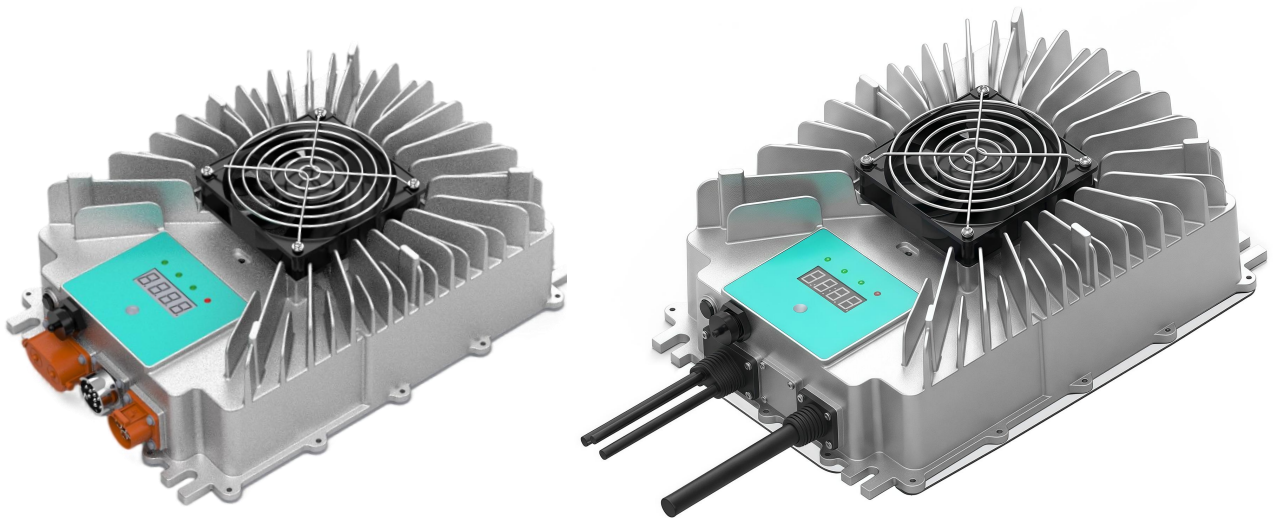


# CH02F Product Manual

Medium-Low Voltage Traction  
Battery Charger



Anhui Inone New Energy Technology Co.,Ltd

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# 1. Precautions

## 1. AC Input, Charging Output, and Cable Precautions:

(1)The products should use a 32A, or higher-rated 3-prong socket that complies with safety standards. The copper wire used for the AC cable should match the rating of the AC socket. If the cable is long, a thicker, flame-retardant cable that meets safety standards should be selected accordingly.

(2)Protective Grounding:Do not disconnect the ground wire of the charging socket from the earth. Do not damage the grounding terminal of the charging plug. Failure to comply may result in electric shock and pose a risk of personal injury.

(3)The cable connecting the charging socket to the battery must meet the safety requirements of the charger's output current. Otherwise, excessive voltage drop may affect charging performance or even cause fire hazards.

(4)Regularly inspect AC plugs and sockets, as well as DC charging plugs and sockets, for poor contact or damage. Replace any faulty components immediately to avoid abnormal charger operation or fire hazards.

(5)Regularly check AC and DC cables for aging or damage. If found, replace them promptly to prevent electric shock, fire, or other accidents.

(6)If any power cord, plug, socket, or related component is damaged, it must be replaced by the manufacturer or authorized service personnel to avoid accidents.

2. Users are strictly prohibited from modifying wiring, functions, or other components without prior consent from our company.

3. Do not open the unit. The integrated charger contains high-voltage components. Non-professional personnel must not open the enclosure.

4. It is recommended that users perform dust removal on the unit's exterior at least once every six months.

5. Operate strictly in accordance with the user manual. Any consequences caused by improper or unauthorized use shall be the sole responsibility of the user. The company shall not be held liable under any circumstances.

