Intelligent EV Discharge System (V2L) User Manual

CNSWIPOWER Series | Version V4.0 | November 2026

Applicable models: Single-phase: CP-V2L-NA4K-LV, CP-V2L-NA8K-HV, CP-V2L-CC4K-LV, CP-V2L-CC8K-HV. Split-phase: CP-V2L-NA8K-SP

Applicable vehicles: Tesla and vehicles compatible with the NACS or CCS2 standard

Manufacturer: Zhejiang Swipower Technology Co., Ltd.

This manual covers all five models: safety, specifications, operation, LED status, the app and troubleshooting. Check the nameplate on the unit to confirm your model before use. Content that applies only to the split-phase model is marked "Split-phase (NA8K-SP)".

1 Safety Precautions

Danger

High voltage: Vehicle high voltage and AC output are present during operation. Do not touch metal terminals.

No modification: Do not disassemble, repair or modify the unit yourself.

Keep dry: Do not use in heavy rain, standing water or damp conditions, to avoid electric shock. Keep ventilation openings clear and keep the unit away from flames and flammable materials.

Standalone supply: Power compatible appliances only. Never connect the output to a utility wall outlet, parallel it with another power source or backfeed household wiring.

Notice

Inspect before use: Check the connector, cables and outlets for damage, scorching or loose parts. Stop using the unit and contact support if any defect is found.

Grounding and wiring: Use approved cables and outlets with adequate ratings. Do not modify or splice output connections.

Protection reset: When protection trips (steady red LED), the unit locks and stops output. Correct the cause, then follow "Restart sequence after a protection trip" in Section 6. Do not repeatedly force a restart.

Split-phase (NA8K-SP): safe use

Check each leg separately: Keep the load on L1 and L2 within each output, outlet and cable rating, and keep total power within the nameplate rating. One leg can be overloaded even when total power is below the limit.

Match the voltage: L1-N and L2-N voltages differ from L1-L2 voltage. Use only the labeled outlets provided. Do not infer voltage from the connector shape.

Avoid wiring errors: Never short L1 to L2 or use N in place of PE.

2 Specifications

Use the unit nameplate for the model and ratings. A matching vehicle connector alone does not establish V2L compatibility; use only confirmed compatible vehicles.

Model	Product type	Vehicle connector	Rated output power	AC output voltage
CP-V2L-NA4K-LV	Single-phase	NACS	4 kW	AC 110 ~ 120 V
CP-V2L-NA8K-HV	Single-phase	NACS	8 kW	AC 230 ~ 240 V
CP-V2L-NA8K-SP	Split-phase	NACS	L1-L2: 8 kW L1-N, L2-N: 4 kW each	L1-L2: AC 230 ~ 240 V L1-N, L2-N: AC 110 ~ 120 V
CP-V2L-CC4K-LV	Single-phase	CCS2	4 kW	AC 110 ~ 120 V
CP-V2L-CC8K-HV	Single-phase	CCS2	8 kW	AC 230 ~ 240 V

Common parameter	All models
Vehicle DC input	DC 300 ~ 465 V
Operating temperature	-10 ~ 40 °C
Protection and stop conditions	Short circuit, overload, abnormal voltage or temperature, vehicle stop request, SOC cutoff
Monitoring and control	Bluetooth app: real-time data, fault information, output switch, discharge cutoff SOC

Single-phase power limit: Keep total load within the nameplate rating (4 kW on 4K models, 8 kW on 8K models). Output stops if the rating is exceeded for about 5 seconds.

Split-phase (NA8K-SP): voltage and conductor terminology

Split-phase means single-phase, three-wire. L1 and L2 are the line conductors and N is the neutral conductor. The protective conductor PE is not included in the term "three-wire". L1-N and L2-N are line-to-neutral voltages; L1-L2 is the line-to-line voltage. The two line-to-neutral voltages are 180° apart; when their magnitudes are equal, the line-to-line voltage is twice either value. Use voltage-matched outlets.

Split-phase (NA8K-SP): distributing loads

Distribute separate appliances between L1 and L2 where possible and start them one at a time. Allow headroom for motor and compressor starting surges. Connect L1-L2 loads only through the dedicated outlet provided.

