



EV TIMES

Propelling the humanity into EV era

Star Charge



Star Charge

EVSE R&D, Manufacture and Operation

No. 1 EVSE Delivery in China

No. 1 Daily charging volume in China

Top 3 Charging infrastructure investor in China

230 Nearly 230,000
Charging terminals

5000 Daily charging volume
Exceeding 5,000,000 kWh

59 Strategic partnership
With 59 Auto brands



Background WANBANG JIN STAR AUTO GROUP



TOP.10 in "Top 100 Auto Dealer Groups in China 2018"

Jin Star Auto Investment

83
dealerships

The other investment

Group investment, management, Medicine, Culture, Golf course etc.

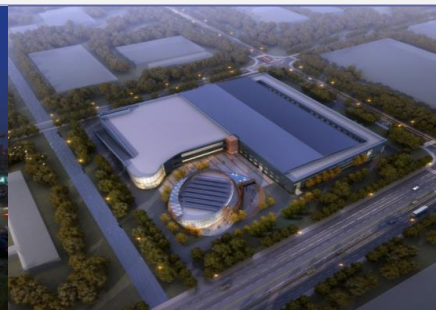
Wanbang New Energy Group Investment (Enter EV industry in 2014, with rapid development)

Wanbang Dehe (manufacturing, cloud installation)

Star charge in more than 200 cities in China operating 230,000 + GB public charging network

EV dealing (Dehe finance, insurance, EV 4S shops)

Research institution(EV interconnection technology, products R&D, Jiang xin Battery)

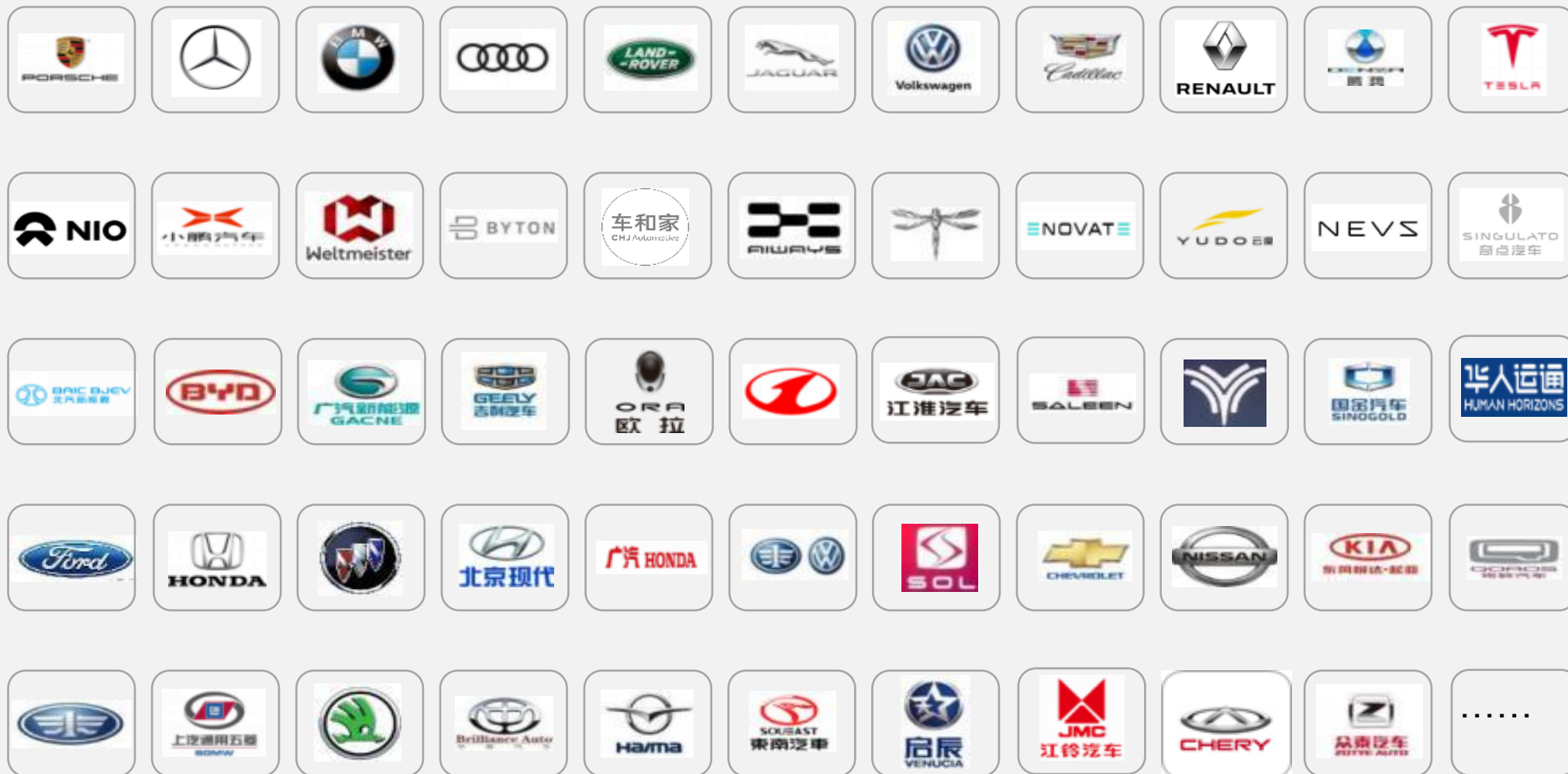


Tight Cooperation with OEMs



Star Charge has established various forms of cooperation with 59 OEMs.

