



Stackable Energy Storage System

ALL-IN-ONE HOME ESS

Single-Phase | 3.6-12kW

Three-Phase | 5-20kW

Modular Energy, Simplified Setup



16 kWh per Module. Better Value.

Approx. 20% lower system cost than conventional 8 kWh stackable solutions ^[1].



Offline Wireless Zero-Export Solution

LoRa-based wireless energy management with CT monitoring, no internet required.



Lower Standby Power Consumption

The battery's DC-DC-free design enables negligible nighttime consumption and extended warehouse storage.



3.6-20kW power options



10 mins
rapid installation

200%

2x peak power output (10s)

97.6%

Max. efficiency



200% PV oversizing



Scalable up to 96kWh



Max. 70A bypass current



8000+ life cycles^[2]



Max. 380A charge/
discharge current



Seamless on/
off-grid switching



Support short-term immersion
in 0.5m of water



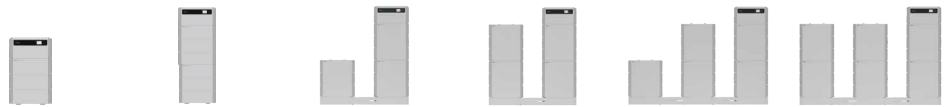
1-55°C
operation temperature

[1] Based on an equivalent-capacity comparison with conventional 8 kWh stackable systems. Actual cost savings may vary by system configuration and market.

[2] Tested at 25°C±2°C, 70%EOL.