6. The charger must be installed horizontally inside the vehicle and must maintain at least a 10 cm clearance from surrounding objects to ensure proper heat dissipation.

7. The charger must be compatible with the battery to avoid damage. Before connecting the charger output to the battery, ensure the battery switch is turned off.**Reversing battery polarity is strictly prohibited. Do not connect any vehicle-mounted power device with reversed polarity, as this may result in severe damage!**

8. If the unit emits unusual noises, smoke, or other abnormal signs during operation, immediately disconnect the power supply and contact qualified service personnel for inspection and repair.

9. Specific parameters shall be subject to the drawings or technical agreement.

## 2. Product Overview

The CH02F product is designed for low-voltage electric systems and is used for charging power batteries. It is suitable for various vehicles such as aerial work platforms, utility vehicles, forklifts, golf carts, and UTV.

The product features CAN communication, supports power supply from AC charging posts complying with national standards, power switching function, anti-drive function, and indicator lights. It offers stable charging, high conversion efficiency, safety, reliability, and strong vibration resistance. Additionally, it includes multiple protection functions such as input over/under-voltage, output over/under-voltage, short-circuit protection, reverse-connection protection, over-current protection, open-circuit protection, and temperature protection.

- ✓ 100% factory functional testing and full-load aging test.
- ✓ Comprehensive protection features with temperature compensation.
- ✓ IP66 protection rating with automotive-grade resistance to vibration and shock.
- ✓ Digitally controlled power supply with dual software and hardware protection, supporting customizable control strategies.

### 3. Technical Specifications

#### 3.1 Electrical Characteristics of the Charging System

| Parameter                       | CH02F-7260                                                                         | CH02F-8080  |
|---------------------------------|------------------------------------------------------------------------------------|-------------|
| Input Voltage (AC)              | Voltage Range: 85~265V/ Frequency Range: 45~60Hz / Single-phase, three-wire system |             |
| Maximum Input Current           | 32A                                                                                |             |
| Power Factor                    | ≥0.9                                                                               |             |
| Rated Output Voltage (DC)       | 72V                                                                                | 80V         |
| Maximum Output Voltage (DC)     | 90V                                                                                | 98V         |
| Output Current                  | 0~60A(Max)                                                                         | 0~80A(Max)  |
| Output Power                    | 5000W (Max)                                                                        | 6600W (Max) |
| Output Voltage Accuracy         | ± 1V                                                                               |             |
| Output Current Accuracy         | ± 0.5A                                                                             |             |
| Maximum Efficiency              | ≥92%                                                                               |             |
| Input Under-Voltage (AC)        | 85V                                                                                |             |
| Input Over-Voltage (AC)         | 275V                                                                               |             |
| Output Over-Voltage (DC)        | Customizable                                                                       |             |
| Output Under-Voltage (DC)       | Customizable                                                                       |             |
| Output Short-Circuit Protection | Shutdown, self-recovery after fault elimination                                    |             |
| Over-Temperature Protection     | 55°C Power limitation, 70°C Shutdown                                               |             |
| Communication Function          | CAN 、 CC、 CP                                                                       |             |

