



# Warranty

Every Evo Battery is built to last 10 years or 4000 Cycles.

Evo lithium batteries are supported by a limited product guarantee, which is backed by Evo Energy South Africa.

## Product Specifications **EVO 11.5KWH**

Battery	Data Specifications
Energy Capacity [kWh]	11520Wh
Recommended Usable capacity [kWh]	10.3Wh
Max Discharge Power [kWh]	9600W
Current Capacity [Ah]	240Ah
Max & Continues Charge Current [Ah]	200Ah & 100Ah (recommended)
Max & Continues Discharge Current [Ah]	200Ah & 50Ah (recommended)
Nominal Voltage	48VDC
Cut off Voltage [VDC]	46VDC
Bulk Charge/ Float Charge [VDC]	53.5VDC/ 52VDC
Working Temperature [°C]	-10°C to 55°C
Communication	RS485 / CAN (CAN H4; CAN L5)
Parallel	Up to 15 Units
Storage Temperature Long Term [°C]	-20°C to +35°C (<1 Year, SOC: 20% - 60%)
Elevation [meters]	< 4000m
Dimension of actual unit/ weight [mm/kg]	800L x 920w x 155h / 126kg
Dimensions boxed [mm/kg]	850L x 950w x 160h / 130kg
Enclosure	Aluminium, Powder coated
Accessories Included	25mm cable 1 meter (1x red, 1x black)
Design Life	15-18 Years
Product Warranty*1	10 years/ 4000 cycles (subject to product registration)

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## Product Specifications **EVO 6.1KWH**

Battery	Data Specifications
Energy Capacity [kWh]	6.1Wh
Recommended Usable capacity [kWh]	5.8kWh
Max Discharge Power [kWh]	5kW
Current Capacity [Ah]	125-130Ah
Max & Continues Charge Current [Ah]	100Ah & 30Ah (recommended)
Max & Continues Discharge Current [Ah]	150Ah & 100Ah (recommended)
Nominal Voltage	48VDC
Cut off Voltage [VDC]	46VDC
Bulk Charge/ Float Charge [VDC]	53.5VDC/ 52VDC
Working Temperature [°C]	-10°C to 55°C
Communication	RS485 / CAN (CAN H4; CAN L5)
Parallel	Up to 15 Units
Storage Temperature Long Term [°C]	-20°C to +35°C (<1 Year, SOC: 20% - 60%)
Elevation [meters]	< 4000m
Dimension of actual unit/ weight [mm/kg]	505L x 400w x 150h / 40kg
Dimensions boxed [mm/kg]	575L x 490w x 255h / 42kg
Enclosure	Aluminium, Powder coated
Accessories Included	25mm cable 1 meter (1x red, 1x black)
Design Life	15-18 Years
Product Warranty*1	10 years/ 4000 cycles (subject to product registration)

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## Product Specifications **EVO 5.7 kWh**

Battery	Data Specifications
Energy Capacity [kWh]	5.760kWh
Recommended Usable capacity [kWh]	5.280kWh
Max Continues Discharge Power [kW]	5kW
Current Capacity [Ah]	120Ah
Max & Continues Charge Current [Ah]	150Ah/ 30Ah
Max & Continues Discharge Current [Ah]	150Ah/100Ah
Nominal Voltage	48VDC
Cut off Voltage [VDC]	46VDC
Bulk Charge/ Float Charge [VDC]	53.5VDC/ 52VDC
Working Temperature [°C]	-10°C to 55°C
Communication	RS485 / CAN (CAN H4; CAN L5)
Parallel	Up to 15 Units
Storage Temperature Long Term [°C]	-20°C to +35°C (<1 Year, SOC: 20% - 60%)
Elevation [meters]	< 4000m
Dimension of actual unit/ weight [mm/kg]	505L x 400w x 150h / 40kg
Dimensions boxed [mm/kg]	575L x 490w x 255h / 42kg
Enclosure	Aluminium, Powder coated
Accessories Included	25mm cable 1 meter (1x red, 1x black)
Design Life	15-18 Years
Product Warranty*1	10 years/ 4000 cycles (subject to product registration)



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## Product Specifications **EVO 3.0 kWh**

