

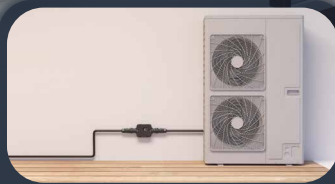


WIRELESS ENERGY MANAGEMENT SYSTEM

A smart load management and home automation solution based on LoRa communication



Smart Plug



Smart Switch



Smart EV Charger



Wireless CT



Low Latency



Supports all Deye hybrid inverters



Easily define non-critical and critical loads



Offline operation



Maximize the use of solar power



Minimize the electricity bill as much as possible



LoRa communication



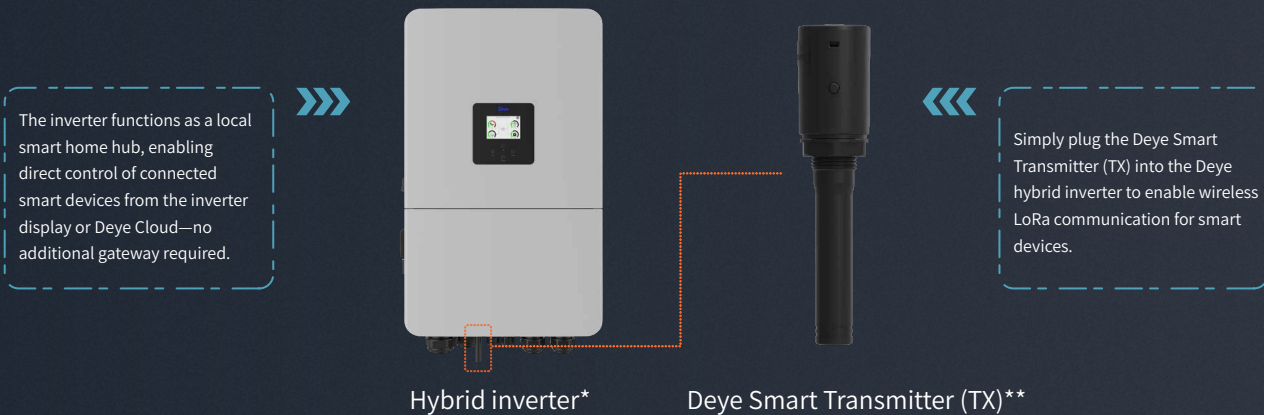
Smart Load management



Charging control strategy based on time and SOC

© Deye wireless energy management system

The LoRa-based Smart Load Management and Home Automation Solution maximizes PV self-consumption and significantly reduces household electricity costs. Featuring five smart devices—Smart Transmitter(TX), Wireless CT, Smart Plug, Smart Switch, and Smart EV Charger—it creates a safe, efficient, and energy-efficient smart home energy ecosystem.



Deye Wireless CT is installed in the distribution box to monitor grid import and export power. It supports wired (RS-485) and wireless (LoRa/Wi-Fi/Bluetooth)* communications and zero-export control.