Example: A 4.5 kW load on L1 and 1 kW on L2 totals only 5.5 kW, but L1 is overloaded. Reduce its load. Move separate appliances to the other leg only if voltage and outlet ratings permit.

Overload protection does not permit operation above the ratings. Output stops if either leg exceeds 4 kW or total power exceeds 8 kW for about 5 seconds. Other protection may operate sooner.

3 Operating Instructions

To ensure successful communication with the vehicle, follow these steps in order.

Step 1 Power on

Keep all loads disconnected. Hold the power button until the LED lights, then release it. After the red, blue and green startup check, the LED turns 🔵 **steady blue**.

Internal battery below 11 V but not below 10.2 V: The red LED flashes after power-on to warn of low charge. The unit powers on and works normally. Charge it soon.

Internal battery below 10.2 V: The unit will not power on. The red LED flashes while you hold the power button and goes out when you release it. Charge it first.

Step 2 Connect the vehicle

Park safely, unlock the vehicle and unlock the charge port as required. Insert the discharge connector straight into the vehicle port until you hear it click into place.

The LED turns 🟢 **steady green** while the unit communicates with the vehicle. Do not repeatedly reconnect the connector or operate the power button during this process.

Step 3 Verify output and connect loads

The LED turns 🟢 **flashing green** when communication is complete and discharge has started. Output takes a few more seconds to build up, so a flashing LED alone does not confirm stable outlet voltage. Verify normal voltage in the app.

Match appliance voltage to the outlet, then start appliances one at a time. Outlet voltage is 110 ~ 120 V on LV models and 230 ~ 240 V on HV models; on NA8K-SP, follow the outlet labels. On the split-phase model, also watch L1, L2 and total power.

Step 4 Stop operation

Turn off and unplug all loads first. If using the app, then switch off output. Unlock and remove the vehicle connector as required by the vehicle (some models require unlocking on the vehicle screen). Finally, hold the power button for about 1 second to power off. Never unplug the vehicle connector under a heavy load.

Automatic power-off

To save internal battery charge, the unit powers off automatically in the cases below. Bluetooth disconnects when it does.

Condition	Powers off after
No vehicle connected after power-on, or the connector was removed and not reconnected	About 3 minutes
Communication is lost during discharge, or discharge has stopped with the connector still in place (including faults, a vehicle stop request and the SOC cutoff)	About 5 minutes

After a fault, view and save the fault information in the app before the unit powers off. A low internal battery does not cause automatic power-off; the unit only flashes the red LED.

4 LED Status Indicators

LEDs indicate operating status. Use app information to identify the cause of a fault.

LED state	Meaning	Explanation and action
🔴 🔵 🟢 in turn	Startup check	The unit has just powered on. Wait for the check to finish.
🔵 Steady blue	Ready / standby	The unit is on. Connect the vehicle.
🟢 Steady green	Communicating	Handshake with the vehicle in progress. Do not operate.
🟢 Flashing green	Discharging	Normal operation. Verify normal output voltage before connecting loads.
🔵 Flashing blue	Communication fault	Signal interference. Stop loads, unplug the connector, straighten the cable, move away from interference sources and retry.
🔴 Flashing red	Low internal battery	Below 11 V but not below 10.2 V: The unit powers on and discharges normally; output is not affected. Charge through the Type-C port soon. This state takes priority and replaces the green LED during discharge. Below 10.2 V: The unit cannot power on. The red LED flashes only while the power button is held and goes out on release.

LED state	Meaning	Explanation and action
🔴 Steady red	Stopped / protection	Output has stopped and the system is locked. Possible causes: 1. Short circuit (appliance fault) 2. Overload (load exceeds the rating) 3. Abnormal vehicle voltage or temperature 4. Vehicle stop request, or SOC cutoff reached Action: Disconnect loads, check the fault information and correct the cause, then restart as described in Section 6. If left alone, the unit powers off after about 5 minutes.

5 App Connectivity

Connect using the companion app via Bluetooth. Keep your phone near the unit, enable Bluetooth and follow the app prompts to grant permissions and select the device. Screens may vary by app version.

