

**Fox ESS EV Charger**  
**Operation and Installation Manual of Energy**  
**Management System**




\* This Manual introduces the App configuration, installation instructions and working mode instructions for load balancing and Photovoltaic Linkage of Fox ESS EV Charger.

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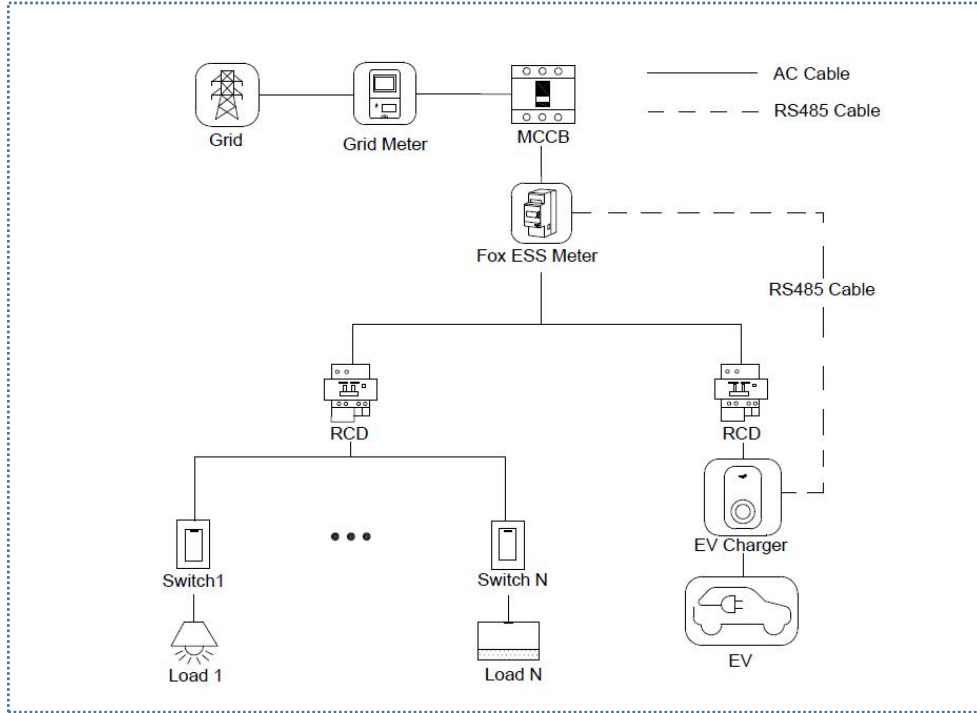
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# 1. Load Balancing (Single Unit)

## Application:

Suitable for scenarios where a single EV charger shares power with other household loads.

### 1.1 Installation Guide



Wiring diagram of single unit load balance system

## Notes:

1. Use at least a Type A RCD (Residual Current Device) or equivalent leakage protector complying with local standards.
2. Installation must be performed by qualified personnel in accordance with local regulations.

## RS485 Communication Wiring

An RS485 cable is required to establish communication between the EV charger and the electric meter.

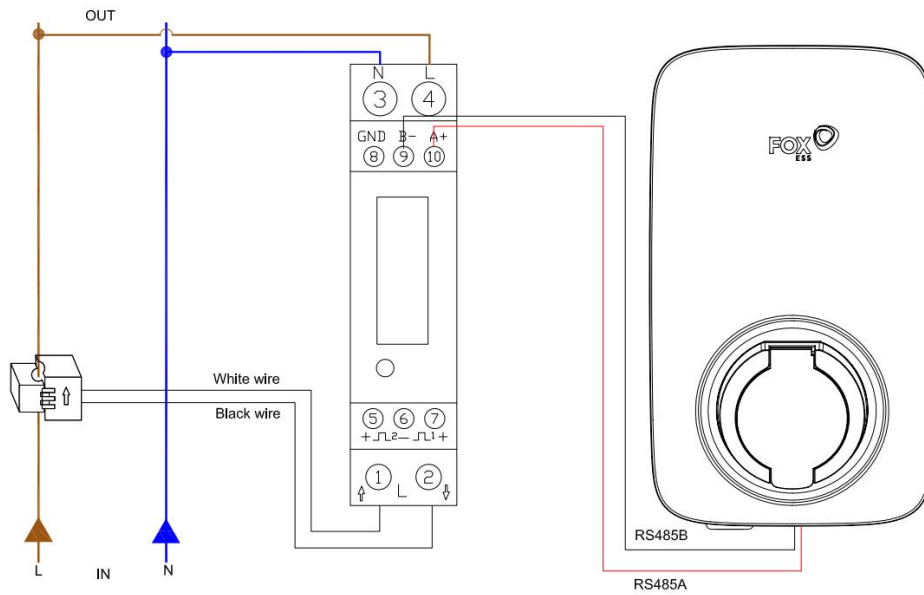
## Recommended Electric Meter Models:

