



FLEXmax User's Manual Addendum

Purpose

This document describes functional changes made to the FLEXmax Maximum Power Point Tracking Charge Controllers with the implementation of firmware revision 002.000.000. Additionally, this document describes the Automatic Generator Start (AGS) function which is gained by using a MATE with MATE firmware revision 4.1.6. (See page 2 for this function.)

This document also contains several changes to the FLEXmax User's Manual. (See page 2.)

Scope

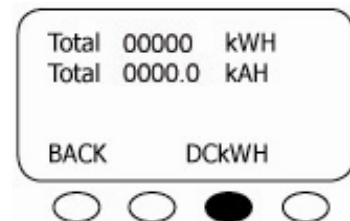
This document applies to all OutBack FLEXmax Maximum Power Point Tracking charge controllers which have been manufactured with, or are upgraded to, firmware revision 002.000.000. The added AGS function applies to all Outback FLEXmax charge controllers.

The changes in this document apply to the FLEXmax 60 and FLEXmax 80 User's Manual, p/n 900-0009-01-00 REV A.

Functional Changes

The following items are the functional changes that result from using firmware revision 002.000.000 in the FLEXmax controllers.

- The MPPT tracking algorithm has been improved to remove sensitivity to battery voltage ripple caused by DC devices with coarse current flow. This algorithm also improves the harvest from PV arrays with mismatched modules.
- The transition from Absorption charge to Float charge has been made more responsive. The voltage regulation during Absorption charge has been improved.
- The transition to Snooze operation has been made more responsive.
- Re-bulk voltage default settings have been changed to 12.0, 24.0, 36.0, 48.0 and 60.0 Vdc in order to match the settings in the FX and VFX Series Inverter/Chargers.
- The maximum display values on the Secondary STATS screen have been increased by one digit. The kWh field reads 00000 (or an equivalent number of five digits), and the kAh field reads 0000.0 (or an equivalent number), as shown in the figure on the right. (See pages 57 and 70 of the FLEXmax 60 and FLEXmax 80 User's Manual.)



Manual Changes

The following two pages in the FLEXmax User's Manual are being revised as follows:

- P. 21: The caption for the illustration, which reads "Peak kiloWatt hours", has been changed to read "Peak output power in kilowatts".
- p. 29: The instruction which reads "To adjust the minimum amount of time the PV voltage must remain high before deactivating the *AUX MODE*, press the <TIME> soft key" has been revised to read: "To adjust the minimum amount of time the PV voltage must remain below the PV trigger voltage before deactivating the *AUX MODE*, press the <TIME> soft key."

Automatic Generator Start (AGS)

Revision 4.1.6 to OutBack MATE Products adds the AGS function to the OutBack FLEXmax charge controllers. Now you can activate the charge controller's auxiliary relay the same way that you control the relay on your FX or VFX Series Inverter/Charger.

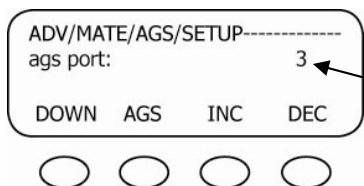


IMPORTANT:

The MATE must have firmware revision 4.1.6 in order for this function to work. See page 13 of the MATE Installation and User Manual (p/n 900-0012-01-00 REV C) for instructions on determining the firmware revision of your MATE product. If your MATE does not have the correct revision, upgrades are available. Contact the OutBack Technical Support group at **360.618.4363**, or **support@outbackpower.com**, for instructions on upgrades.

To use the FLEXmax charge controller for automatic generator starting:

1. Select the HUB Port.



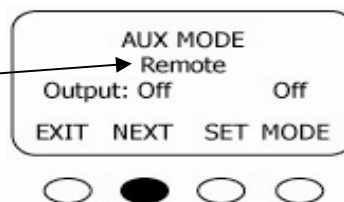
Follow the instructions on page 76 of the MATE Installation and User Manual (p/n 900-0012-01-00 REV C) to select the AGS port number.

Select the HUB port number that is connected to the FLEXmax controller.

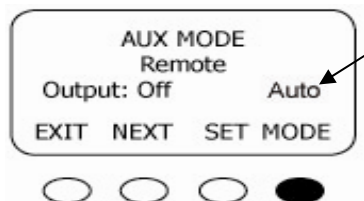
2. Enable the AUX Mode in the FLEXmax Charge Controller.

From the FLEXmax main menu, select AUX. When the AUX MODE menu appears, push the NEXT key until the second line displays <Remote>.

This will allow the FLEXmax controller to accept auxiliary relay commands from the MATE.



3. Set AUX Mode to Auto.



Finally, press the MODE key on the FLEXmax screen until the word above it reads <Auto>.

This will switch the AUX output to automatic instead of manual control.

Once this is done, the FLEXmax AGS is ready to use.