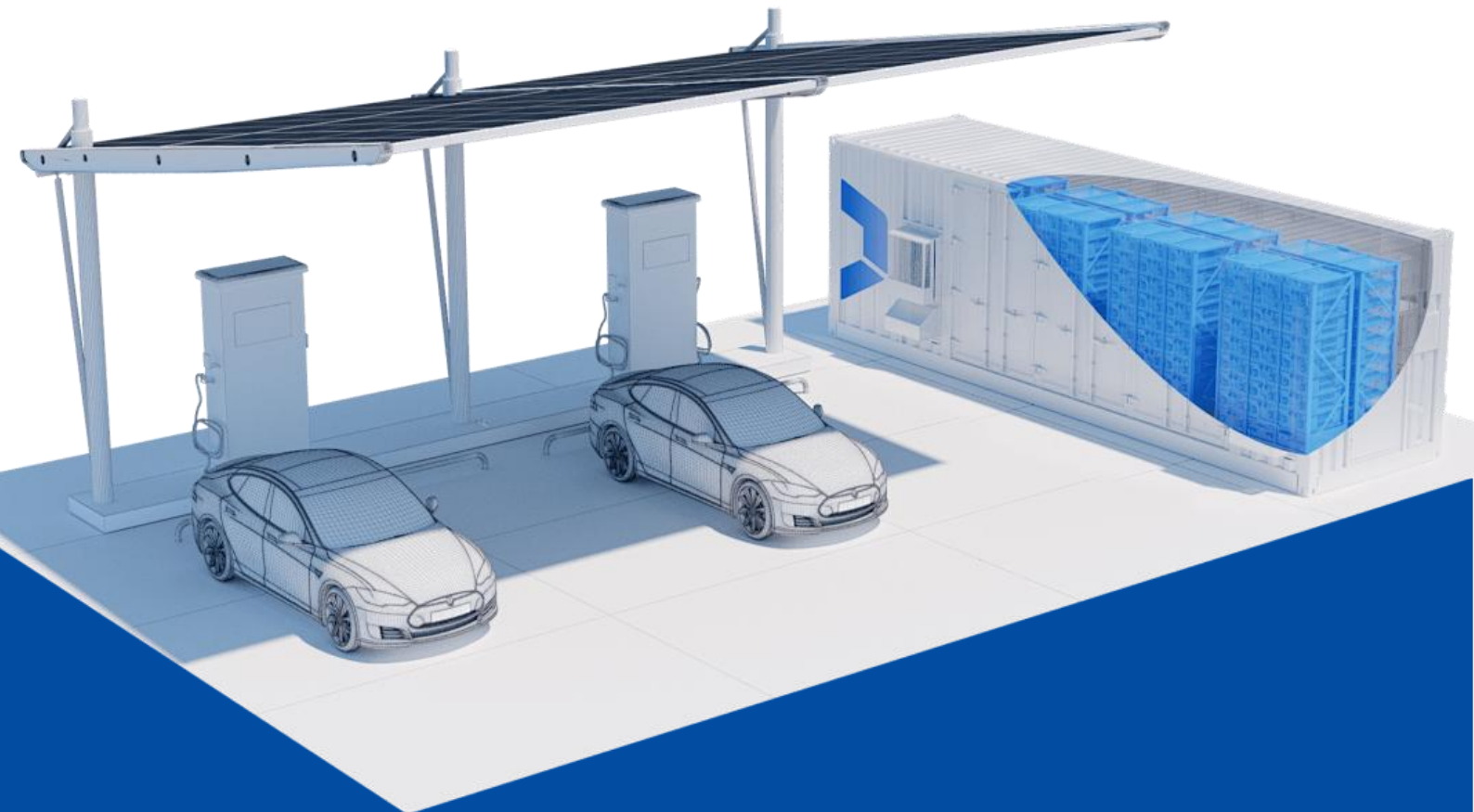


# Integrated Solar Charging Station

Huizhou Yizhao Energy Technology Co., Ltd.

ECE Energy takes the new energy electric vehicle charging system as the core and integrates solar energy and energy storage systems to provide new green power and create a more beautiful living environment.



# Integrated PV Storage and Charging Carport

## PV System

1. Sunlight generates electricity without risk of depletion
2. No noise, no pollution
3. Generate power on site
4. Effective use of space



## Energy Storage System

1. Improve power quality
2. Improve stability and usability
3. Peak shaving and valley filling
4. Emergency power supply
5. Enhance the use of renewable energy

## Charging Pile

1. Green travel
2. Strong compatibility
3. Fast charging speed
4. High efficiency

## Management System

1. Optimize operation mode
2. Ensure stable operation of the power system
3. Accept power grid and load-bearing dispatching
4. Reduce original power distribution capacity

## Features

- Solar carport to supplement power distribution sources, achieve additional income peak shaving and valley filling, and at the same time achieve power distribution capacity expansion.