All-in-One Home ESS Solution

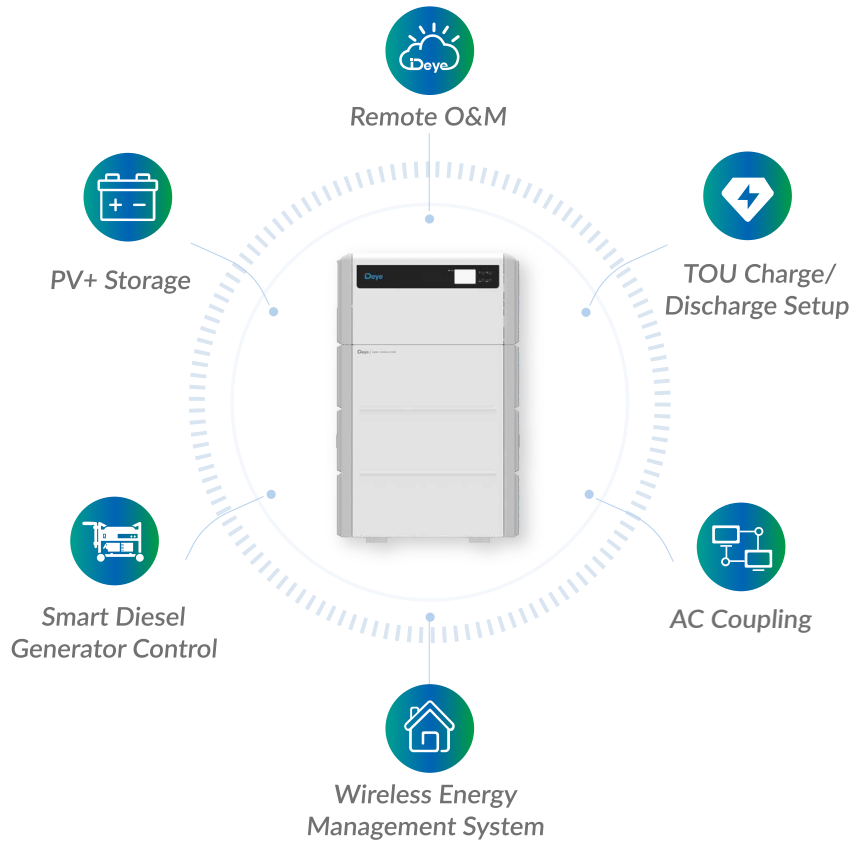


System Schematic

System Data

Battery Type	LiFePO ₄					
Max. Output Power	Single-Phase: 3.6/4/4.6/5/6/7.5/8/10/12kW, Three-Phase: 5/6/8/10/12/15/20kW					
Number of Batteries	1	2	3	4	5	6
Nominal Energy (kWh)	16	32	48	64	80	96
Ingress Protection(IP) Rating	IP66					
Operation Temperature Range	Charge: 1°C- +55°C (-20°C-+55°C, with optional heating) / Discharge: -20°C- +55°C, >45°C Derating					
Permissible Ambient Humidity	0-100% (condensing)					
Max. Operation Altitude (m)	3000m					
Display	LCD+LED					
Type of Cooling	Natural Cooling					
Topology	Non-Isolated (solar), Isolated (battery)					
Communication Interface	WIFI, RS485, CAN, LORA, Bluetooth					
Warranty	Standard 5 Years, Extendable Warranty					
Grid Regulation	IEC 61727, IEC 62116, CEI 0-21, EN 50549, NRS 097, RD 140, UNE 217002, OVE-Richtlinie R25, G99, VDE-AR-N 4105, AS 4777.2					
Safety EMC/Standard	IEC 62477, IEC 62619, SA TS 5398, IEC 62040, IEC62109-1/-2, EN61000-6-1, EN61000-6, VDE 2510-50,VDE 2510-2					

Highly Integrated Solution



3.6-12kW Single-Phase Hybrid Inverter



Model	SUN-3.6K-SG06 LP1-EU-TM2	SUN-4K-SG06 LP1-EU-TM2	SUN-4.6K-SG06 LP1-EU-TM2	SUN-5K-SG06 LP1-EU-TM2	SUN-6K-SG06 LP1-EU-TM2	SUN-7.5K-SG06 LP1-EU-TM3	SUN-8K-SG06 LP1-EU-TM3	SUN-10K-SG06 LP1-EU-TM3	SUN-12K-SG06 LP1-EU-TM3
Battery Input Data									
Battery Type	LiFePO ₄								
Battery Voltage Range(V)	41.6-58.4								
Max. Charging/Discharging Current (A)	90	95	120	120	135	185	185	220	250
Number of Battery Input	1								
PV String Input Data									
Max. PV access power (W)	7200	8000	9200	10000	12000	15000	16000	20000	24000
Max. PV Input Power (W)	5760	6400	7360	8000	9600	12000	12800	16000	19200
Max. PV Input Voltage (V)	500								
Start-up Voltage (V)	125								
MPPT Voltage Range (V)	150-425								
Rated PV Input Voltage (V)	370								
Max. Operating PV Input Current (A)	18+18					36+18+18			36+36+18
Max. Input Short-Circuit Current (A)	27+27					54+27+27			54+54+27
No. of MPP Trackers/No. of Strings MPP Tracker	2/1+1					3/2+1+1			3/2+2+1
AC Input/Output Data									
Rated AC Input/Output Active Power (W)	3600	4000	4600	5000	6000	7500	8000	10000	12000
Max. AC Input/Output Apparent Power (VA)	3960	4400	4600	5500	6600	8250	8800	11000	13200
Rated AC Input/Output Current (A)	16.4/15.7	18.2/17.4	21.0/20.0	22.8/21.8	27.3/26.1	34.1/32.7	36.4/34.8	45.5/43.5	54.6/52.2
Max. AC Input/Output Current (A)	18/17.3	20/19.2	21.0/20.0	25.0/24.0	30.0/28.7	37.5/35.9	40.0/38.3	50.0/47.9	60.0/57.4
Max. Continuous AC Passthrough (grid to load) (A)	50					65			70
Peak Power (off-grid) (W)	2 times of rated power, 10s								
Power Factor Adjustment Range	0.8 leading to 0.8 lagging								
Rated input/output voltage	220/230V 0.85Un-1.1Un L+N+PE								
Rated Input/Output Grid Frequency/Range(Hz)	50/45-55, 60/55-65								
Total Current Harmonic Distortion THDi	<3%								
DC Injection Current	<0.5% In								
Efficiency									
Max. Efficiency	97.6%								
Euro Efficiency	96.5%								
MPPT Efficiency	>99%								
Equipment Protection									
Integrated	DC Reverse Polarity Protection, AC Output Overcurrent Protection, Thermal Protection, AC Output Overvoltage Protection, AC Output Short Circuit Protection, DC Component Monitoring, Arc Fault Circuit Interrupter (AFCI) (optional), Anti-islanding Protection, DC Switch, Insulation Impedance Detection, Residual Current Detection								
Surge Protection Level	TYPE II(DC), TYPE II(AC)								
Interface									
LCD/LED Display	LCD+LED								
Communication Interface	WIFI, RS485, CAN, LORA, Bluetooth								
General Data									
Noise (dB)	<45								
Ingress Protection (IP) Rating	IP66								
Over Voltage Category	OVC II(DC), OVC III(AC)								
Cabinet Size (W×H×D mm)	662×331×255					662×354×255			
Weight (kg)	20.5					28		28.3	
Type of Cooling	Intelligent Air Cooling								