Electric Meter Model	Applicable EV Charger
SDM120CT (Single-phase $\leq 100A$ )	7.3KW
DDSU666 5(80)A (Dual RS485)	7.3KW
DTSU666 5(80)A (Dual RS485)	11KW/22KW
DTSU666 1.5(6)A (Dual RS485)	11KW/22KW

## Notes:

1. Fox ESS inverters can share the same electric meter with the EV charger.
2. Wire colors in diagrams are for reference only. Follow local wiring standards.

### RS485 Wiring Diagram for SDM120CT Single-Phase Meter and 7.3kW EV Charger



#### Upper Terminals

Voltage input		Communication	
N Input	L Input	RS485-A	RS485-B
3	4	10	9

#### Lower Terminals

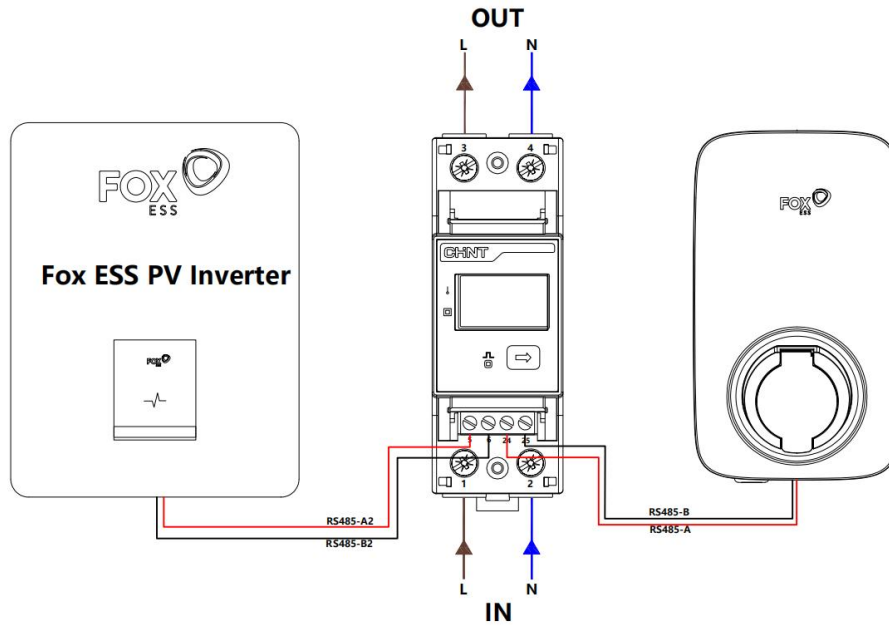
Transformer connection	
White wire	Black wire
1	2

#### Note:

Wire colors depicted in the diagram are for illustrative purposes only. Always follow local wiring color standards for installation.

