

## Newsletter February 2023

### New!: Source Code Modules

This year we start to offer a new kind of firmware for embedded systems. This are smaller modules with functions that are very often required in field devices. These modules are delivered as source code in ANSI C++ for the embedded system in the device itself. Some are also available in Python and C# for testing and simulation tasks. Visual Studio 2019 and Visual Studio Code are used as IDE and code editor. Windows and Linux(Debian) are used as test platforms. For the build of the embedded code, a GNU compiler is part of the tool chain.

The delivery of a firmware/software module consists of the source code and a detailed description.

| Product Name            | Description   |
|-------------------------|---|
| <u>Ba-DataCoding</u>    | Encodes and decodes data objects such as numbers, texts, packedASCII, time and date into a position in/from an array of bytes. Such a module is helpful when dealing with serial connections such as <u>Hart</u> , <u>Profibus</u> or <u>Fieldbus</u> . |
| <u>Ba-CommServices</u>  | Sends or receives data over a serial channel. Provides general communications services typically required on point-to-point connections. Timeout control and connection monitoring are also included in the package.                                    |
| <u>Ba-BinaryXml</u>     | Reads and writes binary data in a very compact way. However, the encoding of the data is done in a similar way as it is for XML or JSON. The difference is that the tags and the data are binary.   |
| <u>Ba-IniFileParser</u> | JSON and XML files are often a bit too complex for a simple embedded system. The ini files used earlier in Windows are certainly more suitable because they have a much simpler structure.  |
| <u>Ba-TinyHartSlave</u> | Implements a simple Hart Slave. Burst control and device variables are not(!) part of this bundle. The module supports the <u>Universal Commands</u> and a few <u>Common Practice Services</u> .  |

If you have any questions or suggestions about the product presented, please send us an e-mail to the following address:

[walter.borst@borst-automation.de](mailto:walter.borst@borst-automation.de)(Source Code Modules)

### Project Assistance

Borst Automation also offers direct assistance in your development project.

Work that we can carry out for you include the following: project coaching, time schedule management, system design, firmware development, software development, documentation, requirements definitions, requirements management, test planning, test development, test reports and error analysis (hardware, firmware and software).

Please e-mail your project details and the tasks if you are interested in this service.

[walter.borst@borst-automation.de](mailto:walter.borst@borst-automation.de)(Project Assistance)

Cuxhaven, February 6<sup>th</sup>, 2023  
Walter Borst

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