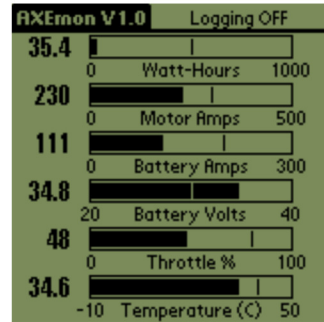


AXEmon Manual
Software Version 1.0
sws
06mar08



Introduction

The AXEmon is software written in PocketC for the Palm OS and allows a Palm device with serial I/O to gather data from an Alltrax AXE motor controller. It is something I wrote for my own use and is provided here to support further experimentation. It has been tested on a Palm Vx and Alltrax AXE 4845 controller. It comes with no guarantee of accuracy, performance, or safety. It may be possible to run the program under other platforms using one of the available emulators or simulators.

Loading and Starting

Load the AXEmon.prc file using the Palm Desktop Quick Install and Hot Sync functions. This version has the PocketC runtime built-in, so no other software should be needed.

An icon for the program will appear on the Palm device. Attach the Palm to the AXE controller using a null modem to Palm cable. Enable the Alltrax and start the program. On startup, the program may need to create and/or initialize its database. If it does, a message will be displayed briefly at the top of the screen.

AXEmon has a main field displaying the various parameters that can be read from the AXE. Motor Amps, Battery Volts, Throttle Position, and Controller Temperature are measured directly by the controller. Battery Amps is determined by multiplying Motor Amps by Throttle Position/100. Watt-Hours is Battery Amps times Battery Voltage times elapsed time. The accumulated Watt-Hour values is maintained between program restarts.

Modifying Limits

The value of each parameter is displayed along with a bar graph. The bar graph shows the current value in relation to a minimum and maximum value. The minimum and maximum values can be changed by tapping the displayed minimum or maximum value. An edit box will appear, allowing a new value to be entered. The changed value will be saved as the new default.

In addition, an alarm value can be set. The alarm value is displayed in the bar graph as a short vertical line at a point relative to its value. Tapping on the bar graph will allow the alarm value to be edited. If the measured watt-hours, amps, throttle, or temperature rise above the corresponding alarm value, the text display of the value will be changed to inverse color. Battery volts will be in alarm if it falls below its alarm value. Alarm value changes are saved as new default values.

The temperature display can be set to degrees Centigrade or Fahrenheit by tapping on the 'Temperature' text under the temperature bar graph. Watt-Hours can be reset to zero by tapping on the 'Watt-Hours' text.

Logging

Data is updated about once per second. Data can be logged by tapping on the 'Logging' text at the top of the screen. When logging, a count of seconds (and therefore, samples) is shown. Data is logged to the Memo Pad. Motor Amps, Battery Volts, Throttle Position, and Controller Temperature (in degrees C) are logged. Conversion to other units and other calculations (such as Battery Amps) can be done in post-processing with a spreadsheet. The data is saved in ASCII text format as a series of comma-separated variables (CSV file). The first line consists of header information. Logging can be stopped by tapping on the 'Logging' text again. Logging can be restarted and stopped at any time. Each new logging session will create a new Memo.