# RS485 Communication Wiring for

DDSU666 5(80) Single-Phase Meter and 7.3kW EV Charger



## Upper Terminals

OUT Wire	
L Output	N Output
3	4

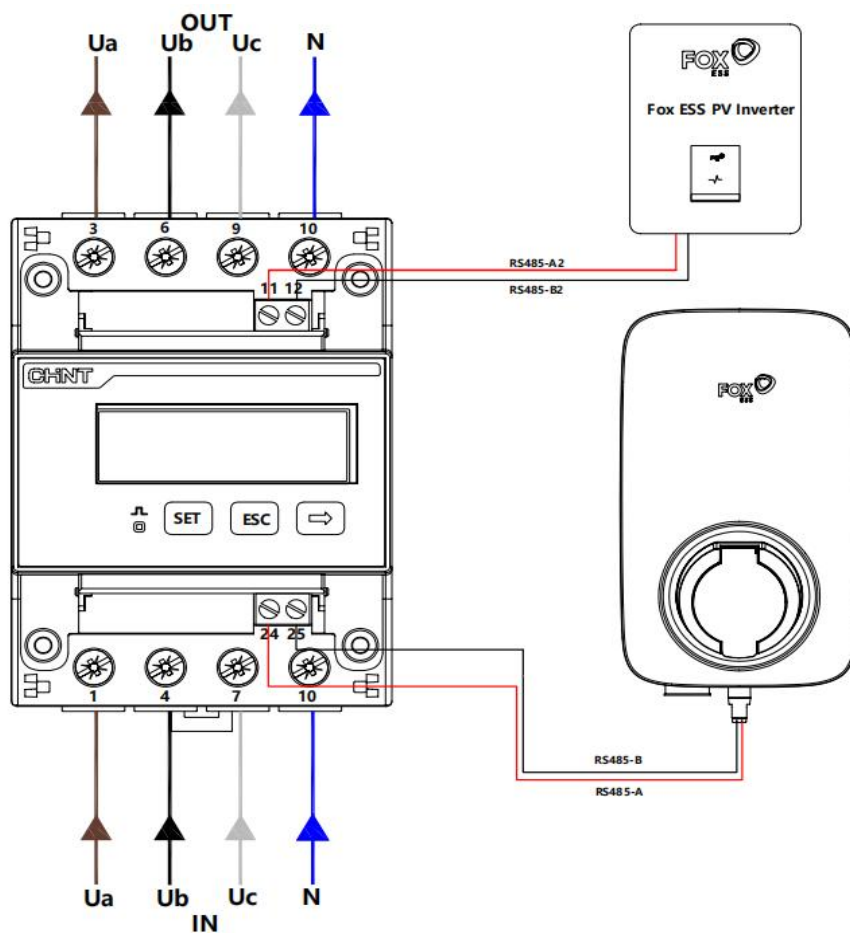
## Lower Terminals

IN Wire		Communication			
L Input	N Input	RS485-A2	RS485-B2	RS485-A	RS485-B
1	2	5	6	24	25

## Note:

Wire colors depicted in the diagram are for illustrative purposes only. Always follow local wiring color standards for installation.

**RS485 Communication Wiring for  
DTSU666 5(80) Three-Phase Meter and 11kW&22kW EV Charger**



**Upper Terminals**

Voltage output				Communication	
Ua	Ub	Uc	N	RS485-A2	RS485-B2
3	6	9	10	11	12

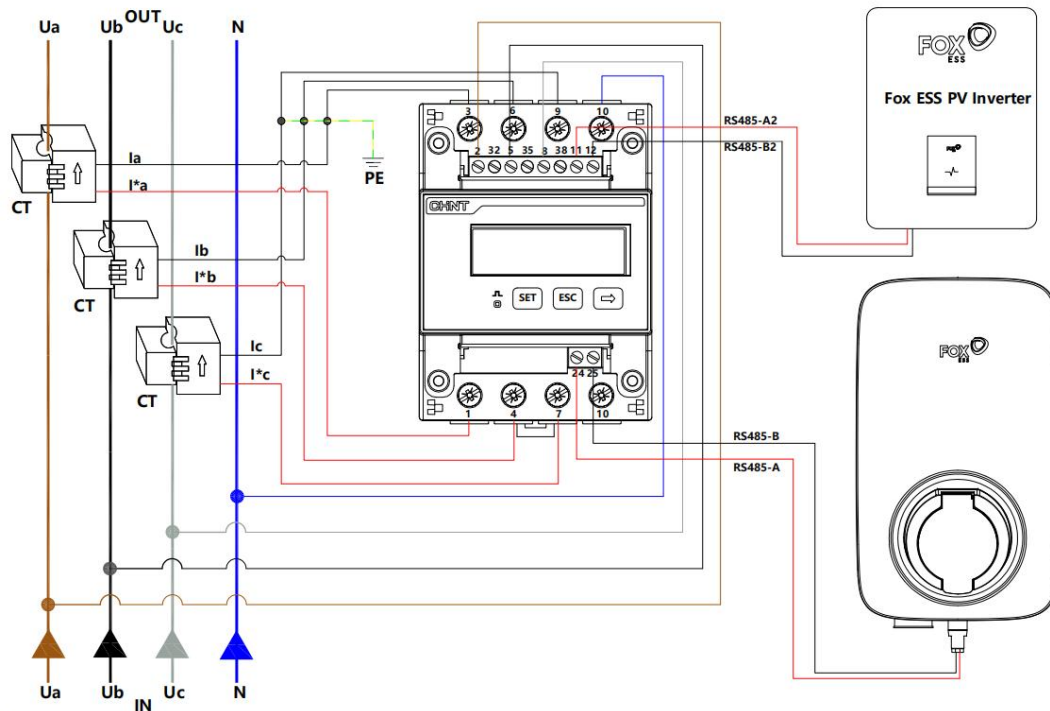
**Lower Terminals**

Voltage input				Communication	
Ua	Ub	Uc	N	RS485-A	RS485-B
1	4	7	10	24	25

**Note:**

Wire colors depicted in the diagram are for illustrative purposes only. Always follow local wiring color standards for installation.

