

April 2011 AcquiSuite Firmware changes.

Firmware updates for the A8810 and A8812 have a number of substantial changes. Users should be aware of these changes and how these may impact any custom applications that may have been developed. Although great care has been taken to maintain the previous feature set, users should test the firmware update prior to deploying this firmware on production equipment.

The firmware update will be provided at no cost.

Firmware release for A8812, A8810: v02.11.0411

Overview of changes:

This firmware update includes a number of minor changes as well as several new drivers.

New Drivers

- Tyco/Crompton Integra 1530 and Ci3 power meters.
- Veris CWLP, HWLP, TWLP modbus environmental sensors
- Badger 380
- Onicon System 10
- Emon 3400
- Fronius IG, IG-Plus Inverters (requires Module and USB Adapter)
- Sage Prime
- Schneider E7550
- Accuenergy Acquivim II and L
- Sustainable Energy Technologies Inverter Model: ELV and LV

Major features

- Split probe for new Modbus devices into a separate process and added ability to auto-detect remote Modbus/TCP connected device types.
- Split watchdog subsystem into a separate process.
- Reorganized the Modbus setup page.

Other Firmware Changes:

- Added general support for using Modbus function 0x2B for device name discovery. Included in both probe for new devices and in verify device class for any meter that supports the function.
- Changed the Modbus probe procedure to search for the Elkor WattsOn meter before the Acuvim to avoid false positive detection. New Acuvim probe discovery should also fix this issue.
- Added feature to remove the template file name from a config file if overwriting it with a known device by driver class using the manual configuration UI page.
- Added a feature to remove the template file name from a config file if the template does not exist.
- Added button to allow a Modbus Template file to be deleted.
- Added feature to Modbus setup to allow device probe and discovery to be disabled.
- Added a feature to configure a manually added Modbus device in a separate UI page including delete button, and display of gateway address/port if not localhost.



- Added a feature to allow a Modbus device to be added manually, and auto-detect the device type. If a device is not detected, it is dropped from the list after 2 passes.
- Added feature to display gateway address and port in the device data and advanced pages when not localhost/port 502.
- Removed specific checkbox to detect Acromag devices. Systems with Acromag devices should select the option for 2 stop bits for compatibility. Systems with this feature previously set will automatically update to include 9600 N82 as a serial port configuration.
- Changed device configuration page to always show delete button. Older versions showed the delete button only when the device is in an error state.
- Added feature to provide kernel, root, and usrarm firmware version information to the http uploader, so that the status upload will include this information as well.
- Fixed icon width for device quality icon field, cleaned up all backslash-quote to singlequote and added quotation around all cell attributes in the device list page html.
- Updated Modbus probe, logger, and mhdatalog apps to update status information visible in process list page.
- Increased the output line buffer from 1k to 8k in the Log file export UI page. This will fix a problem with line wrapping long lines in log data files.
- Watts On meter driver bug fix for serial number reporting. The serial number is now read from an initialized memory location in GetConfigurationFromDevice.
- Updated the Modbus/TCP library code to rename functions to better match the protocol specification names for ease of use.
- Updated logger baseclass to use new Modbus/TCP library names, and added several functions to read input register as float 32.
- Fixed nvsetup to use new modbustcp write single holding register function in modbustcp.c/h
- Removed old AS_FIRMWARE sections that were no longer used.
- Fixed a memory leak in the senddata upload manager application that occurred when remote servers sent manifest information about ini files that do not exist on the AcquiSuite.
- Fixed missing closedir() calls after opendir(). This could potentially cause a memory leak when the sensor data network logging is enabled.
- Added test for asarm.cramfs unmount and if unsuccessful, reboot the AcquiSuite.
- Modified AcquiSuite library code to make it easier to share across projects.
- Added Driver UI feature on the A8812 onboard io and A8332 to display the raw channel readings in ohms, volts and mA in the configuration advanced page, as a diagnostic tool for tech support.
- Added feature to purge Modbus device persistence when the settings for the Modbus serial port are changed. This will cause a 9600n81 device to lose persistence if the serial port is changed to 19200. (modbustcpd will re-acquire persistence based on the new serial port settings if possible.) This will have the effect of dropping devices that were found using old serial port settings if the new port settings do not support the device.
- Added base class logger function to display 32bit hex values, similar to the 16bit function.
- Added strip string function to remove xml special chars and leading/trailing spaces from device name, device type, point names, and point units of measure fields that may be configured in the UI.
- Added StrStripToSignedNumber in the library to allow strip to leave - if it is the first char for decoding signed numbers.
- Change ok/confirm icon in web UI to a more appropriate icon (checkbox-in-a-circle instead of an extra-large exclamation point.)
- Cleaned up some debug messages in ini library when debug options are enabled.
- Fixed strcopyfield() to avoid debug logging a false-positive warning about strings being truncated when the buffer is actually big enough.
- Added test for lock files in library that can return lock holder if one is found.
- In 'USB Devices' menu, display the PID holding a lock on a serial port to improve visibility/debugging as we begin using USB serial adapters w/ multiple modules.



AcquiSuite module support changes:

- Added feature to set an environment variable with the current kernel version number
- Implement extensible menus, loaded from AcquiSuite Modules. Module must provide a top-level "menu.ini" file. Menus for Modules are added at the top-level tree display, after "System" and before "Test / Diags"
- Add routines for USB serial ports, - IOPortOpen will open USB serial adapters given a list of matching criteria, like product-names or USB-vendor-IDs. It will also properly handle creation of a lockfile.
- USBGetDeviceInfoByHandle() will retrieve all the USB details about a device given an open handle to a tty.
- ProcGetOpenFileByHandle() will retrieve the name of a file given an open fd (uses /proc/*/fd/*)

Kernel Update: Linux 2.6.28.10-r1.83--gacd8f3a

- Added support for USB serial port adapters (FTDI and Prolific)
- Added support for USB GSM modem module.
- Fixes issues where multiple/fast writing to the flash chip causes a lockup. i.e. fast data logging and flash chip is completely full (A8812 only)
- Fixes issue where multiple small packets cause the ethernet port to shutdown. i.e. fast data logging and modbus/tcp connected devices. (A8812-beta-kernel and A8810).
- A complete list of all linux kernel changes is available at www.kernel.org

