Control Solutions' Babel Buster BB2-7010

is a BACnet IP client/server device that functions as a Modbus RTU master/slave and/or Modbus TCP client/server. 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.

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 well the the Modbus Holding register.

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 BB2-7010-01 can be Modbus RTU master or slave, is concurrent Modbus TCP client and server, and is concurrent BACnet IP client and server. The BB2-7010-02 adds SNMP client and server. Read/write data from any of these protocols to another via BACnet objects retained in the local database of the BB2-7010.

Babel Buster BB2-7010 Object * Summary

- *300 (300) Analog Input Objects*
- *100 (100) Analog Output Objects, Commandable*
- *100 (100) Analog Value Objects*

- *300 (100) Binary Input Objects*
- *100 (50) Binary Output Objects, Commandable*
- *100 (50) Binary Value Objects*

- *300 (100) Multi-State Input Objects*
- *100 (50) Multi-State Output Objects, Commandable*
- *100 (50) Multi-State Value Objects*

BB2-7010-02 object counts shown in parenthesis after a number of object maps are reallocated to SNMP. The SNMP client includes 300 read maps and 100 write maps.

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Babel Buster 2
BACnet-Modbus Network Gateway
Model BB2-7010-01

CONTROL SOLUTIONS, INC.
MINNESOTA

Built–In Web Server for Configuration and Diagnostics

BACnet Protocol Implementation Conformance Statement (Abbreviated)

Date: 08 November 2009
Vendor Name: Control Solutions, Inc.
Product Name: Babel Buster BB2-7010-01/02
Product Model Number: BB2-7010
Applications Software Version: 2.10
Firmware Revision: 2.10
BACnet Protocol Revision: 2

Product Description: Network gateway allowing Modbus RTU and TCP slave devices to be accessed via BACnet IP as a BACnet slave.

BACnet Standardized Device Profile (Annex L):
► BACnet Smart Sensor (B-SS)
► BACnet Smart Actuator (B-SA)

List all BACnet Interoperability Building Blocks Supported (Annex K):
DS-RP-B, DS-RPM-B, DS-WP-B, DS-COV-B, DS-COVP-B,
DM-DDB-B, DM-DOB-B, DM-RD-B

Segmentation Capability: (None)

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:
► BACnet IP (Annex J)

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 and/or Modbus TCP slaves/servers (BACnet slave device functions as Modbus RTU or TCP master)

Read/Write any standard Modbus Register as a BACnet Property Value, or vice versa!

FEATURES

- Read/Write any standard Modbus register via BACnet objects
  - 300 Input objects each of types AI, BI, MSI
  - 100 Output objects each of types AO, BO, MSO
  - 100 Value objects each of types AV, BV, MSV
- BACnet slave is Modbus RTU master or vice versa
- BB2-7010 is also Modbus TCP client/server
- 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 web interface
- 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
- Hardened EIA-485 transceiver for Modbus RTU
- 10/100BaseT Ethernet for BACnet IP and Modbus TCP
- Powered by 10-30VDC or 12-24VAC 50/60 Hz
- Power Consumption: 0.1A @ 24VDC
- DIN rail mounting, 100mm H x 70mm W x 60mm D
- Pluggable screw terminal block for power & RTU network
- Operating temperature -40°C to +85°C; Humidity 5% to 90%

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