### RS485 Communication Wiring for DTSU666 1.5(6) Three-Phase Meter and 11kW&22kW EV Charger



#### Upper Terminals

Transformer connection			Voltage input				Communication	
Ia	Ib	Ic	Ua	Ub	Uc	N	RS485-A2	RS485-B2
3	6	9	2	5	8	10	11	12

#### Lower Terminals

Transformer connection			Communication	
I*a	I*b	I*c	RS485-A	RS485-B
1	4	7	24	25

#### Note:

Wire colors depicted in the diagram are for illustrative purposes only. Always follow local wiring color standards for installation.



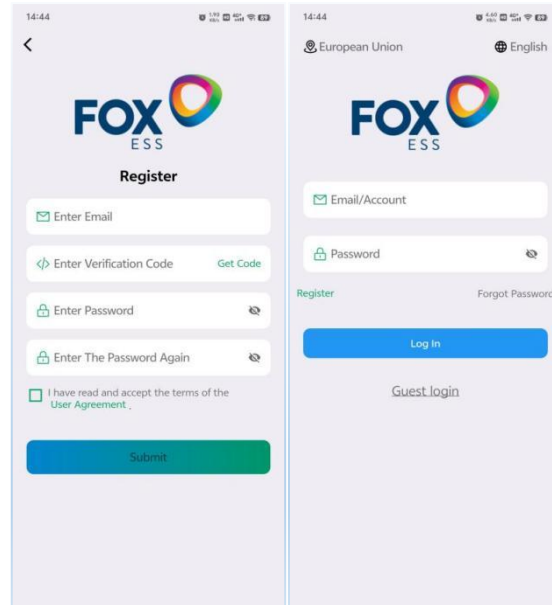
## 1.2 Configuration via FoxSwitch App

### Step 1:

Download FoxSwitch App: Available on the App Store or Google Play.

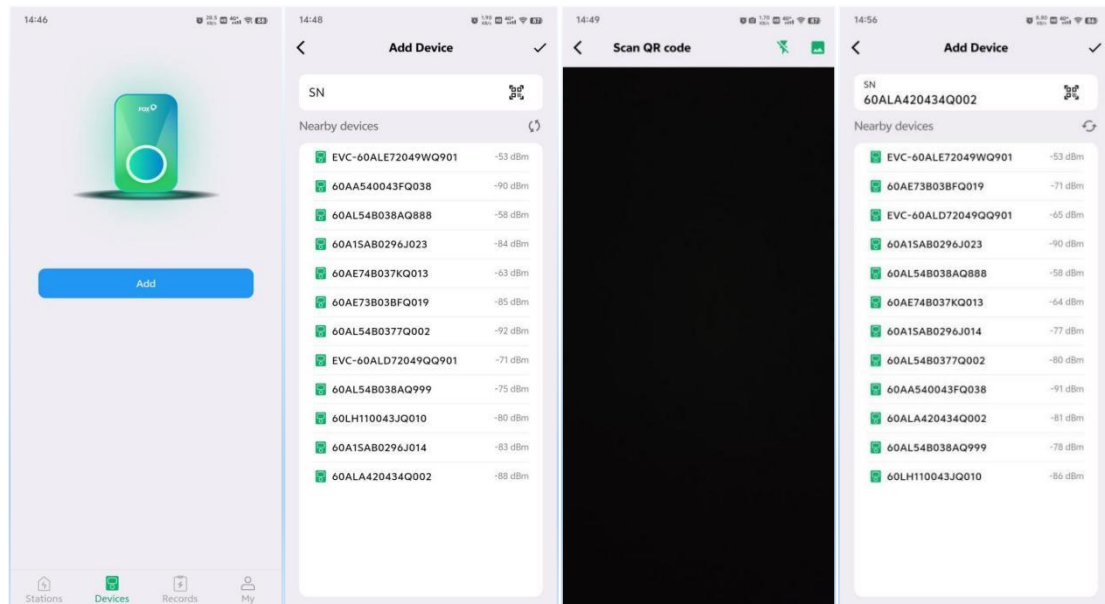
### Step 2:

Account Login: Log in or register an account.



