

Dynamic Load Balance(DLB)

+PV Function

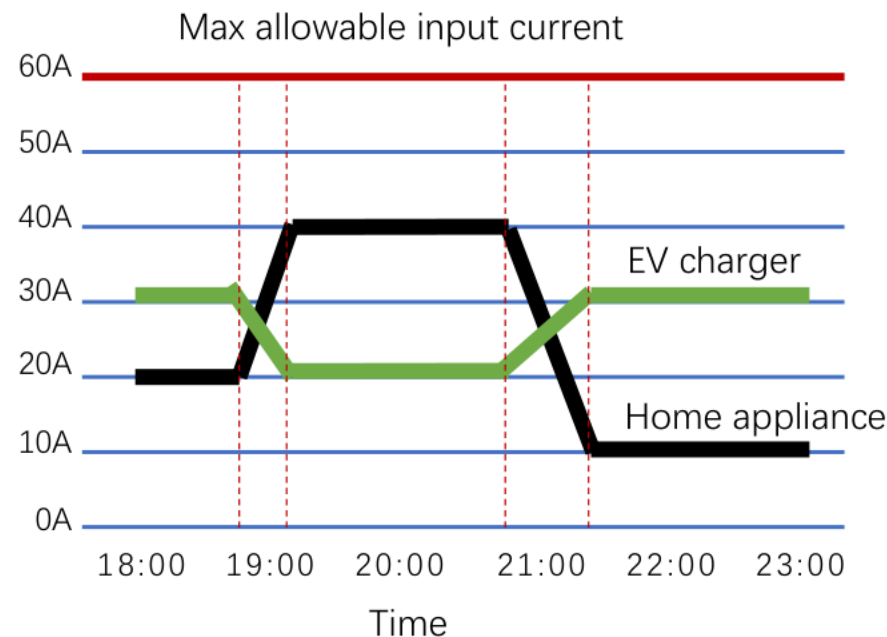
Application Note

- DLB Principle
- PV Principle
- Wire connection
- Installation
- Accessory parts
- APP Configuration



DLB Principle

Diagram



Dynamic load balancing principle(DLB)

The dynamic load balancing of charging piles is an intelligent power management technology, the core of which is to dynamically optimize the allocation of limited power resources to ensure the stable operation of equipment and improve the efficiency of power consumption.

The system monitors the total current of the household circuit in real time. When it is detected that the load is close to the upper limit due to the start of the high-power electrical appliance, the charging pile automatically reduces the charging power, thereby effectively avoiding the circuit overload trip.

For example:

Assume that the total capacity of a household is 60A.

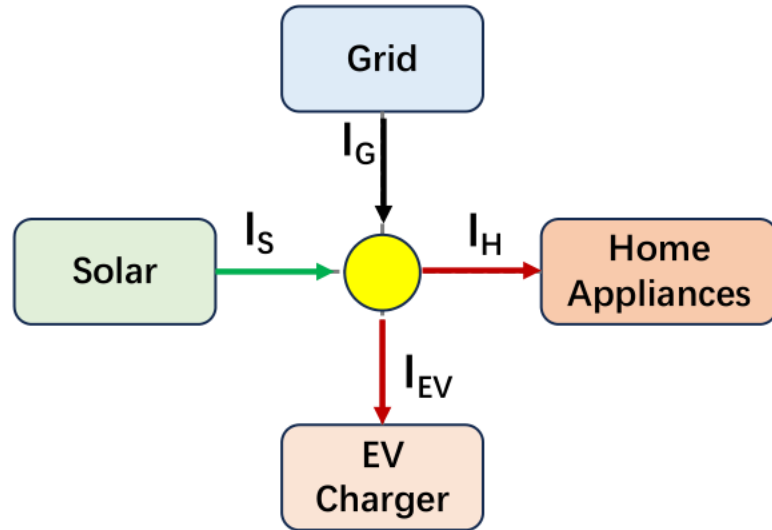
At 18: 00 p.m., the user inserts the charging pile after work and starts charging. At this time, the household electricity consumption is 20A, and the charging pile is charged with a maximum current of 32A.

At 19: 00 p.m., the household electricity consumption increased to 40A, and the charging pile automatically reduced the current to 20A for charging, so as not to exceed 60A.

At 21:00 p.m., the household electricity consumption is reduced to 20A, and the charging pile automatically returns to 32A for charging.