A variety of cooperation: Wall-box/dealer charger/leasing/data/APP/SAAS/Used Car





15th Nov, 2016, Star Charge officially signed a cooperation agreement with Daimler.



In JULY 2019, Star Charge and Volkswagen Group formed a joint venture, CAMS.





Star Charge signed agreement with PEG



Star Charge signed agreement with JLR



Tight Cooperation with Real Estate



Macau Public parking project



YOHO Bay Project

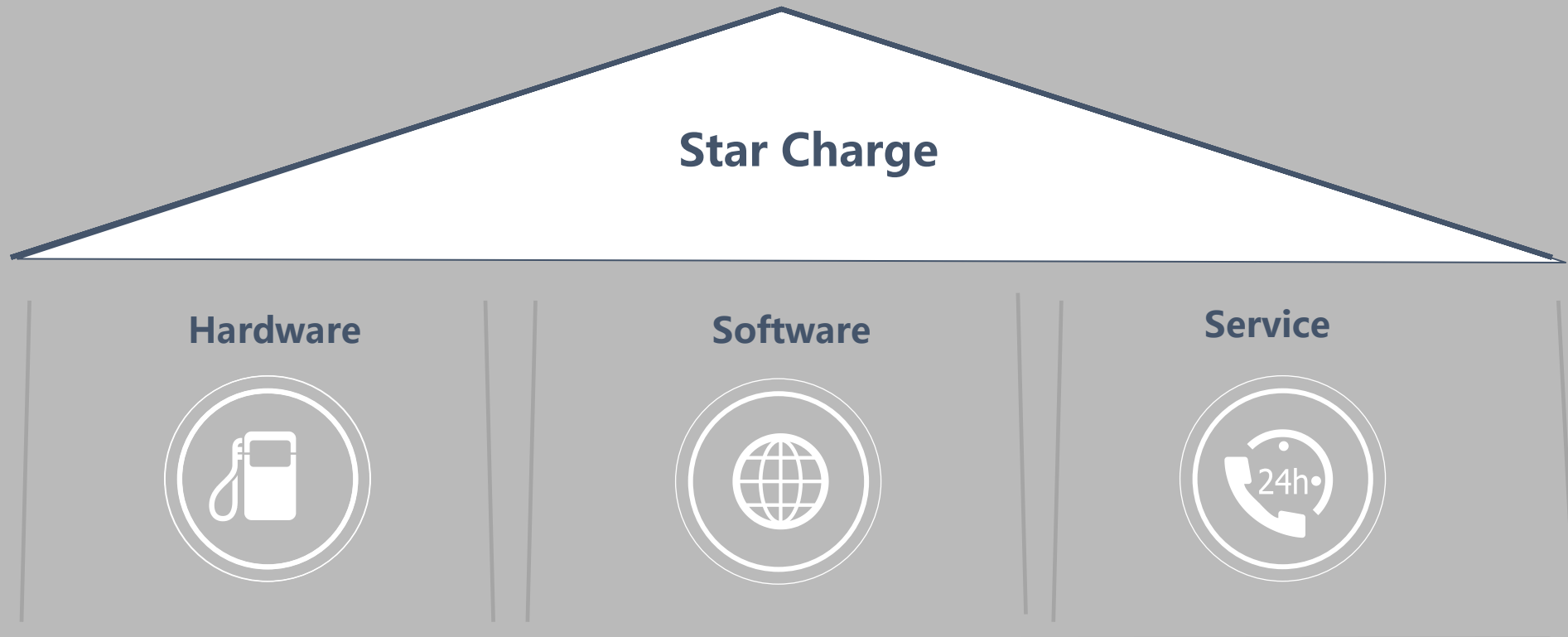


Beijing Oriental Meidiya Center



Shanghai Lihuayuan

Star Charge offers hardware, software and service



Bus Operation Solution Cases



E-taxi Solution Cases



In 2018, due to the request from government of Taiyuan City, Star Charge completed the full establishment of EVSE infrastructure commissioned ready for serving the Taxi fleet of entire city. As to today, Star Charge is still operating the Charging for the city.



Logistic Fleet Solution Cases



Jingdong logistics "2018 most trusted partner award", star charge was the only charging pile enterprise ever won this award.

Jingdong logistics has made plans to replace existing fleets with the pure electric logistics vehicles in 60 parks nationwide. Star charge has made full use of its advantages of high coverage rate and fast response, and built designated charging stations for logistics fleets with 1,000 DC terminals nationwide, serving Jingdong logistics and other logistics enterprises also their owners.



On January 19, 2019, by virtue of high-quality charging products, innovative and intelligent operation and maintenance platform, and **perfect** after-sales service, Star Charge was awarded the "most trusted partner award" by jingdong logistics.