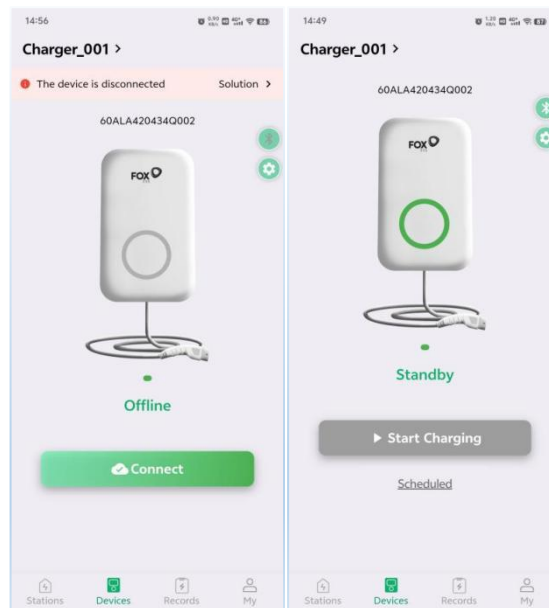
### Step 3:

Add EV Charger: Scan the QR code or manually enter the charger's serial number (SN).



#### Step 4:

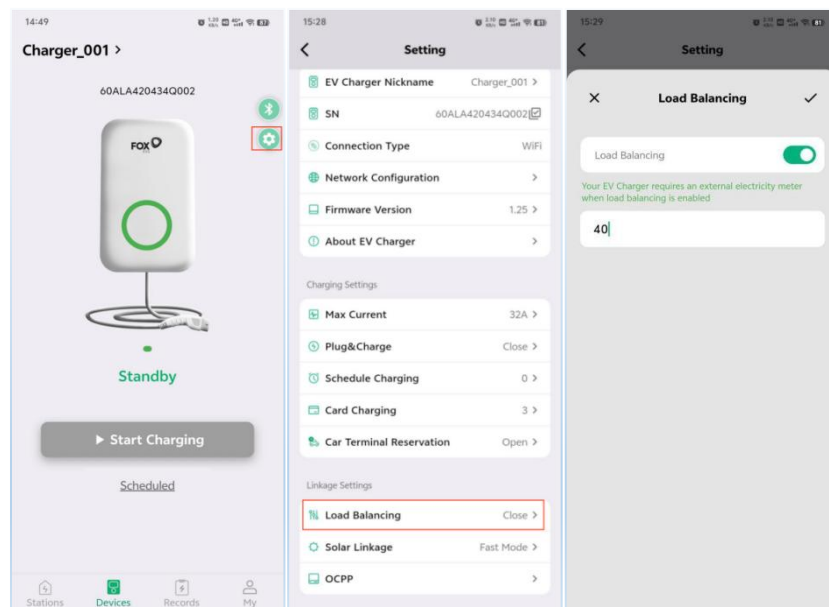
Bluetooth Connection: Enable Bluetooth and location services on your phone.



#### Step 5:

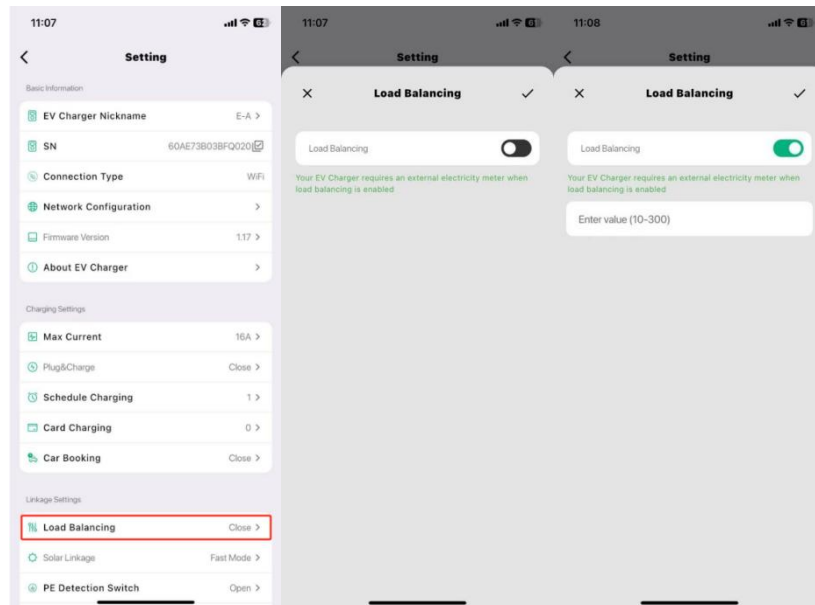
Enable Load Balancing:

Set the load balancing current threshold (10–300A), ensuring it is below the circuit breaker's (MCCB) rated current.