PV Principle

Diagram

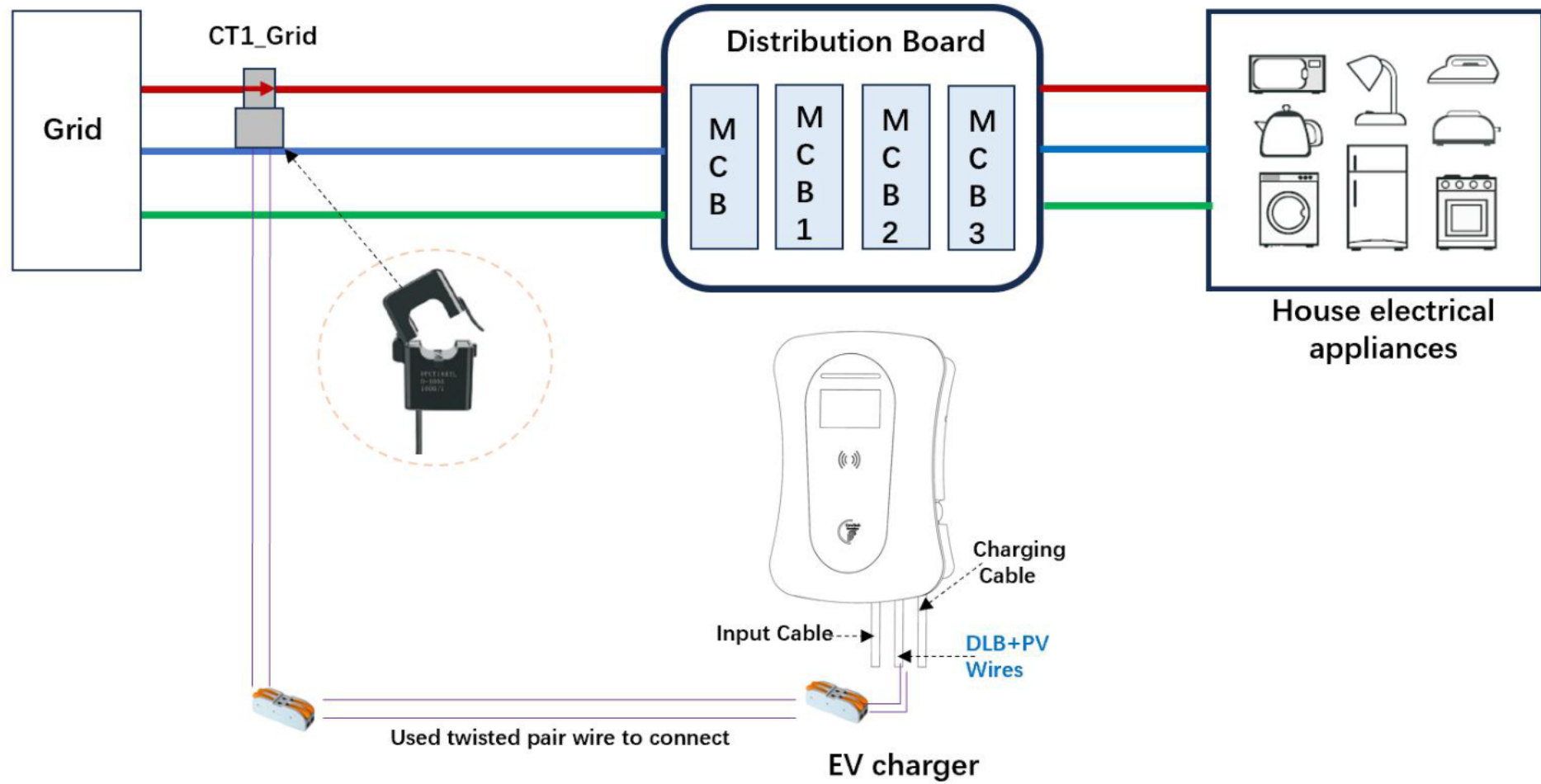


$$I_G + I_S = I_{EV} + I_H$$

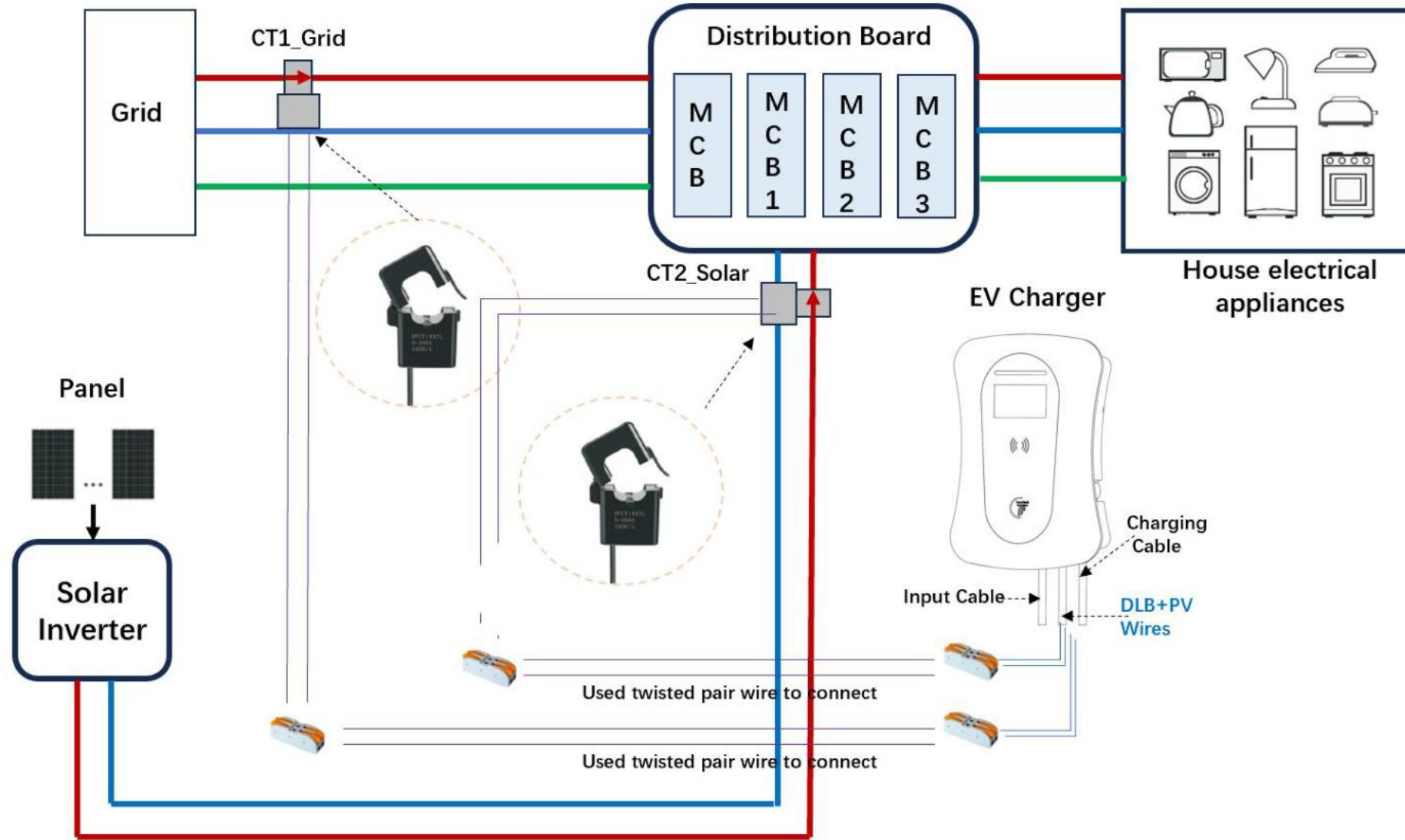
PV function illustration

When you have a solar system installed in your home, our charging station supports the use of surplus green energy to charge electric vehicles. By installing additional CT components, the charging station will monitor the power consumption of other electrical equipment and the available green energy, thereby automatically and dynamically adjusting the charging power to maximize the use of green energy and reduce electricity bills.

