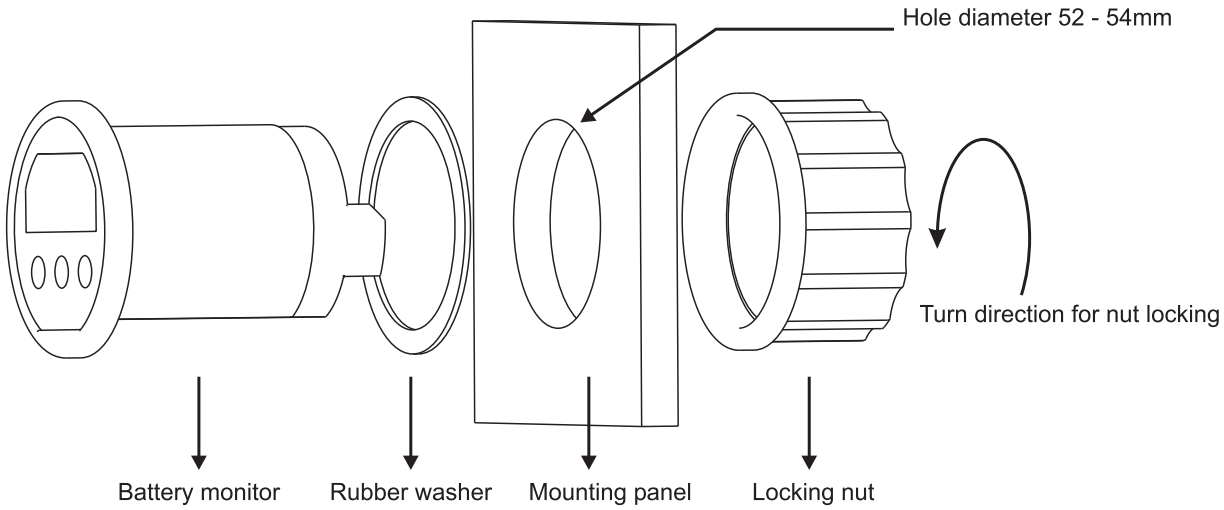
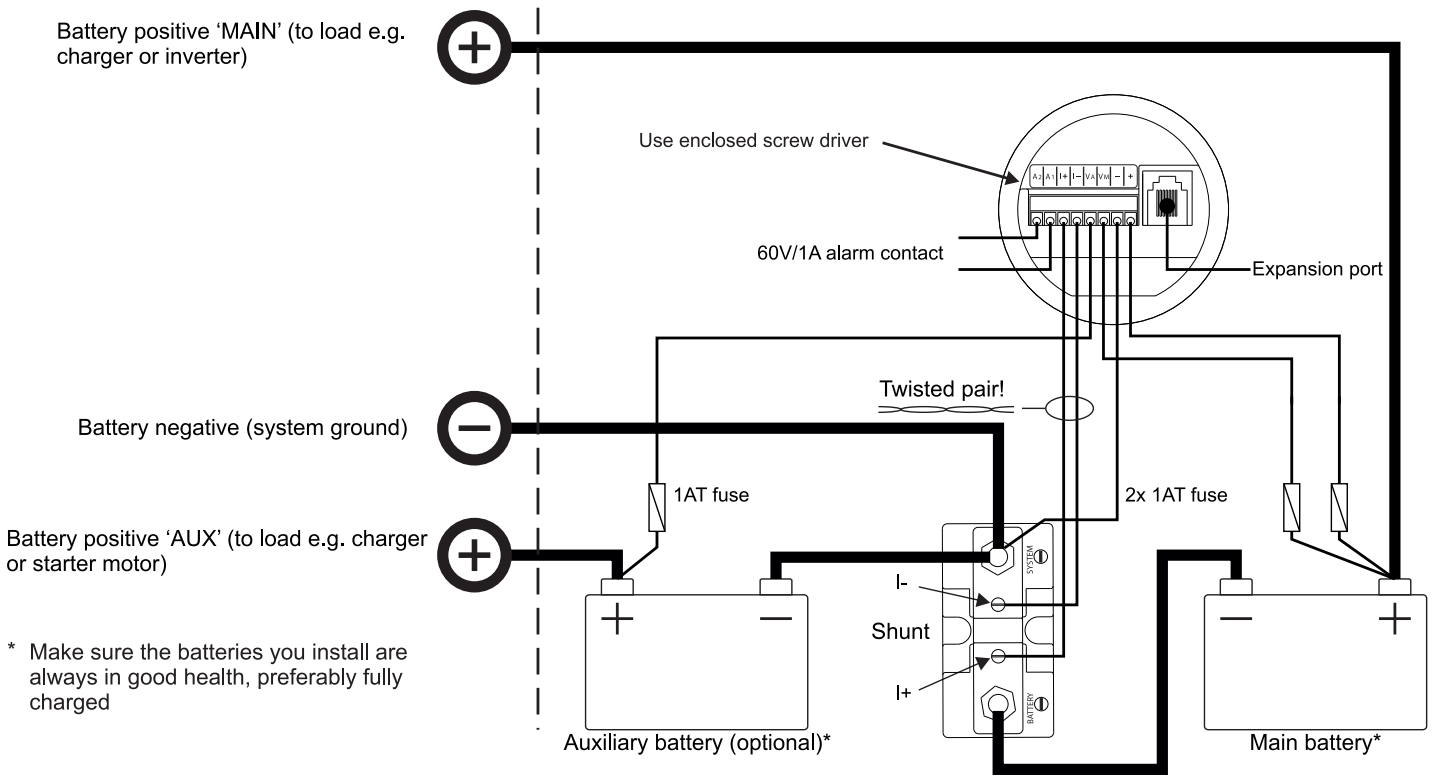
ePRO battery monitor ePRO hv battery monitor