### 1.3 Introduction of the Function

The EV charger dynamically adjusts its charging current based on real-time household load data from the electric meter.



**Example:**

**Rated Circuit Breaker Current: 40A**

**Threshold Setting: 40A**

Household load = 5A → Charging current = 32A

Household load = 15A → Charging current = 25A

Household load = 34A → Charging current = 6A (minimum starting current).

Charging pauses if current drops below 6A.

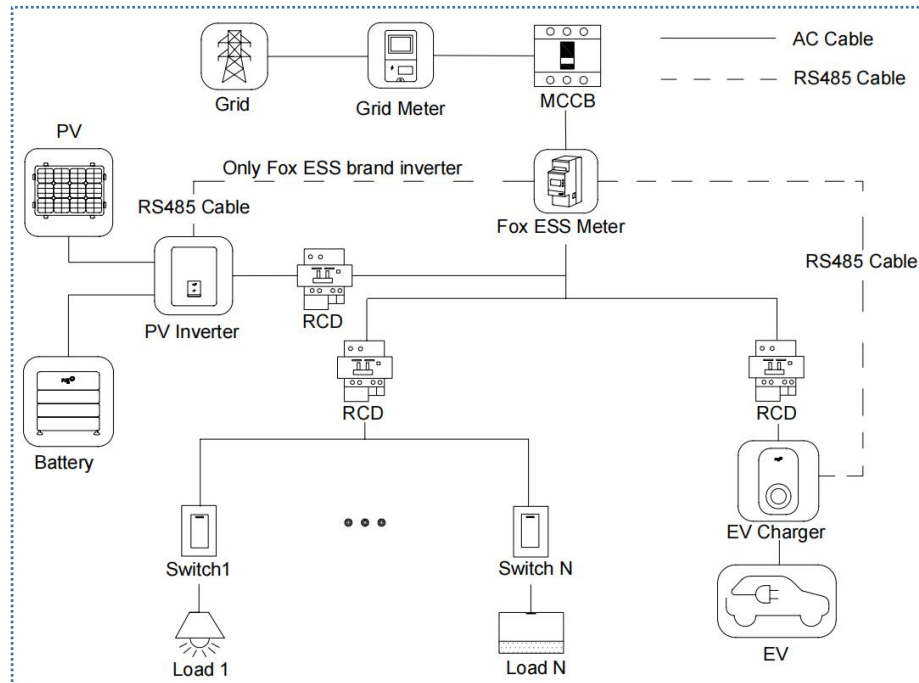
Note: Per industry standards, the minimum starting current for EV chargers is 6A.

## 2. Photovoltaic Linkage

### 2.1 Installation Guide

Follow RS485 wiring instructions in Section 1.1.

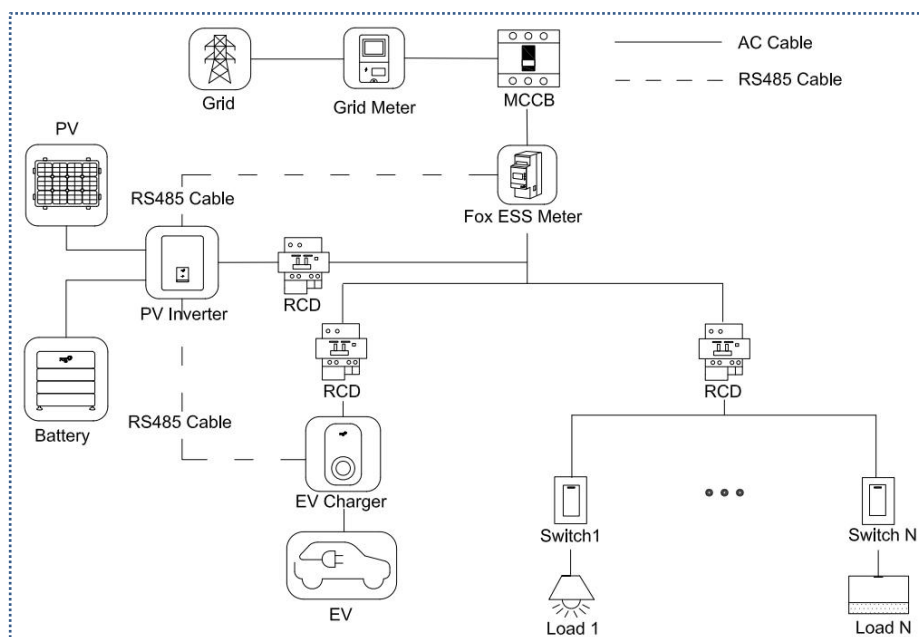
**Application:** Enables EV charging using solar energy (prioritized) and grid power.



