

Qoltec®



USER MANUAL

**PURE SINE WAVE INVERTER | UPS | AVR |
CHARGER**

1000VA/720W

Model: 50451

Introduction

Thank you for choosing the Pure Sine Wave Inverter with UPS, battery charging and automatic voltage regulator (AVR) functions. This user manual serves as a guide to the installation, configuration and use of the inverter. It contains important information regarding operational safety, correct connection and operation of the device. If you encounter any problems with the inverter's operation, we recommend that you read this manual thoroughly before contacting customer service.

About the product

The device provides a stable and safe power supply to connected household appliances and electronic office equipment, automatically increasing or decreasing the output voltage to adjust it to the correct operating level. The inverter is equipped with a UPS function, providing emergency power in the event of a mains power failure, as well as a mains power (AC) mode with active voltage stabilisation. Additionally, the device has a built-in battery charger supporting AGM, GEL, LiFePO₄, WET and Li-ion batteries, allowing for their safe and efficient charging. The safety features, including short-circuit and overload protection, safeguard connected devices from damage.

Important safety instructions

1. To avoid damage to the device, transport it only in its original packaging.
2. Sudden changes in temperature – e.g. moving the device from a cold environment into a warm room – may cause condensation to form inside the housing. In this case, allow it to dry completely before switching it on. It is recommended to wait at least 2 hours before starting it up.
3. Once dry, ensure that the ambient conditions comply with the requirements specified in the 'Environment' section of the technical specifications table before connecting the device to the mains supply.
4. The earth lead should be selected according to the current-carrying capacity. All devices connected to the stabiliser must be earthed using a suitable protective earth lead. Failure to earth the device or connecting devices

without approved earthing poses a risk to the user's health and significantly increases the risk of damage to the electronic circuits.

5. During installation, the use of cables with unsuitable technical specifications may be dangerous both to the user and to the device itself.
6. Position all cables so that they do not pose a tripping hazard or risk being stepped on.
7. Do not insert any foreign objects, such as paper clips, nails or other metal items, into the unit.
8. In emergency situations (such as damage to the housing, front panel or power cables, liquid spillage or foreign objects entering the stabiliser) immediately switch off the device, disconnect it from the power supply and contact an authorised service centre.
9. Do not connect to devices whose power requirements exceed the inverter's permissible parameters.
10. In the event of excessive input voltage distortion or excessive resistance, the inverter may not operate correctly.
11. Keep the original packaging for possible servicing or transport.
12. The wiring must be securely fastened to prevent loosening and oxidation of the contacts.

Warning: risk of electric shock / dangerous voltage (Icon 1 – Figure 1 in the appendix to the manual)

Warnings and other recommendations

The inverter may only be repaired by authorised technical service personnel. Any attempt by the user to open or repair the unit themselves may be dangerous.

(Icon 2 – Figure 2 in the appendix to the manual)

Intended for installation in a controlled environment:

1. Do not install or use in or near water.
2. Do not place on an unstable trolley, stand or table.
3. Do not expose to direct sunlight or place near heat sources.

4. Do not place the stabiliser's power cable in locations where it may be damaged by heavy objects.

Inverter design

To ensure correct operation and full use of the inverter's functions, please familiarise yourself with its components and operating principles, as shown in the diagrams below.

Description of the device's construction – Figure 3 in the appendix to the manual

1. Power button
2. Battery compartment
3. LED display
4. Battery charging port
5. Battery indicator
6. Mains power indicator
7. Overvoltage indicator
8. Overload indicator
9. Up arrow
10. Down arrow
11. Confirm button
12. Output sockets
13. Positive battery connection (+)
14. Negative battery connection (–)
15. Mains output
16. Overcurrent switch button

Operating mode settings

MODE		DESCRIPTION OF SETTINGS
P1:	C1	When P1 is flashing and the number on the left of the display is flashing, press the Enter button (1).
	C2	Then press the Up or Down button to change the mode number.
	C3	Once you have set the required value, press Enter (1) to return to the settings page.

	1. Mains (AC) Priority Mode	The AC mains power is stabilised by a voltage regulator, whilst the battery is being charged. If the mains voltage is too high or too low, the device automatically switches to battery power.
	2. Energy-saving mode	The inverter automatically detects the load: when the load exceeds 5% of the rated power, the device activates the AC power supply to ensure the operation of the loads. If no load is detected, the device automatically enters standby mode to minimise battery power consumption. In this mode, the device resumes operation every 4 seconds to detect the load and conserve energy. Once normal mains power is restored, it automatically switches back to AC power.
	3. Battery Priority Mode	When the battery is charged to the set initial value, the device automatically switches to battery power. Once the battery voltage drops to the set final value, battery priority mode is disabled and the device switches to AC mains power via the voltage regulator, without charging the battery.
P2	Setting the charging voltage	Press the Enter button (1) to select P2. Press the Up or Down button to change the value; each press decreases or increases the voltage by 0.1 V. The charging voltage can be set within the range of 12 V – 15 V. Once you have set the required value, press Enter (1) to return to the settings page.
P3	Charging current adjustment	Press the Enter button (1) to select P3. The displayed value indicates the charging current as a percentage of the maximum current. Press the Up or Down button to change the value; each press decreases or increases the current by 10%. Once you have set the required value, press Enter (1) to return to the settings page.
P4	Silent Mode Beep setting	By default, the beep is set to Off. Press the Enter button (1) to select P4. Press the Up or Down button to enable or disable the beep (applies to mains operation). Once you have set the required value, press Enter (1) to