- Multifunctional resource integration

(Photovoltaic + energy storage + charging), various operating modes, customized on demand

- Intelligent

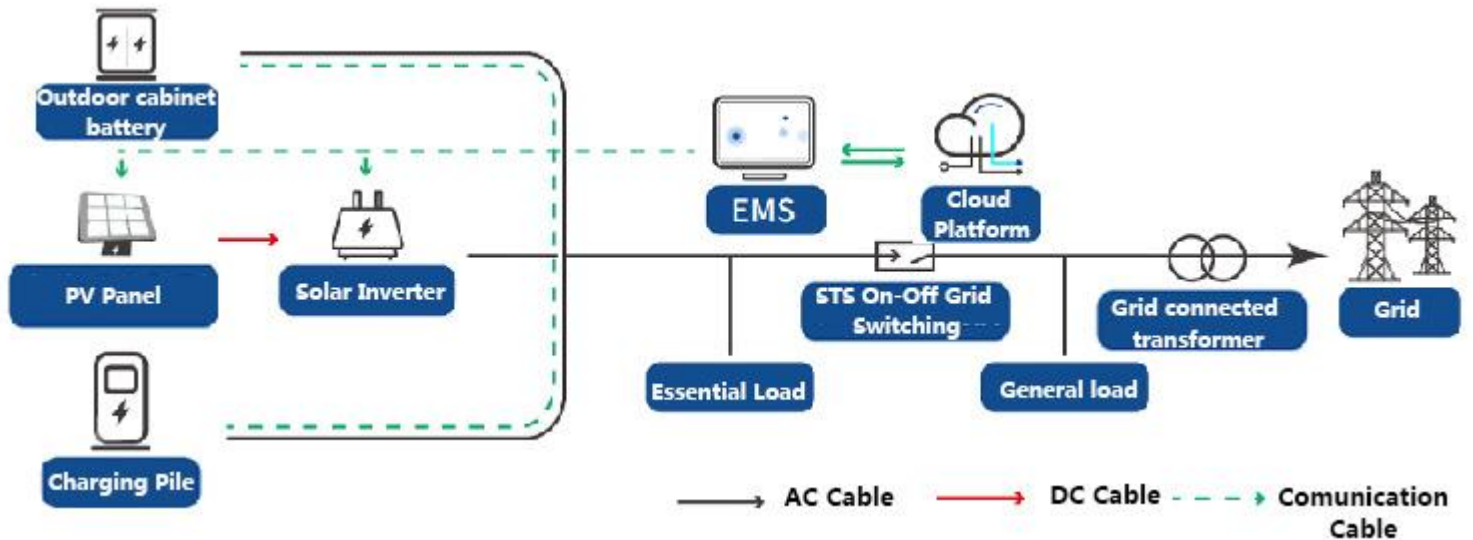
Accept dispatching from different control layers such as local, distribution network dispatching and microgrid centralized dispatching

- Emergency function energy storage system can provide emergency power supply to the load

## Application

- Intercity expressways and highways: energy integration to achieve green travel
- Bus charging stations in the city: utilize idle areas efficiently to increase added value
- Other fields: There are idle roofs, carports, power distribution needs to be expanded, etc., the scope of resource integration is applicable

# Integrated Solar Charging Station Topology Diagram



## PV System



### Solar Carport

Bracket material	Carbon steel/aluminum alloy/galvanized steel			
<b>Panel</b>	<b>580W</b>			
Peak power	580W			
Best working voltage	43.85V			
Best working current	13.23A			
open circuit voltage	52.3V			
short circuit current	14.13A			
size	2278*1134*35mm			
weight	32.6KG			
Cell type	Mono crystalline silicon			
Glass	Single glass, 3.2mm tempered glass			
Junction Box	Protection grade IP68			
System maximum voltage	1500V			
Operating temperature range	-40°C——+85°C			
Number of panels in different parking spaces	2 parking space/14Pcs	4 parking space/28Pcs	6 parking space/42Pcs	8 parking space/56Pcs

# Energy Storage System

## ECE outdoor energy storage cabinet product series (100KWh-430KWh)

The product integrates power modules, energy storage batteries, refrigeration, fire protection, power distribution, dynamic environment monitoring, and energy management.

- It is suitable for micro-grid scenarios such as small industrial and commercial energy storage and solar power plants.
- Configure rack-mounted modular PCS according to user scenario requirements and support parallel expansion.
- IP54 protection level, which can be adaptable to all kinds of weather;
- Integrated air conditioning, fire protection, and monitoring systems make rational use of cabinet space to ensure efficient and safe operation of the system;
- The local control panel can realize system operation monitoring, energy management strategy formulation, remote device upgrade and other functions.



