

EN+ Nano AC charger

# Nano Duo 22kW AC EV Charger

The Nano Dual EV AC charger is EN+'s cutting edge solution for the semi-public scenario such as workplace and residential units.

It can be wall or pole mounted with three inlet ways (Back wiring/Rear wiring/Bottom wiring). It houses two sockets, with optional load balancing controller box.

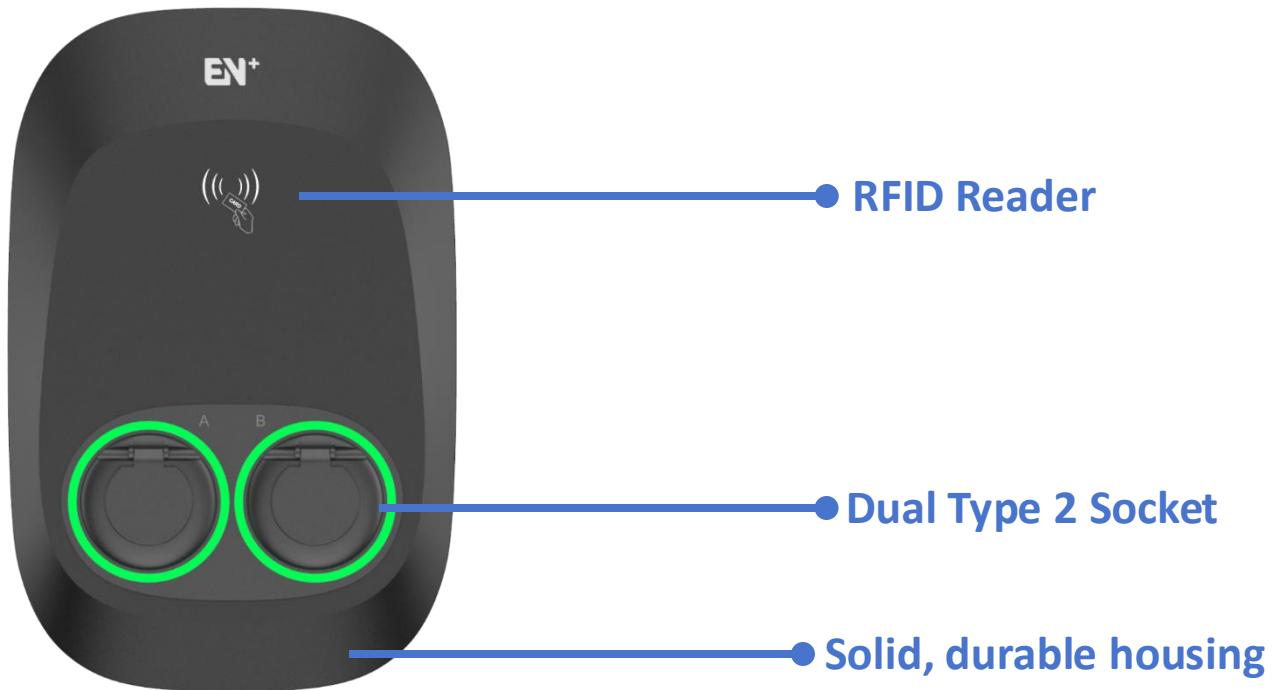
An integrated RFID reader supports user identification, and a MID-meter enables financial settlement.

Supporting three communication functions including Wi-Fi/LTE/Ethernet to connect to the Cloud platform which can be Monta and EV.Energy etc.



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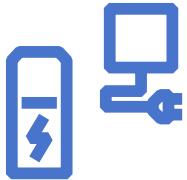
# Portfolio



AC022K-BE-44D w/ MID  
AC022K-BE-42D w/o MID



# Value Propositions



## Smart Charging

- 2x11KW, 1x22KW
- Nano supports various features such as smart charging networks, load balancing and OCPP 1.6.1 (OCPP2.0 upgraded )
- MID meter inside



## Easy Installation

- Black plate installation with one person
- Power line and ethernet cascade
- Installation cost savings is down to 30%



## Build in Protection

- IK08 prevents from unpredictable issues happening
- Equipped with 2 Residual Current Device of type A which allows for a more safe and cost-efficient installation