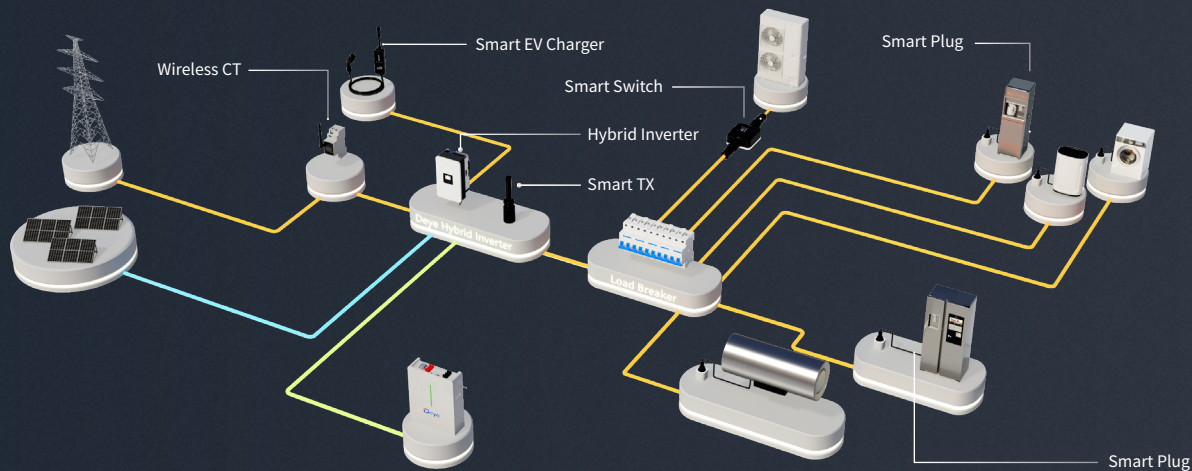


Deye Smart Plug can be easily plugged into any standard socket, instantly upgrading the plugged-in appliance to a smart device. It shares the same control logic as smart switches.

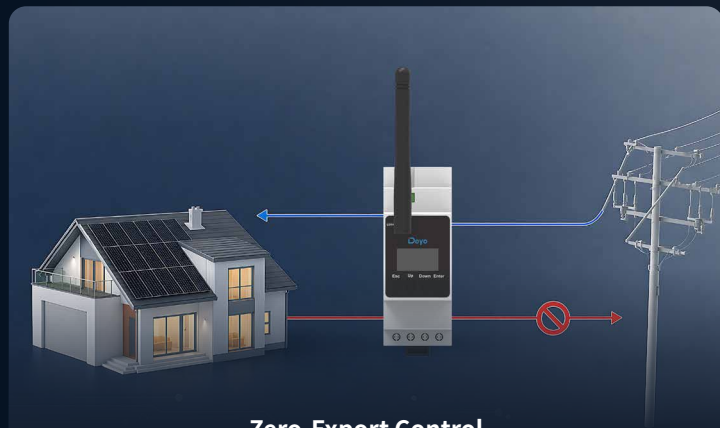


Deye Smart Switch is designed for outdoor high-power loads, offering the same logic control as Smart Plugs, supporting both single-phase and three-phase loads. With the Deye Cloud App or directly on the inverter's screen, you can customize the on/off logic for each Smart Switch based on factors like time and battery SOC levels.

Deye Smart EV Charger can be directly connected to AC port of the inverter and is controlled by the inverter via LoRa communication. It offers flexible options to take advantage of low-cost electricity, with modes such as Plug and Play, Time-of-Use Charging, or Solar Energy Only.



*LoRa are compatible with hybrid inverters; RS485 are compatible with hybrid inverters and string inverters: Wi-Fi & Bluetooth are compatible with microinverters.



Zero-Export Control

Ensures grid compliance and safety, safeguards the inverter, battery, and grid-connected devices.



Bidirectional Metering

Accurately measures import and export power for precise zero-export control.



100 ms Data Upload

Supports faster zero-export response and real-time monitoring.



5-Year Warranty

Reliable long-term operation with lower maintenance costs.



Real-Time Monitoring

Monitors key electrical data* in real time via Deye Cloud or the inverter display.



High Precision

- Voltage: $\pm 0.1\text{ V}$ • Current: $\pm 0.01\text{ A}$
- Frequency: $\pm 0.01\text{ Hz}$ • Power: $\pm 1\text{ W}$



Superior Safety

UL94 V-0 flame-retardant housing with excellent fire resistance and self-extinguishing performance.

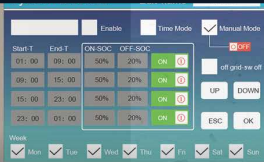


Single- & Three-Phase Compatibility

Flexible for residential and small C&I applications, supports L1/N and L1/L2/L3/N systems.

