ISCO MODEL 2110 SOFTWARE HISTORY

REVISION 1.09
Software Release Date: 02/13/12

Corrections:

1-   Fixed a synchronization issue that allows multiple 2110 modules to work on the same stack. The problem would be observed as missed measurements that would be reported as SENSOR_MISSING errors.

Enhancement:

1-   Added diagnostic support for the MASSA M300 transducers.

2-   Added a Signal Strength System Process for the MASSA M300 family of transducers. The module will only take signal strength and temperature measurements when the level is read.

3-   Added a diagnostic pass through mode for the level system process. This is used for for checking and adjusting the operation of the MASSA transducer.

4-   Added discrimination logic code that accepts measurements from the transducer, it will reject reading that are outside of our published specification.

REVISION 1.07
Software Release Date: 07/28/09

Corrections:

1-   Fixed "SENSOR_MISSING" errors. Enhanced the system synchronization to allow multiple 2110 modules.

Enhancement:

1-   Added support for the MASSA M300 family of transducers.

2-   Added a Signal Strength System Process for the MASSA M300 family of transducers. The module will only take signal strength and temperature measurements when the level is read.

3-   Added a diagnostic pass through mode for the level system process with Massa software.

REVISION 1.06
Software Release Date: 05/29/09

Corrections:

1-   Fixed problem in the system resource handling code that could cause level readings to stop updating after the level was adjusted. This is most notable with the 2110 and all modules in a site containing a 2110 should have code with this fix.

2-   Fixed a data storage problem when a parameter is configured for a primary data storage rate of OFF and a secondary rate controlled by an equation. When connected with Flowlink the parameter would store data at 5 second intervals.

3-   Fixed problem with pH not updating in a modbus register when the 2110 is operating as a modbus device.

4-   Fixed a problem where the module stops logging. If a customer does not disconnect with Flowlink before removing the communications cable and places the connector cap on the top connector, serial traffic got looped back to the receive side and caused the module to lock up due to the infinite traffic.

   a. Made changes to more effectively detect looped SLTA messages from the top serial port and discard them.

   b. DELL computers commonly leave the serial port in a "BREAK" condition when the port is not actively captured by an application such as HyperTerminal or Flowlink. This causes random lockups on the module which is connected to the computer. The serial port drivers were updated to disable the port during this condition.

Enhancement:

1-   Added a retry mechanism to retry a system resource capture which affects any measurement that requires an exclusive timeslot to prevent cross-talk such as velocity and ultrasonic level measurements. This may address some of the "missing sensor" errors reported with the 2110.

2-   Updated priorities for the Neuron and data collect tasks. The Neuron task is now the highest priority task which should allow for maximum throughput on network communications.

3-   Changed the Neuron interrupt handler to priority 0 - which is the highest. This was done to make it more responsive because during high loads where a REAL-TIME-CLOCK interrupt and Serial I/O is going it could be delayed too long and then have to resync and possibly lose a msg.

Miscellaneous:

1-   Changed the disconnect timing on a niFlush_IGN command which signals the end of the Flowlink conversation. It went from 10 seconds to 2 seconds for alert-ack protocol which is used in the 2102 wireless connection.

2-   Fixed garbage characters after the model name in a VCOM ? command in diagnostics.

REVISION 1.05
Software Release Date: 08/20/07

Corrections:

1-   Fixed problem with negative flow rates being reported with very low levels and a palmer-bowlus flume selected.

REVISION 1.04
Software Release Date: 03/16/06

Corrections:

1-   Fixed problem when data points are used for Flow conversions.

Enhancement:

1-   Added new triggers functionality that enables and/or combinations of logic equations for secondary rate data storage. The new Flowlink 5.0 stage 2 is needed to configure the new functionality.

2-   Added the ability to update firmware remotely through the network. This enables firmware updating over a modem connection through a 2103/C modem which also has updated firmware.

REVISION 1.03
Software Release Date: 10/01/04

Corrections:

1-   Added code to not process incoming messages from the SLTA or neuron while the router is configuring after an address change.

2-   Added code for detection and clearing of a Neuron error. We were seeing error code 0x85 from the neuron which
        indicates a bad address. It would then stop sending messages although it would still receive them.

3-   Added extra filtering for detection of bad addresses.

4-   Added error log entries of NURON_RQ from the neuron task when
        a bad address is detected. The neuron now waits longer - about 3 seconds of inactivity
        before it goes to sleep.

5-   Added the FLOOD diagnostic command but is conditionally compiled out. Added reporting of the task associated with sending an invalid formatted IAM.

6-   Hard coded to use the modem timing for all connections -even direct ones since Telog may use the pass-through mode.

7-   Removed unused code from Slta_Comm_Buffered which read last_rcv_time.

8-   Rewrote the transmit side of Slta_Comm_Buffered to place the NI_ALERT at the beginning of the buffer so we only make one call to fput_data() which will help reduce interrupt overhead.

9-   Changed to address looping messages when the customer disconnects the serial cable and plugs the (loop back) cap on the top connector.

10-   Added carrier detection to terminate communications when the modem drops the line.

11- Added a synchronization call in the H8MASTER file to resync the Neuron and H8 communications when an unhandled command code is detected.

12- Added the HALTED state to system processes to put them in during address changes. This should help prevent lockups when a sys proc has a file open and the file system gets a reset. It will watchdog timeout if things do not go as expected.

13- Fixed problem with ZAP memory which may cause lockups or abnormal restarts.

REVISION 1.02
Software Release Date: 04/15/04

Corrections:

1- Fixes a series of random problems, most notably where the time or date would be changed after doing an interrogation with retrieval of diagnostic reports would be retrieved with the data.

2- Changed System Process software revision levels, to enable Flowlink to program 2 minute intervals.

REVISION 1.01
Software Release Date: 03/03/04

First software release for the Ultrasonic module.