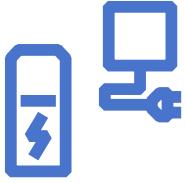
## Datasheet

Input	Power Supply	3P+N+PE
	Rated Voltage	400V AC
	Rated Current	32A
	Frequency	50/60Hz
Output	Output Voltage	400V AC
	Maximum Current	32A
	Output Power	2x11kW/1x22kW
User Interface	Connector Type	2xType 2 Socket
	Enclosure	PC
	LED Indicator	Green/Yellow/Red
	RFID Reader	Mifare ISO/IEC 14443A
	Start Mode	Plug&Charge/RFID Card/App
Communication	WiFi	Yes
	4G	Yes
	Ethernet	Yes
	Bluetooth	Bluetooth Low Energy (BLE 4.1) 2402-2480 MHz (for installer configuration purposes)
	OCPP	OCPP1.6 Json(OCPP2.0 Upgradable)

Safety	RCBO	40A Type A
	RCD	30mA AC+6mA DC
	Ingress Protection	IP54
	Impact Protection	IK08
Electrical Protection		Over current protection, Residual current protection, Short circuit protection, Surge protection, Over/Under voltage protection, Over/Under frequency protection, Over temperature protection
Certification		CE/RoHS/Reach
Certification Standard		EN IEC 61851-1:2019, EN IEC 61851-21:2021, IEC 62955:2018, IEC 62321
Grounding system support		TT, TN, IT
Environment	Installation	Wall-/Floor mounting (Optional)
	Working Temperature	- 30°C - +50°C
	Working Humidity	5%~95%
	Work Altitude	<2000 m
Package	Product Dims (WxHxD)	369x559x197 mm
	Package Dims (WxHxD)	466x620x245 mm
	Net Weight	10 kg
	Gross Weight	12 kg
Terminal	Specification	100A (Max.) 25 mm <sup>2</sup>
Measurement	Meter	MID

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# Smart Charging



Offering charging speeds of up to 11KW x2 and 1 x 22KW.

Supports load balancing management and PV solution.

\*It only takes 3.5 hours to fill up for the Tesla model 3.



