

***Qoltec***<sup>®</sup>



# **USER MANUAL**

## **Intelligent AC-DC Charger**

### **For LiFePO4 AGM GEL SLA Batteries**

**Model:** 51916, 51917, 51918, 51919, 51952, 51953, 51955, 51956,  
51957, 51958, 51959

## INTRODUCTION

Thank you for choosing a Qoltec AC-DC charger. We are confident that this product will meet your expectations. This manual contains instructions for installing and using the product, including important safety instructions for proper operation and installation. If you have any questions after reading this manual, please contact our Customer Service Department.

## SAFETY INSTRUCTIONS

1. The device is intended for indoor use only. It is prohibited to use it near flammable materials.
2. Do not allow sparks or open flames near the batteries, as they may emit explosive gases during normal operation.
3. The device may only be operated at the rated voltage and frequency.
4. When routing cables through walls or openings with sharp edges, use appropriate protective sleeves or cable ducts to prevent damage to the insulation.
5. Do not allow children to play with or operate the device without supervision.
6. Do not allow the device to be flooded with water or exposed to moisture.
7. Ensure that the ventilation openings (air inlets and outlets) remain unobstructed and are not covered by anything.
8. When connecting the battery, ensure that the polarity of the connections is correct.
9. Do not charge disposable batteries or batteries that are not designed to be recharged.
10. Before making or disconnecting connections to the battery, disconnect the device from the power supply.

### **WARNING!**

Risk of electric shock! Do not open the device if it is connected to an AC power source. This device has been tested for compliance with CE standards and complies with applicable directives and standards.

**NOTE:** Batteries wear out after many years of use. Regular maintenance of the battery is recommended (e.g. annually). After this time, the batteries should be

inspected by a qualified technician, otherwise damaged batteries may cause a fire or other safety hazards.

## CHARGING INSTRUCTIONS

1. Connecting the charger to the battery
  - 1) Set the ON/OFF switch to the OFF position.
  - 2) The AC power cord must be disconnected. Connect the black cable to the terminal marked (-) on the charger side. Connect the other end of the cable to the negative terminal of the battery.
  - 3) Connect the red cable to the terminal marked (+) on the charger side. Connect the other end of the cable to the positive terminal of the battery.
2. Turning on the charger
  - 1) Connect the AC power cord to the charger and an AC power outlet.
  - 2) Set the ON/OFF switch to the ON position.
  - 3) The front panel of the charger features a control panel with a selection of charging modes adapted to different types of batteries: STD, GEL, AGM, CAL and LIFEPO4. This allows the user to easily adjust the charging process to the specific type of battery, ensuring optimal parameters and extending its service life. In addition, the charger is equipped with an LED indicator that shows the current charging stage: FLOAT (maintenance charging), ABS (absorption charging) or BULK (main charging).

The "WAKE UP" button is a function for waking up LiFePO4 batteries that have been excessively discharged.
3. Switching off the charger
  - 1) Disconnect the AC power cord from the AC socket.
  - 2) Set the ON/OFF switch to the OFF position.
  - 3) Disconnect the charger terminals connected to the battery.

## THREE-STAGE CHARGING

**Stage 1:** The first stage aims to ensure maximum battery charge by accelerating the charging cycle. The "BULK" LED illuminates, indicating that the device is supplying maximum charging current, stimulating a weak battery to absorb energy.

**Stage 2:** When the battery reaches approximately 90% of its rated capacity, the charger will switch to "ABSORPTION" mode. At this stage, the device supplies the battery with a constant voltage at a reduced current.

**Stage 3:** Once 90% charge is reached, the "ABSORPTION" LED will turn off and the "FLOAT" LED will turn on. In "FLOAT" mode, the charging current will be reduced and the charging voltage will be maintained at a constant level. The battery now remains in constant "FLOAT" charging mode.