## 3. Technical Specifications

### 3.2 Environmental Characteristics

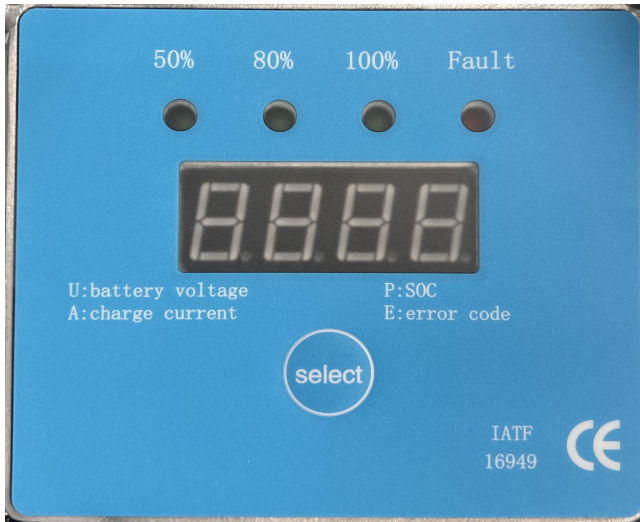
| Item                       | Value                                     | Unit | Remarks                            |
|----------------------------|-------------------------------------------|------|------------------------------------|
| High Operating Temperature | 55                                        | °C   |                                    |
| Low Operating Temperature  | -30                                       | °C   |                                    |
| High Storage Temperature   | 70                                        | °C   |                                    |
| Low Storage Temperature    | -40                                       | °C   |                                    |
| Humidity                   | 5-95                                      | %    |                                    |
| Altitude                   | ≤ 2000                                    | m    |                                    |
| Cooling Method             | Air-cooled                                |      |                                    |
| Protection Rating          | IP66                                      |      |                                    |
| Noise Level                | ≤65                                       | dB   | Measured at 1.5 meters, A-weighted |
| Vibration Resistance       | Complies with QC/T 413-2002, Section 3.12 |      |                                    |

### 3.3 Electrical Safety Features

| Parameter             |                 | Specification                                                                            |                                                               |
|-----------------------|-----------------|------------------------------------------------------------------------------------------|---------------------------------------------------------------|
| Dielectric Strength   | Input – Output  | ≤10mA@1500VAC/1min                                                                       | No breakdown or flashover.<br>(Input shorted; Output shorted) |
|                       | Input – Ground  |                                                                                          |                                                               |
|                       | Output – Ground | ≤10mA@500VDC/1min                                                                        |                                                               |
| Insulation Resistance | Input – Output  | ≥20MΩ@500VDC                                                                             | No breakdown or flashover.<br>(Input shorted; Output shorted) |
|                       | Input – Ground  |                                                                                          |                                                               |
|                       | Output – Ground |                                                                                          |                                                               |
| Grounding Resistance  |                 | <0.1Ω                                                                                    |                                                               |
| Surge Protection      |                 | AC input terminal must withstand ≥ 5 kA、8/20 μs surge waveform, ±5 times, 1 min interval |                                                               |

## 4. Screen Instructions

### 4.1 Smart Display Screen Instructions



1. The screen consists of four digital tubes and four LED indicators, capable of displaying information such as voltage, current, SOC, curves, and fault codes.
2. When the last digit shows "U", the first three digits represent the current voltage; when the last digit shows "A", the first three digits represent the current current; when the first digit shows "A", the last three digits represent the current software version.
3. When the first digital tube displays "E" and the last two digits show numbers (e.g., "E01"), it indicates a charger fault.
4. When the first digital tube displays "C" and the last two digits show numbers (e.g., "C01"), it indicates that the first curve is currently active.
5. The four LED lights consist of three green LEDs and one red LED. The three green LEDs indicate the SOC, while the red LED remains steadily lit when a charger fault occurs.

