USER MANUAL

NV-W50

Worksite range: Construction, industry and events

5 040 Wh	5 000 W	7 000 W	30 mA
CAPACITY	CONTINUOUS	PEAK	RCD

230 V / 50-60 Hz · Pure sine wave · LiFePO4

Read before first use

Coupe le moteur. Gardez le courant.

nvpowerstation.com

Contents

Safety instructions	03
What's in the box	05
Product description	06
Control screen	07
Getting started	08
Charging methods	09
Backup mode (EPS)	10
Error codes	11
Frequently asked questions	13
Specifications	14
Warranty and contact	16

This manual describes a portable power station using lithium iron phosphate batteries. Read it before first use and keep it for the life of the product. If the unit is sold on, pass this manual to the new owner.

Safety instructions

Warning. The manufacturer accepts no liability for damage arising from use that does not comply with this manual, or occurring in abnormal circumstances: fire, storm, flood, earthquake.

Transport

- Do not subject the unit to severe impacts, vibration or drops.
- Do not carry the unit on board an aircraft.

Environment

- Keep the unit away from water, heat sources, metal objects, chemicals and dusty atmospheres.
- Place it on a stable, level surface.
- Store it in a dry, well-ventilated place.
- Observe the temperature ranges given in the specifications.
- Do not use it near strong static electricity or intense magnetic fields.
- Keep it out of reach of children and pets.

Operation

- Never damage, repair, modify or disassemble the unit yourself.
- Use only original or recommended components and accessories.
- Switch the unit on before connecting appliances, and disconnect appliances before switching it off.
- Do not insert fingers, wires or metal objects into the sockets: risk of short circuit.
- Do not power medical equipment or precision instruments.
- Do not stack heavy objects on the unit.
- **Risk of electric shock.** Never power a tool used to cut into or drill through live parts, or through materials that may contain live wiring, such as a building wall.

Safety instructions (continued)

Emergency

- If the unit falls into water or gets wet, stop using it at once, place it in a safe, dry and ventilated area, then contact after-sales service.
- If the unit smokes or catches fire, use a fire extinguisher.
- If the unit has overturned and is severely damaged, wear insulating gloves to switch it off, then move it away from flammable materials and from people and have it disposed of under local regulations.

Recycling

- A unit that is severely damaged, faulty or at end of life must be properly disposed of or recycled.
- The unit contains batteries. Do not dispose of it with household waste: follow local regulations on battery disposal and recycling.
- Where possible, fully discharge the battery before disposal. Otherwise do not place it directly in a collection bin: use a professional battery recycler.

What's in the box

Illustrative packaging

The power station	× 1
Mains charging cable	× 1
MC4-to-Anderson cable (solar)	× 1
Warranty card	× 1
User manual	× 1

The earth rod is not supplied with the unit. Where the residual current device is relied on to protect people, provide one separately (see the “Earthing” section).

Check the contents on delivery. If any item is missing or damaged, contact after-sales service before putting the unit into service.

Product description

1. Main power button
2. Control screen
3. 12 V socket
4. 230 V 16 A outlet, IP67
5. 230 V 16 A outlet, IP67
6. 32 A industrial outlet (EI version)
7. Earthing terminal
8. All-terrain wheels
9. Protection bar and handle

Front panel

1. Ventilation grille
2. Fast / slow charging selector
3. Mains input, under cover
4. Anderson solar input
5. Input circuit breaker

Right end: charging inputs

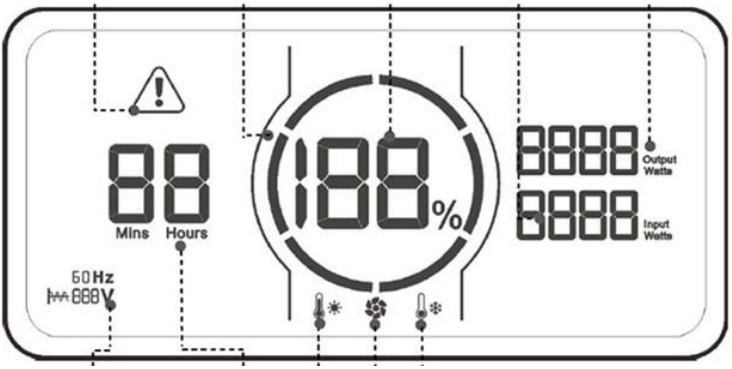
1. Expansion battery port, under cover

Left end: expansion

Illustration: not a contractual representation.