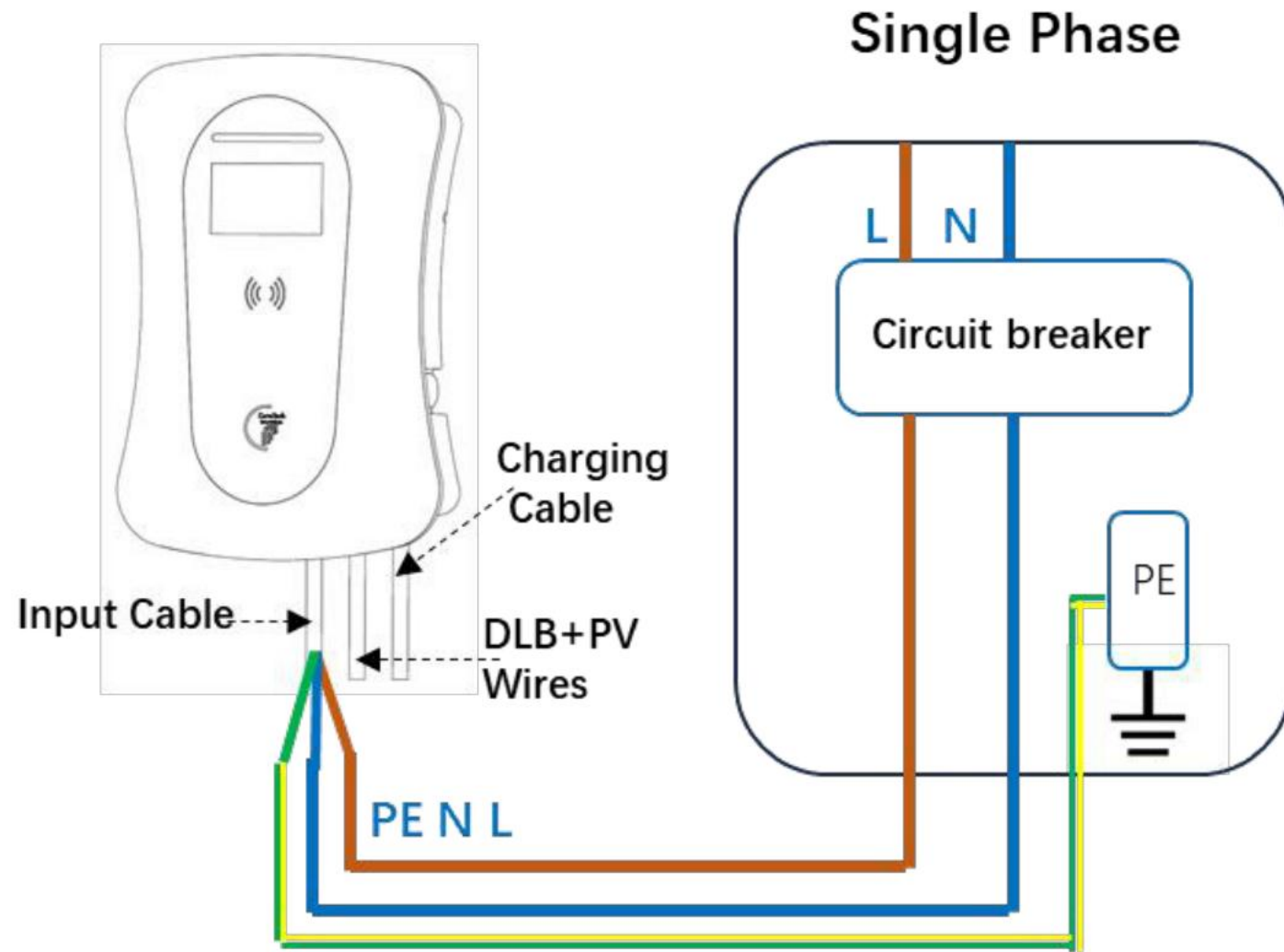
Wiring Diagram—— Single phase DLB



Wiring Diagram—— Single phase DLB+PV



Installation



Accessory parts (optional)