### 4.2 Battery curve switching operation procedure

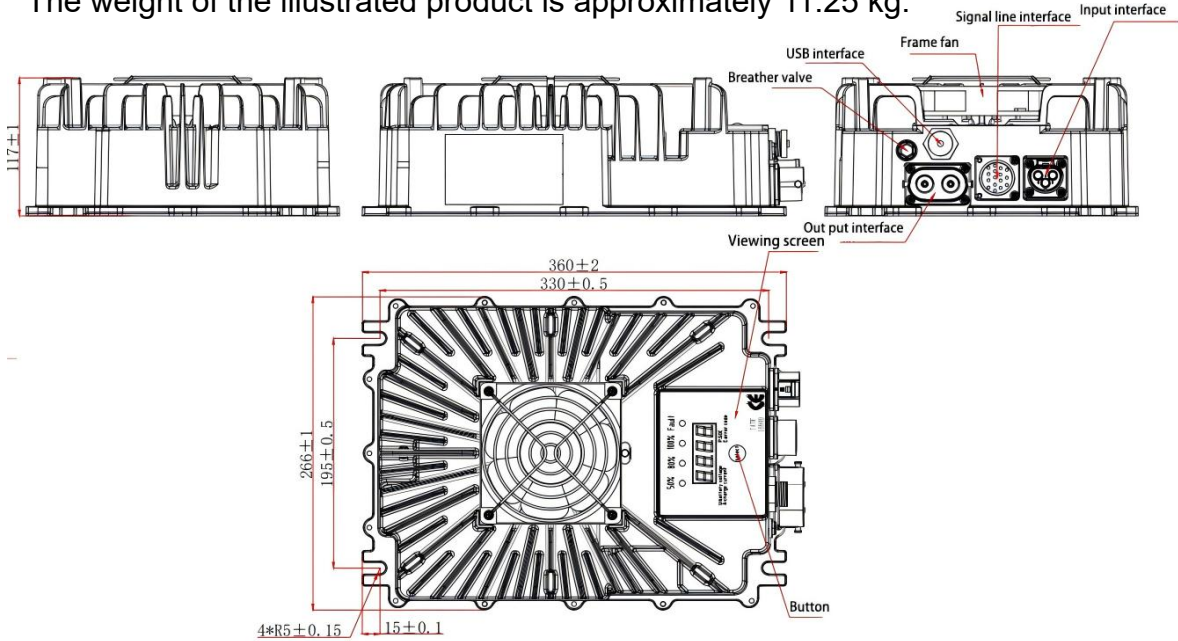
1. Press and hold the middle button for about 5 seconds. When the screen starts to flash, release your hand.
2. On the current interface, press the button to display the next curve. After selecting the curve, press and hold the button again to complete the setting.
3. The curve modification will take effect after the machine restarts.

## 5. Installation Dimensions and Interface Definitions

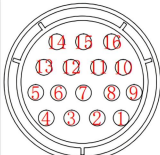
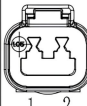
### 5.1 Installation Dimensions

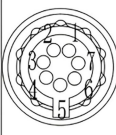
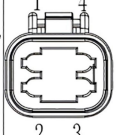
Overall dimensions and installation dimensions are as shown in the figure below.

The weight of the illustrated product is approximately 11.25 kg.



### 5.2 Interface Definitions

| View:A-Signal line                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | View:B                                                                                                                                                                                                                                                                                                                                                                                                                | View:C                                                                                                                                                                                                                                                                                                     | View:D                                                                                                                                                                                                                                                                                                           |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  <ol style="list-style-type: none"> <li>1. Connect 12V+ - 0.5mm<sup>2</sup> - 1 wire</li> <li>2. Connect 12V - 0.5mm<sup>2</sup> - 2 wire</li> <li>3. Connect CAN-H 0.5mm<sup>2</sup> - 3 wire</li> <li>4. Connect CAN-L 0.5mm<sup>2</sup> - 4 wire</li> <li>5. Connect normally open terminal 0.5mm<sup>2</sup> - 5 wire</li> <li>6. Connect common terminal 0.5mm<sup>2</sup> - 6 wire</li> <li>7. Connect common terminal 0.5mm<sup>2</sup> - 7 wire</li> <li>8. Connect normally closed terminal 0.5mm<sup>2</sup> - 8 wire</li> <li>9. Indicator Light 1 - 0.5mm<sup>2</sup> - Wire 9</li> <li>10. Indicator Light 2 - 0.5mm<sup>2</sup> - Wire 10</li> <li>11. Indicator Light 3 - 0.5mm<sup>2</sup> - Wire 11</li> <li>12. Indicator Light 4 - 0.5mm<sup>2</sup> - Wire 12</li> <li>13. Indicator Light 5 - 0.5mm<sup>2</sup> - Wire 13</li> </ol> | <p>Indicator light</p>  <ol style="list-style-type: none"> <li>1. Connect 100% 0.5mm<sup>2</sup> - Line 9</li> <li>2. Connect 50% 0.5mm<sup>2</sup> - Line 10</li> <li>3. Connect 75% 0.5mm<sup>2</sup> - Line 11</li> <li>4. Connect USB 0.5mm<sup>2</sup> - Line 12</li> <li>5. Connect + 0.5mm<sup>2</sup> - Line 13</li> </ol> | <p>Interlock - Normally Open</p>  <ol style="list-style-type: none"> <li>1. Connect to Normally Open Contact - 0.5mm<sup>2</sup> - Wire 5</li> <li>2. Connect to Common Contact - 0.5mm<sup>2</sup> - Wire 6</li> </ol> | <p>Interlock - Normally Closed</p>  <ol style="list-style-type: none"> <li>1. Connect to Common Contact - 0.5mm<sup>2</sup> - Wire 7</li> <li>2. Connect to Normally Closed Contact - 0.5mm<sup>2</sup> - Wire 8</li> </ol> |
| Connector model: WF28J16TE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Connector model: Z108-7K                                                                                                                                                                                                                                                                                                                                                                                              | Connector model: DT04-2P<br>Terminal model: DJ214B-1.5B                                                                                                                                                                                                                                                    | Connector model: DTO6-2S<br>Terminal model: DJ224B-1.5B                                                                                                                                                                                                                                                          |