INSTALLATION GUIDE

Please read this document very carefully to avoid battery monitor malfunction and/or fire hazards!

Mounting sequence





* Make sure the batteries you install are always in good health, preferably fully charged

WARNING The shunt must always be installed into the negative line!
Installing the shunt into the positive line may damage the battery monitor!

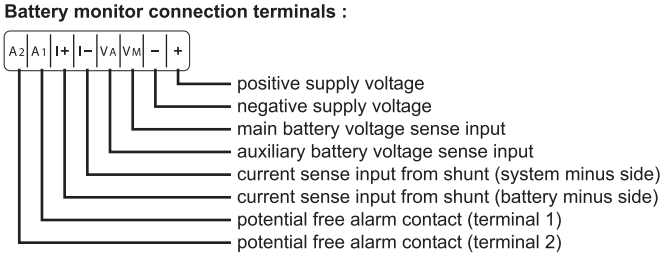
WARNING All fuses must be located as close as possible to the battery terminals. Install the fuses only when all other connections are made and double checked!

WARNING All thick lines in the above connection diagram, represent the main current lines. These lines must be wired with a wire type which can handle the full battery current!

WARNING All thin lines (from and to battery monitor) in the above connection diagram, must have a minimum thickness of AWG24/0.2mm^2. Maximum distance between battery monitor and shunt is 30 meters.

WARNING To avoid large errors in current measurement, always twist the 'I+' and 'I-' shunt lines. Connect all wires to the shunt exactly as given in the connection diagram.