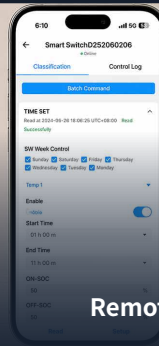


Deye Smart Plug & Switch



Smart Logic Control

Flexible strategies based on time, battery SOC and grid status to cut electricity costs.



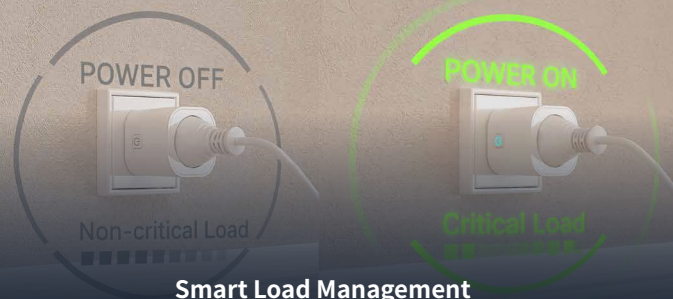
Remote Monitoring & Control

Real-time power monitoring and remote control via Deye Cloud.



Comprehensive Safety Protection

Flame-retardant enclosure, resistant to grease, acid and alkali, and Class I protection.



Smart Load Management

Automatically disconnects non-critical loads to sustain power for critical loads during outages.

© Smart Switch



Wide Compatibility

Supports both single-phase and three-phase systems, operating voltage: 94–238 V.



Outdoor Durability

IP65-rated protection and -40 to +45°C operating temperature range for harsh outdoor environments.

© Smart Plug



Plug-and-Play

Plug into a standard outlet to instantly make your device smart; control it via Deye Cloud or the inverter display.

Deye Smart EV Charger



Flexible Connection Options

Connect the way you need.



Hybrid Inverter+ Battery+Smart TX

No costly grid retrofits needed — simply connect to your hybrid inverter.



String Inverter/Microinverter+Wireless CT

Supports connection to distribution boxes, compatible with string inverters or microinverter and wireless CTs for intelligent control.



Versatile Charging Modes

Charge your EV, your way.



Plug and Play

Up to 22kW, powered by solar PV & grid.



Scheduled Charging *

Takes full advantage of off-peak electricity.



Solar-Only Mode

Maximizes solar self-consumption for a low-carbon, sustainable lifestyle.



Real-Time Monitoring

Tracks charging status and modifies settings via Deye Cloud, anytime and anywhere.



Electrical Safety Protection

Type B leakage protection, 6mA DC fault detection & multi-layer safety protection**.



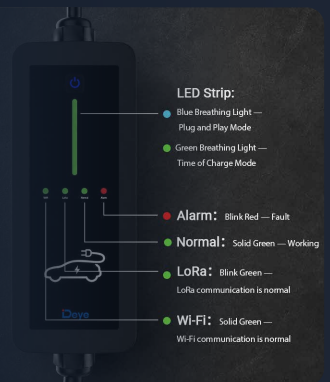
Reliable Outdoor Use

IP66-rated and operates from -40°C to 55°C for harsh outdoor environments.



Status Indicators

Instant visual feedback for all operational statuses.



Flexible Communication Options:

LoRa | Wi-Fi | Bluetooth



LoRa: Hybrid Inverter + Battery: Enables seamless pairing with hybrid inverters for unified control via the inverter display or Deye Cloud.***

String Inverter / Microinverter + Wireless CT: LoRa enables seamless communication between the EV charger and Wireless CT for intelligent charging control.



Wi-Fi: Connects to the router for remote control via Deye Cloud — no hybrid inverter required.



Bluetooth: Supports direct local pairing for quick offline operation — no network connection required.