| View E                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | View F                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | View G                                                                                                                                                                                                                                                                                                                                                                                    | View H                                                                                                                                                                                                                                                                                             |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Auxiliary Power / CAN</p>  <ol style="list-style-type: none"> <li>1. Connect 12V+ - 0.5mm<sup>2</sup> Red Wire</li> <li>2. Connect 12V - 0.5mm<sup>2</sup> Black Wire</li> <li>3. Connect CAN-H - 0.5mm<sup>2</sup> Yellow Wire</li> <li>4. Connect CAN-L - 0.5mm<sup>2</sup> Green Wire</li> <li>5. 16A - 0.5mm<sup>2</sup> Blue Wire</li> <li>6. 32A - 0.5mm<sup>2</sup> White Wire</li> <li>7. Ground - 0.5mm<sup>2</sup> Gray Wire</li> </ol> | <p>Auxiliary Power/CAN Extension Cable</p>  <ol style="list-style-type: none"> <li>1. Connect 12V+ - 0.5mm<sup>2</sup> Red Wire</li> <li>2. Connect 12V - 0.5mm<sup>2</sup> Black Wire</li> <li>3. Connect CAN-H - 0.5mm<sup>2</sup> Yellow Wire</li> <li>4. Connect CAN-L - 0.5mm<sup>2</sup> Green Wire</li> <li>5. 16A - 0.5mm<sup>2</sup> Blue Wire</li> <li>6. 32A - 0.5mm<sup>2</sup> White Wire</li> <li>7. Ground - 0.5mm<sup>2</sup> Gray Wire</li> </ol> | <p>Auxiliary Power / CAN</p>  <ol style="list-style-type: none"> <li>1. Connect 12V+ - 0.5mm<sup>2</sup> Red Wire</li> <li>2. Connect 12V - 0.5mm<sup>2</sup> Black Wire</li> <li>3. Connect CAN-H - 0.5mm<sup>2</sup> Yellow Wire</li> <li>4. Connect CAN-L - 0.5mm<sup>2</sup> Green Wire</li> </ol> | <p>Power Switching</p>  <ol style="list-style-type: none"> <li>A. 16A - 0.5mm<sup>2</sup> Blue Wire</li> <li>B. 32A - 0.5mm<sup>2</sup> White Wire</li> <li>C. Ground - 0.5mm<sup>2</sup> Gray Wire</li> </ol> |
| Connector Model: Z108-7K                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Connector Model: Z108-7A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Connector Model: DJ206-4S<br>Connector Model: DJ204B-1.5B                                                                                                                                                                                                                                                                                                                                 | Connector Model: DJ206-3S<br>Terminal Model: DJ224B-1.5B                                                                                                                                                                                                                                           |



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