Battery	Data Specifications
Energy Capacity [kWh]	3.072kWh
Recommended Usable capacity [kWh]	3.072kWh
Max Continues Discharge Power [kWh]	3kW
Current Capacity [Ah]	60Ah
Max & Continues Charge Current [Ah]	60Ah
Max & Continues Discharge Current [Ah]	50Ah
Nominal Voltage	52.1VDC
Cut off Voltage [VDC]	40VDC
Bulk Charge/ Float Charge [VDC]	58.4VDC
Working Temperature [°C]	-10°C to 55°C
Communication	RS485 / CAN (CAN H4; CAN L5)
Parallel	Up to 9 Units
Storage Temperature Long Term [°C]	-20°C to +35°C (<1 Year, SOC: 20% - 60%)
Elevation [meters]	≥ 4000m
Dimension of actual unit/ weight [mm/kg]	505L x 400w x 150h / 26kg
Dimensions boxed [mm/kg]	575L x 490w x 255h / 27kg
Enclosure	Aluminium, Powder coated
Accessories Included	25mm cable 1 meter (1x red, 1x black)
Design Life	15-18 Years
Product Warranty*1	10 years/ 4000 cycles (subject to product registration)

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# Warranty

## Product Warranty Terms

Subject to the provisions in this document, EVO batteries will achieve at least a 10-year service life or deliver at least 4 000 charge-discharge cycles, whichever event should occur first.

The battery is defined as satisfactorily achieving this service duration if it is still able to produce 60% or more of the model's stated new capacity in kWh from a complete discharge. The discharge test of an individual battery shall be done at a current equal to or less than 20% of the Ah rating, i.e.

Amperes during discharge test = eg.  $0.20 \times 100\text{Ah} = 20\text{Amps}$ .

The integrated battery management system (BMS) can calculate and record the aggregate number of cycles that have been completed by the battery, where one complete cycle in terms of this warranty is a discharge from 100% State of Charge (SoC) to 30% SoC – which is equivalent to 70% Depth of Discharge (DoD) – followed by a charge again to 100% SoC. Discharges deeper than 70% DoD and less than 70% DoD are also counted into the total number of warranty cycles on a pro rata basis.

Each EVO battery is preconfigured to prevent ordinary discharge below 90% DoD by commanding the connected inverter over the applicable communication interface to stop discharging. 100% DoD is allowed when the discharge from 90% to 100% DoD is only for the purposes of supplying the standby power draw to the inverter when there is no AC input available.

The EVO should not be kept and/or operated in a location that regularly experiences extended periods of ambient temperatures above 35°C or below 0°C. The extreme ambient operating range is -10°C to 50°C. In terms of the warranty the battery may not be charged below 0°C although there is no restriction for discharge below 0° down to -20°C.

The following temperature related operation will void the warranty:

- If the battery is operated in ambient temperatures below -10°C.
- If the battery is operated in ambient temperatures above 50°C.
- If the battery is charged below 0°C



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The EVO battery should also be installed indoors away from direct sunlight, precipitation, moisture, and sea mist. If the EVO is installed in a small room with inverters and charge controllers it may be necessary to install an extraction fan or air conditioner to extract the heat from the inverters and charge controllers. Similarly, if the system is installed in a container the container must be out of direct sunlight and fitted with insulation cladding and extraction fans or air conditioners. Where possible the ambient temperature must be maintained.

Should an EVO be found unable to produce 60% of its 'as new capacity' in kWh prior to the 10-year service life, or 4000 cycles being achieved EVO undertakes to service the battery to ensure that it thereafter again meets this performance objective.

The following OVERLOAD related operation will void the warranty:

- Battery indicated OVP more than 3 times per month from date of installation.
- Battery indicated UVP more than 3 times per month from date of installation.
- Battery does not have a DC Fuse disconnecter per battery rated to the max draw equivalent to the battery
- Battery is connected to an inverter that exceeds the battery capacity
- Battery is incorrectly connected for example reverse polarity, "jump Started"
- Battery is connected to any other brand of different series of EVO.
- Regular Maintenance is not performed on the battery

The following PHYSICAL DAMAGE or Incorrect installation/ operation will void the warranty:

- If the battery shows any signs of impact.
- If the battery shows any signs of miss handling.
- If the battery shows any signs of Modifications/ alterations to the product, firmware or software.
- If any of the tamper seals have been broken.
- If the battery is left for a prolonged period on a low charge (more than 2 weeks below 20% SoC).