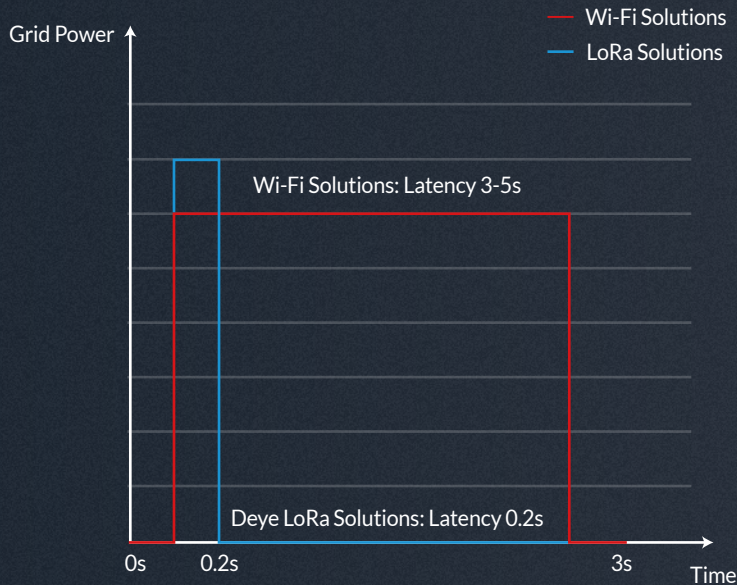
*This mode is not supported in string inverter & microinverter EV charging systems with wireless CT.

**Over temperature protection, low temperature protection, over voltage protection, under voltage protection, short circuit protection, overload protection, earth fault protection and Type II surge protection level.

***Requires Deye Smart TX and the latest inverter firmware update.

Zero-Export Solution

© Zero-Export Solution



Traditional Wi-Fi Solution



⌚ Typical response latency: **3-5 s**

⚡ Causes unintended power export to the grid

💰 Raises risk of utility penalty charge

15x Faster



Deye LoRa Solution



⌚ Ultra-fast response: **0.2 s**

⚡ Faster zero-export response

📋 Enhanced grid code compliance

© Why LoRa

Advantages of LoRa over RS485

- No extra communication wiring & no drilling, easy deployment.
- Reduced labor & installation costs.

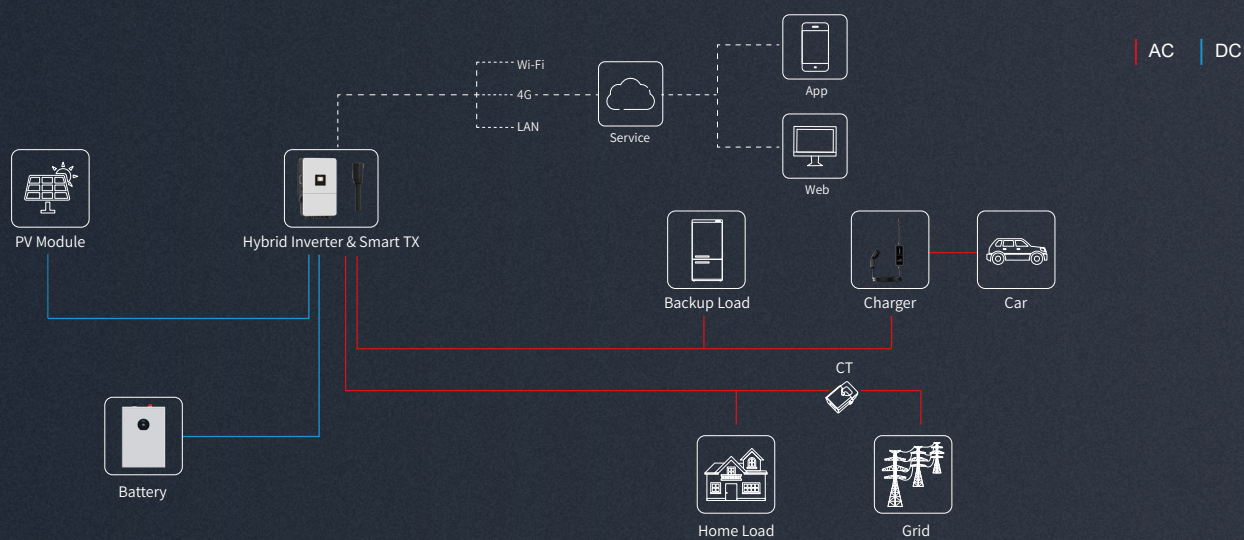


Advantages of LoRa over Wi-Fi

- Superior anti-interference performance and wall-penetrating capability.
- Stable long-range wireless transmission.
- One gateway for Smart CT, Smart Plugs, Smart Switches & EV Charger.
- Ultra-low latency for reliable **zero-export control**.

