Bristol Babcock BSAP Extended Serial Slave

Information Sheet for Crimson

Compatible Devices

- Control Wave Micro controllers using BSAP

Verified Devices

- Control Wave Micro

NOTE: This document explains the features of the driver that are particular to it. Other configuration items are covered in the Help file.

Driver Options:

When the Crimson device is a Slave Driver for the network:

Local Address: Set the Local Address for this device.

Global Address: Set the Global Address default value.

Node Level: Set the Network Level of this device.

Device Options:

Manage… – Displays the Variable Names Dialog Box.
Import… – Allows the import of Variable Names from a formatted .csv file. See the relevant Appendix.
Export… – Allows the export of Variable Names into a formatted .csv file. See the relevant Appendix.

Manage…

Variable Names – the list of programmed Variable Names.

Variable Name – the currently selected name. This is also where the name can be modified.
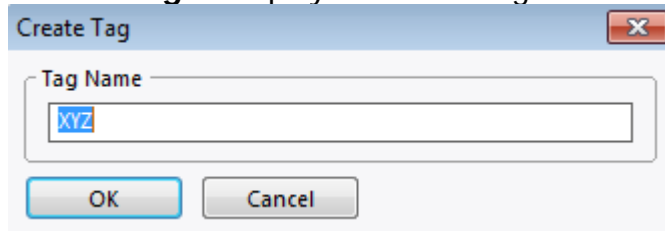
Device Information:
Local Dest Address – The Local Address for the device of the selected item.
Global Dest Address – The Global Address for the device of the selected item.
Device Level – The Network Level of the device for this selected item.

Configuration Control:
Create Tag… Displays a new dialog:

A new Tag Name may be entered here.
A default string is selected, generally based on the text that is in Variable Name at the top of the dialog box.
Enter the text, click OK, and the new name will be added to the tag list.

Refresh Tag: Use to replace the selected tag when properties have changed. This has no effect if an NRT/TMS tag is selected, or if the Variable Name field is empty.

Create Name for:
The drop-down displays the data type selected, and is used to change that selection between BIT and REAL. NRT is present, but for display only. The user cannot program NRT tags.
Index: In combination with the Local Address, and the Level, this is a unique identifier used by the runtime.

Slave Configuration:
MSD Address: This must be a unique number for each Local Address and Level. The Master device connected to the slave will use this value to access the proper data. The configuration software will not allow an existing MSD to be used.
List Number: If the selection is in a list, this is the number of that list.
List Position: If the selection is in a list, this will be its position in the list. Valid values are 1 – n.
Array Number: This item will be included in a Master's request for array data. Not item 1 of an array: This drop-down box is to be used ONLY for the first item of an array, and selects the number of columns for the array. Multiple selections of this drop-down for a single array number may give unintended results.

Adding Data Tags to the database:
The "Select Variable for xxx" dialog appears when a Data Tag is inserted into the list of Data Tags, however no properties can be changed. To change properties, it is necessary to return to the Device Options, and to select Manage.

Appendix A – Crimson Device as Slave and Master

This section applies when a Crimson device (**CD**) is a Slave to a Master above it in the network, and is a Master to device(s) below.

Gateway blocks are required to pass data between the Crimson Slave (**CS**) and the Crimson Master (**CM**).

Example:
The **CD** is on level 1. The Slave (Device Address 1 = **DA1**) is connected to the System Master (**SM**), and the Master is connected to a BSAP unit (Device Address 2 = **DA2**) that is on level 2.
The **CM** periodically reads "@GV.TIME_007".
The **SM** requests @GV.TIME_007 from **DA2**.

Assign @GV.TIME_007 as a Variable Name in the **CS**, so that it recognizes the request from the **SM**.

Case 1: The **CD** has need for the information from **DA2**.
Create a tag in the **CM** (MT007) assigned to **DA2**, @GV.TIME_007.

Create a gateway block assigned to the variable, selected from "Data Tags":

Map the **CM** tag to the **CS**.

Case 2: The **CD** does not need the information from **DA2**.
Create a gateway block assigned to the variable, selected from "Devices".

