
DESCRIPTION

BBAT is the battery package enabling to protect a battery and to supply power to the geocube or the coordinator, and to connect to a solar panel, or a DC voltage.

INTRODUCTION

BBAT enables to carry up to 2 x 12V&100Ah batteries (size below 360*192*220mm) . It feature a High performance MPPT (Maximum power point tracking) solar charger with temperature compensation and a buck converter to 3.7V which is the voltage required for geocubes. It is vented to avoid moisture and gaz concentration, but remains rated IP65.

BATTERIES

Batteries are lead acid chemistry, and must comply with the charging characteristics of the charger :

Absorption charge voltage is 14.4V.

Float charge voltage is 13.8V.

If the parameters of the battery you intend to use are different, we can adapt the charge voltage in factory.

In order to protect the battery, the low voltage load disconnect is set to 11.1V, and the low voltage charge reconnect is 13.1V.

SET UP

At shipment the foot (A) are not set up. Install them since they contribute to protect the package.

BBAT is intended to be used with the door opening from the top. There are 2 IP68 connectors 4 points and 2 points (B). The 4 point connector is dedicated to mate the geocube connectors, and the 2 point mates the Photovoltaic panel (PSOL) or the 18V DC power supply (case when the BBAT is merely a backup acting as an Uninterruptible Power Supply for coordinator)

Before plugging PSOL or Geocube, you must connect the Battery. If a second battery is required, an extension electrical cable must be supplied. Once connected secure the battery with the supplied grip.

POWER CALCULATION

In order to choose the battery power , you must take into account the geocube consumption (approx 500mW) or the coordinator consumption (10W the the Ethernet version and 12W for the 3G version) and the charging system auto consumption (200mW).

Then you have to take the poorest monthly count of sunny hours. A thumb rule give that half those hours times the solar panel power gives the stored energy. This gives the minimum PV panel power.

After this you have to estimate the max number of consecutive days without sun. This gives the capacity of the battery required.

You can mitigate battery capacity and PV power by average the number over several months.

All the meteorological data can be supplied by your local public weather station.

