

**Babel Buster<sup>®</sup> 3**  
BACNET-MODBUS  
NETWORK GATEWAY  
MODEL BB3-3101



**CONTROL SOLUTIONS MINNESOTA**

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



### *Control Solutions' Babel Buster BB3-3101*

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 BB3-3101 supports up to 1024 BACnet objects.

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 BB3-3101 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 BB3-3101 Features*

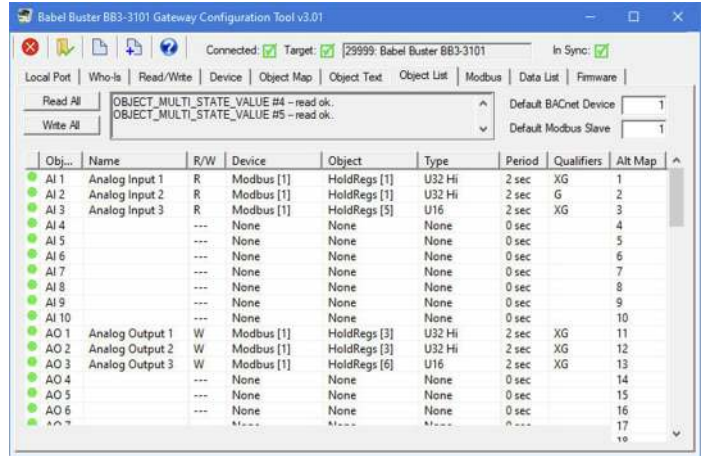
- Read/Write any standard Modbus register via BACnet objects
  - 1024 BACnet objects, commandable or non-commandable
  - Object allocations are user configurable
  - AI, AO, AV, BI, BO, BV, MSI, MSO, MSV objects
- Text string support for binary and multistate states
- COV subscription support
- Bidirectional communication between BACnet and Modbus
- Supports all standard Modbus register types
- Modbus registers 16 to 64-bit, signed, unsigned, IEEE 754
- Modbus registers may be scaled (x10, x100, x0.1, x0.01, etc.)
- Modbus 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 provided at no charge
- Isolated EIA-485 transceiver for BACnet MS/TP port
- Hardened EIA-485 transceiver for Modbus port
- Optional Isolated EIA-485 transceiver for Modbus port
- 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
- BTL Certified, FCC, CE Mark
- Listed to UL 916 and (Canadian) C22.2 No. 205-M1983



## PC Based Object Browser for Configuration and Diagnostics



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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 BB3-3101 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: 6-Apr-2023  
 Vendor Name: Control Solutions, Inc.  
 Product Name: Babel Buster BB3-3101  
 Product Model Number: BB3-3101  
 Applications Software Version: 3.11  
 Firmware Revision: 3.11  
 BACnet Protocol Revision: 15

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  
 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.

Visit our web site for

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