide for Hybrid Inverter Commissioning



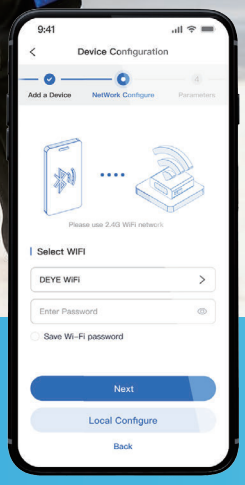
5-step Setup



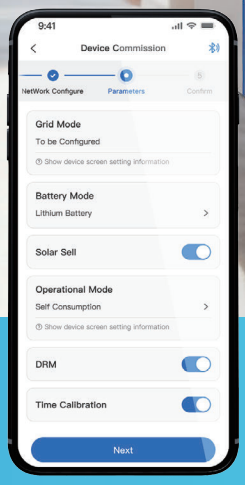
1. Create a Plant



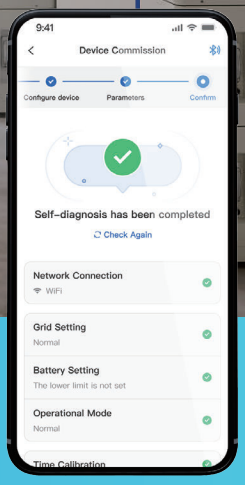
2. Discover Devices



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.

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.

Full Communication Checks

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

Quick and Hassle-Free

Built-in tips and tracking keeps things efficient, saving time and avoidng 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

Deye

POWERING YOUR LIFE

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