

### Customer support:

If you have problems or questions regarding this product, simply contact us!

By phone: +49 9605-92206-0

By e-mail for ordering spare parts: [ersatzteil@esotec.de](mailto:ersatzteil@esotec.de)

By e-mail for questions about the product: [technik@esotec.de](mailto:technik@esotec.de)

Product: Manufacturer Item No.: 101548

These instructions relate **ONLY** to this product and contain important information for using the product for the first time. Please keep these instructions for later reference and should always accompany the product in the event of transference to a new user.

## 1. Introduction

Dear Customer, thank you for purchasing the solar pump kit.

With this solar pump kit you purchased a product manufactured according to the current state of technology.



This product fulfils all requirements of the valid European and national regulations. The conformity was proved. The relevant declarations and documentation are deposited with the manufacturer.

To maintain this state and guarantee a safe operation, you as the user will have to follow this operating manual!

## 2. Safety Instructions



- In case of damages caused by not following this operating manual, the warranty rights will expire! We exclude liability for any consequential damages!
- We exclude liability for property or personal damages caused by inappropriate handling or not following the safety instructions.
- In these cases any guarantee rights will expire.

Due to safety and admission reasons (CE) it is not allowed to arbitrarily reconstruct and/or change the product.

Therefore, please keep to the operating manual.

## 3. Intended Use

The accumulator station serves as an energy storage device to supply different lighting products. It can be installed outdoors, but direct sunlight must be avoided! The battery station must not be set up in water or sprayed with a water hose, for example. Normal rainfall is harmless. If the battery station is also operated outdoors during the winter months, it must be kept free of snow.

### Essential features of the accumulator station:

- The accumulator station is installed between the lights and the solar module.
- The lights are switched by the voltage of the solar module.
- The output voltage is 12 VDC
- The built-in rechargeable battery is protected against low, overcharge and short circuit.
- LEDs provide information about the charge status and charging of the battery.
- The system is ready to plug in and set up in minutes.

## 4. Functionality:

The accumulator station is connected between the solar panel and the lighting.

During the day, the built-in battery is charged via the connected solar module LED „Charge“ lights up yellow.

The „SYSTEM“ LED provides information about the battery charge status. If the „SYSTEM“ LED lights up green, the battery is ready for operation; if it is red, the battery is discharged and the lights are switched off.

The LED „TIMER“ has no function!

The output voltage of the solar module is used as twilight sensor. If this dark then the voltage drops below a threshold value and the lights are switched on. When the brightness and the voltage increases, it is switched off again.

The battery is protected by the electronics against deep discharge or overcharge.

## 5. Assembly/installation and start of operation

1. Insert the plug of the illumination into the built-in socket „OUTPUT DC 12V“ on the battery station. Tighten the union nut to secure it.  
Make sure that the „System“ switch is in the OFF position.
2. Unroll the cable at the battery station (Input DC 18 V) completely.
3. Insert the cable with the socket into the plug of the solar module. Tighten the union nut to secure it. Accessories: 5 m extension Part no.: 101738 ([www.esotec.de](http://www.esotec.de)).
4. Now place the solar module in a sunny and shadow-free location.
5. Switch the „System“ switch to the „ON“ position. If the „System“ LED lights up red, the battery is discharged and the battery must first be charged via the solar module. If the „System“ LED lights up green, the battery station is ready for operation.

**Note:** The plugs and sockets are protected against inverse polarity. Do not apply force when inserting the plugs. The glass of the solar module is fragile.

**Note:** The accumulator station must not be set up in the blazing sun.

## 6. LED Indicators

### LED „SYSTEM“:

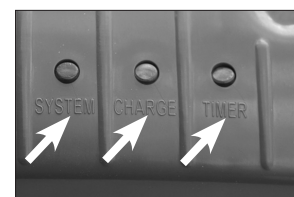
**green:** Battery charged and ready.