Design and Construction for
entire public charging station

Global Standard AC Wall Box



Meet Standards GB/T, IEC, EN

Compatibility with Single and Three Phase

Power 7kW~22kW

APP, Card & PnC

Protection Grade IP55

Collision Level IK08

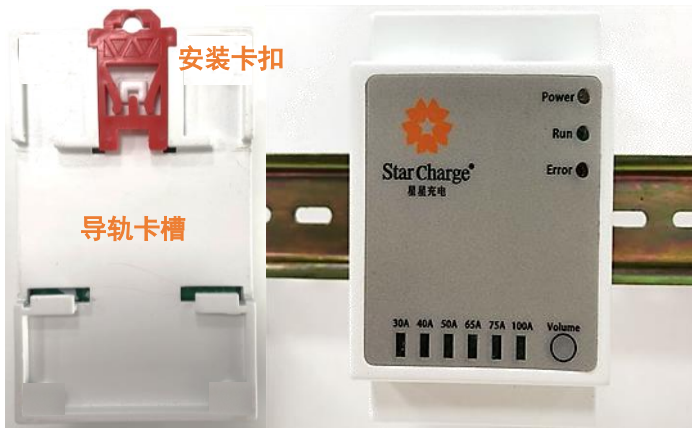
Arcing detection function

Critical contact thermal sensing

Shelf-designed Type B RCD

Vertical, Wall Mounted Installation

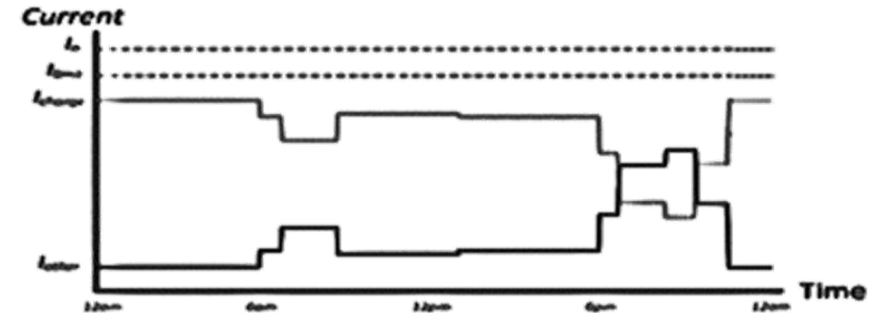
Peak Controller



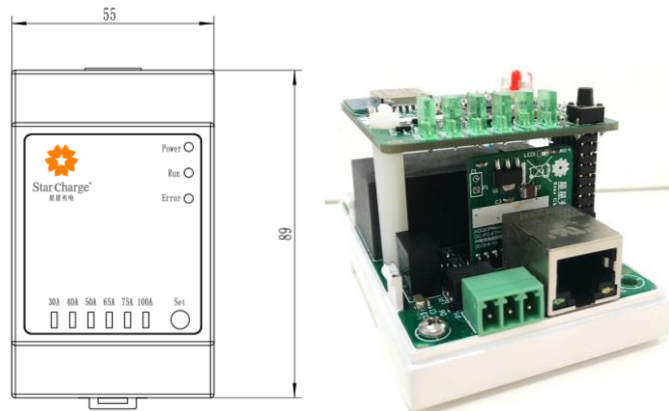
Easy Installation, Guided Installation



Easy to Operate, Great Compatibility



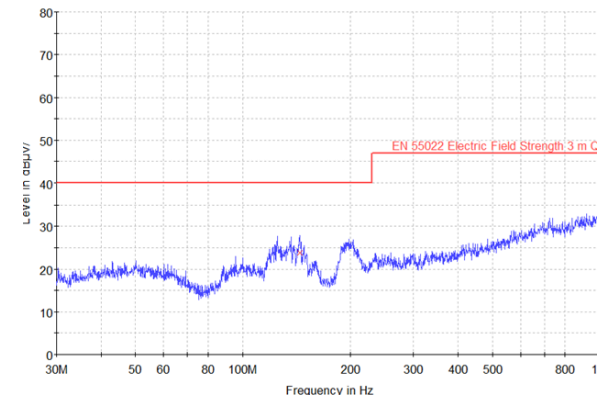
Smart Charging Control Strategy



Simple Design, Compact Size



Multiple Communication Interfaces Available



EMC - CLASS B

30kW DC WALL BOX

Items		Parameters
Power Input	Input Rating	400Vac±10%, 3-Phase, 50/60 Hz, L1+L2+L3+N+PE
	Power factor	≥0.99@full load output, ≥0.98@half load output
	Current THD	≤5%@full load output
	System Efficiency	≥94.6%@full load output
Power Output	Output Interface	DC CCS2*1
	Output Voltage	50-500Vdc
	DC Output Current	75A max.
	DC Output Power	30kW
	AC Output Current	N.A.
	AC Output Power	N.A.
User Interface & Control	Display	7" LCD Touch Panel
	Support Language	Simplified Chinese, English, Other languages available upon request
	Push Buttons	Emergency stop button
	RFID Reader	ISO/IEC 14443 A / B Mifare RFID reader
Communication	Network Interface	4G/Wifi/Ethernet
	Protocol	OCPP1.6
Environmental	Operating Temperature	-30°C-50°C
	Storage Temperature	-40°C-70°C
	Humidity	5%-95%
	Altitude	≤2000m
Mechanical	Ingress Protection	IP55
	Enclosure Protection	IK08
	Cooling	Forced air
	Charging Cable Length	4m
	Dimension (WxHxD)	680*440*280mm/approx. 45kg(with power module)
	Installation	Wall mounted, Cloumn
Regulation	Certificate	CE(2020 Feb.), CB(2020 Feb.) CE / IEC 61851.1-2011, IEC 62196-3

Advanced features

- 30kW power module
- 400-500V constant power output
- Easy to install
- Standby power consumption ≤ 22W



