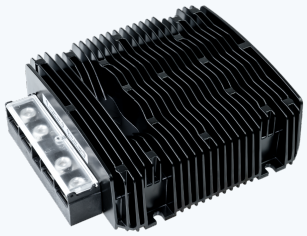
SKU: WTDC-12-24V-50A

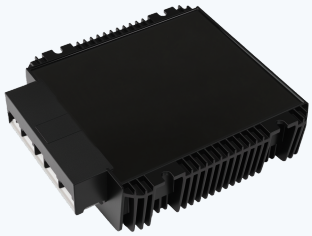
Quick Start Guide

First wiring, power-on checks and basic troubleshooting.

Before you begin: Disconnect vehicle power and both battery circuits. Confirm the A/B terminals, polarity and permitted battery-voltage ranges. Reversed power polarity may permanently damage the charger; incorrect signal wiring prevents normal operation.

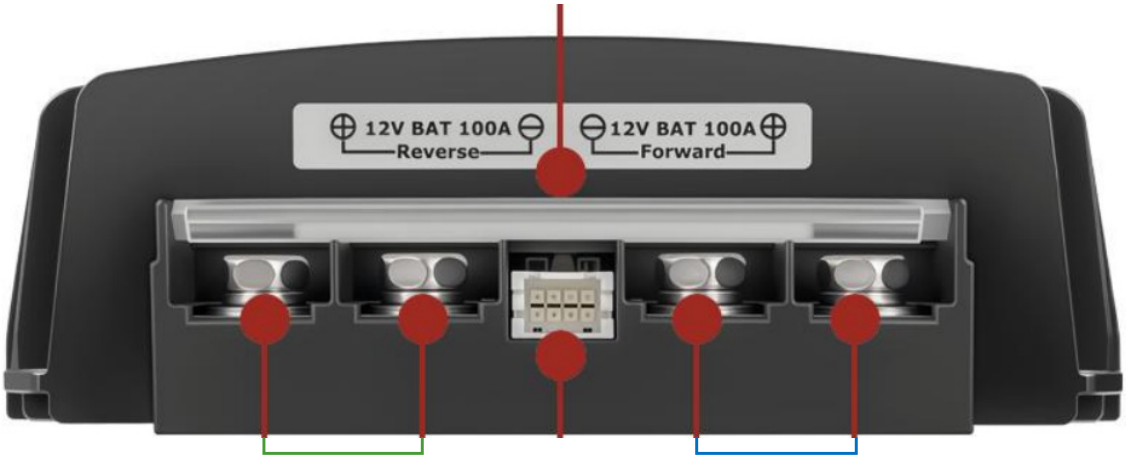


FRONT VIEW



REAR VIEW

Identify A, B and the charging direction



B | AUXILIARY BATTERY

A | STARTING BATTERY

8-PIN HARNESS

B port: auxiliary battery

Connect to the auxiliary / house / RV battery side. **Reverse charging:** B → A while parked. **ACC must be OFF.**

A port: starting battery

Connect to the starter / main / engine battery side. **Forward charging:** A → B while driving or when ACC is ON.

Power cables: Connect A+, A-, B+ and B- according to the terminal markings. Use 4AWG as recommended; use thicker cable for runs longer than 1m.

Terminal view follows the source illustration. Confirm the markings on your actual unit before wiring.

RECOMMENDED WIRING SEQUENCE

Connect in the right order

Keep vehicle power and battery circuits disconnected while wiring.

1 Mount the charger

Choose a ventilated location with room for heat dissipation. The charger uses natural cooling; keep it away from high-temperature sources.

2 Connect Battery B: auxiliary battery

Connect the DC output cables to the Battery B terminals first. Confirm correct **B+ / B-** polarity.

3 Connect Battery A: starting battery

Connect the DC input cables to the Battery A terminals next. Confirm correct **A+ / A-** polarity.

4 Connect the yellow ACC wire

Connect ACC to main-battery positive, or to an ignition-controlled ACC circuit that is live with the key in ACC and OFF when the vehicle is shut down. Examples include an ACC-controlled cigarette-lighter circuit, radio circuit or fuse-box ACC fuse.
ACC enables forward charging. ACC must be OFF for reverse charging.