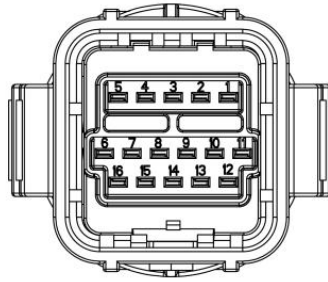
**Photovoltaic Linkage System Wiring Diagram**

(Fox ESS Inverters Compatible with EV Chargers via Shared Electric Meter)

**Hybrid Inverter RS485 connect to EV Charger Direct**



### H1-G2



PIN	1	2	3	4	5	6	7	8
Definition	Meter485A	Meter485B	485B	485A	CT2+	CT2-	CT1-	CT1+

H1-G2 communication terminal

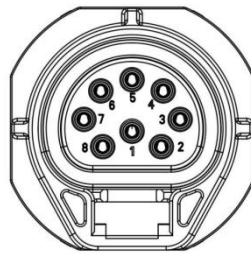
PIN1:Meter485A

PIN2:Meter485B

PIN3:EV Charger 485B

PIN4:EV Charger 485A

### H3



PIN	1	2	3	4	5	6	7	8
Definition	485A	485B	Meter 485B	Meter 485A	GND	GND	RY_ CON	+12V

H3 communication terminal

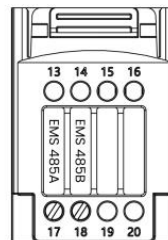
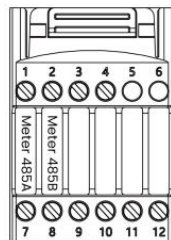
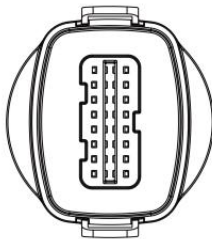
PIN4:Meter485A

PIN3:Meter485B

PIN1:EV Charger 485A

PIN2:EV Charger 485B

### H3-Pro



1	2	3	4	5	6	7	8
DRY RLY2-	DRY RLY2+	DRY RLY1-	DRY RLY1+	/	/	Meter 485A	Meter 485B
9	10	11	12	13	14	15	16
GND TVS	GND COM	+12V SELV	RY Ctrl	/	/	/	/
17	18	19	20				
EMS 485A	EMS 485B	/	/				

H3-Pro communication terminal

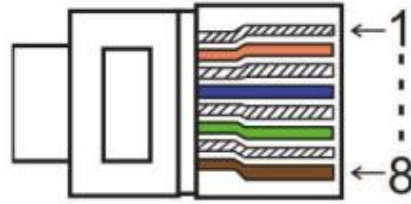
PIN7:Meter485A

PIN8:Meter485B

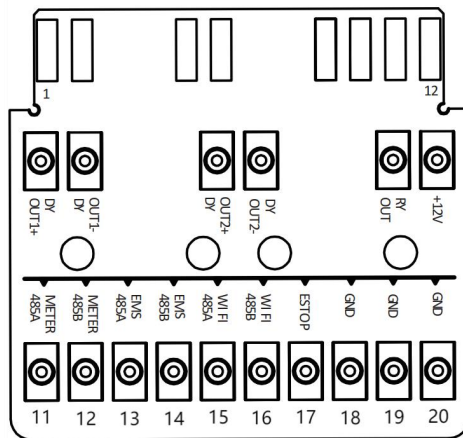
PIN17:EV Charger 485A

PIN18:EV Charger 485B

H3-Smart



PIN	1	2	3	4	5	6	7	8
Definition	Meter 485B	Meter 485A	/	/	/	/	Meter 485B	Meter 485A