60kW DC Triple Connectors

Items	Parameters	
Power Input	Input Rating	400Vac±10%, 3-Phase, 50/60 Hz, L1+L2+L3+N+PE
	Power factor	≥0.99@full load output, ≥0.98@half load output, ≥0.90@25%-50% load output
	Current THD	≤5%@over half load output
	System Efficiency	≥94%@50%-100% output
Power Output	Output Interface	DC CCS2*1, DC CHAdeMO*1, AC Type2*1
	Output Voltage	DC CCS2: 150-550Vdc, DC CHAdeMO: 150-500Vdc, AC: 400V±10%
	DC Output Current	125A max.
	DC Output Power	60kW
	AC Output Current	32A max.
	AC Output Power	22kW
User Interface & Control	Display	7" LCD Touch Panel
	Support Language	Traditional Chinese, English, Other languages available upon request
	Push Buttons	Emergency stop button
	RFID Reader	ISO/IEC 14443 A / B Mifare RFID reader
Communication	Network Interface	4G
	Protocol	OCPP1.6
Environmental	Operating Temperature	-30°C-55°C
	Storage Temperature	-40°C-70°C
	Humidity	5%-95%
	Altitude	≤2000m
Mechanical	Ingress Protection	IP54
	Enclosure Protection	IK08
	Cooling	Forced air
	Charging Cable Length	DC CCS2: 5m, DC CHAdeMO: 4m, AC: 4m
	Dimension (WxHxD)	1018*1618*550mm/approx. 196kg(without power module)
	Installation	Basement
Regulation	Certificate	CE, CB(2020 Jan.), TR25(2020 Jan.)

Advanced features

- 30kW power module
- 300-1000V constant power output
- Three types of charging interface
- Support Simultaneous Charging



180kW DC 2019 Version

Items		Parameters
Power Input	Input Rating	400Vac±10%, 3-Phase, 50/60 Hz, L1+L2+L3+N+PE
	Power Factor	≥0.99@full load output, ≥0.98@half load output
	Current THD	≤5%@full load output, ≤10%@half load output
	System Efficiency	≥95%@full load output
Power Output	Output Interface	DC CCS2*2
	Output Voltage	200-1000 Vdc
	Constant output power range	300V-1000Vdc
	DC Output Current	200A max.
	DC Output Power	180kW max.
	AC Output Current	N.A.
	AC Output Power	N.A.
User Interface & Control	Display	7" LCD Touch Panel
	Support Language	Simplified Chinese, English, Other languages available upon request
	Push Buttons	Emergency stop button
	RFID Reader	ISO/IEC 14443 A / B Mifare RFID reader
Communication	Network Interface	4G, Wifi, Ethernet
	Protocol	OCPP1.6
Environmental	Operating Temperature	-30°C-50°C
	Storage Temperature	-40°C-70°C
	Humidity	5%-95%
	Altitude	≤2000m
Mechanical	Ingress Protection	IP54
	Enclosure Protection	IK08
	Cooling	Forced air
	Charging Cable Length	4 m
	Dimension (WxHxD) / Weight	815*1837*682mm/approx. 320kg (without power module)
	Installation	Basement
Regulation	Certificate	CE(2020 Jan.), CB(2020 Jan.)

Advanced features

- Configurable from 60 to 180kW
- 30kW power module
- 300-1000V constant power output
- Can be upgraded to 500A liquid connector
- Standby power consumption ≤ 79W



180kW DC 2020 Version

Items		Parameters
Power Input	Input Rating	400Vac±10%, 3-Phase, 50/60 Hz, L1+L2+L3+N+PE
	Power Factor	≥0.99@full load output, ≥0.98@half load output, ≥0.90@25%-50% load output
	Current THD	≤5%@full load output, ≤10%@half load output
	System Efficiency	≥95%@full load output
Power Output	Output Interface(3 options)	DC CCS2*2, DC CCS2+DC CHAdeMO, DC CHAdeMO*2
	Output Voltage	150-1000 Vdc
	Constant output power range	300V-1000Vdc
	DC Output Current	200A max.
	DC Output Power	180kW max.
	AC Output Current	N.A.
	AC Output Power	N.A.
User Interface & Control	Display	10.4" LCD Touch Panel
	Support Language	Simplified Chinese, English, Other languages available upon request
	Push Buttons	Emergency stop button
	RFID Reader	ISO/IEC 14443 A / B Mifare RFID reader
Communication	Network Interface	4G, Wifi, Ethernet
	Protocol	OCPP1.6
Environmental	Operating Temperature	-30°C-55°C
	Storage Temperature	-40°C-70°C
	Humidity	5%-95%
	Altitude	≤2000m
Mechanical	Ingress Protection	IP54
	Enclosure Protection	IK10
	Cooling	Forced air
	Charging Cable Length	4 m
	Dimension (WxHxD) / Weight	800*1990*726.5mm/approx. 305kg (without power module)
	Installation	Basement
Regulation	Certificate	CE(TBD), CB(TBD)

Advanced features

- Configurable from 60 to 180kW
- 30kW power module
- 300-1000V constant power output
- Can be upgraded to 500A liquid connector
- Standby power consumption ≤ 50W