1. Current Transformer (CT)



2. 2P quick connetor

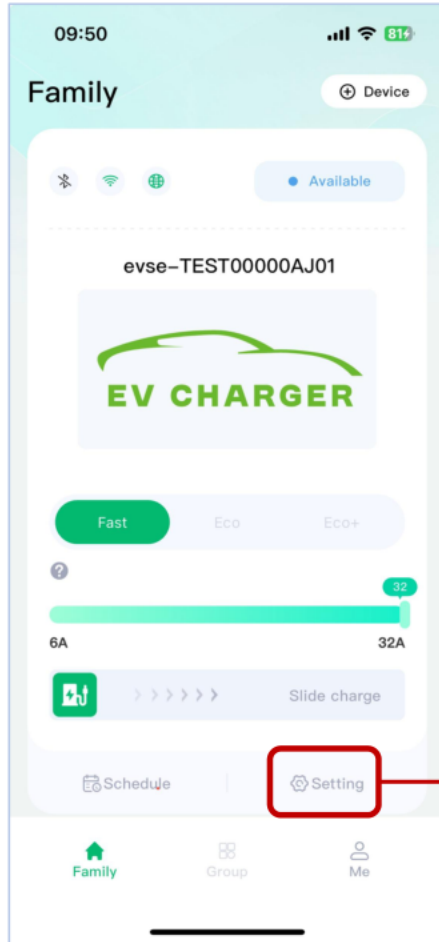


3. 6P wire terminal

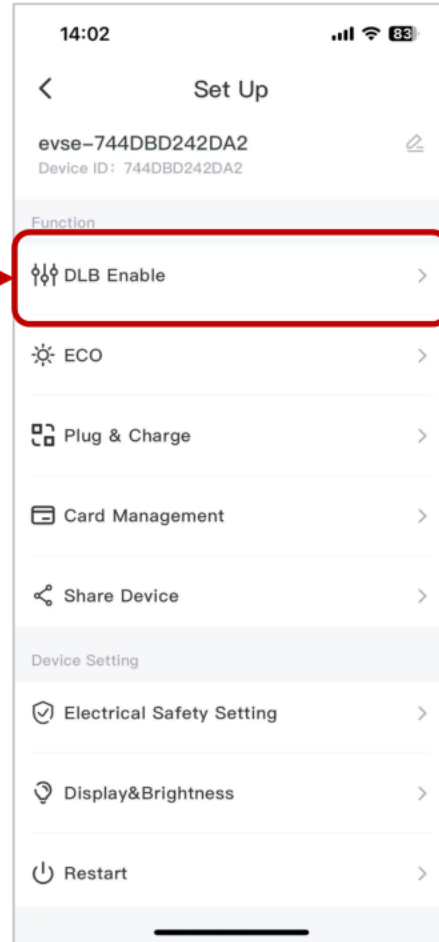
Note	CT	Quick Connector	Wire terminal
Specification	Ratio: 100A:50mA Length: 1m	2P	6P
1 phase-DLB	1 pc	2 pcs	1 pc
1 phase-DLB+PV	2 pc	4 pcs	1 pc
3 phase3 DLB	3 pc	6 pcs	1 pc
3 phases DLB+DLB	Not available	Not available	Not available

