DNP3 Integration Kit for PAC Control, Version 8.1q

February 8, 2021

IMPORTANT: As of February 1, 2021, the DNP3 Integration Kit for PAC Control is available as a free download from our website. It is provided as freeware in "as is" condition and may be used at your own risk.

Product support is not provided. Before using this integration kit, make sure you read the Samples and Freeware Legal Agreement.

This integration kit was previously provided as part number PAC-INT-DNP3.

October 2, 2014

DnP3 is a large and processor-intensive protocol. It was tested using the SNAP-PAC-S1 controller. Using the SNAP-PAC-S1 or SNAP-PAC-S2 gives the best performance and leaves plenty of room for the customer's strategy.

User data is entered in the DnP3_Outstation_Protocol chart Block 167. Line 8 (poPAC_DNP_Controller_SNAP_PAC_S1_or_S2 = &SNAP_PAC_S1;) loads the controller running the DNP3 charts to a pointer variable. This variable (poPAC_DNP_Controller_SNAP_PAC_S1_or_S2) will accept the SNAP-PAC-S1 or SNAP-PAC-S2 controller.

If you want to use the SNAP-PAC-R1 or SNAP-PAC-R2 to run the DnP3 charts it may not give the same performance depending on how busy the controller is with other customer tasks.

To use the SNAP-PAC-R1 or SNAP-PAC-R2:

In line 8 of block 167 use

(poPAC_DNP_Controller_SNAP_PAC_R1) for the SNAP-PAC-R1 in place of (poPAC_DNP_Controller_SNAP_PAC_S1_or_S2)

(poPAC_DNP_Controller_SNAP_PAC_R2) for the SNAP-PAC-R2 in place of (poPAC_DNP_Controller_SNAP_PAC_S1_or_S2)

Use only one of the pointers.
Replace "SNAP_PAC_S1" on line 8 with your controllers name.
Make sure to keep the preceding "&" symbol

There is an example chart "DNP3_Manual_Event_Example_Chart" that shows how to use the event subroutines in a chart to add events manually to the event buffers

DNP3 Integration Kit Version History

8.1q – October 2, 2014
Fixed problem with half open session block 543 L8.

8.1p – September 18, 2014
Added single event buffer mode.

8.1o – April 3, 2014
Fixed length problem B50 L38 and B69 L109.

8.1n – December 4, 2012
(Formerly 8.1ab – October 3, 2012. The version number was changed to conform to Opto 22's standard.)
* Fixed error in reset error log block 179.
* Outstation using wrong index for Keep-Alive block 543.
* Clear Unsolicited timing bit if Outstation Com down and AL state is reset block 543 & 98.

8.1aa – June 13, 2012
Added DNP3 Master charts.

8.1l
* Added Serial or Ethernet per master connection.
* Added Auto Event configuration function.
* Corrected Add Gp32 Event subroutine - v2 and v4 to handle negative numbers.

8.1k - September 27, 2011
* Added virtual table indexes for binary and analog points.
* Added float support. g30v5, g32v5, g32v7, g40v3, g41v3.

8.1j – August 25, 2011
Fixed problem writing negative numbers to analog outputs. l

8.1i – December 14, 2010
* Fixed bug in CROB when sending command to wrong model type.
* Changed Conplementary two-output model setup from 2 & 2 to 2 & 3 pairs
* Changed DNP time synchronization to also set system clock.

8.1h – March 30, 2010
Fixed a bug with group 20, variation 2.

8.1g – November 3, 2009
Fixed All-Stations Message Received.

8.1f – June 19, 2009
* Added Level 3 support for Qualifier 0x00 and 0x01
* Fixed bug subroutine for group 2.
* Added group 23 event support.
* Added virtual counter support.

8.1e - January 2009
* Added function 24.

8.1d January 2009
* Fixed read bugs, serial bugs, and 2009 timestamp.

8.1c November 2008
* Corrected error in block 124.
* Corrected error in block 625.

* Added pointer for the R1 and R2 controller.
* Added serial support.

8.1b
* Added logic to get correct date if event is added at midnight.

8.1a 6/1/2008
* Build DNP3 Protocol Chart to (DNP3 Specification Volume 2.02 15 Dec 2007)