5 Connect the green RMT wire

Connect RMT to auxiliary-battery positive. For manual reverse control, add a switch between RMT and Battery B+.
Without RMT, reverse charging is unavailable.

6 Connect communication wires if needed

Red = RS485+; black = RS485-. Blue / grey CAN wires are reserved. White BAT- and orange PG / Mode are reserved functions in this quick-start guide. Insulate unused wires.

Reverse charging: Turn ACC OFF and turn RMT ON. An ACC wire tied permanently to battery positive must be disconnected or switched OFF first.

Detailed harness connections are on page 03; operating modes and first power-on checks are on page 04.

SIGNAL HARNESS

Connect ACC and RMT first

The central 8-pin harness carries communication, enable and reserved signals.

For the first installation, focus on the **yellow ACC** wire and **green RMT** wire. RS485 is optional; reserved wires do not need to be connected.

PIN	COLOR	SIGNAL	CONNECTION	NOTES
1	Red	RS485+	HMI / host RS485 A/+	Leave disconnected if communication is not used
2	Black	RS485-	HMI / host RS485 B/-	Leave disconnected if communication is not used
3	Blue	CANH	Reserved	N/A; not currently available
4	Grey	CANL	Reserved	N/A; not currently available
5	Yellow	ACC	Ignition-key ACC signal or starting-battery positive	Forward enable; required for forward charging
6	Green	RMT	Battery B+; optional series switch	Reverse enable; reverse charging requires RMT ON
7	White	BAT-	Reserved	Battery-negative signal; not required for current setup
8	Orange	PG	Reserved	Mode-switching signal; not required for current setup

RED	BLACK	BLUE	GREY	YELLOW	GREEN	WHITE	ORANGE
RS485+	RS485-	CANH	CANL	ACC	RMT	BAT-	PG

Choose the connection for your use case

USE CASE	RECOMMENDED CONNECTION
Driving / forward charging only	Connect yellow ACC. Green RMT may remain disconnected.
Parked / reverse charging	Connect green RMT to B+; add a series switch for manual control. **ACC must be OFF.**
RS485 communication	Red to RS485+; black to RS485-. Match HMI / host interface polarity.
Reserved functions not used	Leave blue / grey CAN, white BAT- and orange PG disconnected and insulated.

If the mode is incorrect, verify ACC/RMT states first, then check the Battery A/B voltages.

POWER-ON AND TROUBLESHOOTING

Check operation before use

Verify enable signals, battery voltages, cable connections and cooling.

ACC / RMT operating modes

ACC STATE	RMT STATE	CHARGER ACTION	APPLICATION
ON **10-60V**	ON or OFF	A → B Forward charging	Driving: starting battery charges the auxiliary battery
OFF **0-8V**	ON 10-60V	B → A Reverse charging / supply	Parked: auxiliary battery charges the starter battery or supplies A-side loads
OFF **0-8V**	OFF 0-8V	Stop operation	Manual reverse OFF; reduces auxiliary-battery leakage current

First power-on checks

Battery voltage

Normal: A/B voltages match the model limits; A input is 10-60VDC.
Check: Low / high voltage may prevent startup or trigger protection.

LED indication

Normal: Red = charging; green = fully charged / float.
Check: Fast red blinking: check wiring, voltage and temperature.

Cooling

Normal: Clear airflow; working range -40°C to +55°C.
Check: High temperature may cause derating or overtemperature protection.

Power cables

Normal: Secure connections; 4AWG, thicker above 1m.
Check: Thin cable or poor contact may cause voltage drop, heat or protection.

Quick troubleshooting

SYMPTOM	CHECK FIRST
Charger does not run	Check yellow ACC for forward operation, A/B battery voltages and power-cable polarity. For reverse operation, verify the mode table above.
No reverse charging	Check green RMT is connected to auxiliary positive and any RMT switch is ON. Confirm ACC is OFF.
Low / unstable charging current	Check cable size / length, loose terminals, a nearly full battery or high temperature.
Red LED blinks / protection alarm	Check short circuit, overcurrent, overvoltage and overtemperature. Match settings to battery chemistry, series-cell count and voltage.

Reverse operation requires ACC OFF and RMT ON. Battery voltages must match the selected charger model.