# ETATRACK® active

## Installation of Controller and Motor

**Warning, new version**
**Maximum open circuit voltage 80 V**
**(See also on site 3)**

## 1 Function of the ETATRACK active Controller

The tracker controller calculates the duration of the days based on the output voltages of the solar-modules – disconnecting the solar-array will result in wrong daytime calculations! **Parallel operation of tracker controller with battery charger or Inverter can cause wrong tracking movements.** An additional small PV-Module should be used for such applications: Min. 5 Wp for locations between 45°North and 45° South, min. 10Wp for locations ≥ 45°North or South for the tracker power supply. Only the total electrical separation between tracker controller and battery charger / inverter ensures perfect operation. **LORENTZ PS Pump Controllers do not require the additional PV-Modul**

First connect the motor power cable and the motor reed switch, then connect battery and the solar module to the controller terminals. The solar module is used for Day / Night-detection.
Set the jumper to northern or southern hemisphere.
Now the motor can be moved manually in small steps by pushing the East or the West button
Press the Manual button to initialize the controller.
After that the controller will start the tracking automatically.

First it will move some degrees to West direction (not with the jumper setting to “Southern Hemisphere” as the frame is already in West position). Then it will move (back) into East direction.
After reaching the final East position it will start to move to the final West position and then back to »High Noon« position. That is a learning process for the controller. The rest of the first day will be handled as a standard day.

In case reverse action is determined the two motor cables has to be reversed!
Disconnect and reconnect the battery and the solar module in order to make a controller reset and the learning process will start again.

During the night the tracker moves into »High Noon« position. After the first night the tracking will fit the real duration of the next day.

**Overload protection:**
The tracker controller has an integrated overload protection: After an overload occurred the controller stops the motor, the Overload LED goes On (Power LED goes Off) Only disconnecting power can reset the overload ( battery and solar). Before resetting please check the mechanical conditions: Try to find out where the tracking frame or the motor is blocked and check the whole assembly for smooth movement.

**Polarity protection solar input:**
In case of wrong polarity connection of the solar modules to the tracker electronics, no damage will occur.
Correct the wiring

**Polarity protection battery input:**
In case of wrong polarity connection of the battery, the fuse will blow.
Correct the wiring and replace the fuse.

**Power consumption:**
Max. 1,25 kWh per year

**Trouble shooting:**
Check all cables and the fuse first.
In case of a low battery voltage (12V) the controller shuts the system off and moves the tracker to high noon position. It can be still moved manually with the east and West buttons.
Once the voltage of the battery has reached 12,8V the tracker will start again to follow the sun.
Check if the tracker can move easily. Disconnect the motor if needed and control by hand the easy movement.

**Warning:**

**Wrong wiring ( e.g. wrong polarity !) will cause damage of electric and electronic components!**
**Components might not fail directly after installation – pre-damages can result in malfunction after some time of operation.**

**Please make sure that installation is made by qualified personnel only.**

**In case of any doubt during installation please contact your dealer or the manufacturer.**

**Damages caused by wrong wiring are not covered by warranty!!**

**Please make sure, that the voltage of batteries has to be checked after three month in stock (including shipping from LORENTZ).**
**The voltage should not drop down below 12.6V, otherwise the batteries have to be recharged.**

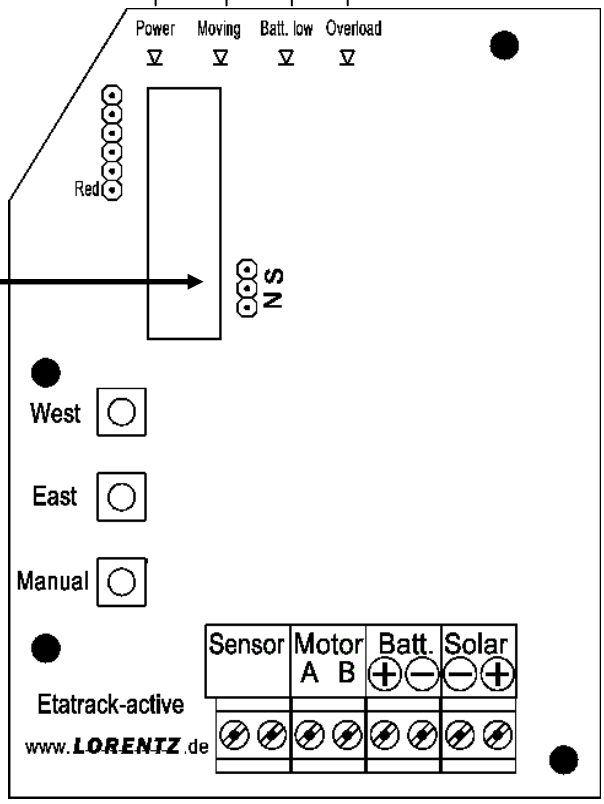
# 2 Operation, Monitoring and Wiring

The Overload LED will go ON and the Power LED will go OFF after an overload occurred.
Reset by disconnecting battery and solar power