360kW Liquid Cooling System

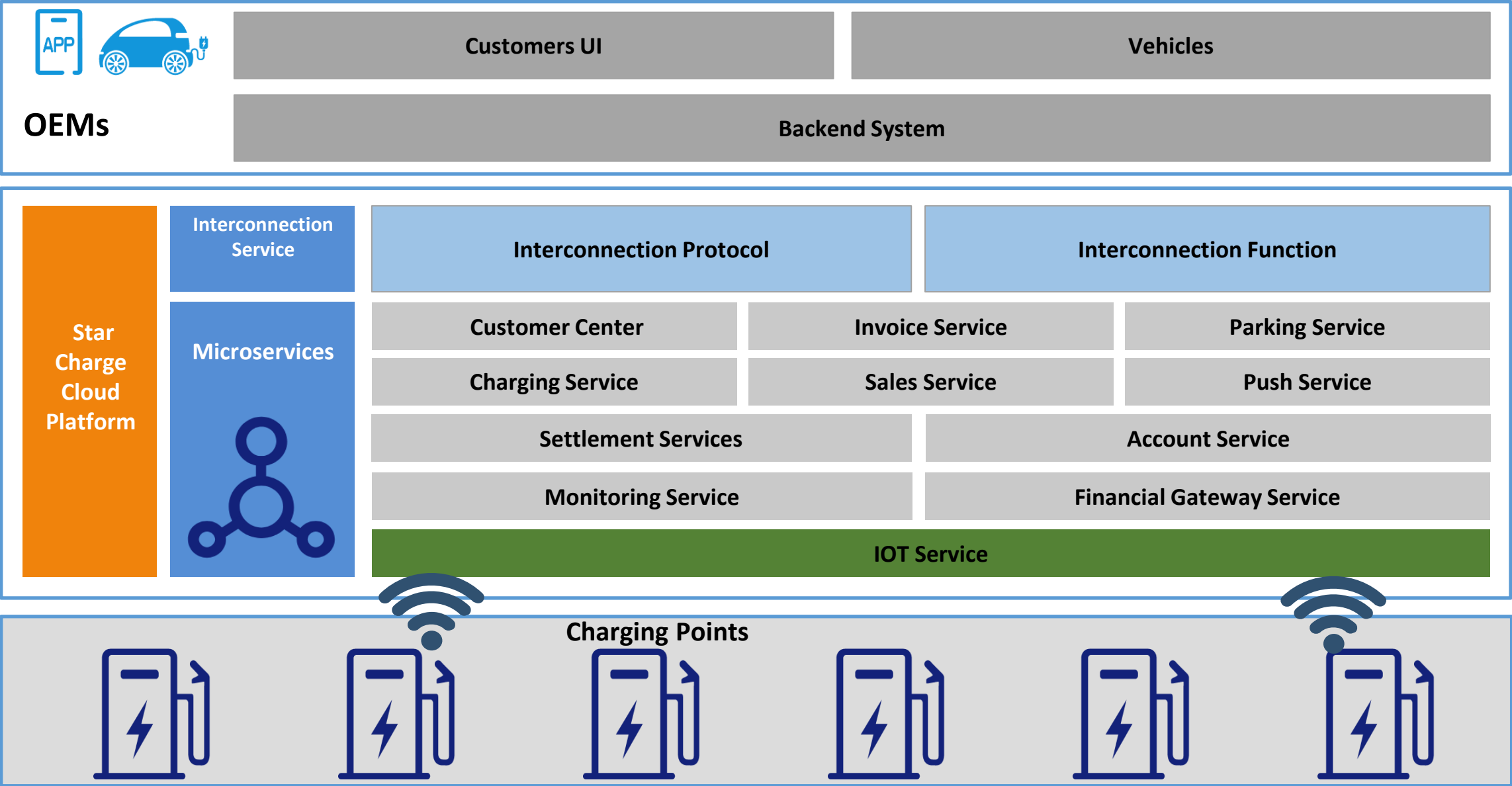
Items	Parameters	
Power Input	Input Rating	400Vac±10%, 3-Phase, 50/60 Hz, L1+L2+L3+N+PE
	Power factor	≥0.99@full load output, ≥0.98@half load output
	Current THD	≤5%@full load output
	System Efficiency (estimate value)	≥94%@full load output, ≥93%@half load output
Power Output	Output Interface	DC CCS2*1/user unit (2020 Jul.) DC CHAdeMO*1/user unit (later) DC CCS1*1/user unit (later)
	Output Voltage	200-1000 Vdc
	Constant output power range	300-1000Vdc
	DC Output Current	200A max.(Standard), 500A max.(Optional)
	DC Output Power	200kW max.(Standard), 360kW max.(Optional)
	AC Output Current	N.A.
	AC Output Power	N.A.
User Interface & Control	Display	10" LCD Touch Panel
	Support Language	English, Other languages available upon request
	Push Buttons	Emergency stop button
	RFID Reader	ISO/IEC 14443 A / B Mifare RFID reader
Communication	Network Interface	4G, Wifi, Ethernet
	Protocol	OCPP1.6
Environmental	Operating Temperature	-25°C-50°C
	Storage Temperature	-40°C-85°C
	Humidity	5%-95%
	Altitude	≤2000m
Mechanical	Ingress Protection	User unit: IP55, Rectifier cabinet: IP54
	Enclosure Protection	User unit: IK08, Rectifier cabinet: IK08
	Cooling	User unit: natural cooling/liquid cooling(Optional), Rectifier cabinet: forced air
	Charging Cable Length	6 m
	Dimension (WxHxD)	User unit: 810*2550*600mm, Rectifier cabinet: 1500*1993*900mm
	Installation	Basement
Regulation	Certificate (CCS2 version)	CE(2020 Jul.), CB(2020 Jul.)

