



Alarm System – BNCS Acquisition Module

alm_bncs_acq.dll

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1 Alarm System – BNCS Acquisition Module

1.1 Overview

This module (alm_bncs_acq.dll) is part of the suite of modules that form the BNCS Alarm System. The module gathers input information for the alarm system from any BNCS device.

1.2 Description

The module registers with and then polls the required parameters on the required BNCS devices and presents their states to the logic module, which is part of the host application. In addition some pre-processing can be achieved, this version includes timed holdoffs, frequency detection and pulse stretching.

2 Configuration procedure

Use the configuration editor. See the configuration document for details.

2.1 Starting up

The module is started from the host application AlarmControl.exe. It loads its configuration, registers with CSI for the source devices it is interested in and polls the appropriate ranges. Once it has polled all the inputs it re-polls any from which it hasn't received a response from, this is repeated at increasing time intervals until the maximum time between polls is about 20 minutes. There can be more than one instance of the BNCS Acquisition module in an Alarm System.

2.1.1 Dependencies

The module requires the QT dll (currently qt-mt323.dll), bnscif.dll and the Visual C runtime dll MSVCP60.dll.

3 Features

When revertives arrive from the source devices they are pre-processed if required (e.g. a Holdoff of 3 seconds may be set) and then stored in memory. When the host application requests data the acquisition block sends a pointer to the data. The data sent is one of three states:

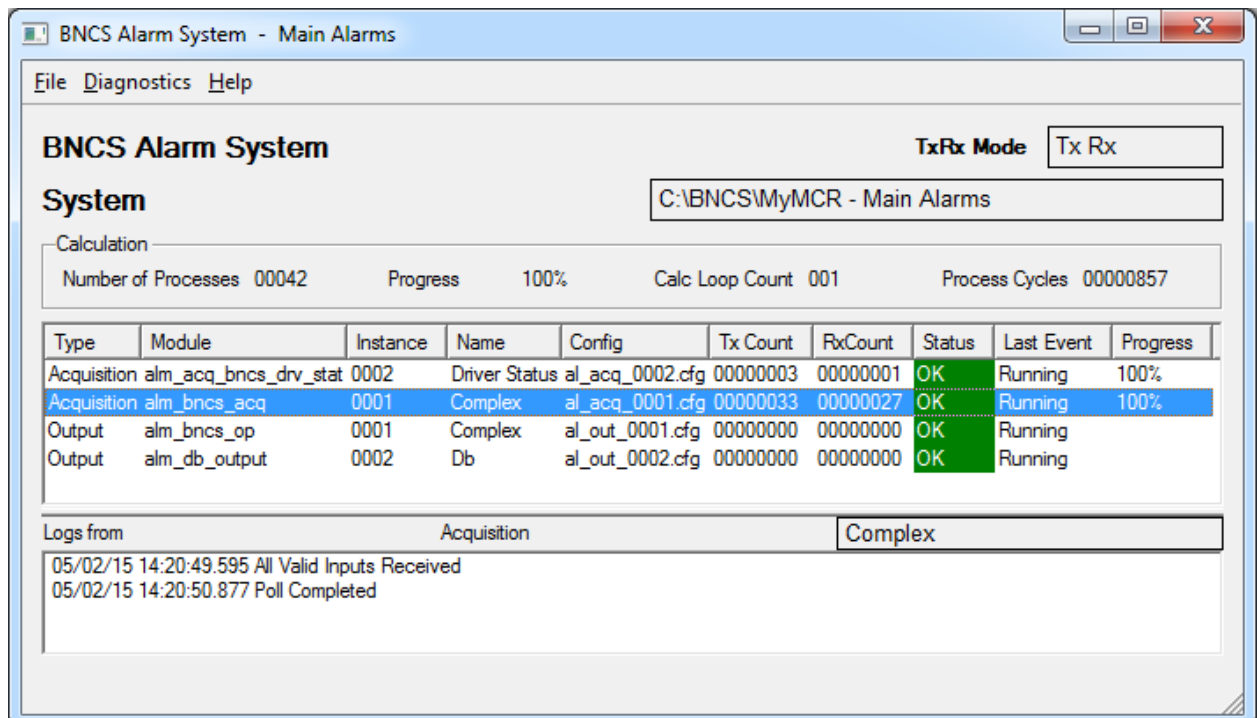
Value	Meaning
0	OK
1	Alarm

Unknown means that the acquisition module has never received a revertive from this input.