Appendix B – Importing variable names

The import of variable names requires a formatted csv file.
The first line must contain the phrase Bristol Babcock (not case sensitive).
The second line **MUST** contain the headers (also not case sensitive):

NAME INDEX MSD TYPE LEVEL LOCAL

And may optionally include:
GLOBAL LIST LITEM ARRAY COLUMNS

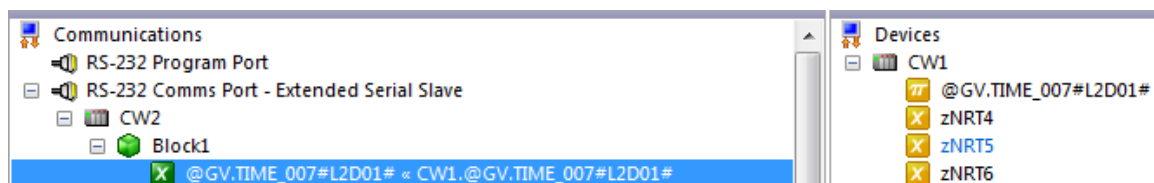The typical first two lines of the .csv file may look similar to:

Bristol Babcock Variable Names for CW1

NAME	INDEX	MSD	TYPE	LEVEL	LOCAL	GLOBAL	LIST	LITEM	ARRAY	COLUMNS

This is the same format the Export uses, where CW1 is the device name.

NAME – Variable Name.   E.g. @GV.TIME_007

INDEX – Unique number 1-999 for each entry of a data type. The lower 3 digits will be the same as the index shown in the dialog box.

MSD   – Unique number required for each separate device used as a slave. The Master driver will assign 0, as it gets the MSD from the NAME.

TYPE – Data type. Valid values are BIT and REAL.

LEVEL – Device Level in Network.

LOCAL – Local address of Device.

Optional entries:
GLOBAL – Initial Global address of Device.

LIST   – Slave only. The List number of the item. 0 is not assigned.

LITEM   – Slave only. The position in the list, 1 – n.

ARRAY   –Slave only. The Array number associated with the item.

COLUMNS – Slave only, and for only the first item in the array. This will indicate the number of columns to be used to access the array items.

The Master driver will set LIST, LITEM, ARRAY, COLUMNS to 0.

Node Routing and Time Synchronization variables are automatically generated and do not need to be included in the .csv. When they are, the columns NAME, INDEX, and TYPE will be formatted as this example shows:

NAME	INDEX	TYPE
zTMS1	32768	NRT
zTMS2	32769	NRT
zTMS3	32770	NRT
zNRT4	32771	NRT
zNRT5	32772	NRT
zNRT6	32773	NRT
zNRT7	32774	NRT
zNRT8	32775	NRT

NOTE: The Import and Export of Variable Names in the Communications section is not the same as the Import and Export of Tag Name in the Data Tags section.

Cable Information

Serial – RS232

G3	Signal	Control Wave
2	RxD <- TxD	2
5	TxD -> RxD	3
3 or 4	0V	5
6	RTS -> CTS	7
		1 – 4
		7 – 8

Serial – RS485

G3	Signal	Control Wave
1	Tx- -> RxD+	6
2	Tx+ -> RxD-	2
3	Rx+ <-TxD-	3
4	Rx- <- TxD+	4
6	0V	5

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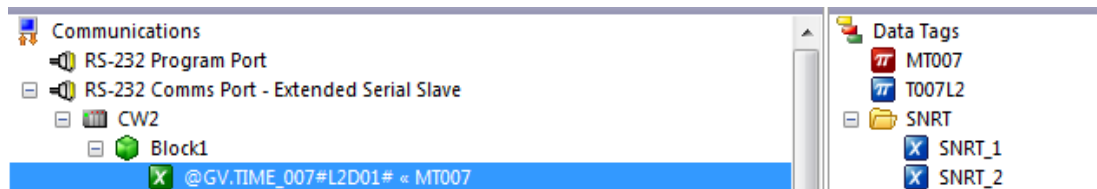The **CM** periodically reads "@GV.TIME_007".
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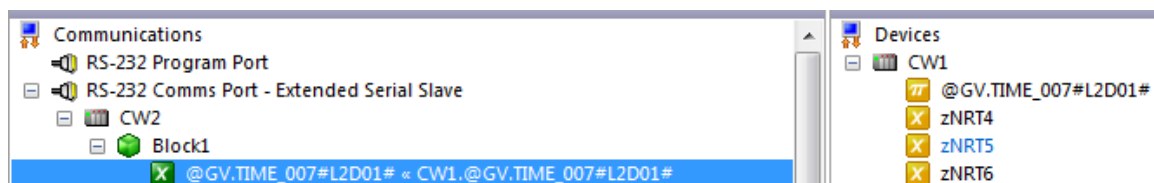
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