5-20kW Three-Phase Hybrid Inverter



Model	SUN-5K-SG06 LP3-EU-TM2	SUN-6K-SG06 LP3-EU-TM2	SUN-8K-SG06 LP3-EU-TM2	SUN-10K-SG05 LP3-EU-TM2	SUN-12K-SG05 LP3-EU-TM2	SUN-15K-SG05 LP3-EU-TM3	SUN-20K-SG05 LP3-EU-TM3
Battery Input Data							
Battery Type	LiFePO ₄						
Battery Voltage Range(V)	41.6-58.4						
Max. Charging/Discharging Current (A)	120	135	190	210	240	300	380
Number of Battery Input	1						
PV String Input Data							
Max. PV access power (W)	10000	12000	16000	20000	24000	30000	40000
Max. PV Input Power (W)	8000	9600	12800	16000	19200	24000	32000
Max. PV Input Voltage (V)	800						
Start-up Voltage (V)	160						
MPPT Voltage Range (V)	200-650					160-650	
Rated PV Input Voltage (V)	550						
Max. Operating PV Input Current (A)	20+20			26+26		36+20+20	
Max. Input Short-Circuit Current (A)	30+30			39+39		54+30+30	
No. of MPP Trackers/No. of Strings MPP Tracker	2/1+1			2/2+2		3/2+1+1	
AC Input/Output Data							
Rated AC Input/Output Active Power (W)	5000	6000	8000	10000	12000	15000	20000
Max. AC Input/Output Apparent Power (VA)	5500	6600	8800	11000	13200	16500	22000
Rated AC Input/Output Current (A)	7.6/7.3	9.1/8.7	12.2/11.6	15.2/14.5	18.2/17.4	22.8/21.8	30.4/29.0
Max. AC Input/Output Current (A)	8.4/8.0	10.0/9.6	13.4/12.8	16.7/16.0	20.0/19.2	25.0/24.0	33.4/31.9
Max. Continuous AC Passthrough (grid to load) (A)	45					70	
Peak Power (off-grid) (W)	2 times of rated power, 10s						
Power Factor Adjustment Range	0.8 leading to 0.8 lagging						
Rated input/output voltage	220/380V, 230/400V 0.85Un-1.1Un 3L+N+PE						
Rated Input/Output Grid Frequency/Range(Hz)	50/45-55, 60/55-65						
Total Current Harmonic Distortion THDi	<3%						
DC Injection Current	<0.5% In						
Efficiency							
Max. Efficiency	97.6%					97.6%	
Euro Efficiency	96.5%					97.0%	
MPPT Efficiency	>99%					>99%	
Equipment Protection							
Integrated	DC Reverse Polarity Protection, AC Output Overcurrent Protection, Thermal Protection, AC Output Overvoltage Protection, AC Output Short Circuit Protection, DC Component Monitoring, Arc Fault Circuit Interrupter (AFCI) (optional), Anti-islanding Protection, DC Switch, Insulation Impedance Detection, Residual Current Detection						
Surge Protection Level	TYPE II(DC), TYPE II(AC)						
Interface							
LCD/LED Display	LCD+LED						
Communication Interface	WIFI, RS485, CAN, LORA, Bluetooth						
General Data							
Noise (dB)	<45			≤50		<55	
Ingress Protection (IP) Rating	IP66						
Over Voltage Category	OVC II(DC), OVC III(AC)						
Cabinet Size (W×H×D mm)	662×354×255			662×375×255		662×450×255	
Weight (kg)	26.2			34		/	
Type of Cooling	Intelligent Air Cooling						