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EVO may however decide at its sole discretion to replace the battery if a repair is considered by EVO to be uneconomical. Should a replacement battery be required, EVO will cover a percentage of the cost of the replacement based on a fair use formula as follows:

- Battery age 0 to 5 years – EVO will cover the full cost of the battery replacement.
- Battery age 5 to 6 years – EVO will cover 50% of the cost of the battery replacement.
- Battery age 6 to 7 years – EVO will cover 40% of the cost of the battery replacement.
- Battery age 7 to 8 years – EVO will cover 30% of the cost of the battery replacement.
- Battery age 8 to 9 years – EVO will cover 20% of the cost of the battery replacement.
- Battery age 9 to 10 years – EVO will cover 10% of the cost of the battery replacement.

The balance of the replacement cost must be paid by the owner or reseller before the replacement battery is provided. The deemed replacement cost for a warranty replacement shall be the Current RRP Price on the [www.evo-energy.co.za](http://www.evo-energy.co.za)

If the same model battery is not available at the time of the warranty claim EVO undertakes to provide a suitable alternative solution. For the purposes of the performance warranty assessment, the capacity of the battery will be confirmed using kWh readings taken from an external kWh meter connected on the DC output cables of the battery.

The discharge test shall be conducted at 0,2C from 100% SoC. The battery must be transported to EVO-ENERGY or an authorised distributor to be assessed and tested in accordance with this warranty.

The cost of removal, packaging and shipping shall not be covered by the warranty, nor shall the cost of re-installation. A suspected underperforming battery must be received by EVO for assessment before the warranty period has elapsed or the cycles are exceeded. Every EVO battery is fitted with a tamper seal on the cover. If this seal is damaged or compromised in any way or there is other evidence of tampering or abuse the guarantee becomes void. As well as the above performance related warranty, EVO will replace under warranty any component that fails or is defective during the 10-year warranty at no charge provided that such failure is not related to improper use or operation of the battery. EVO Energy will not be held liable for any losses.



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The exterior paint coating on the EVO is only warrantied so far as it has been properly applied and a claim must be supported by evidence of defective materials or application – damage to the coating caused by impact, weathering or scuffing is not covered in this guarantee.

The warranty is only valid and applicable if the EVO was installed according to the requirements and instructions laid out in the EVO manual by a qualified person.

On receiving your EVO battery, it is the receiver's responsibility to inspect and document any damage to the unit or protective box and fill this in on the courier companies' documentation and store this information, the unit will not be covered for courier damage as this is to be covered by the freighting company/ receiver responsible for the transportation. In the event of damage caused to the unit due to Installation error it is the responsibility of the installer to cover such damage. If the unit has been installed correctly it is the end user's responsibility to take out the necessary insurance on the unit in the event or any damage caused by surge, Lightning, water etc.

For the warranty to come into effect the product needs to be registered on the <https://www.evo-energy.co.za/product-registration> website within 2 (two) months of installation or will be based on shipping batch date plus maximum 4 (four) months. It is the end user's responsibility to register the product and attach the correct documentation required within 2 (two) months.

If you have any questions, please don't hesitate to contact us at [warranty@evo-energy.co.za](mailto:warranty@evo-energy.co.za)



# Warranty



## EVO Battery Maintenance Guide

### Battery Models:

- 2.8 KWh, 5.7 KWh, 6.1 KWh, 11.5 KWh

### Regular Maintenance:

Visual Inspection: Inspect the battery regularly to ensure all connections are tight and secure. Look for any signs of physical damage or wear.

### Cell Balancing Cycle:

Frequency: Every 3 months under heavy load. Every 6 months under normal load.

### Heavy Load:

- Charging over 40% of the rated capacity.
- Discharging over 50% of the rated capacity.

### - Cell Balancing Process:

### Discharge:

Discharge the battery from full to empty using manual voltage settings.

### Discharge rate:

11.5 KWh (48V): 1050W / ~20A, 6.1 KWh (48V): 480W / ~10A, 5.7 KWh (48V): 480W / ~10A, 2.8 KWh (48V): 288W / ~6A  
Discharge to 45.5V until the battery SOC reaches 0%.

The battery will auto calibrate to 0% at this point.

### Charge:

Charge the battery at the same rate used for discharging.

Charge to 54V or until the SOC indicates 100%.

### Post-Cycle Check:

Ensure all cells are within 50mV of each other. If not, repeat the cycle.

Firmware Update: Always ensure the battery firmware is updated to the latest version for optimal performance and safety.

Benefits: Performing regular maintenance and cell balancing cycles extends the battery's life and maximizes its capacity.

Note: Adherence to this maintenance guide is crucial for the longevity and optimal performance of your EVO lithium iron phosphate batteries.