Model	50kW/100kWh	100kW/215kWh	150kW/430kWh
<b>Battery parameters</b>			
Battery rated energy storage capacity	101KWh	215.04KWh	430.8KWh
System rated voltage	844.8V	768V	768V
Battery type	Lithium iron phosphate battery		
Cell capacity	120Ah	280Ah	280Ah
Battery pack series and parallel mode	1P*24S*11Pack	1P*20S*12Pack	2P*20S*12Pack
<b>AC parameters</b>			
Rated AC power	50kW	100kW	200kW
Rated AC current	72A	144A	288A
Rated AC voltage	400V , 3P+N+PE,50Hz		
<b>Conventional parameters</b>			
Protection	IP54		
Isolation method	Non-isolation(optional transformer)		
Working temperature	-25-60°C(derate above 45°C)		
Height above sea level	3000m(derate over 3000m)		
Communication interface	RS485/CAN2.0/Ethernet/dry contact		
Dimensions(W*D*H/mm)	1200*1200*2300mm	1800*1200*2300mm	3000 *1200 *2300mm
Weight(Kg)	2000kg	3000kg	5000kg
<b>PV port</b>			
Rated PV input power	50kW	100kW	250kW
Meet quantity	1/2	1/2	1/2
PV voltage range	200~850V	200~850V	200~850V

# Charging Pile

## 22KW AC Wall Charging Pile

- Support IC card for identity verification, charging transactions with a complete system.
- There are three charging state indication including power supply, charging,
- Complete safety protection function with short circuit, over current, over voltage lightning protection
- CE certificated



22KW AC Wall Charging Pile			
Model No.	EVSE838-US	Power	22 KW
Input voltage	AC380V	Rated Current	32A
Payment system	Yes	Charging Plug/Socket	Optional
Display Screen	4.3" touch screen	communication interface	RS -485/CAN/RS232 (Optional)
Interface Standard	SAE J1772	Under-voltage protection	≤320VAC
overvoltage protection	≥450VAC	Overload protection	≥35.2A
rated residual operating current	30mA	Rated period of residual current	≤0.1S
IP Grade	IP54	operating temperature	'-20°C- +55°C
storage temperature	-40°C- +60°C	Altitude	≤2000m
relative humidity	5%~95% , No condensation	Life time of connector	≥10000 times
mean time to failure	MTBF≥8796h	Charging type	Multiple charging mode according to time, quantity, amount, Autofill and so on
Billing type	RFID CARD/QR code/ APP payment(optional)	Back-stage management	Ethernet module/ 4G module ( optional )
Cable Length	Standard 5m	Cable	10 mm <sup>2</sup>
Weight	7Kg	Dimension	440*260*72 ( mm )

## 60KW CCS2 DC charger

- OCPP integration.
- Dynamic intelligent DC power sharing technology
- Remote diagnostics, repair and updates
- Easily connect to Charging points Management System
- Support Ethernet, QR scanning to enter APP for charging transaction. Support extended GPRS communication.
- Multiple charging modes are optional according to time, quantity, amount, Autofill and so on.
- A 7-inch display screen can display the charging status in real time.
- There are three charging state indication including power supply, charging, fault.



### 60KW CCS2 DC CHARGER

Model	EVSED60KW-D2-EU01	Power	60 KW DC Charger with two guns
Input Voltage	AC 380-400V 3ph	Output Voltage	DC200-750V
Output Current	100A/80A	Power factor	>0.98
Current THD	<5%	Open Charge Point Protocol	OCPP1.6 / OCPP2.0
Protection	Over current, Under voltage, Over voltage, Surge protection, Short circuit, Over temperature, Ground fault	Certificate / Compliance	CE / EN 61851-1/-23
Charge option	Charge by duration, Charge by energy, Charge by fee	Efficiency	>95%
Display screen	9" touch screen	Enclosure Protection against External Mechanical Impacts	IK10 according IEC 62262
Support language	English (Other languages available upon request)	User authentication	Paypal and (or) NFC card
IP Grade	IP54	Charging interface	CCS2
storage temperature	-40°C - +70°C	relative humidity	< 95% relative humidity, non-condensing
Altitude	Up to 2000 m (6000 feet)	Operating temperature	minus 20 °C to +55°C (derating when over 55°C)
Cooling	Forced air	Charging cable length	5m
Network interface	Ethernet (standard); Wi-Fi, 4G (optional)	Weight	<260kg
Number of phase / wire	3ph / L1, L2, L3, PE	Dimension (W*D*H) mm	700*750*1750 ( mm )