OCPP1.6J Profile 2

OCPP2.0.1J upgraded

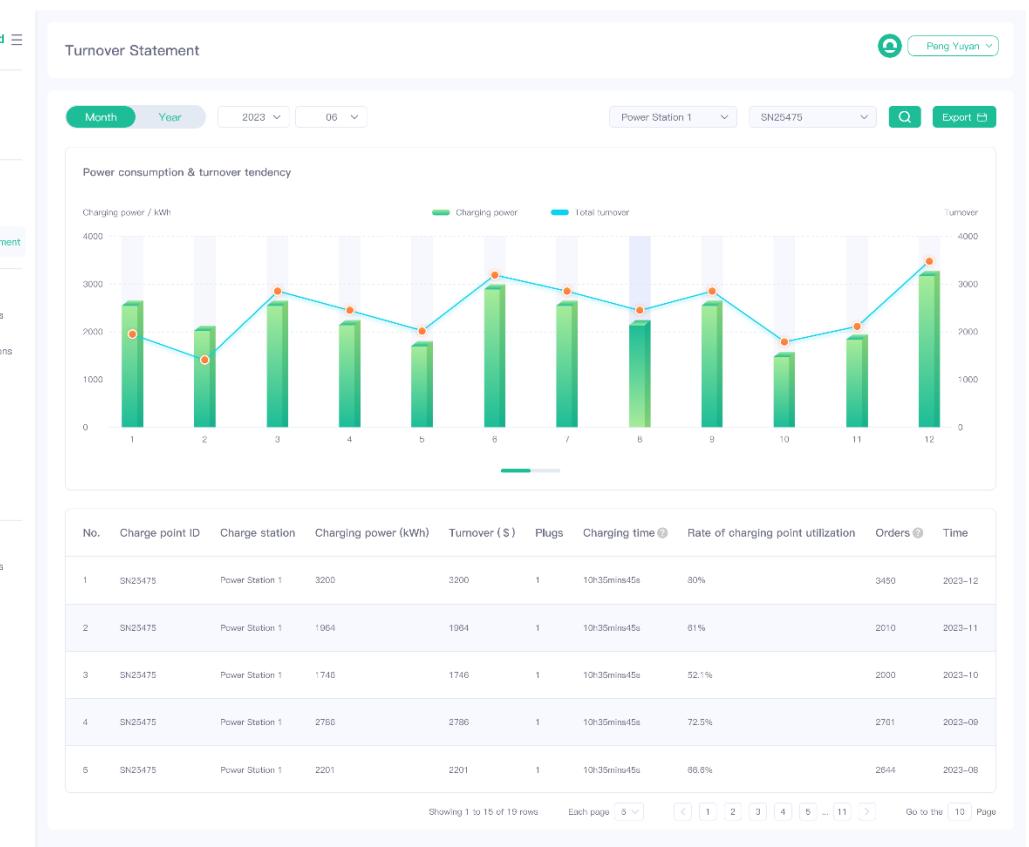
MONTA



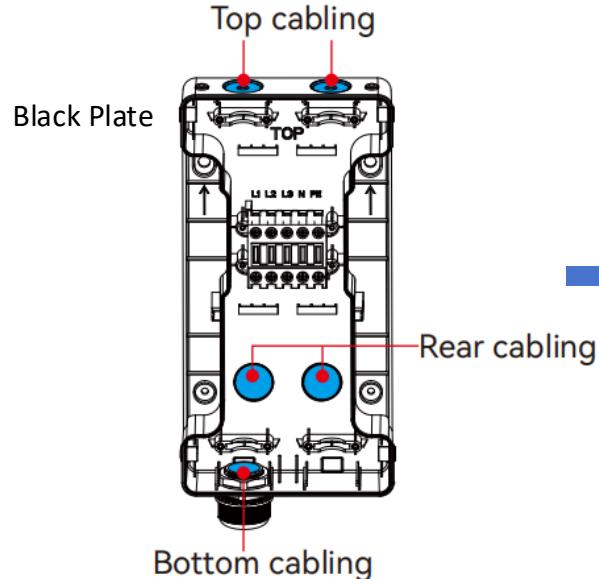
The 3rd Party Portal



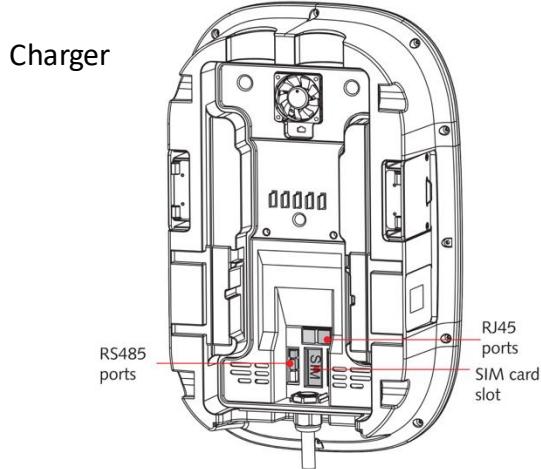
Evcharge EV chargers' management portal for operators



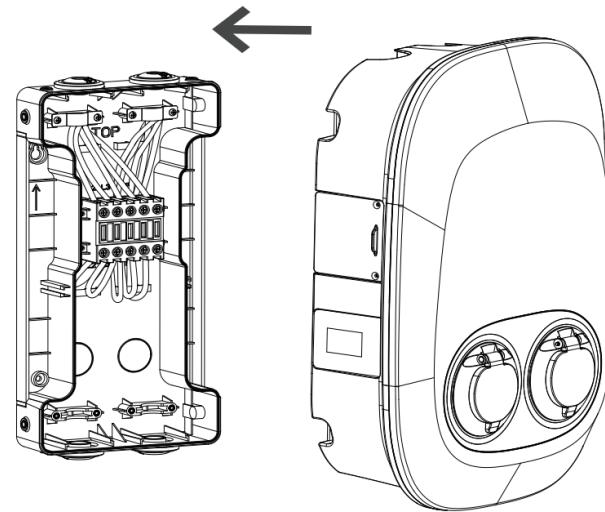
# Key Value -- Easy Installation



Choose the cabling method and  
Drill the holes and install the black plate



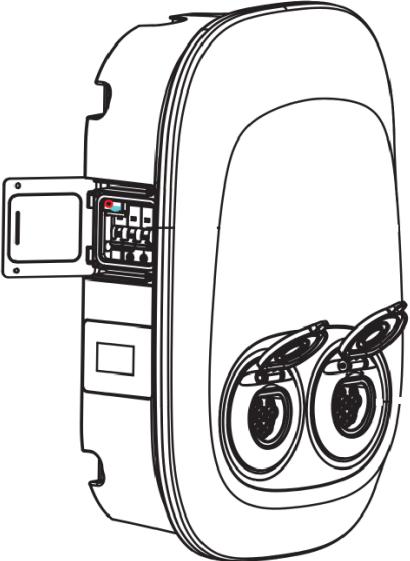
Connect to RJ45 or Ethernet or Insert 4G