## TECHNICAL SPECIFICATIONS

| Model                           | 51955   | 51956 | 51957 | 51958 | 51959 |
|---------------------------------|---|-------|-------|-------|-------|
| <b>Input voltage</b>            | 180-260 VAC-50Hz                                  |       |       |       |       |
| <b>Battery voltage</b>          | 12V   |       |       |       |       |
| <b>Charging bulk/absorption</b> | 14.2-15 VDC                                       |       |       |       |       |
| <b>Float charging</b>           | 13.2-13.8 VDC                                     |       |       |       |       |
| <b>LiFePO4 charging</b>         | 14.7 V+/-0.1 VDC                                  |       |       |       |       |
| <b>DC output current</b>        | 30A   | 40A   | 50A   | 10A   | 20A   |
| <b>Operating temperature</b>    | 0-40°C  |       |       |       |       |
| <b>Ventilation</b>              | Cooling fan, thermal control                      |       |       |       |       |
| <b>Output ripple</b>            | <50 mA at full load                               |       |       |       |       |
| <b>Efficiency</b>               | 88%   |       |       |       |       |
| <b>Load regulation</b>          | 1.5% at output current: no load to full load load |       |       |       |       |

| Model                           | 51952   | 51953 |
|---------------------------------|---|-------|
| <b>Input voltage</b>            | 180-260 VAC-50Hz                                    |       |
| <b>Battery voltage</b>          | 24V   |       |
| <b>Charging bulk/absorption</b> | 28.8-29.6 VDC (AGM, GEL)<br>28.4-29.2 VDC (LiFePO4) |       |
| <b>Float charging</b>           | 27.0-27.6 V (AGM, GEL)<br>27.2-27.6 V (LiFePO4)     |       |
| <b>DC output current</b>        | 10A   | 20A   |
| <b>Operating temperature</b>    | 0-40°C  |       |
| <b>Ventilation</b>              | Cooling fan, thermal control                        |       |
| <b>Output ripple</b>            | <50 mA at full load                                 |       |
| <b>Efficiency</b>               | 88%   |       |
| <b>Load regulation</b>          | 1.5% at output current: no load to full load        |       |

| Model                           | 51916                    | 51917 | 51918 | 51919 |
|---------------------------------|--------------------------|-------|-------|-------|
| <b>Input voltage</b>            | 180-260 VAC-50Hz         |       |       |       |
| <b>Battery voltage</b>          | 12V                      |       |       |       |
| <b>Charging bulk/absorption</b> | 14.2-15 VDC (selectable) |       |       |       |

|                              |   |     |     |     |
|------------------------------|---|-----|-----|-----|
| <b>Float charging</b>        | 13.2-13.8 VDC (selectable)                        |     |     |     |
| <b>LiFePO4 charging</b>      | 14.7 V+/-0.1 VDC                                  |     |     |     |
| <b>DC output current</b>     | 60A   | 70A | 80A | 90A |
| <b>Operating temperature</b> | 0-40°C  |     |     |     |
| <b>Ventilation</b>           | Cooling fan, thermal control                      |     |     |     |
| <b>Output ripple</b>         | <50 mA at full load                               |     |     |     |
| <b>Efficiency</b>            | 88%   |     |     |     |
| <b>Load regulation</b>       | 1.5% at output current: no load to full load load |     |     |     |

## TROUBLESHOOTING

| <b>Problem</b>                            | <b>Possible cause</b>   | <b>Solution</b>   |
|---|---|---|
| No DC output or charger cannot start      | No AC input   | Check the power source AC   |
|   | Shutdown due to overheating                                   | Wait until the device cool down   |
|   | Poor battery terminal contact<br>Battery or reversed polarity | Check the connection between the charger and the battery, connect correctly |
|   | Short circuit at the output                                   |   |
|   | Damaged fuse  | Check the fuse  |
| Battery charging is not stable            | AC input voltage is not stable                                | Check the AC input voltage; if it is within the input voltage               |
|   | The setting does not match the battery type                   | Select the appropriate battery TYPE   |
| The charger cannot switch to "FLOAT" mode | The cable connected to battery is too thin.                   | Replace the cable with one of the correct size.                             |
|   | Battery in poor condition.                                    | Replace the battery with a new one.   |

## MAINTENANCE

1. The device should be used in well-ventilated areas.
2. Avoid charging batteries in extremely low or high temperatures.
3. Regularly check cables and connectors for damage.

## DISPOSAL

Take the used device to an electronic waste collection point. Do not dispose of the device with municipal waste.

## **WARRANTY**

The device is covered by a 24-month warranty from the date of purchase, which covers repairs or replacement in the event of manufacturing defects. To claim under the warranty, you must present proof of purchase (receipt or invoice). The warranty does not cover damage resulting from misuse, improper installation or tampering by unauthorised persons. If you need to use the service, please contact an authorised customer service centre, which will provide professional diagnostics and repair. All service work should be performed only by qualified personnel to ensure the safety and proper functioning of the device. If you have any questions about the warranty or servicing, please contact customer service.