PIN	13	14
Definition	485A	485B

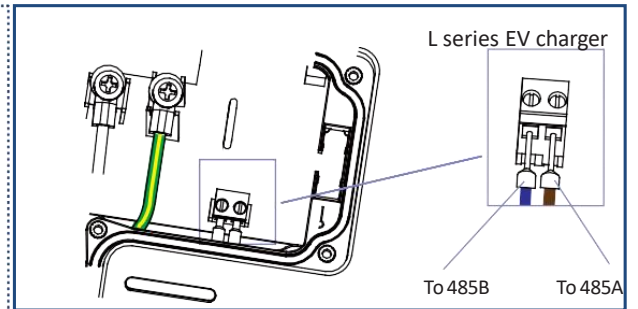
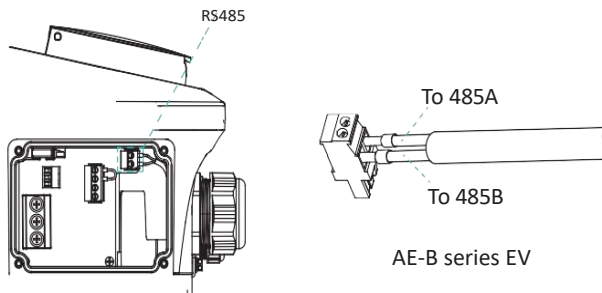
H3-Smart communication terminal

PIN1:Meter485B

PIN2:Meter485A

PIN13:EV Charger 485A

PIN14:EV Charger 485B



## 2.2 Configuration via FoxSwitch App

1.To add EV Chargers, follow the procedures outlined in Section 1.1.

2.Enable Photovoltaic Linkage in the app.

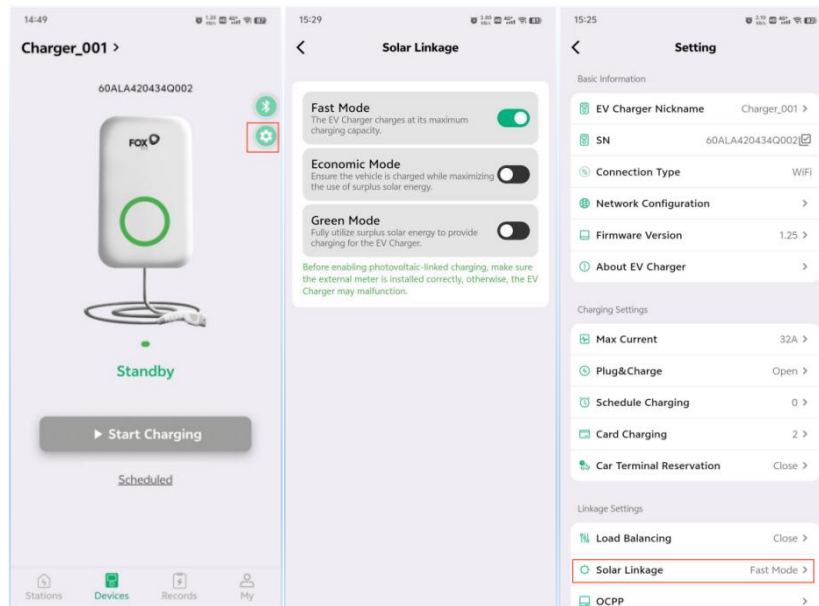
Select mode:

### Green Mode:

Uses only solar energy (charges when solar power > household load + 6A).

### Economic Mode:

Prioritizes solar energy; supplements with grid power if needed.



## 2.3 Function Overview

### Optimized Version:

#### Photovoltaic Linkage Modes via FoxSwitch

The EV charger can be configured to operate in **Green Mode** (solar-only charging) or **Economic Mode** (solar-priority with grid backup). Real-time solar generation data is transmitted from the Fox ESS inverter to the charger via the electric meter, enabling dynamic adjustment of charging behavior based on the selected mode.

#### Green Mode

**Condition:** Solar generation > Household load + Minimum starting current (6A).

**Charging Current** = Solar generation – Household load

(6A ≤ Charging current ≤ 32A).

**Condition:** Solar generation < Household load + 6A.

**Action:** Charging pauses.

**Resumption:** Charging restarts when solar generation > Household load + 6.5A.

#### Economic mode:

**Condition:** Solar generation > Household load + 6A.

**Charging Current** = Solar generation – Household load

(6A ≤ Charging current ≤ 32A).

**Condition:** Solar generation < Household load + 6A.

**Charging Current** = 6A (solar generation – Household load + grid power supplementation).





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