Advanced features

- Configurable from 120 to 360kW
- 30kW power module
- 300-1000V constant power output
- Standby power consumption ≤ 200W











Platform Frame





Interconnection function

Interconnection data

	Charge control		H5 charging page
	Charging payment		Private sharing
	Charging order		Multiple account system
	Charging invoice		Plug and charge

Basic static data

Charging station ID	service line
Charging station name	equipment number
Charging station province and city area code	Charging device interface code
Address	Charging device interface type
Number of parking spaces	Rated voltage upper limit
longitude	
latitude	
Equipment type	
Total power of charging equipment	
Carrier ID	
Device ID	
Charging station country code	

Basic dynamic data

Non-control related:	Time period charge
Site status	Time electricity fee
Device interface status	Time service fee
Control class related:	Cumulative charge
Device interface status during charging	Cumulative total amount
Charge order status	Order end success status
Order start success status	
Reason for order start failure	
Battery remaining capacity	
Time price	
Time service price	

Value added static data

Site guidance
Parking floor and quantity description
parking fee
Parking fee details
Pile photo
Site photo
service hours
Self-operated, non-self-operated
Site type
Whether to support the appointment
Private sharing
Whether it is dedicated

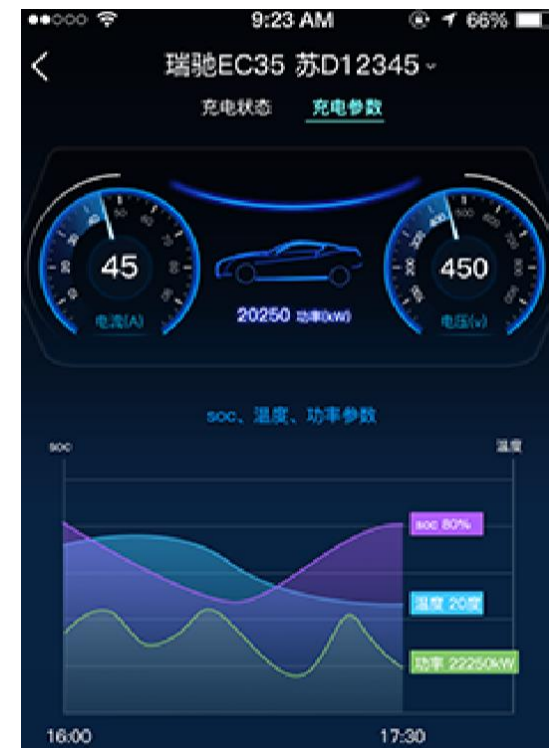
Value added dynamic data

Pile last charge time
Pile user rating
Pile group user rating
Total number of charges in the past 30 days
One charge success rate
Pile utilization
Peak charging period statistics
Pile group model charging ratio
Average charging time of single pile
Whether to operate the vehicle focused pile group





Safe Charging



SOH Estimate

Installation service



Charging Station CI Decoration



Changchun FAW 4S Dealership



Jaguar Land Rover 4S Dealership



Audi 4S Shop



NIO Dealership



Hyundai Dealership

Certificate

EV Charger Installation Service Provider



EV Charger
Installation
Service
Provider



www.tuv.com
ID: 0000044615

Jiangsu Wanbang Dehe New Energy Technology Co.,LTD
39 Longhui Road, Wujin High-tech Industrial Development Zone, Changzhou, Jiangsu, China
Changzhou,213000

Service Description

The named company has been certified by TÜV Rheinland through a professional competence and operational validation and qualified as electric vehicle charger installation service provider.

This company has been verified in accordance with the technical requirement of electric vehicle charger installation for the residential and semi-public area, and an operational qualification followed after successfully passing the subject-specific requirements, in which an on-site audit has been carried out.

The successful completion of this whole process ends with the TÜV Rheinland certification

"EV Charger Installation Service Provider"

The certificate is valid until 30.07.2020

Shanghai, 30.07.2018

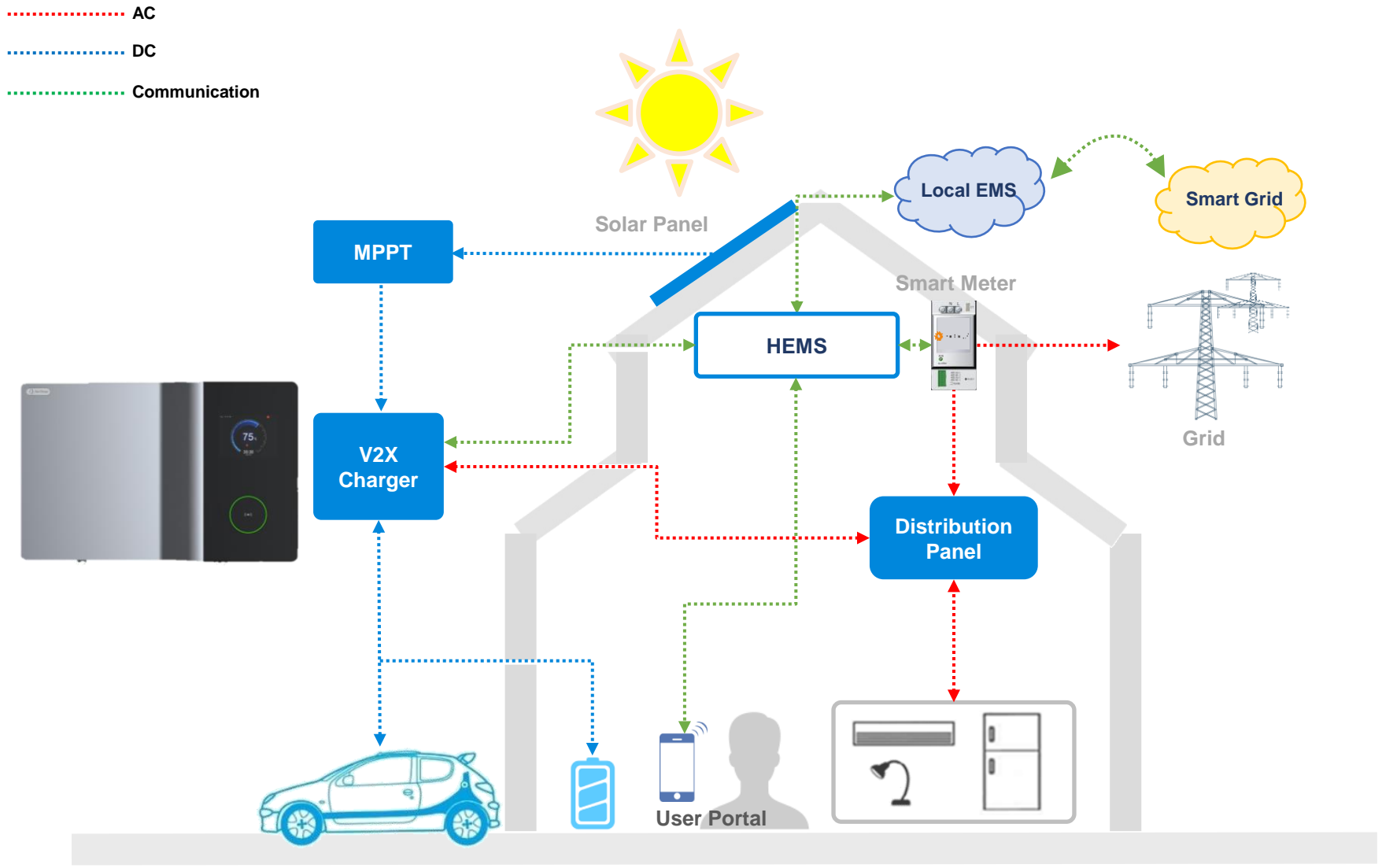
Weimin Fang
TÜV Rheinland (Shanghai) Co., Ltd.