System Topology

© With Deye Hybrid Inverter and Smart TX

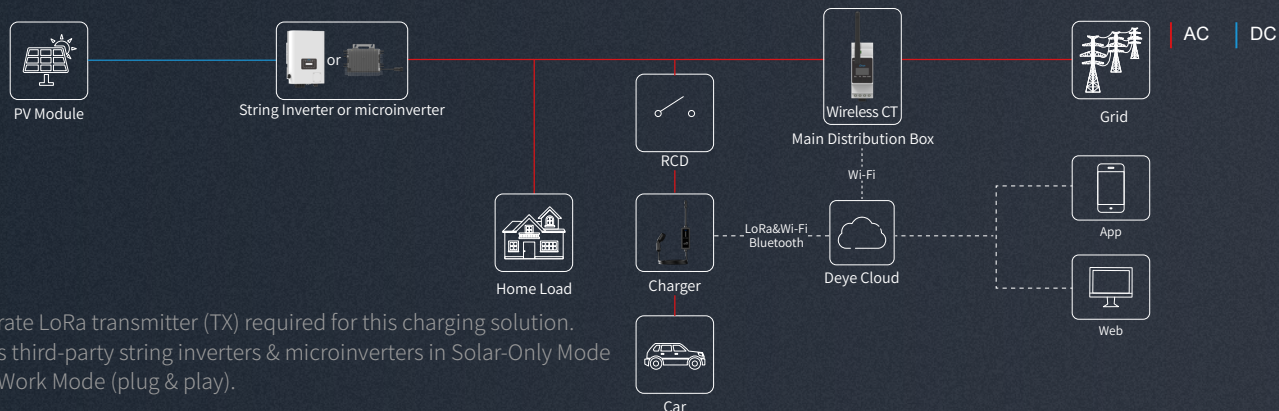


*EV chargers can also be connected to the grid port of the hybrid inverter as a general load.

*When paired with a Deye hybrid inverter, the charger is controlled via LoRa communication. A Smart TX module must be installed on the inverter to enable coordinated energy management.

Note: Not all Deye hybrid inverter models support Smart TX installation. Please confirm compatibility with the Deye technical support team in advance.

© With Deye String Inverter or Microinverter and Wireless CT



*No separate LoRa transmitter (TX) required for this charging solution.

*Supports third-party string inverters & microinverters in Solar-Only Mode and Free Work Mode (plug & play).

© Wireless Energy Management System Topology



One Smart TX supports up to:

- 10 × Smart Plugs & Smart Switches
- 2 × Wireless CTs
- 1 × Smart EV Charger

Model	SUN-SMART-TXU1	
Electrical Parameters		
Input Voltage	DC 5V	
Communication		
Communication Model	LoRa	
Communication Distance	≈200m (Barrier free)	
Basic Parameters		
Operating Temperature Range	-40 to +60 ℃	
Permissible Ambient Humidity	0-100%	
Ingress Protection(IP) Rating	IP20 (After installation IP65)	
Allowable Altitude	≤4000	
Product Size (WxHxD)	137.8x31.3x31.3mm	
Weight	45.8g	
Warranty	5 Years	
Standard	RCM, IEC/EN 62368-1	
LoRa Parameters		
Frequency Range	920MHz-928MHz	
Antenna/Antenna Gain	Built-in/0.56dBi	
Model	SUN-SMART-CTU2-L	SUN-SMART-CTU2-WL
Electrical parameters		
Connection Type	L1/N (Single phase), L1/L2/L3/N (Three phase), L1/L2/N (Split phase)	
CT (Rated Secondary Output)	50mA/5A	
Operation Voltage	85~300V a.c.(L-N)	
Rated Frequency/Range	50Hz(45Hz-55Hz)/60Hz(55Hz-65Hz)	
Self Consumption Power	≤2W	
AC Voltage Withstand	4KV/1min	
Accuracy		
Voltage/Current/Frequency/Power	±0.1V/±0.01A/±0.01Hz/±1W	
Communication and Display		
Communication Interface	LoRa/RS485	LoRa/RS485/Wi-Fi&BT
Lora Communication Distance	≈200m(Barrier free)	
Display	LCD	
Display Data	Voltage, Current, Active Power, Reactive Power, Frequency, Power Factor, Energy	
General Data		
Operation Temperature	-40 to +60 ℃	
Operation Humidity	0-75%	
Ingress Protection(IP) Rating	IP20	
Altitude	≤3000	
Mounting	DIN Rail Mounting	
Size	36x94x64mm	
Weight	0.12kg	
Warranty	5 Years	
Certification Standards	RCM, IEC 61010-1, CE, FCC	
LoRa Data		
Frequency Range	920MHz-928MHz	
Antenna/Antenna Gain	Adhesive Mount Antenna/ Suction Cup Antenna/-0.13/1.60dBi	
Wi-Fi Data		
Frequency Range	/	2412MHz-2462MHz
Antenna/Antenna Gain	/	Adhesive Mount Antenna/ Suction Cup Antenna/2.59/2.39dBi

Model	SUN-SMART-SWITCHU2P3
Electrical Parameters	
Voltage Range	94-238Va.c.(Phase voltage)
Connection Type	L1/N(single phase) , L1/L2/L3/N(three phase) , L1/L2/N(split phase)
Maximum Current	25Aa.c.(Phase current)
Frequency and Range	50Hz(45Hz-55Hz)/ 60Hz(55Hz-65Hz)
Connection	Connector plug-in type
Communication	
Communication Model	LoRa
Lora Communication Distance	≈200m(Barrier free)
Basic Parameters	
Working Temperature Range	-40 to +45°C
Allowable Environmental Humidity	0-100% RH
Ingress Protection(IP) Rating	IP65
Protection Level	CLASS I
Allowable Altitude	≤4000m
Product Size (WxHxD)	96.7x204.7x37.7mm
Weight	0.4kg
Warranty	5 years
Standard	RCM, UL 61010-1:2012; CAN/CSA-C22.2 No. 61010-1-12
LoRa Parameters	
Frequency Range	920MHz-928MHz
Antenna/Antenna Gain	Internal Antenna/-0.03dBi@927MHz

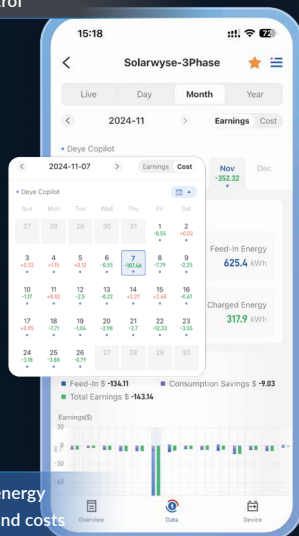
Model	SUN-SMART-PLUG01-I
Electrical Parameters	
Rated Voltage	220-250Va.c.(Phase voltage)
Maximum Current	10Aa.c.
Frequency and Range	50Hz(45Hz-55Hz)
Connection	Plug-type
Communication	
Communication Model	LoRa
Lora Communication Distance	≈200m(Barrier free)
Basic Parameters	
Working Temperature Range	-40 to +60°C
Allowable Environmental Humidity	0-95% RH
Ingress Protection(IP) Rating	IP20
Protection Level	CLASS I
Allowable Altitude	≤3000m
Product Size (WxHxD)	59.1x59.6x37.6mm
Weight	0.08kg
Warranty	5 years
Standard	RCM, VDE 0620-2-1;EN 61058
LoRa Parameters	
Frequency Range	920MHz-928MHz
Antenna/Antenna Gain	Internal Antenna/-1.78dBi@868MHz