Model	AI-W16	AI-W16-H
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Main Parameter		
Battery Chemistry	LiFePO ₄	
Built-in Circuit Breaker	250A, 80Vdc	
Rated Capacity (Ah) ^[1]	314	
Nominal Voltage (V)	51.2	
Operating Voltage(V)	44.8 ~ 57.6	
Nominal Energy (kWh) ^[1]	16	
Usable Energy (kWh) ^[1]	14.4	
Charge Current (A) ^[2]	Max.Continuous	160
	Peak	192
Discharge Current (A) ^[2]	Max.Continuous	220
	Peak	264
Other Parameter		
Recommend Depth of Discharge	90% DoD	
Dimension (mm , W/H/D)	662 x 715 x 255 (Without base)	
Weight (kg)	120kg	
Display	LED(working, protecting, alarming)	
IP Rating of Enclosure	IP66	
Operating Temperature	Charge: 1~55°C, Discharge: -20~55°C	Charge: -20~55°C (Heating On), Discharge: -20~55°C
Storage Temperature	0°C~35°C	
Relative Humidity	95% (non-condensing)	
Cycle Life	≥8000(25°C±2°C, 70%EOL)	
Max. Energy RTE (DC) ^[1]	95%	
Installation	Floor-Mounted, Stack-Mounted	
Communication	CAN2.0	
Certification	UN38.3, CE, CB, UL9540A	
Energy Throughput ^[3]	50 MWh	
Warranty Period ^[3]	10 years	

[1] Test conditions : 25°C±2°C, at beginning of life, 0.2C charge & 0.2C discharge, 90% DOD.

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

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



Key Enhancements

Stay Powered Through Extreme Weather



With IP66 protection rating, the ESS supports outdoor installation and saves indoor space. Its short-term immersion resistance at 50cm water helps withstand heavy rain, snowfall, and temporary water accumulation^[1].



Charge Temperature: $1^{\circ}\text{C} - +55^{\circ}\text{C}$
Discharge Temperature: $-20^{\circ}\text{C} - +55^{\circ}\text{C}$

With optional heating module, low-temperature charging down to -20°C enables reliable operation in cold climates.

Home Power Backup Solution

Lights 100W	Refrigerator 200W	Washing Machine 500W	Microwave Oven 1500W	Air Fryer 1500W	Dishwasher 1500W	Hair Dryer 1800W	Water Heater 2000W	Air Conditioner 2500W	EV Charger 7000W

5-20kW Three-Phase

3.6-12kW Single-Phase

3.6-6kW

Essential Backup

Power all your daily essential loads to keep your family life running during an outage.

6-12kW

Extended Backup

Power more than just essential loads for elevated home comfort.

