

Wind Power Pack 3







Dimensions:	220cm x 150cm x 170cm
Material:	fibre reinforced plastic
Weight:	1,3T without fuel
Engine:	Mitsubishi T6K
Zylinder:	3
Cooling:	Water
Fuel:	Diesel
Consumption:	3/4load 1,7 l/h
Generator:	230V DC 7kVA
Tank:	Double-walled 750L tank
Battery:	8 x 6V/660Ah
Charger:	Victron Skylla 24V 100A
Heating:	2kW independent diesel vehicle heater

Description

The powerpack is equipped with a 230V 7KVA Mitsubishi diesel generator, a 24V/660Ah battery, 750L fuel tank. Battery supplies the measurement technique and the heating of the sensors with energy.

The battery charger charges the battery with 28V/90A, so that we have an electrical power of max 2,5kW at 24VDC and 5kVA at 230VAC.

Dependently of the power supply battery voltage the generator is started and switched off depended to the current. Normally we start the generator at 22,5V and switch it off if the current is lower than 30A.

Additionally the generator is started dependently of the starter battery voltage, because the motor controller is supplied out of this battery.

Starting process

If the voltage of one of the batteries (power supply or starter battery) falls below the inserted

“generator on voltage” the controller starts the diesel pump. 2 seconds later it switches the motor heating in dependence of the motor temperature. Above 4°C the heating is not necessary, below, the heating time is a function of the temperature. After this heating time the starter will be switched on.

When the controller measured a voltage at D+ or the starter is on for 4 sec and the engine doesn't run, it will be stopped. Either the motor is running or not the procedure will be repeated or not. The controller tries to start 3 times, if it's unsuccessfully it switches in a modus that stops the starting of the motor and send an alarm e-mail to the inserted e-mail alarm address.

Monitoring

The controller is measuring temperatures of the container, motor, frequencies of the starter and generator, voltages of the power supply and the starter battery, motor oil pressure. Dependent on these temperatures and voltages the starting and stopping of the generator is controlled. Additionally to the starting– and stopping process described above the motor will be stopped by the controller if the motor temperature is too high, the oil pressure is to low or there is a fuel leakage.

Furthermore, the batteries cannot be loaded below -7°C, so they will be heated when the temperature is below 2°C. The blower for the fresh air is working, when the temperature inside the powerpack rises over 30°C.

Should the motor could not start, the batteries are protected against deep discharge. The load will be disconnected when the voltage of the power supply batteries is below 21,5V.

Installation of the WPP

When placing the power pack make sure that the side with the **cable bushing** is looking to the mast. Insert the legs in the square pipes at the corners below the container. Put plates made of concrete under the legs and adjust it in the horizontal plane.

Connect the power cable from the logger shelter box to the power box of the WPP (It is necessary if the logger shelter box is not inside the WPP).

Fix the inserted grounding cable to the screw below the container and connect it to the mast.

Tank Procedure

Open the screw cup on the top of the tank where the fuel level clock is installed. Fill up the tank through this hole.

Start up of the WPP

To start the engine switch on all fuses. The only thing you have to do now is to pull the panic switch. The motor will start automatically after preheating. This is controlled by a function of temperature and may takes 2 minutes depended to the temperature.

With a load of 500W the engine will run 2 times 4 hours a day.

Maintenance

Important:

Use “Anti Bacteria Diesel Additiv” to provide the diesel to become a substance like pudding.

After the first
50 operating hours

change engine oil and oil filter

All 250 hours

Change engine oil and oil filter
Control the Belt tension
Control and clean the cooling fin

All 500 hours

Change the fuel filters
Control the valve clearance
Control the glow plugs

Oil:

Specifications: ACEA E3, API CH4

Viscosity Index: Wintertime: 0W30, Summertime: 15W40

Filter: 30A1000400