Model	SUN-EVSE11K01-AC	SUN-EVSE22K01-AC
Product Parameters		
Rated Voltage/Range (V)	230(single phase), 230/400(three phase)	
Connection Mode	L+N+PE, 3L+N+PE	
Rated Current (A)	16	32
Rated Frequency/Range	50Hz (45Hz-55Hz)/60Hz (55Hz-65Hz)	
Maximum Output Power (kW)	3.5(single phase)/ 11(three phase)	7(single phase)/ 22(three phase)
Starting Methods	Plug & Play / Scheduled Charging	
Equipment Protection		
Over Temperature Protection	Yes	
Low Temperature Protection	Yes	
Over Voltage Protection	Yes	
Under Voltage Protection	Yes	
Short Circuit Protection	Yes	
Over Load Protection	Yes	
Earth Fault Protection	Yes	
Leakage Current Protection	DC 6mA	
Surge Protection Level	TYPE II	
General Specifications		
Operating Temperature Range (°C)	-40 to +55°C	
Permissible Ambient Humidity	5%~95% No condensation	
Permissible Altitude (m)	≤3000	
Noise (dB)	<25	
Ingress Protection(IP) Rating	IP 66	
Cabinet Size (WxHxD mm)	104x264x58	
Weight (kg)	3.7	
Gun Cable Length (m)	4.2	
Number of Charging Guns	1	
Safety EMC/Standard	RCM , CE, FCC, EN IEC 61851-1:2019, IEC 61851-1:2017, EN 300 220-2 V3.1.1:2017, EN 300 328 V2.2.2:2019, EN IEC 62311:2020, EN 301 489-1 V2.2.3:2019, EN 301 489-3 V2.3.2:2023, EN 301 489-17 V3.3.1:2024, EN IEC 61000-6-1:2019, EN IEC 61000-6-3:2021, EN IEC 61851-21-2:2021	
Interface		
Communication Modes	LoRa/Wi-Fi/BLE	
LoRa Parameters		
Frequency Range	920MHz-928MHz	
Antenna	Internal Antenna	

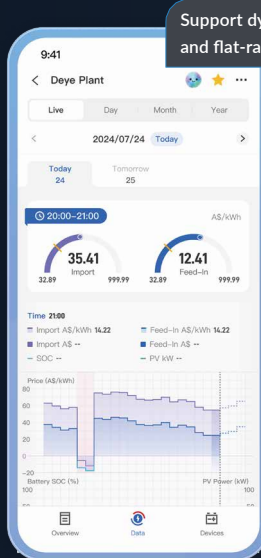
All-in-one Energy & Device Management Platform

-  Unlock significant savings
-  Individual Add-on for dynamic tariff
-  Intelligent charging/discharging strategies
-  Tailored solution to deye devices
-  Real-time equipment monitoring
-  Best energy scheduling solutions by Deye Copilot algorithm
-  24/7 AI Assistant support

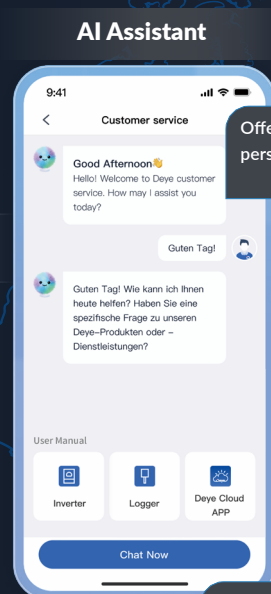
Switch flexibly between autonomous and manual control



Display energy savings and costs



Support dynamic tariff and flat-rate



Offer response suggestions and personalized support experience

Support over 30 languages

Analyze dynamic pricing, predict power load and PV generation to optimize energy dispatch and minimize electricity costs