12-20kW

Whole-Home Backup

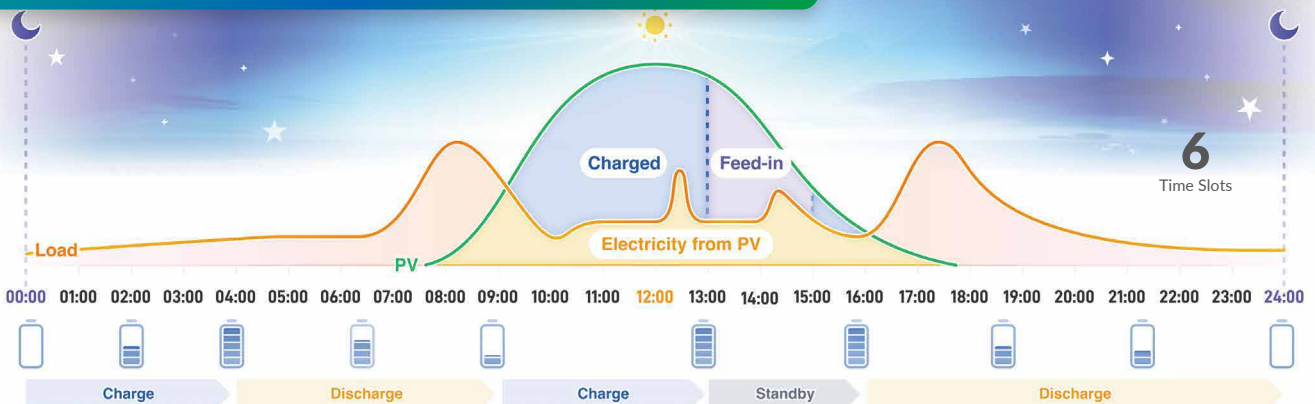
Power your entire house through any blackout, including high-power appliances.

20kW+

Ultimate Home Backup

Enjoy total energy independence and live life normally.

Highly Customizable Charge & Discharge Function



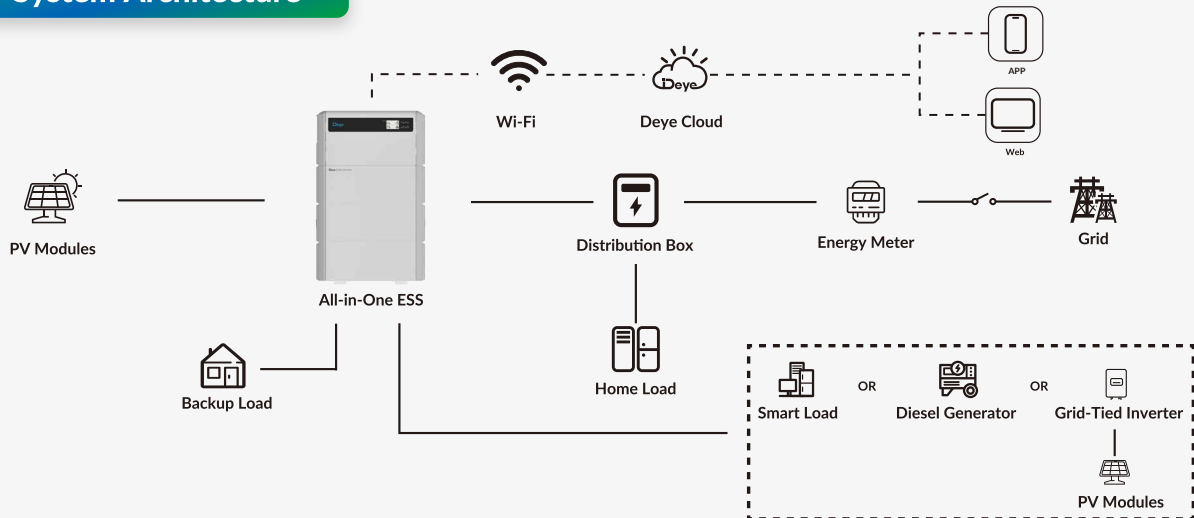
The system intelligently manages solar, battery, and grid power based on electricity tariffs. It stores energy during low-cost periods and supplies loads during peak-price hours, helping reduce electricity bills and improve energy efficiency.

[1] Tested under controlled conditions. Water resistance may decrease with wear and is not covered for liquid damage under warranty. The immersion capability requires intact seals and proper installation. Damage from improper installation or wear is excluded under warranty.



System Overview

System Architecture



Flexible Parallel Expansion

Modular expansion base minimizes wiring and installation time.



