RSS-NIR
ION 500 Motor Drive
Trace Function Procedure

Set the trace mode to rolling buffer (0x0001).

We need a value entry box on the front panel to enter the sample period. The units should be in microseconds. Range is from 100 to 1,000,000. Divide the entered value by 102.4 μs/cycle. Send the resulting period in processor cycles to the ION using the SetTracePeriod command only when the value is changed.

There could be a read back/verify value box, next to the sample period entry box, with the results of a GetTracePeriod command.

There should be four pull down menus, labeled Variable 1-4 (Variable Number 0-3, 0x00XX to 0x03XX), for the Trace Variables. All have the same menu items. They are the variable IDs listed in the reference manual for the SetTraceVariable command. When one of these is changed, the SetTraceVariable command is sent with the corresponding Variable Number and Variable ID. The Trace Axis is always Axis1 (0xXX01).

There should be a toggle button to start and stop the trace using the SetTraceStart and SetTraceStop commands. When the toggle button is switched On, the SetTraceStart should start the trace when the In Motion bit goes true (Axis is 1, Condition is Activity Status Register, Trigger Bit is In Motion, and Trigger State is 1 – 0x1A30). The SetTraceStop command should stop the trace when the Axis Settled bit goes true at the end of a move (Axis is 1, Condition is Activity Status Register, Trigger Bit is Axis Settled, and Trigger State is 1 – 0x1730). This will eliminate trivial trace data from the log when the axis is idle.

When the toggle button is switched Off, the SetTraceStart command should be immediate (0x0000) followed by a SetTraceStop command that is also immediate (0x0000).

Use the GetTraceStatus command and test the Activity bit (bit 1) to see if you should read out the buffer. Don't bother if the axis is not in motion and the trace not active.

ReadBuffer – I don't know how to tell when the buffer has all been read out. I will have to email PMD.