Earthing. The unit has a dedicated earth terminal. The residual current device protects people only if this terminal is connected to a compliant earth electrode. Soil conditions and the proximity of other earth electrodes may call for specific arrangements: have the installation checked by an electrician.

Control screen



1. Fault warning
2. Capacity ring
3. Remaining capacity, %
4. Input power
5. Output power
6. 230 V output indicator
7. Charge or runtime remaining
8. High-temperature alarm
9. Cooling fan active
10. Low-temperature alarm

> When the unit is charging and discharging at the same time, the screen shows the remaining charge time if input power exceeds output power; otherwise it shows \u201c99\u201d. The capacity ring reads in 17 % steps: 17, 35, 51, 68, 85 and 100 %.

Getting started

Switching on and off

a) Press and hold the main power button for **three seconds** to switch the unit on or off.

b) With the unit on, press the 230 V output button to switch the sockets on or off.

c) A short press on the main power button turns the screen on or off.

Switching between 50 and 60 Hz

a) Switch the 230 V output off.

b) Press and hold the 230 V output button and the main power button together for three to five seconds, until the frequency indication flashes.

c) Press the 230 V output button to select \u201c50\u201d or \u201c60\u201d.

d) Press and hold the main power button to confirm: \u201cSUC\u201d flashes.

e) Press and hold the main power button to exit the setting mode.

Socket overload protection

a) If the output current exceeds 16 A / 30 A, the protection button pops out.

b) Disconnect all appliances, check that total draw is below that figure, then push the button back in.

Charging methods

Mains charging

a) Flip the input circuit breaker up before use.

b) Connect the mains charging cable between the unit and a wall socket.

c) The input power appears on the screen: the unit is charging.

d) If the input current exceeds 32 A, the protection trips. Disconnect, check, then reset.

Fast or slow charging

a) Do not change the charging speed while the unit is charging or the 230 V output is on.

b) **Fast** position: 2,500 W. **Slow** position: 1,250 W.

c) Slow charging is gentler on the battery when there is no hurry.

Solar charging

a) Connect the panels to the Anderson input using the MC4-to-Anderson cable.

b) Connect at most **6 × 240 W panels in series**.

c) Observe the input limits: open-circuit voltage 148 V, current 15 A, power 2 100 W.

d) Face the panels perpendicular to the sun for best yield.

Backup mode (EPS)

a) The function is enabled by default.

b) Connect the unit to a wall socket with the mains charging cable, then plug the equipment to be protected into the output sockets.

c) While mains power is present, the appliances run from the mains and the unit recharges.

d) If the mains fails, the unit takes over in **under 20 ms**.

e) Input and output power combined must stay below **5 000 W**, otherwise the unit shuts down after one minute.

> This is not a professional UPS: the switchover is not instantaneous. Do not connect equipment that requires a genuinely uninterrupted supply (a server or a computer workstation). Test before entrusting sensitive equipment to this function.

Expansion battery

a) **Both the unit and the module must be switched off** before connecting or disconnecting. Connecting them live can cause a short circuit, which the warranty does not cover.

b) Connect the module to the expansion port using the cable provided.

c) Switch both on. The unit's screen shows the input power from the module.

d) Six modules maximum. Connection is always in parallel on the internal DC bus, never in series and never on the 230 V side.

Error codes

CODE	CAUSE	SOLUTION
E000	AC output short circuit	Press the AC output button to reset.
E001	AC output overload	Reduce the load, then press the AC output button.
E002	Inverter input voltage too low	Recharge the unit, then restart the function concerned.
E003	AC output over- or under-voltage	Press the AC output button to reset.
E004	Abnormal AC input frequency	Resets automatically once the frequency returns to normal.
E005	Bus voltage too high or too low	Press the AC output button to reset.
E006	Inverter over-temperature	Switch the output off and let the unit cool down.
E020	BMS communication failure	Check the expansion cable. Contact after-sales service.
E021	Single cell over-voltage	Stop charging and discharge until the voltage returns to normal.

Error codes (continued)

CODE	CAUSE	SOLUTION
E022	Single cell under-voltage	Recharge until the voltage returns to normal.
E023	Battery pack voltage too high	Stop charging and discharge.
E024	Battery pack voltage too low	Recharge the unit.
E025	Battery temperature too high	Resets automatically once the temperature returns to normal.
E026	Battery temperature too low	Resets automatically once the temperature returns to normal.
E028	Over-temperature during charging	Recharge once the temperature has come down.
E029	MOSFET over-temperature	Resets automatically once the temperature returns to normal.
E030	Incompatible expansion battery	Connect a compatible expansion module.