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




APP & Web
Manage your energy effortlessly


Cloud-edge Collaboration
Faster and more efficient


Accelerated Connection
Optimized for speed and performance


Localized Data Centers
Ensure data sovereignty and compliance in EU & US

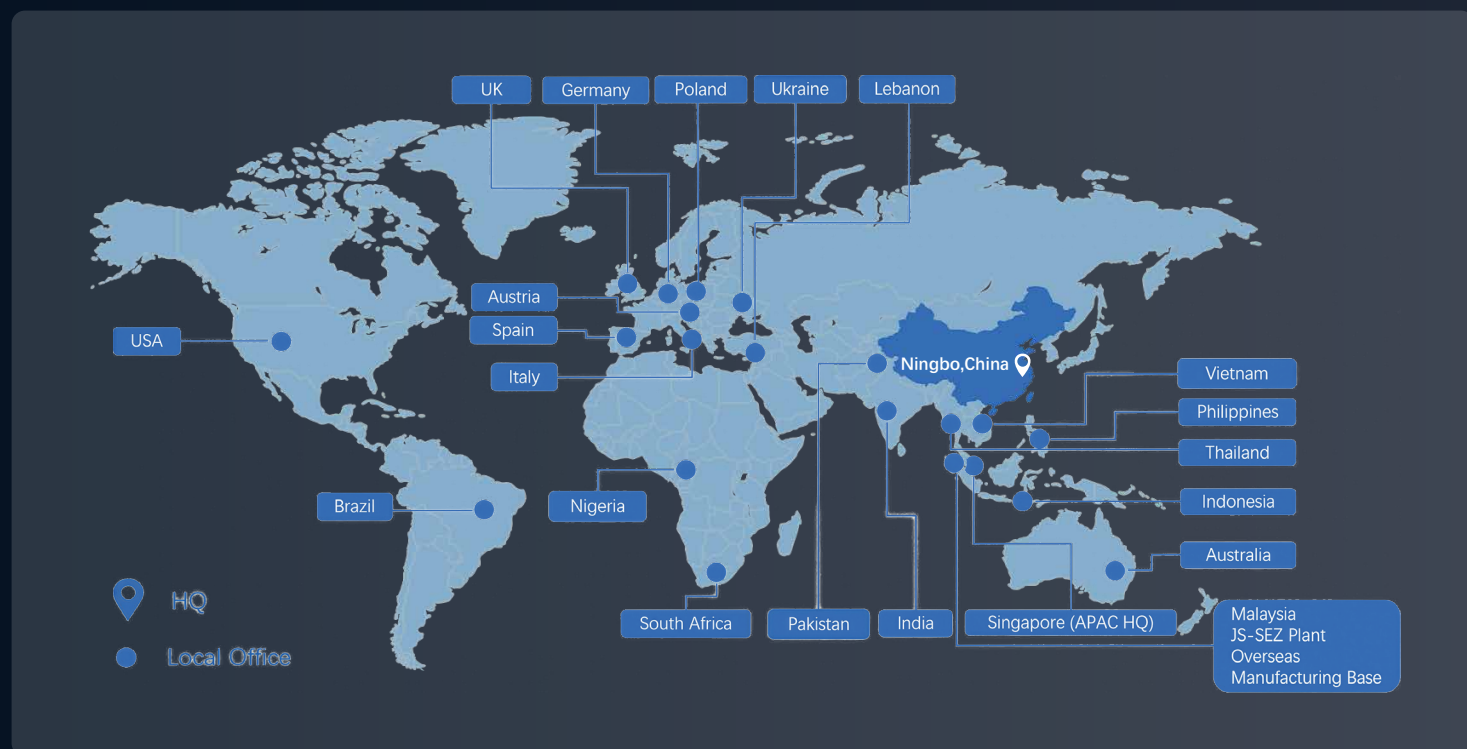

Deye Copilot
AI-powered energy analysis and control


AI Assistant
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.



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



Scan for More Information



Official Website



Business Card



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