**red:** The battery is discharged and the outputs are switched off.

### LED „CHARGING“:

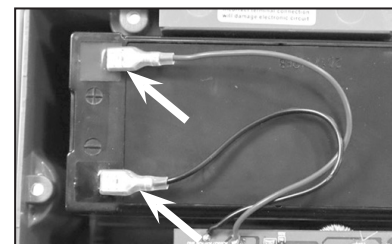
**yellow:** Battery charging

**LED „TIMER“:** not used.



## 7. Exchange of the accumulator

We recommend to exchange the accumulator approx. every 2 years. A new identical in construction accumulator is available from the manufacturer or dealer.



Proceed as follows if you want to exchange the accumulator:

1. Set the switch „System“ into the position „OFF“ and unplug the module and the light from the accumulator station.
2. Turn the accumulator station upside down and loosen the screws on the bottom frame of the accumulator box and carefully remove the cover.
3. Unplug both cables from the accumulator (see picture above). Please memorize the color of the cables for the **positive pole = red** and **negative pole = black**.
4. Remove the accumulator from the housing and insert the new identical in construction accumulator.
5. Reattach the cable lugs on the poles of the accumulator with correct polarity. Cable color for the **positive pole = red** and **negative pole = black**.
6. Close the housing in reverse order.
7. Connect the light and solar panel again and set the switch „System“ into the position „ON“

**Note:** Please only use an identical in construction accumulator with identical voltage and capacity.

**Note:** The old accumulator has to be disposed of in an environmentally sound way. For this purpose, please contact your local authorities, public collection points or your dealer.

## 8. Over-wintering

The accumulator station can be operated over the winter in a dry (snow-free) place outdoors.

If you want to store the battery station indoors over the winter, the battery must be fully charged beforehand. To do this, use a sunny day and then switch the battery station off (**SYSTEM OFF**).

## 9. Troubleshooting

### LED „System“ does not turn green despite sunlight, but yellow LED lights up.

1. The battery is not yet sufficiently charged and has not yet reached the restart threshold. The charging process can take several hours in weak sunlight.
2. Battery is exhausted! The battery should be replaced approximately every 2 years. Please observe point 7 of these instructions.

### LED „System“ does not turn green despite sunlight when the „System“ switch is switched off and on again, but it does light up green!

1. The battery had not yet reached its restart threshold. After switching the system off and on, the electronics are reset and the system is ready without waiting for the restart threshold. However, this should not be done during normal operation, as the battery is not protected by the charging electronics and is reset manually.

### LED „System“ is green but at night the lighting does not switch on!

1. The solar module is illuminated by extraneous light! Place the solar module in a darker place.

## 10. Technical data:

- |   |                |
|---|----------------|
| • Accumulator voltage:                      | 12 V           |
| • Accumulator capacity:                     | 7 Ah           |
| • Deep discharge protection:                | approx. 11,7 V |
| • Voltage threshold for restart:            | approx. 12,7 V |
| • Output voltage:                           | 12 V DC        |
| • Max. load (output):                       | 20 W           |
| • Max. connectable module capacity (input): | 20 Wp          |
| • Protection:                               | IP 44          |
| • Protection class:                         | III            |
| • Temperature range:                        | -15°C to +30°C |

**WARNING of trip hazard!** Lay the connection cable so that it does not constitute a trip hazard.

## 11. Disposal:

Dear customer,

please cooperate in avoiding waste. When you intend to dispose of the product in future, please consider that it contains valuable raw materials suited for recycling.

Therefore, do not dispose it of with domestic waste but bring it to a collection point for the recycling of waste electrical and electronic equipment.

Thank you very much for your cooperation!



### Manufacturer:

**esotec GmbH** - Gewerbegebiet Weberschlag 9 - D-92729 Weiherhammer

Tel.-Nr: +49 9605-92206-0

Fax.-Nr: +49 9605-92206-10

Internet: [www.esotec.de](http://www.esotec.de)

e-mail: [info@esotec.de](mailto:info@esotec.de)

### Battery take-back

- Batteries must not be discarded into domestic waste.
- The consumer is legally required to return batteries after use, e.g. to public collecting centers or to battery distributors.
- Contaminant-containing batteries are labeled with the sign "crossed-out trashcan" and one of the chemical symbols. Used batteries should be disposed environmentally friendly and should not be discarded into domestic waste. Your dealer is legally required to take back old batteries.