Monitoring and output control

Use the app to view real-time voltage, current, output power, vehicle battery level and internal battery level.

Split-phase (NA8K-SP): On a split-phase-compatible screen, check L1-N, L2-N and L1-L2 voltages, current and power for each leg, and total output power. Check both legs when distributing loads. The total-current reading does not replace individual L1/L2 current checks or outlet rating checks.

Use the app to switch output on or off and set the discharge cutoff state of charge (SOC). Output stops when vehicle SOC reaches this lower limit. Retain sufficient charge for subsequent driving.

Current or power may read zero at light loads; this does not mean an outlet is de-energized.

Diagnostics and firmware updates

Before resetting after a fault, save the fault code and logs (and load readings for both legs on the split-phase model). If the app does not show both legs, check app and device version compatibility.

Follow the official app instructions for over-the-air (OTA) firmware updates. Stop discharging and disconnect loads first. Maintain sufficient internal battery charge and a stable Bluetooth connection. Do not switch off power during an update.

Download the app

Scan the QR codes below to install the companion app. If a link is unavailable, contact your supplier or support for an official download.

iOS (Apple App Store)	Android (Google Play / APK)
	

6 Troubleshooting

LED stays steady blue after connecting and does not turn green

The unit has not detected the connector signal. Check that the connector is fully inserted and that the vehicle port is free of debris.

LED stays steady green for a while, then the unit reboots repeatedly

The handshake failed. A common cause is that vehicle SOC is too high, or battery voltage is at or above the charge limit set on the vehicle, so the BMS rejects the V2L session. Consume some vehicle battery or adjust the charge limit on the vehicle screen, then retry. If it still fails, review vehicle compatibility, settings and app logs. LED status alone cannot establish that vehicle SOC is too high.

Flashing green LED but no outlet output

Wait a few seconds for output to build up. Check that the app output switch is on and vehicle SOC is above the cutoff.

Steady red LED or sudden loss of output

Turn off and unplug all loads; record the fault code. Check for appliance short circuits, total power above the nameplate rating, blocked ventilation, a vehicle stop request or the SOC cutoff. Resolve the cause before following the restart sequence below.

Split-phase (NA8K-SP): shutdown below 8 kW total power

Check each leg: either can trip overload protection above 4 kW. Starting surges, outlet limits, voltage or temperature faults may also cause shutdown. Reduce loads and check the app fault information.

Flashing red LED, or the unit will not power on

Red LED flashes but the unit powers on: The internal battery is below 11 V but not below 10.2 V. The unit powers on and discharges normally. Charge it soon.

The unit will not power on: The internal battery is below 10.2 V, so power-on is blocked. The red LED flashes while the power button is held and goes out on release.

Charge through the Type-C port for 15 to 30 minutes using a suitable supply and cable, then retry. Do not repeatedly start with a low battery. If the fault remains after charging, or there is unusual heat, odor or noise, stop use and contact support.

The unit powers off by itself

This is automatic power-off, not a fault. The unit powers off after about 3 minutes with no vehicle connected, and about 5 minutes after communication is lost or discharge stops. See Section 3. Power it on again to continue.

Delayed output after an immediate restart

The unit may wait for internal circuits to power down before restarting. Avoid rapid power cycling. Disconnect loads, remove the vehicle connector, power off and wait at least 5 seconds before restarting. If output remains unavailable, save logs and contact support.

Restart sequence after a protection trip

Turn off and unplug loads → save fault information → unlock and remove the vehicle connector → hold the power button for about 1 second to power off → correct the fault and wait at least 5 seconds → restart without loads → reconnect the vehicle → verify normal output and reconnect loads one at a time.

This waiting time is for restarting only; it does not establish that internal high voltage has dissipated. Do not open the enclosure or touch internal parts. If faults recur, stop use instead of repeatedly resetting protection.

7 Warranty

A 12-month limited warranty applies from the purchase date. Damage caused by misuse, water ingress, unauthorized disassembly or failure to follow this manual is excluded. Service is subject to proof of purchase and the supplied warranty terms.

For support, provide the product model, purchase details, vehicle model, app fault screenshots and the load at the time of the fault (L1 and L2 loads on the split-phase model).