Easy installation and easy maintenance

# Key Value -- Easy Maintenance

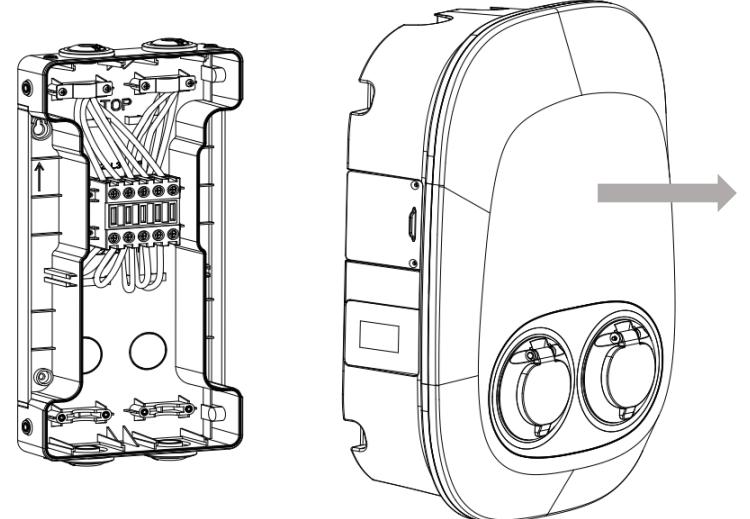
Reset the RCBO regularly



Rich indications of EV charger's status

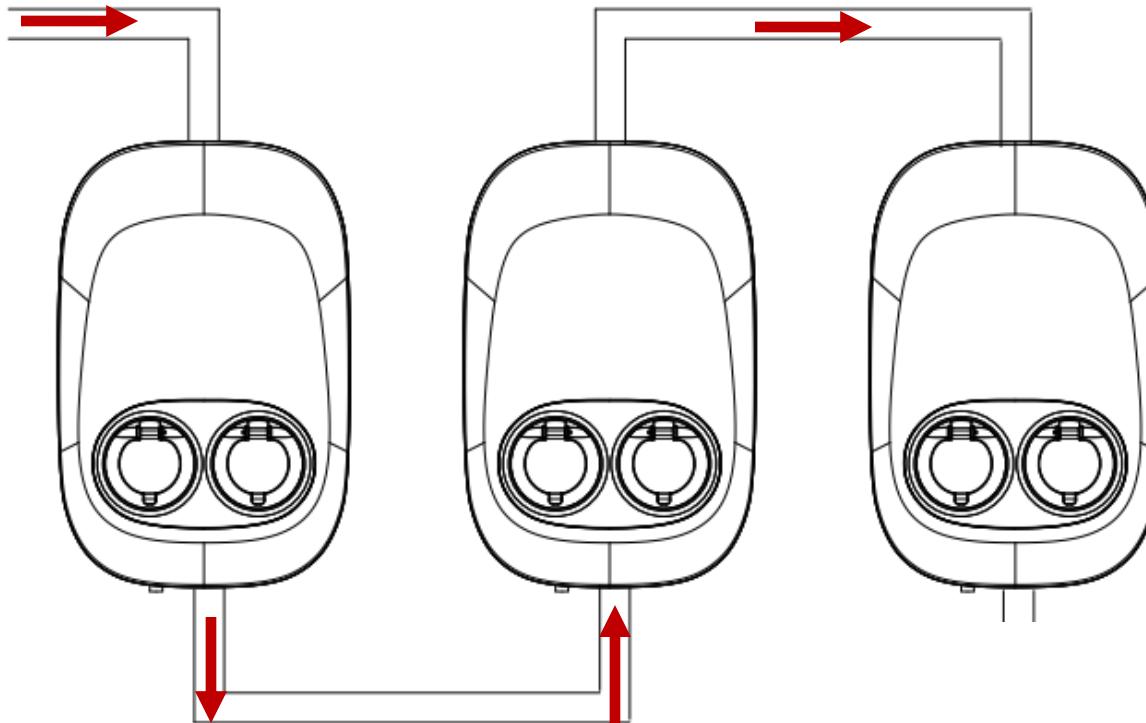
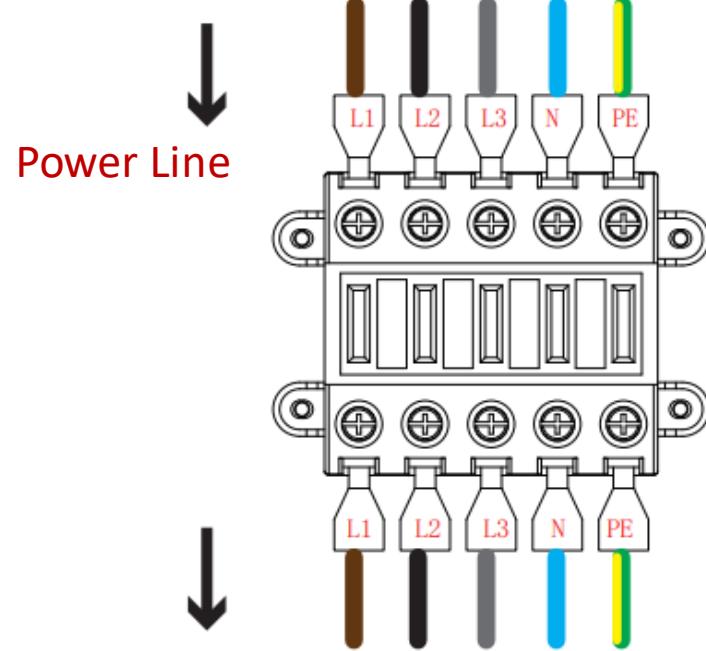
	Steady Green	Idle (default state) / swiping card with connector not plugged, sounds a "beep" signal three times
	Cycle: flashing green twice (on for 200ms and off for 1000ms), then off for 3000ms	Charger started successfully, and wait for EV's feedback
	Cycle: flashing green for five times (on for 200ms and off for 1000ms), then off for 3000ms	Charging connector plugged
	Fades in and out at intervals of 1s	Charging in progress
	Cycle: flashing green (on for 1s and off for 3s)	Charging ended
	Steady yellow	Warnings
	Cycle: flashing yellow (on for 2000ms and off for 2000ms)	The connector has been reserved (occupied)
	Cycle: flashing yellow for five times (on for 200ms and off for 1000ms), then off for 3000ms	Insufficient power allocated, charging suspended
	Cycle: flashing yellow for up to five times (on for 100ms and off for 100ms)	Successful card swiping
	Flashing red / Steady red	Faulty
	Steady White	Charging connector disabled
	Cycle: flashing white (on for 1000ms and off for 1000ms)	Self-test upon power-on
	Cycle: flashing white for five times (on for 200ms and off for 1000ms), then off for 3000ms	Firmware upgrading

Take off charger from back plate for maintenance easily



Change easily and Maintain easily

# Optional: Cascade Installation For Powerline



Power line can be connected to maximum 3 of Nano together by cascading to save the installation cost

# Optional: Cascade Ethernet Cable



Easily connect ethernet cable to switch or hub without more cable.

# Comparison with Single Charger

## Two 11KW Chargers



Timing of installation : ~ 21 mins  
Cabling : Ethernet cable + Powerline  
Maximum Power : 11KW



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Cabling : Ethernet cable + Powerline  
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V.S

## Nano Dual Charger 1x22 KW or 2x11KW



Timing of installation : ~ 15 mins  
Cabling : Cascade ethernet and powerline  
Maximum Power : 22KW

Cost savings of Nano should be decreased to 50% of 2 charger solution cost

# Key Value – Flexible Load Balancing Management

It describes the strategies and the various load management topologies (with installation and configuration options).

After reading this text, one should be able to understand which load management options are available for the EN+ home AC charger and how these can be set.