www.tuv.com



The only Chinese EVSE company has TÜV EV Charger installation certification

Residential Solution with V2X Charger + Solar Roof



EMS Service

Local EMS

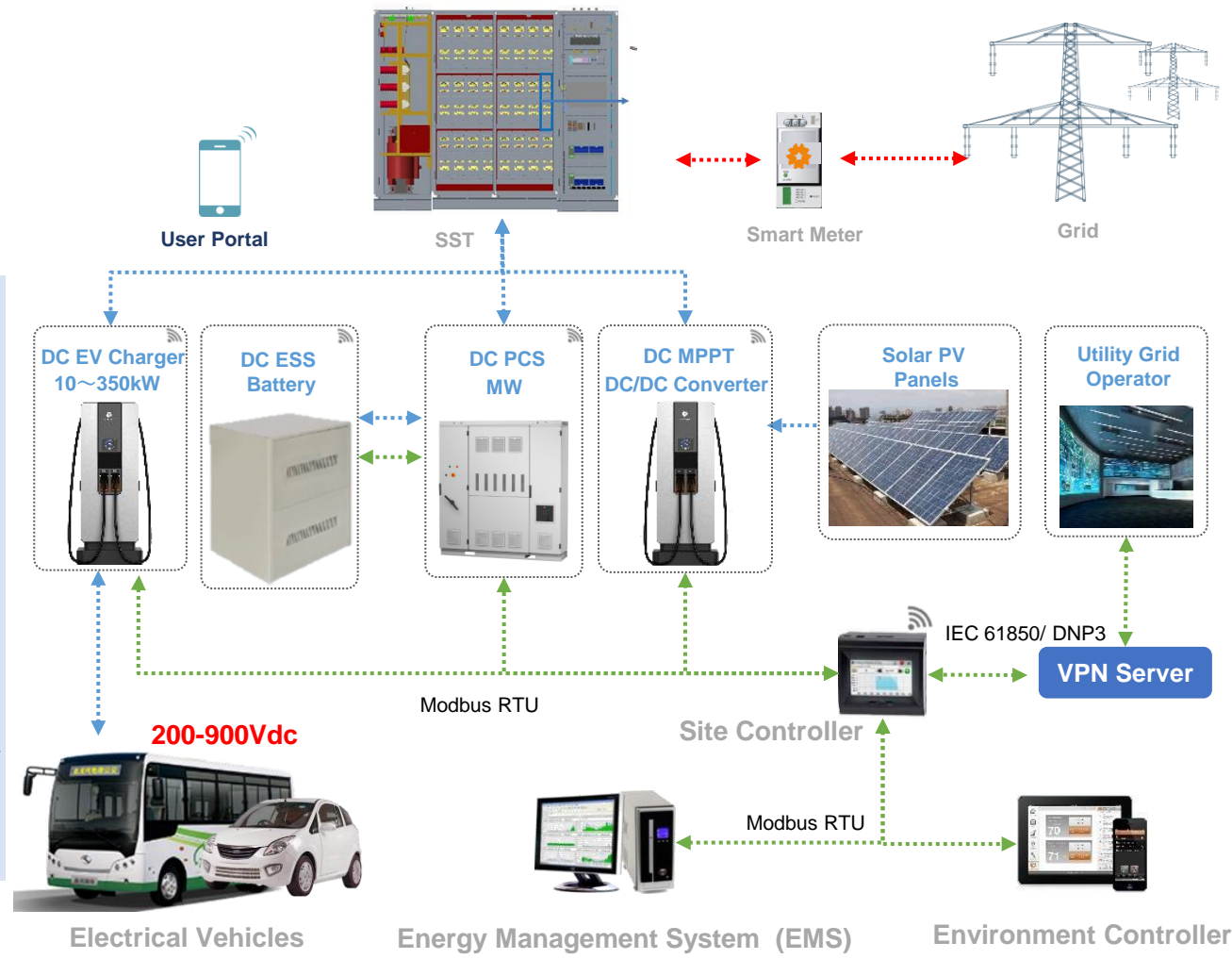
Smart Grid

Key Components

- Smart Meter
- SST
- DC Charger
- DC PCS
- DC ESS
- DC / DC converter
- Solar PV Panels

