

Put Modbus RTU devices on a BACnet MS/TP network and Vice Versa!

Control Solutions' Babel Buster BB2-3010

is a BACnet MS/TP client/server device that functions as a Modbus RTU master/slave. A large number of BACnet objects gives you flexibility in mapping Modbus registers to any combination of BACnet objects. Packed Modbus registers may be parsed to multiple BACnet objects when reading. Multiple BACnet objects may be packed into a single Modbus register when writing. All standard Modbus register types are supported.

Input objects will poll their assigned Modbus register at the interval you specify, and provide the Modbus data as the Present Value when read. Commandable Output objects are used to write Modbus registers, and will update the Modbus device each time BACnet is updated. The BB2-3010 supports up to 300 non-commandable objects, or up to 135 commandable objects, or a mix in between.

Value objects will poll their assigned Modbus register at the interval you specify. The content of the Modbus register will be given as the Present Value of the BACnet object when read. The Modbus register is written each time the BACnet Value object is written. The Value object corresponds to the Modbus Holding register.

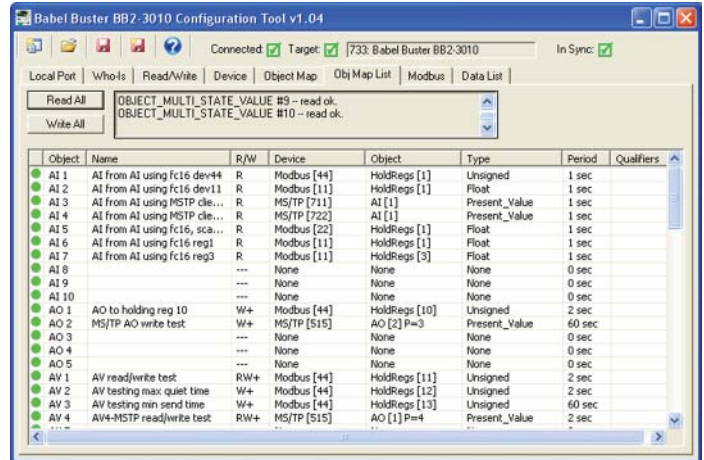
The BB2-3010 is most often used as a Modbus master, but it can operate as a slave while MS/TP operates as a client (master). This makes it possible to put MS/TP devices on a Modbus network (but does still require an understanding of BACnet). MS/TP data in remote devices is queried and saved locally. The local data may then be accessed by another Modbus master.

Babel Buster BB2-3010 Features

- Read/Write any standard Modbus register via BACnet objects
 - 300 Non-commandable objects OR
 - 135 Commandable objects OR
 - Between 135 and 300 objects of mixed types.
 - Object allocations are user configurable
 - AI, AO, AV, BI, BO, BV, MSI, MSO, MSV objects
- COV, COVP subscription support
- BACnet slave is Modbus RTU master or vice versa
- Bidirectional communication between BACnet and Modbus
- Supports Modbus “coils”, input registers, holding registers
- Single or double Modbus registers, signed, unsigned, IEEE 754
- Modbus register mapping configured via object properties
- Modbus registers may be scaled (x10, x100, x0.1, x0.01, etc.)
- Modbus (master) polling interval configurable per point
- Commandable BACnet objects implement priority array
- Fully configurable via BACnet object properties
- USB to MS/TP adapter available
- Configuration software included for use with USB adapter
- Hardened EIA-485 transceiver for serial ports
- MS/TP baud rates: 9600, 19200, 38400, 76800
- Modbus RTU baud rates: 4800, 9600, 19200, 38400
- Powered by 12-24V DC/AC 50/60 Hz
- Power Consumption: 0.1A @ 24VDC
- DIN rail mounting, 100mm H x 70mm W x 60mm D
- Pluggable screw terminal blocks
- Operating temperature -40°C to +85°C
- Humidity 5% to 90% non-condensing
- FCC, CE Mark, BTL Listed
- Listed to UL 916 and (Canadian) C22.2 No. 205-M1983



PC Based Object Browser for Configuration and Diagnostics



The new MTX002 USB to MS/TP adapter provides a reliable connection between your PC's USB port and MS/TP devices being configured.

The new configuration tool for the BB2-3010 is more powerful and easier to use than any previous tools we have created. We will never be able to completely eliminate gateway setup, but we continue to strive for making it easier.



BACnet Protocol Implementation Conformance Statement (Abbreviated)

Date: 12 January 2012

Vendor Name: Control Solutions, Inc.

Product Name: Babel Buster BB2-3010

Product Model Number: BB2-3010

Applications Software Version: 361

Firmware Revision: 3.61

BACnet Protocol Revision: 7

Product Description: Network gateway allowing Modbus RTU slave devices to be accessed via BACnet MS/TP as a BACnet slave.

BACnet Standardized Device Profile (Annex L):

► BACnet Application Specific Controller (B-ASC)

List all BACnet Interoperability Building Blocks Supported (Annex K):

DS-RP-A DS-RP-B DS-RPM-B DS-WP-A DS-WP-B DS-WPM-B DS-COV-B

DS-COVP-B DM-DDB-A DM-DDB-B DM-DOB-B DM-DCC-B

DM-RD-B DM-R-B

Segmentation Capability:

Segmented requests supported, Window size 16

Segmented responses supported, Window size 16

Standard Object Types Supported:

Object types: AI, AO, AV, BI, BO, BV, MSI, MSO, MSV, DEV (all static)

See additional documentation for optional & proprietary properties.

Data Link Layer Options:

► MS/TP Master (clause 9), baud rates: 9600, 19200, 38400, 76800

Device Address Binding:

Is static device binding supported? No

Networking Options: (None)

Character Sets Supported: ANSI X3.4

If this product is a communication gateway, describe the types of non-BACnet equipment/networks(s) that the gateway supports:

Modbus RTU: BACnet slave device functions as Modbus RTU master or slave. Can also function as MS/TP client with Modbus RTU master.

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