## Features:



**Effectively protect the power grid of commercial place from tripping, overloading**



**Easy installation, supports offline and online load balancing management**

# Semi-Public Scenario

## Key features:



### Load Balancing for Multi Chargers



### Ad Hoc RFID APP



### Chargers Management in Cloud

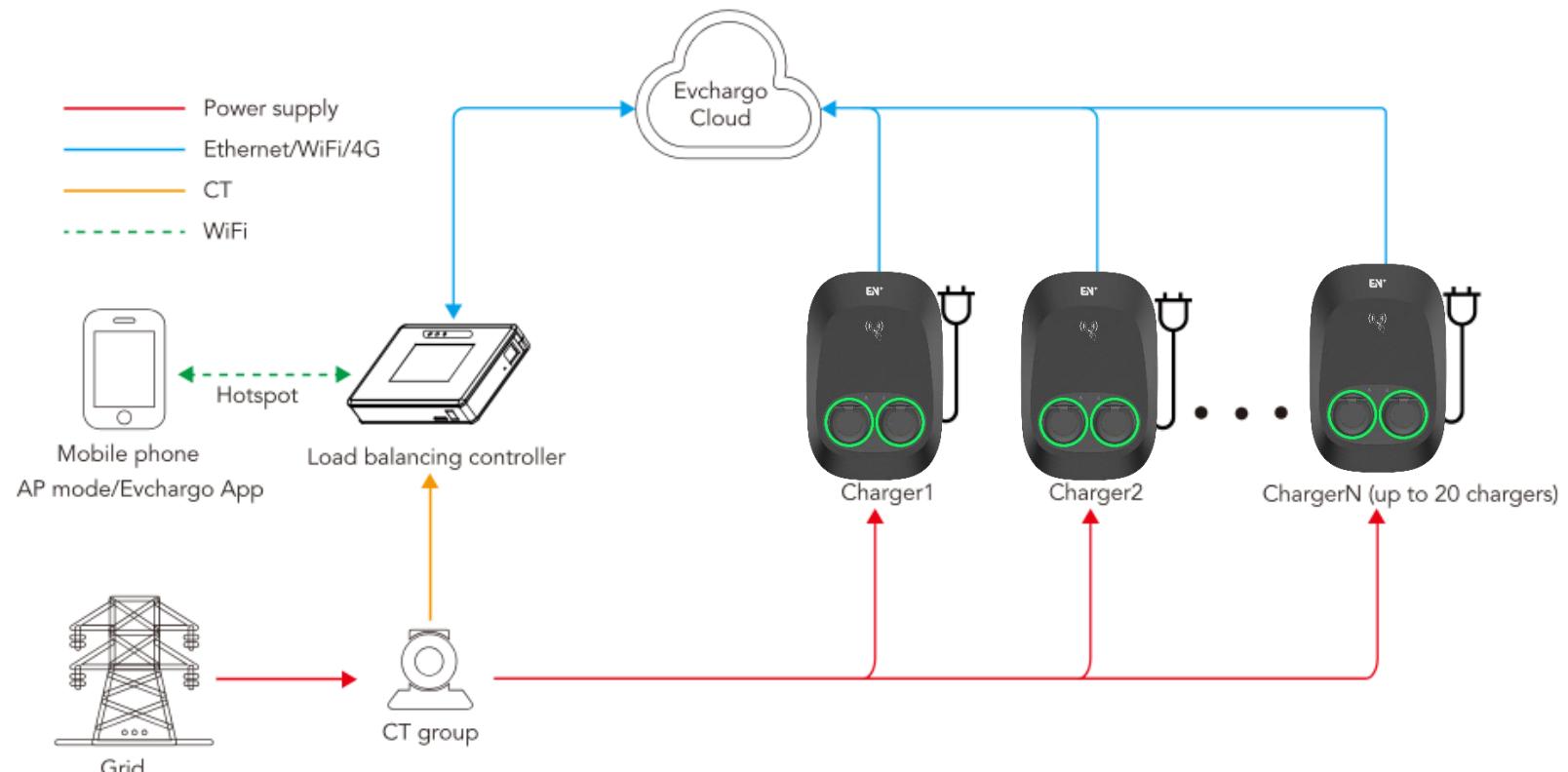
### Payment/Invoice/Monitoring



Invoice									
Charging Station									
Order details									
Invoice number : 200309104000	Grid connection number : 10000000000000000000	Date : Oct 10 2023	Start time : 10:00:00	End time : 10:15:00	Charging time : 15 minutes	Grid connection : 10000000000000000000			
Invoice To	Charging Station								
Name : Shenzhen Enplus Technology Co., Ltd.	Name : Test Station								
Address : 10000000000000000000	Address : Shenzhen Nanhai center								
VAT number : 99901000000000000000	Charge point ID : 12345678900000000000								
Order details									
Item number	Order ID	Charge started	Charge complete	Electricity price	Energy	Service	Time	Total costs	
12345678900000000000	12345678900000000000	2023-10-10 10:00:00	2023-10-10 10:15:00	0.15	100.00 kWh	0.15	10:00:00	15.00	
Quantity	Order quantity	Charge quantity	Charge quantity	Electricity price	Energy	Service	Time	Total costs	
12345678900000000000	12345678900000000000	100.00 kWh	100.00 kWh	0.15	100.00 kWh	0.15	10:00:00	15.00	