Battery monitor connection terminals :



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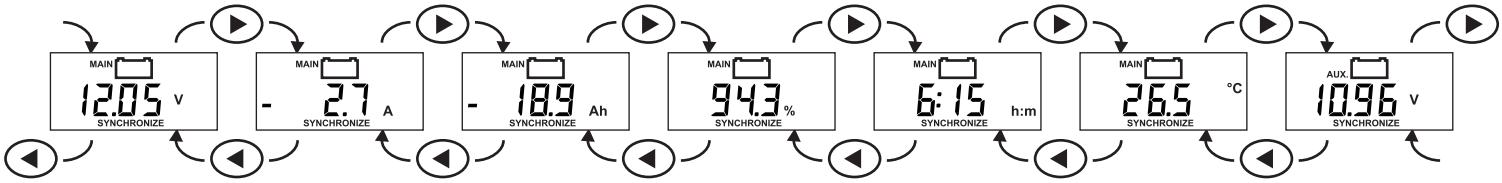
QUICK START GUIDE

This column decribes the absolute minimum number of required steps in order to setup your Battery Monitor.



battery voltage	Charge / discharge current. '-' sign represents discharge current.	Amount of consumed Amp-hours.	State-of-charge (SOC) in percent.	Time remaining until battery recharge is necessary. Displays "––" when charging.	Battery temperature (optional).	Auxiliary battery voltage (optional).

In all enclosed documents, unless otherwise stated, all settings and readout selections are related to the MAIN battery. The MAIN battery will be described as "battery" in all following chapters including the owner's manual.

When all fuses are installed, the battery monitor will startup with a blinking display in MAIN battery voltage readout selection. When pushing one of the three buttons, the LCD stops blinking and you can navigate through all readout selections using the < or > keys. The battery monitor now operates in the Normal Operating Mode. The standard readout selection sequence is as follows :

The display also indicates SYNCHRONIZE. As will be further explained in the owner's manual, this message means that the battery needs to be fully charged first, in order to synchronize the battery monitor with the battery. Otherwise, the State-of-charge readout will be invalid. The more often you are fully charging your batteries, the more precise the battery monitor will indicate all parameters. This will also result in a longer lifetime of your batteries.

But before the batteries can be fully charged, you first need to adjust Functions F1.0 (Charger float voltage), F2.1 (Low battery alarm on in Volts) and F5.0 (Nominal battery capacity). Setting these Functions to the right values, will in most cases result in a correctly operating battery monitoring system. However, some specific battery chargers or advanced requirements for controlling the alarm contact, might involve adjusting additional Functions. This will be explained in the enclosed owner's manual. The factory default settings are valid for a 12V (48V for "hv") battery system with a total capacity of 200Ah.

To setup the above mentioned Functions, press the MENU key for three seconds to enter the main MENU. Press the > key twice until the following display appears :

To enter the FUNCTION setup menu, press the MENU key. Now, the desired Functions can be selected by pressing the < or > keys. To alter a specific Function, press MENU again when the desired Function is selected. The value of this specific Function can then be changed by pressing the < or > keys again. When the Function is changed, press MENU again to select other Functions which needs to be changed.

When all Functions are correctly set up, the MENU key must be pressed for three seconds to save all settings and to jump back to normal operating mode again. When in setup mode no key is pressed for 90 seconds, the battery monitor will return to normal operating mode again automatically, without saving any changed setting.

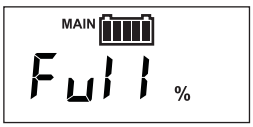
Supposing your setup contains a standard ePRO and two batteries of 12V/60Ah connected in series to become a 24V/60Ah system, the following Function settings can be implemented using the above explained method:

a) Change Function F1.0 to the float charge voltage level of your 24V battery charger. This will typically be 26.4V.

b) Change Function F2.1 to the voltage level at which a low battery voltage alarm must be automatically activated. For a typical 24V system, this will be 21.0V

c) Change Function F5.0 to the nominal battery capacity value of your battery system. In this example this Function must be set to 60Ah.

When these three Functions are correctly setup, you can use the earlier explained method to save these settings and jump back to normal operating mode again. Your battery monitor is now ready to be Synchronized with your batteries, by performing a full charging cycle until the display returns the following flashing message :



This could take several hours, depending on the State-of-charge of your batteries at the time of installation.

For further in depth explanations about the functionality of your battery monitor, please read the enclosed owner's manual.

Enerdrive
DRIVING YOUR ENERGY NEEDS

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