APP Configuration-DLB

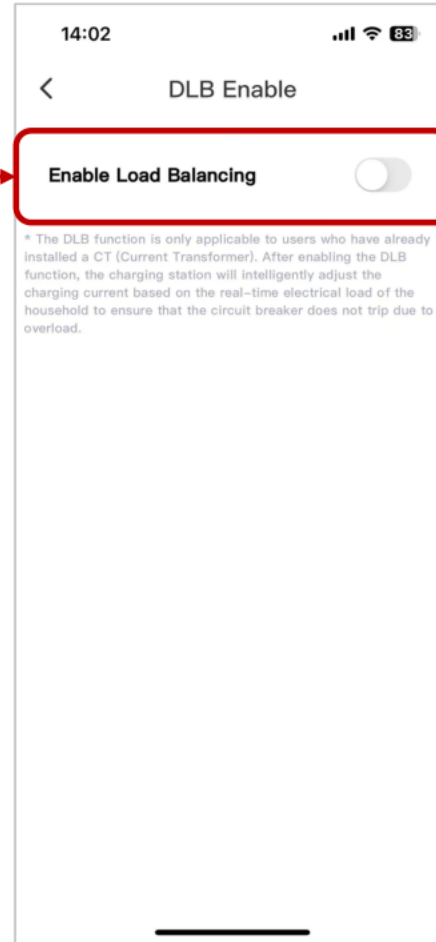
Step1
Click **【Setting】**



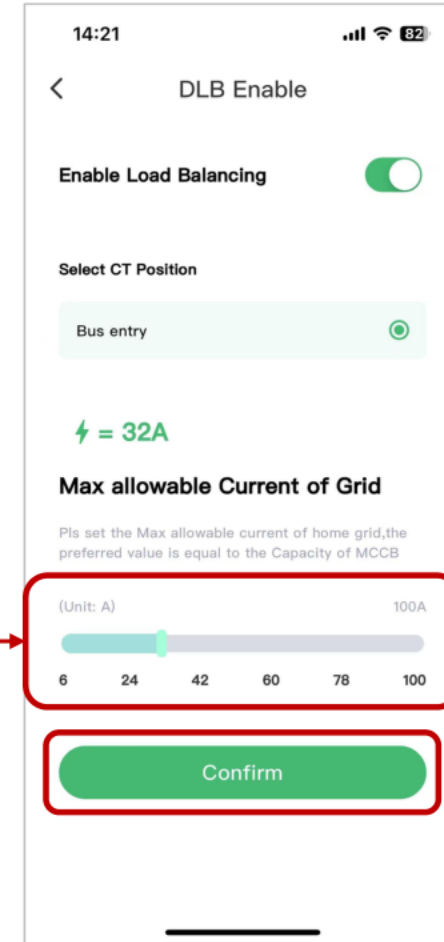
Step2
Click **【DLB enable】**



Step3
Turn on the switch

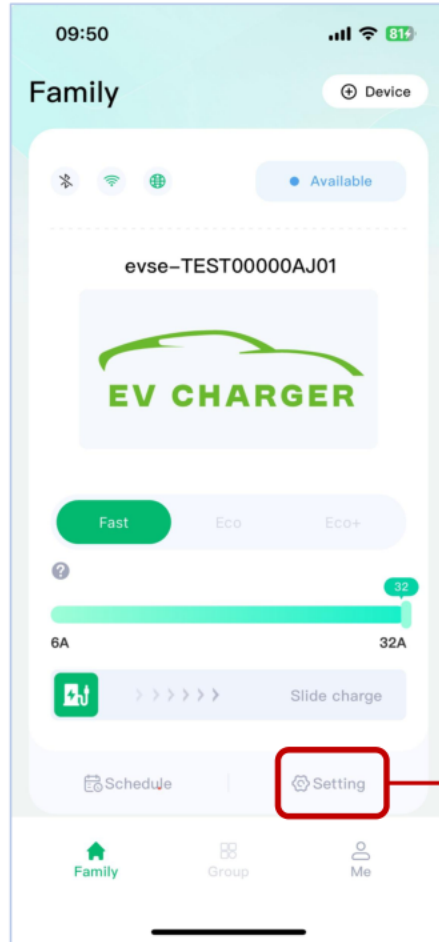


Step4
Slide to choose the Grid current

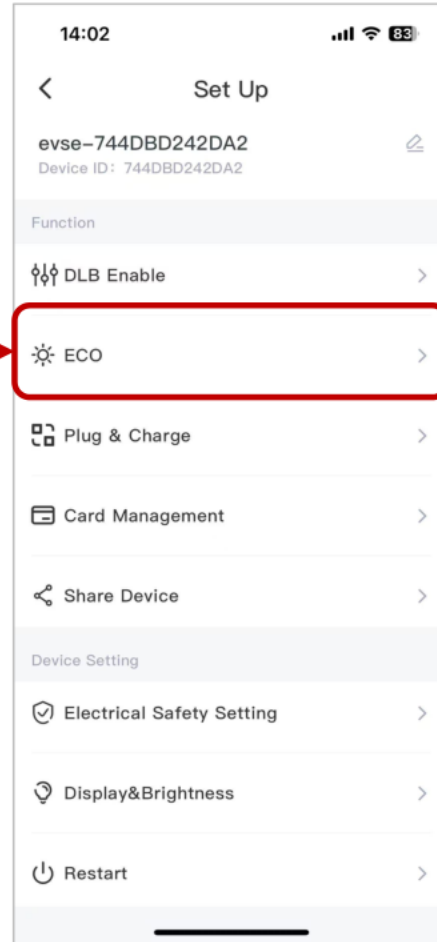


APP Configuration-ECO

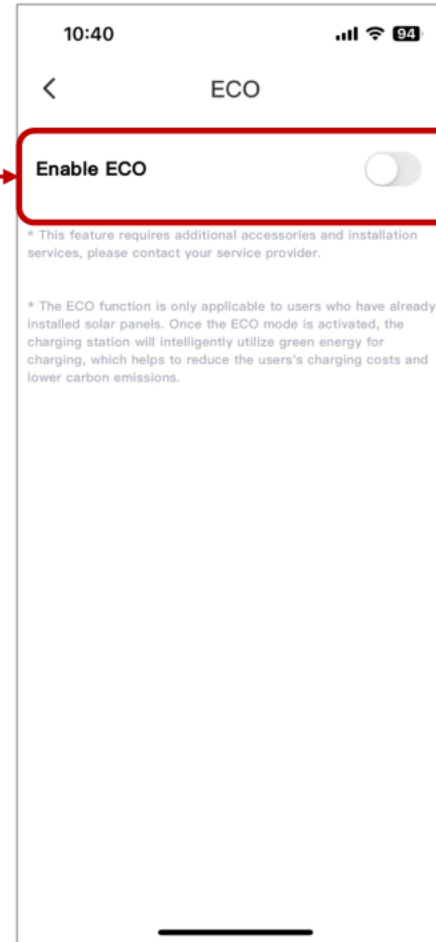
Step1
Click **【Setting】**



Step2