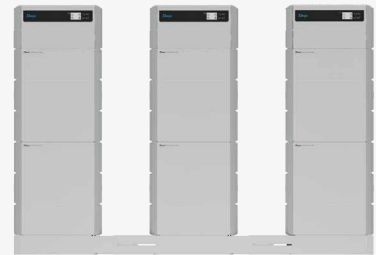
Standard Configuration

1 Inverter + 16 kWh Battery



Capacity Expansion (DC Side)

Up to 6 Batteries in Parallel
(Max. 96 kWh)



Power Expansion (AC Side)

Up to 3 Inverters in Parallel
(Max. 60 kW / 3-Phase, 36 kW / 1-Phase)

Application Scenarios



Indoor Application

Sleek, silent, and seamlessly integrated:
the perfect modular ESS for your modern home



Outdoor Application

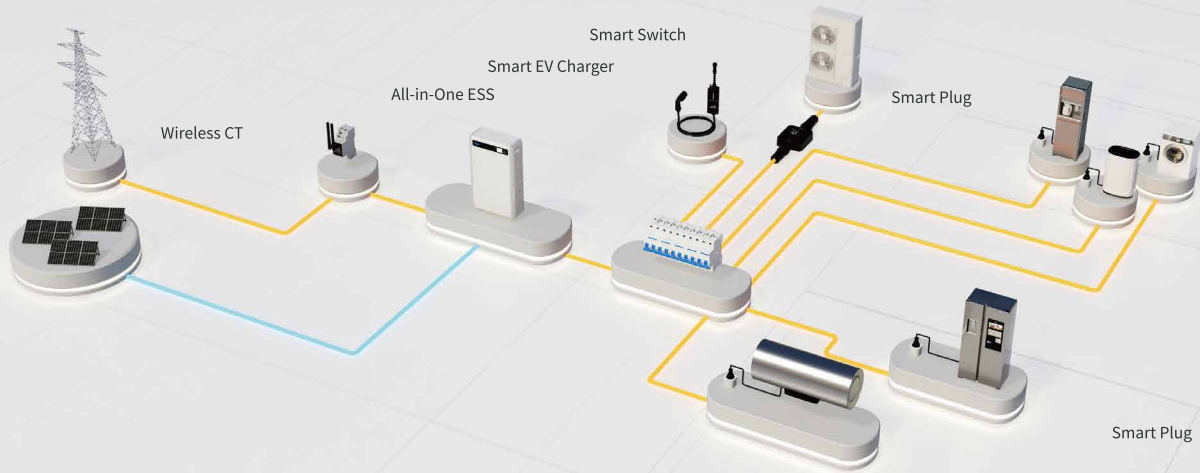
Consistent, all-season power delivery backed by
an IP66 rating for outdoor durability



Smart Home Energy Management

All-in-One Power, Build Your Home Energy Ecosystem

Seamlessly connects with Wireless Energy Management System, a smart load management and home automation solution based on LoRa communication.



+ **Intelligent Load Control**
Automatically toggles essential and non-essential appliances based on solar generation and battery status.

+ **Easy & Wireless Installation**
Reduces installation costs and time through wireless zero-export function.

+ **Maximize ROI**
Optimizes self-consumption and overall energy efficiency.



Deye Wireless CT

Installed in the distribution box to monitor real-time power consumption, supporting both LoRa and RS485 communication.



Deye Smart Plug

Easily installed in any standard socket, instantly upgrading the appliance plugged in to a smart device.



Deye Smart Switch

Designed for outdoor high-power loads, offering the same logic control as Smart Plug and supporting both single-phase and three-phase loads.



Deye Smart EV Charger

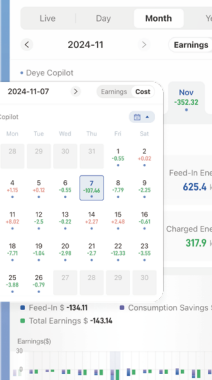
Directly connects to any AC port of the inverter via LoRa communication, charging your EV with 100% clean solar energy.



