4.31 Release of Isaac HD firmware. Build 1145

Minor changes were made to:

1. Correct which file the network configuration parameters were written to when using the Tcp/Ip Network configuration message to change network configuration.
2. Typing and spelling errors were corrected in the documentation.
3. Compiler warning was removed by correctly casting a variable.

4.31 Release of Isaac HD firmware. Build 745

The following list describes the major changes made in release 4.31 of the Isaac HD firmware.

1. The ZSpan feature was added to the Isaac HD. For more information on ZSpan please consult the Isaac HD user's manual.
2. Four double words (e.g. 32 bits words) were added to the EtherNet I/P interface. These variables, labeled Testsccm1, Testsccm2, Testsccm3 and Testsccm4, were added to the structure sent from the Isaac to the PLC. These variables contain the sccm values for each channel when the Volume is non-zero on a non-ZSpan test. The variables contain the ccm values when a ZSpan program is being run.

4.20 Release of Isaac HD firmware. Build 631

The following list describes the major changes made in version 4.20 build 631 of the Isaac HD firmware.

1. The zHmi is notified when a linked program changes to the next program.
2. DAC values are reset to zero when the zHmi restores the programs from a backup.
3. Added fix so the multi-channel testers don't get stuck on single channel screens, and vis versa.

4.20 Release of Isaac HD firmware. Build 625

The follow list describes the major changes made in version 4.20 release of the Isaac HD firmware.

1. The StartWInterlock flag was added to the EtherNet I/P interface. The SpareBit 10 was used so no changes were made to the size of the I/O structure.
   The StartWInterlock bit is used in conjunction with the Program Start Mode feature, which consists of three differing start modes:
   - Start on Input 1 – This is the normal mode and requires the Start bit to transition from 0 to 1 to start the test program.
   - Start on Input 1 and 2 (Anti-Tie) – This mode requires the StartAntiTie bit and the StartWInterlock bit to both be high (e.g., 1) within .3 of seconds of each other. Both bits must remain high until the start of the Pre-Fill sequence, e.g., during the clamp sequence. If either bit goes low before the Pre-Fill sequence starts the test is aborted.
     Example the operator must have both safety button pushed while the fixture is clamping to ensure the operators hands are not injured.
   - Start on Input 1 and Start Button – This mode requires the StartWinterlock bit to be high when the Start bit transitions from 0 to 1 and to remain high through the test.
     Example the safety door must be shut and stay shut before and during the test.

2. The SaveDacOnAbort flag was added to the programing flags on the EtherNet I/P interface. This flag indicates that the DAC (Digital to Analog Converter) value will be remembered if the program is aborted while in the settle or test sequence. The default is not to save this value, requiring the electronic regulator to search/find the correct pressure on the next test. When the SaveDacOnAbort flag is set, the next test will start the search/find for the correct pressure from the previously aborted test.

3. After the power is applied to the Isaac there is a longer delay before the Isaac will communicate with the Tsi screen. Thus, older Tsi firmware (before 4.20) may display invalid data on initial startup.

4.01 release of Isaac HD firmware.

A new release (4.01) of the Isaac HD firmware has been posted to Zaxis internal source code control system (SCCS).

The follow is a list of changes which end users will need to be made aware of as they transition from 4.00 release to the new 4.01 release.

1. The format of the I/O message sent from the Isaac to the PLC has been changed. This effects all PLC code currently using the 4.00 release who update to the new 4.01 release. PLC Input tags are sent to the PLC from the Isaac tester after the Output tags have been scanned, or processed, by the Isaac tester. Input tags provide the current state of the Isaac to the PLC. The following table list the tags that were changed in the 4.01 release.

Old Name	New Name	Data Type	Description
FlowPort1	TestResults1	DINT	Channel 1 test results. For PD test the pressure delta between the start of the test and the end of the test. For Flow test the flow value at the end of the test.
FlowPort2	TestResults2	DINT	Channel 2 test results.
FlowPort3	TestResults3	DINT	Channel 3 test results.
FlowPort4	TestResults4	DINT	Channel 4 test results.
	Flow	DINT	Current Flow pressure * 1000. E.g., fixed-point decimal.

   As can be seen from the table above, the Flow values for all four ports have been replaced with the final test results for the four ports. The flow value is now returned in a new field called flow.

   The associated EDS file has also been updated to reflect the above changes.

2. The atmospheric pressure value has been added to the Firmware tags. The following table show the old and new tag names.

Old Name	New Name	Data Type	Description
spareInt3 spareInt4	AmtPress	DINT	Atmospheric pressure.