Click **【ECO】**



Step3
Turn on the switch

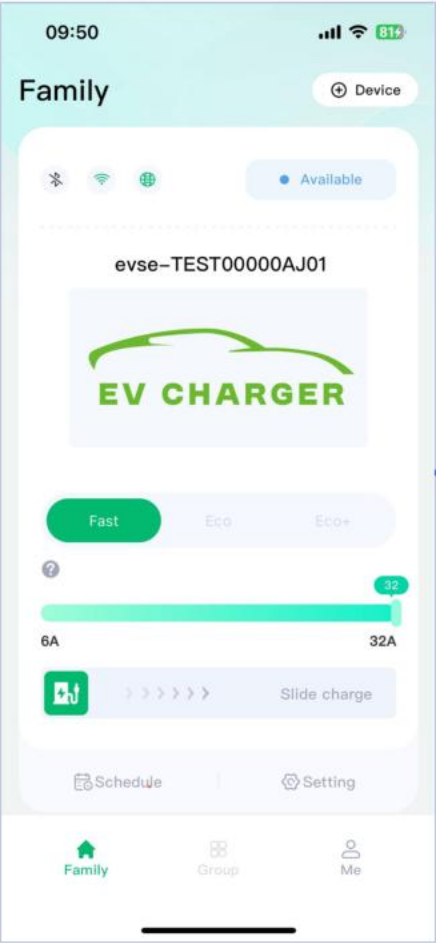


Note:

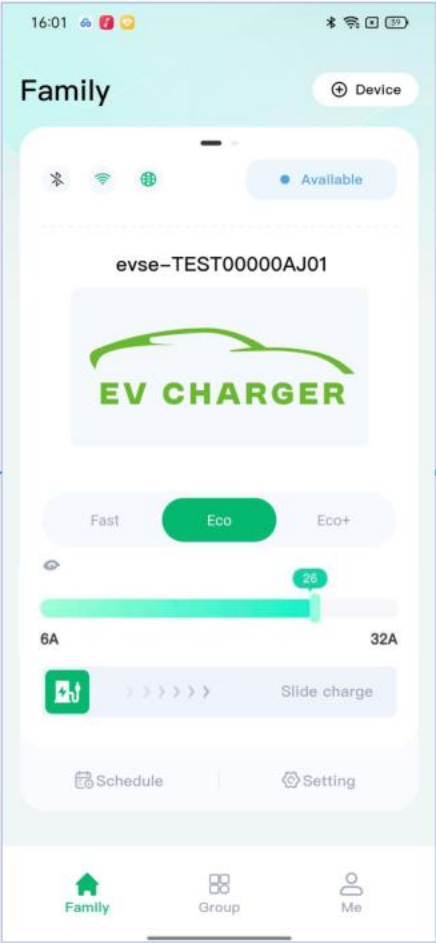
The ECO/ECO+ function is only applicable to user who have already installed solar panels. Once the ECO/ECO+ is activated, the charging station will intelligently utilize green energy for charging EV, which helps to reduce the user's charging costs and lower carbon emissions.