Frequently asked questions

1. How do I clean the unit?

Wipe gently with a dry, soft, clean cloth or paper towel.

2. How do I store it?

In a dry, well-ventilated place at room temperature. Recommended range: -20 °C to 60 °C. Away from water, heat sources, metal objects and chemicals.

3. How do I maintain it?

Charge it to about 60 % and switch it off before long storage. For long-term storage, run a full cycle (discharge to 0 % then charge to 100 %) every three months. **The warranty no longer applies if the unit has been neither charged nor discharged for six months.**

4. Can it be taken on a plane?

No. Aviation regulations prohibit lithium batteries of this capacity in the cabin and in passenger hold. Air freight remains possible with the UN38.3 report and the safety data sheet.

5. Does the usable capacity match the rated figure?

No, and that is normal. The stated figure is the battery pack capacity. Inverter and regulation losses mean the energy actually delivered at the sockets is slightly lower. The runtimes in our documents are calculated on 85 % of rated capacity to allow for this.

Specifications · NV-W50

BATTERY	
Rated capacity	**5,040 Wh**
Rated voltage	**48 V DC / 105 Ah**
Cell type	**Grade A LiFePO4: automotive cell**
Estimated service life	**3,000 cycles > 80% · 4,000 cycles > 70%**
Parallel expansion	**Up to 6 expansion batteries: the manufacturer's recommended maximum**
230 V OUTPUT	
Rated power	**5,000 W**
Peak power	**7,000 W**
Waveform	**Pure sine wave**
Voltage / frequency	**220-240 V, 50 Hz, switchable to 60 Hz**
AC outlets: EI version	**2 × 16 A European outlet + 1 × 32 A industrial outlet**
AC outlets: EE version	**3 × 16 A European outlet**
Per-outlet protection	**Thermal-magnetic breaker on every outlet**
Residual current protection	**30 mA residual current device**
Digital protection	**Overload, short circuit, over- and under-voltage**
Earth rod	**Not supplied in the box**
EPS switchover	**< 20 ms**
USB OUTPUTS	
USB-A	**5 V/3 A · 9 V/1.8 A · 12 V/1.5 A, 18 W max**
USB-C	**5 V/3 A · 7 V/2.4 A · 9 V/1.8 A · 12 V/1.5 A, 18 W max**

Specifications · NV-W50 (continued)

CHARGING INPUTS	
Mains	**190-250 V AC, 13 A max, 2,500 W**
Mains charging time	**≈ 2 h 30 min to full**
Solar input	**Anderson: 12-148 V DC · MPPT 18-140 V · 15 A max · 2,100 W**
Solar regulation	**Built-in MPPT**
Compatible panels	**1 to 6 NV-S240 panels in series, 1,440 W · 1 to 6 NV-S100: 600 W**
Bypass mode	**Full rated power maintained**
Simultaneous charge and output	**Yes**
GENERAL	
Dimensions	**852 × 512 × 502 mm**
Net weight	**68 kg**
Ingress protection	**IP54 overall, IP67 outlets**
Operating temperature	**Discharge -20 °C to 40 °C · charging 0 °C to 40 °C · storage -20 °C to 60 °C**
App control	**Smartphone app: Bluetooth and Wi-Fi**
Compliance	**CE · RoHS · FCC**
Warranty	**2 years, optional 3rd-year extension**

Warranty and contact

The warranty covers **defects in workmanship and material** for **2 years from the date of purchase**, parts and labour included. A replacement product carries the remaining warranty of the original.

Depending on the nature of the fault, service takes one of three forms: remote troubleshooting instructions; despatch of parts and instructions for repair on site; or return of the defective product and despatch of a new one.

Warranty extension. A third year can be taken out at the time of order, as a paid option. Please ask us for the price.

Exclusions

- Abnormal use, disassembly, accident, or use for anything other than normal use.
- Exposure to excessive heat, liquids or other external causes.
- Issues unrelated to product quality.
- Refunded products, products outside the warranty period, free products.
- A unit left for six months without any charge or discharge cycle.

> The warranty is limited to the original purchaser and is not transferable.

Compliance

CE · RoHS · FCC. Dangerous goods transport: UN38.3 report and safety data sheet available on request.

After-sales service

Contact the dealer who supplied the station. Have the model reference, the serial number marked under the unit and the date of purchase to hand.