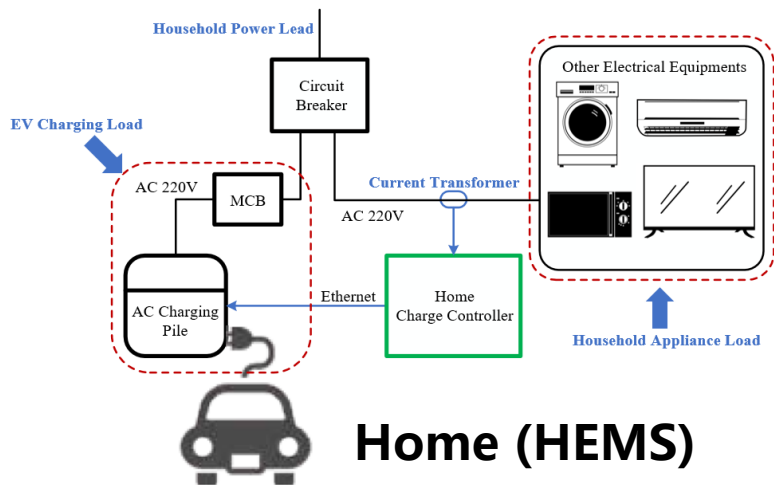
Functions

- Peak Shaving
 - Load Shifting
 - PQC
 - Black Start
 - Smart Grid
- Support

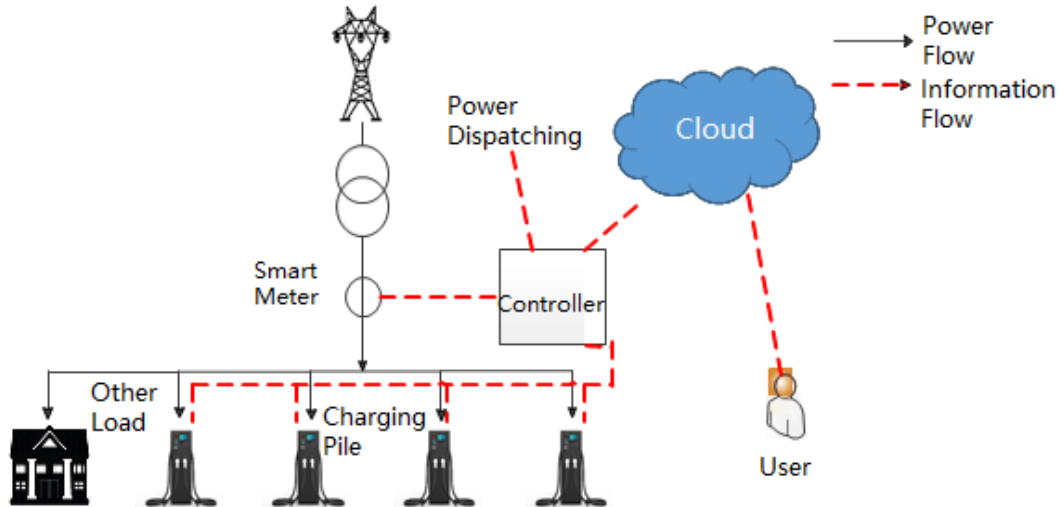


..... AC
 DC
 Communication

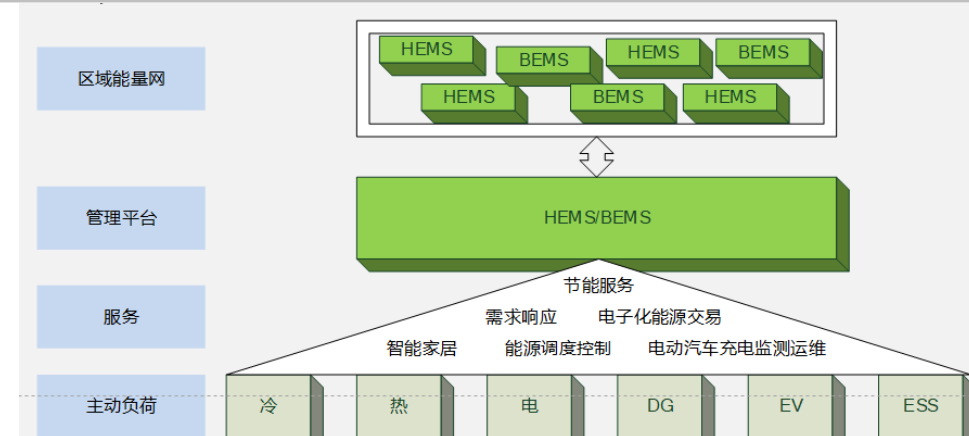
Multi-level Energy Management System



Home (HEMS)



Charging Station (CMS)



Building (BEMS)



Community/City (CEMS)

A dark-colored car is parked on a dirt road in a forest. The sun is low on the horizon, creating a warm glow and long shadows. The car's wheel and side mirror are visible. The text "Thank You" is overlaid in the top left corner.

Thank You

Star Charge, more than just **CHARGE!**