APP Configuration-ECO/ECO+ selection

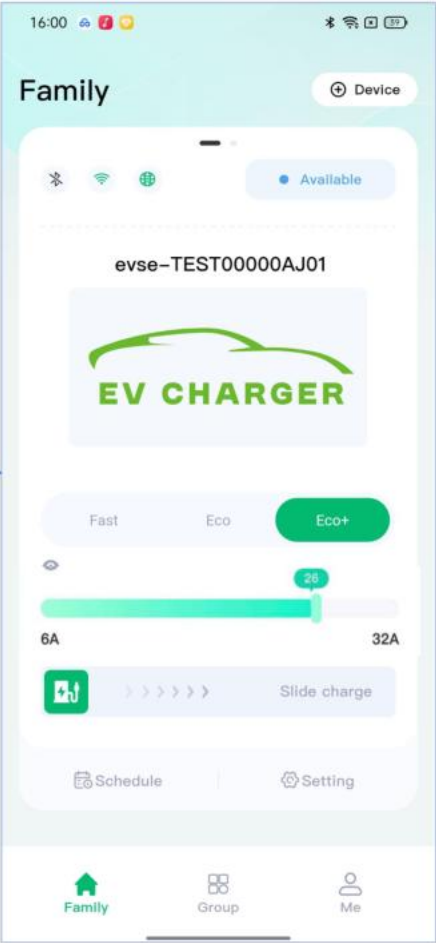
Mode: Fast



Mode: ECO

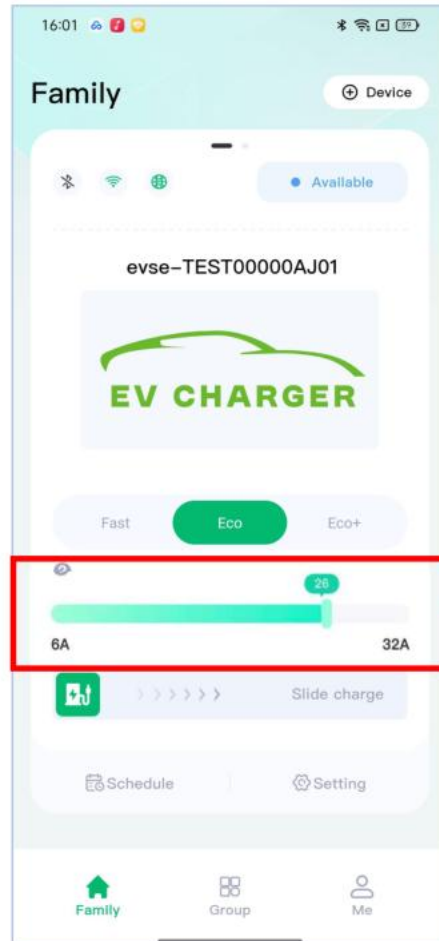


Mode: ECO+



ECO/ECO+ Function explanation

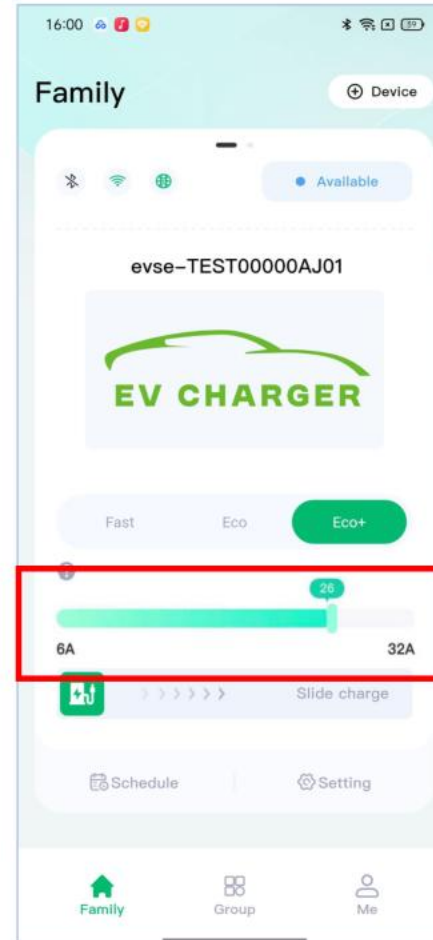
ECO



ECO Mode (pure green)
In ECO mode, the Charger starts charging by using green power. If the green power is insufficient (less than 1.4KW 6A), the charging will be suspended. Until the green power recovers sufficiently, then continue to charge.

Max allowable charging current 6-32A adjustable.

ECO+



ECO+ Mode (Smart green)
In ECO+ mode, the Charger starts charging by using green power. If the green power is insufficient (less than 1.4KW 6A), the grid power will be supplemented to maintain the minimum charging current of 6A. Charging process will be always continuous.

Max allowable charging current 6-32A adjustable.

ECO/ECO+ Function explanation

Parameter	ECO	ECO+
Conditions	need to assemble solar power and CTs	need to assemble solar power and CTs
Charging status	Charging process might be suspended as the solar power is not enough.	Charging process always continuous even if the solar power is not enough.
Charging current	$\geq 6A$ or 0A suspended	$\geq 6A$
Max allowable charging Current	6-32A adjustable	6-32A adjustable
Grid power supply	0A not offer	Max 0~6A

User Manual Download



For learning more details about panda wallbox EV charger, welcome to scan the QR code to download the user manual

APP Download



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