Note: All the BNCS Acquisition modules in the same application use the same polling object. This object sorts all the devices to be polled numerically by device and index. It polls for a range of inputs where this is more efficient than a single poll. This is to maximise efficiency and minimise the number of messages that CSI has to process.

4 Diagnostics

As for AlarmControl.exe.



There are counters for messages to and from CSI, and various other information about the module. The Status field will be 'FAIL' if CSI is not present. 'Progress' shows how much of the polling process has completed.

Error and diagnostic messages are shown in the lower display.

If the acquisition module has received revertives from all its inputs the message "All Valid Inputs received" will be shown in the lower display – as seen here.

4.1 Test Procedures

When polling BNCS devices the BNCS Comms Tx count increases and when receiving revertives the Rx count increases. Figures are written to the screen approximately once per second.

4.2 Polling

On start-up if there are devices that don't respond to the first poll they are re-pollled until they respond. The time interval between polls increases to a maximum of about 20 minutes.

At present after the first revertive has been received there is no automatic re-polling. Repolling may be started manually either for all modules using the Diagnostics|Restart All Polls, or for a single module using the context (right-click) menu item Restart Poll.

The context (right-click) menu item Next Poll Now will trigger the next poll immediately if selected during a pause between polls.

4.3 Greening

While developing a system it is

5 Logging

When Logging is enabled (via AlarmControl's GUI or arguments), selected messages are logged into a file at a path determined by the BNCS settings.

Log files are written in %CC_ROOT%\%CC_SYSTEM%\logs\alarms\<alarm system name>.

6 Documents referenced

This document should be read in conjunction with other documents in the tree.

In particular:

- Alarm – overview

- alarm - Configuration-Colledia Control acquisition

- alarm – mainapplication

The documentation relating to file formats may also be useful.

7 Version history

7.1 Software Version

Version numbers shown here may not be seen within the software itself. The implementation date is a more reliable way of determining whether a particular issue is present in any particular instance of the software.

Version	Date	State / Changes	Author
1.00.00	27 October 2014	Original Release	Charlotte Bell

1.00.1	10 December 2003	Remove excessive debugging + tidy diagnostics + minimise	Charlotte Bell
1.1.0	6 January 2004	Add Pulse Stretcher Code	Charlotte Bell
1.1.1	12 January 2004	Add negative trigger for pulse stretcher	Charlotte Bell
1.1.2	13 January 2004	Add 0.1 second resolution for Holdoff and Pulse	Charlotte Bell
1.1.3	27 January 2004	Add 0.1 second resolution for Chatter < 60 seconds	Charlotte Bell
1.2.0	28 January 2004	Added analogue inputs	Charlotte Bell
2.0.1	31 March 2004	Now a plugin dll with proper range polling for each device	Charlotte Bell
2.0.4	1 st June 2004	Now able to take inputs from instance data	Charlotte Bell

7.2 Document Version

Version	Date	State / Changes	Author
1.00.00	27 October 2014	Original Release	Charlotte Bell
1.00.1	10 December 2003	Remove excessive debugging + tidy diagnostics + minimise	Charlotte Bell
1.1.0	6 January 2004	Add Pulse Stretcher Code	Charlotte Bell
1.1.1	12 January 2004	Add negative trigger for pulse stretcher	Charlotte Bell
1.1.2	27 January 2004	Add notes about time resolutions	Charlotte Bell
1.2.0	28 January 2004	Added analogue inputs section	Charlotte Bell
2.0.0	31 March 2004	Now a plugin dll updates	Charlotte Bell
2.0.1	1 June 2004	Instance information added	Charlotte Bell
2.1	27 th November 2005	Configuration data moved to a separate document	Charlotte Bell
2.2	27 April 2009	Updated formatting to bring in line with other existing docs	Pete Lasko

	27/10/2014	Document revised to current conventions and template.	Richard Kerry
	08/01/2015	Corrections and amendments. Images reworked from current versions of software.	Richard Kerry

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