- 



Support local VPP networks



The screenshot displays the Solarwysze-3Phase app interface. At the top, the status bar shows the time 15:18, signal strength, and battery level at 62%. The app header includes the title "Solarwysze-3Phase" and navigation icons for home, search, and settings. Below the header, there are tabs for "Live", "Day", "Month", and "Year", with "Day" currently selected. A date selector shows "2024-11" and "Earnings Cost". A dropdown menu is open, showing "Deye Copilot" as the selected device. The main content area displays a calendar for the week of 2024-11-07. The calendar table shows daily energy production and consumption, with a total earnings of \$423.14 and a total consumption savings of \$9.83. A bar chart at the bottom shows the difference between production and consumption for each day. The app also features a "Feed-In" button and a "Download" button.

15:18

Solarwysze-3Phase

Live Day Month Year

< 2024-11 > Earnings Cost

Deye Copilot

< 2024-11-07 > Earnings Cost

Deye Copilot

Sun	Mon	Tue	Wed	Thu	Fri	Sat
27	28	29	30	31	1	2
46.32	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

Feed-In

Feed-In = -134.11 Consumption Savings = -9.83
Total Earnings = -423.14

Earnings(\$)

energy and costs

Download

Stats

Reset

A screenshot of a WhatsApp chat conversation with a contact named 'Customer service'. The status bar at the top shows the time as 9:41, along with signal, Wi-Fi, and battery icons. The chat interface includes a header with the contact's name and a back arrow. The conversation consists of two messages. The first message is from the contact, starting with a greeting and an emoji, followed by a welcome message and a question. The second message is a reply from the user, also starting with a greeting and an emoji, followed by a question. At the bottom of the screen, there is a row of three quick-reply buttons: 'Inverter', 'Logger', and 'Deye Cloud APP', each with a corresponding icon. Below these buttons is a large blue 'Chat Now' button. The entire screenshot is framed by a blue border with a white grid pattern.

Support over 30 languages

The diagram illustrates the integration of Deye Copilot and ToU (Time of Use) pricing with a smart meter. On the left, the Deye Copilot logo (a blue square with a white cloud and the text 'Deye AI') is connected by a double-headed arrow to the ToU logo (a blue square with a white clock face). The ToU logo is further connected by a single-headed arrow pointing to a smart meter icon (a white square with a black clock face).

Embrace a seamless, effortless energy experience that's both eco-friendly and budget-friendly with our intelligent assistant