		return to the settings page.
P5	Setting the battery low voltage protection voltage	Press the Enter button (1) to select P5. Press the Up or Down button to change the value; each press decreases or increases the voltage by 0.1 V. The adjustment range is 9.6 V – 12.5 V. Once you have set the required value, press Enter (1) to return to the settings page.
P6	Adjusting the low battery alarm	When P6 is flashing and the number on the left-hand display is flashing, press the Enter (1) button. Press the Up or Down button to change the value; each press decreases or increases the voltage by 0.1 V. The adjustment range is 9.8 V – 13 V. Once you have set the required value, press Enter (1) to return to the settings page.
P7	Setting the voltage corresponding to 100% battery charge	This parameter determines the battery capacity displayed on the panel, corresponding to the voltage of a fully charged battery. When P7 is flashing and the number on the left-hand display is flashing, press the Enter button (1). Press the Up or Down button to change the value; the adjustment is made in 0.1 V increments. The adjustment range is 11.5 V – 14.5 V. Once you have set the required value, press Enter (1) to return to the settings page.
P8	Setting the initial voltage for battery priority mode	This parameter allows you to set the start voltage for battery priority mode. When P8 is flashing and the number on the left-hand display is flashing, press the Enter button (1). Press the Up or Down button to change the value; the adjustment is made in 0.1 V increments. The adjustment range is 11.5 V – 14.5 V. Once you have set the required value, press Enter (1) to return to the settings page.
P9	Setting the cut-off voltage for battery priority mode	This parameter allows you to set the cut-off voltage for battery priority mode. When P9 is flashing and the number on the left-hand display is flashing, press the Enter button (1). Press the Up or Down button to change the value;

		adjustment is in 0.1 V increments. (Note: the original manual does not specify the adjustment range; the recommended range is the same as for P7/P8: 11.5 V – 14.5 V). Once you have set the required value, press Enter (1) to return to the settings page.
P10	Setting the frequency (Hz)	When P10 is flashing and the number on the left-hand display is flashing, press the Enter button (1). Press the Up or Down button to change the frequency value. Once you have set the required value, press Enter (1) to return to the settings page.
P11	Adjusting the inverter output voltage	When P11 is flashing and the number on the left-hand display is flashing, press the Enter button (1). Press the Up or Down button to change the value; each press changes the voltage by 10 V. The adjustment range is 200 V – 240 V. Once you have set the required value, press Enter (1) to return to the settings page.

Display symbols (error codes)

Error code — Description

E02 — Output short circuit

E03 — Output overload

E04 — PCB overheating

E05 — Battery voltage too high

E06 — Battery voltage too low

E08 — Output voltage too low

Technical specifications

Input voltage range	147–275 V
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Input frequency	50 Hz
AC output voltage	220V–240V
Output voltage accuracy (AVR)	230 V (+10% / –13%)
Efficiency	>97%
Charging current	13A MAX
Switching time:	< 8 ms
PFC:	0.7
Battery type	AGM GEL LiFePO4 WET Li-ion
Protections	Overvoltage protection, undervoltage protection, overload protection, overheating protection, short-circuit protection
Cooling type:	Fan
Noise	<65dB (at a distance of 1m)
Display	LCD
Sockets	1 x SCHUKO, 1 x FRENCH
IP	IP20
Operating humidity	Max 95% non-condensing
Storage temperature	-15°C to 45°C

Service and repair

Please note that incorrect repairs may lead to serious damage to the device and even pose a risk to the user. If you experience problems with the device and do not have the experience or knowledge to repair it yourself, it is advisable to seek assistance from a specialist or technical support. You may be eligible for warranty repairs if the fault is due to a manufacturing defect. Warranty repairs may involve repairing the damaged component, replacing parts with new ones, or replacing the entire product if repair is not possible.

Maintenance and cleaning

- 1) Switch off the power before cleaning.
- 2) Wipe the appliance with a dry cloth. Do not use chemicals or water.

Disposal

Avoid disposing of the device in ordinary rubbish bins to prevent environmental pollution. Take the device to appropriate electronic waste collection points or to shops that recycle electronic equipment.

Attachment 1

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