### Invoice of Charging

Hybrid load management is recommended for multiple charger installations. Load managed via Evcharge cloud.

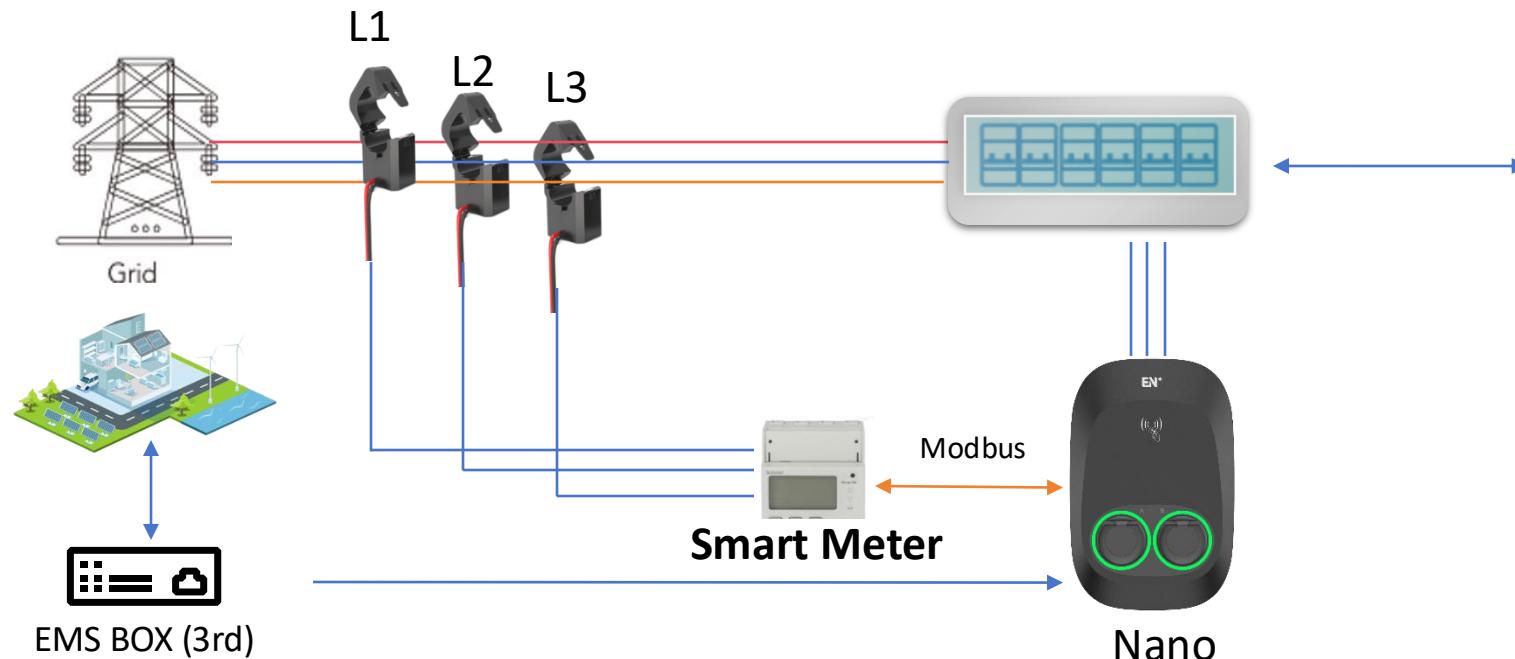


# Home Based Scenario



## Single Charger Load Balancing

Single charger load balancing is used to adjust the current of charging depending on how much the consumption of household electricity is to keep the safe of home grid.



## PV solution

PV solution make the charger totally controlled by the Energy Management System(EMS), providing the convenience of quick charging from home with renewable energy, save grid consumption.