Manage your energy
effortlessly



Faster and more efficient



Optimized for speed and performance



Ensure data sovereignty and compliance in EU & US



AI-powered energy analysis and control



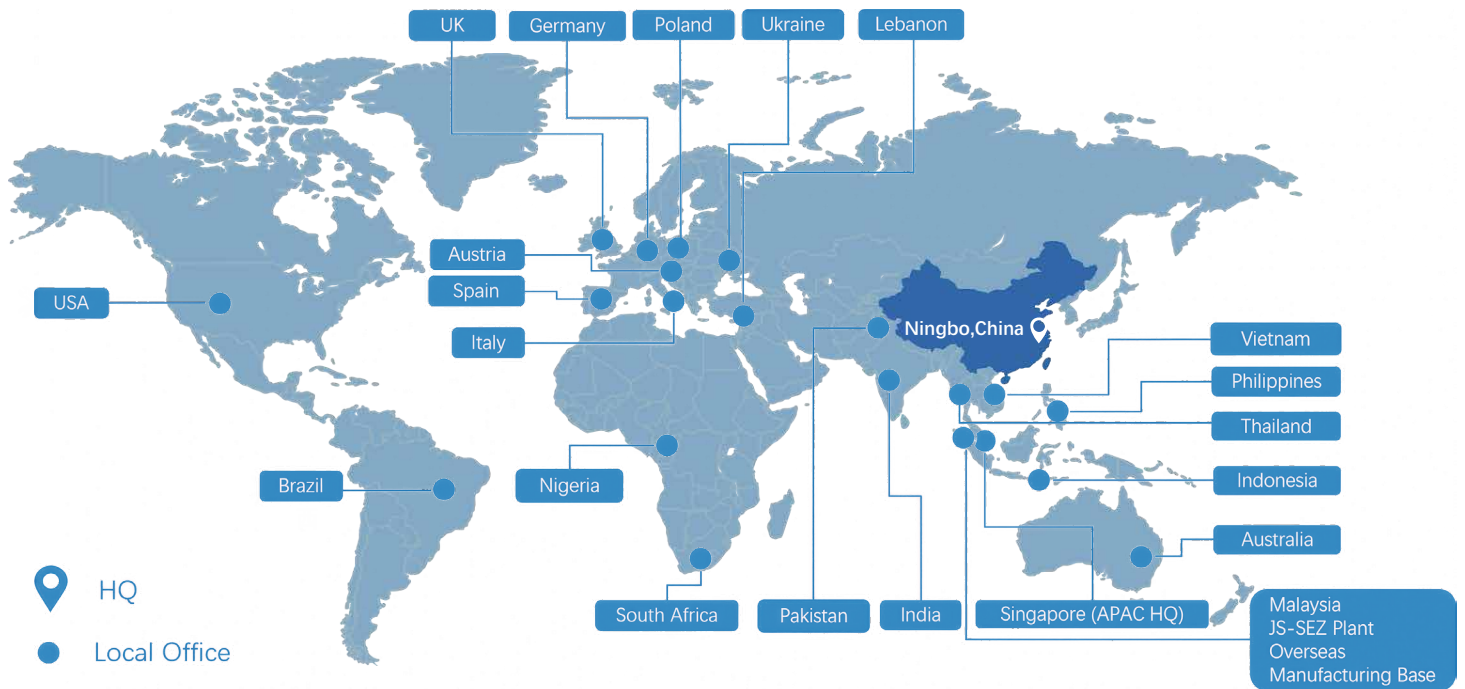
24/7 support, fast,
efficient, in your
language



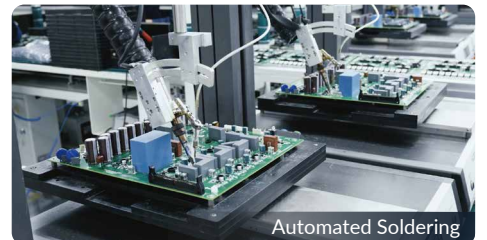
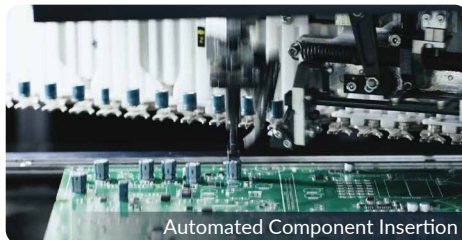
About Deye

Founded in 2000 (Stock Code: 605117.SH), Deye is a globally leading provider of photovoltaic (PV) inverter and energy storage system solutions. Deye has built an integrated value chain spanning R&D, design, production, sales and service, supported by modern intelligent manufacturing bases in Ningbo, Jiaxing and Johor, Malaysia, equipped with comprehensive production and testing facilities.

Through years of dedicated innovation, Deye has developed industry-leading R&D capabilities and scale advantages, delivering integrated solar PV and energy storage solutions for residential, commercial, industrial and utility-scale applications. Recognized for outstanding performance and reliability, Deye has established a global sales network covering over 160 countries and regions.



World-Class R&D and Manufacturing





Business Card



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Ningbo Deye ESS Technology Co., Ltd.

Address: No.568 South Rixian Road, Binhai Economic Development Zone, Cixi, Ningbo, Zhejiang, P.R.China

Website: www.deyeess.com

Information is subject to change without notice. Please scan the QR code
or contact Deye representative for the latest updates.



Deye Inverter Website



Deye ESS Website

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