LED flashes when battery is low

LED flashes quickly while the tracker is moving

LED flashes slowly in automatic mode
LED will be always ON in manual mode




Select **N**orthern or **S**outhern Hemisphere with the jumper (factory setting: northern hemisphere-no jumper required)

Pushing this button will move the tracker by one step to west direction (Manual Mode)

Pushing this button will move the tracker by one step to east direction (Manual Mode)

Pushing this button will switch the controller from AUTOMATIC to MANUAL mode (only when the tracker is not moving!)
Pushing again will switch back to AUTO mode

Motor housing / Connection Box

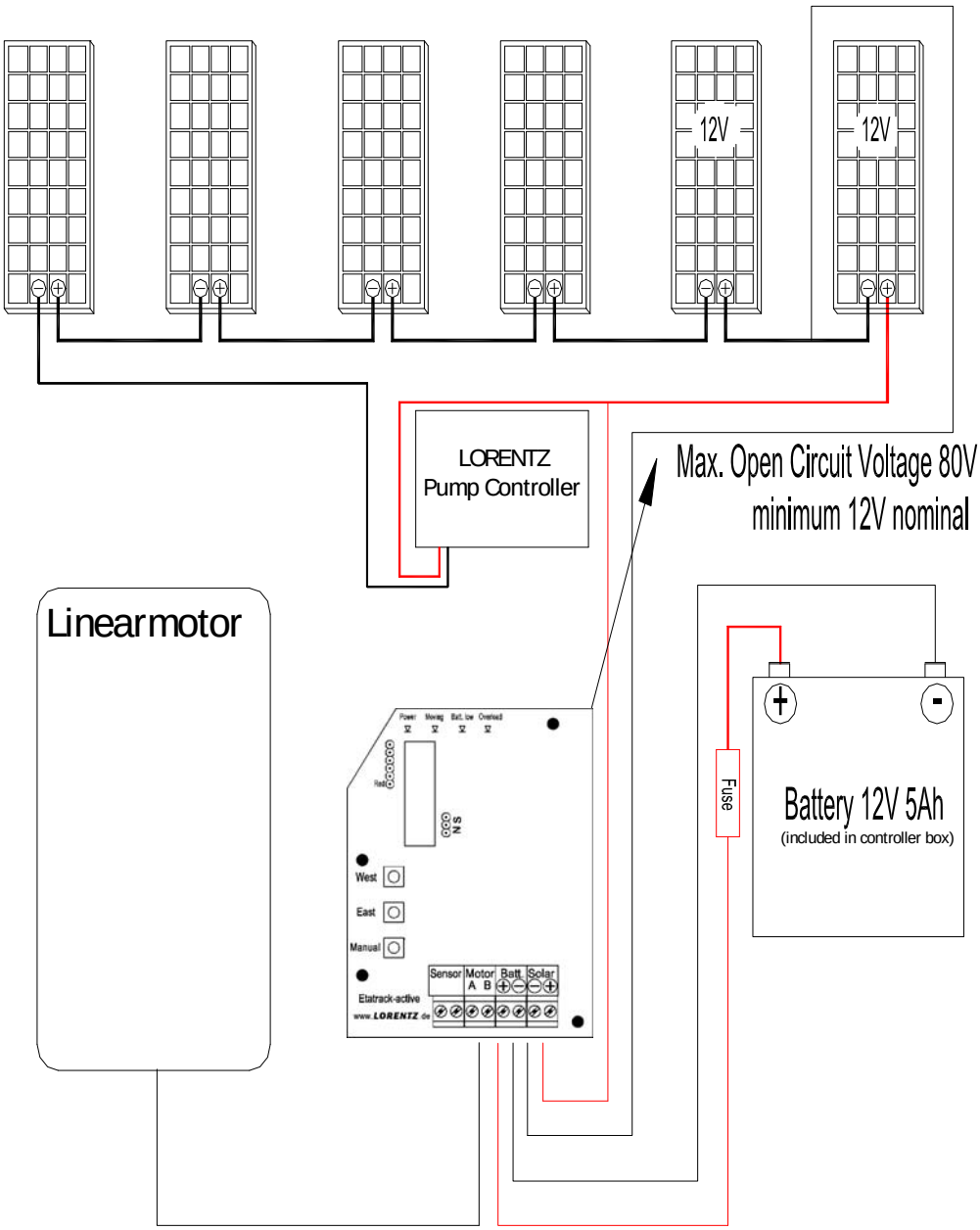
Linearmotor

NOTE: Wrong wiring of tracker motor and reed sensor will destroy electronic components!

Connect to the battery. Take care for right polarity !

Connect to the PV-array (Max. 80 Voc, at least nominal 12 V). Take care for the right polarity !

# Wiring diagram controller ETATRACK active for applications with LORENTZ PS pump systems



# Wiring diagramm controller ETATRACK activ for applications with ON - Grid inverters or battery chargers

## use a separate 12V 5 / 10 Wp Solarpanel