Babel Buster 3
MODEL MX-71-RTU
NETWORK GATEWAY

CONTROL SOLUTIONS MINNESOTA

Put Modbus devices on a BACnet IP network and Vice Versa!
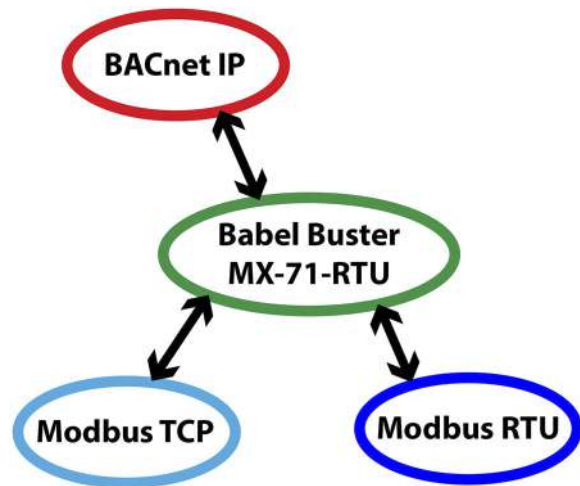
Control Solutions' Babel Buster MX-71-RTU

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 with 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 MX-71-RTU can be Modbus RTU master or slave. The MX-71-RTU can be Modbus TCP client and server concurrently, and can be BACnet IP client and server concurrently.

BACnet IP ↔ Babel Buster MX-71-RTU ↔ Modbus TCP / Modbus RTU

Babel Buster MX-71-RTU Object Summary

• Analog Input, Analog Output, Analog Value
• Binary Input, Binary Output, Binary Value
• Multi-State Input, Output, Value

• Up to 5,000 Objects

• Objects from pool can be assigned to any of above types
• Maximum of 1024 states for multi-state, includes state text
(actual value supported varies by resource usage per object)

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Built-In Secure Web Server for Configuration and Diagnostics

BACnet Protocol Implementation Conformance Statement (Abbreviated)

Date: 9 July 2020
Vendor Name: Control Solutions, Inc.
Product Name: Babel Buster MX-71-RTU
Product Model Number: MX-71-RTU
Applications Software Version: 3.15
Firmware Revision: 3.15
BACnet Protocol Revision: 15

Product Description: Network gateway allowing Modbus RTU and TCP devices to be accessed via BACnet IP and vice versa.

BACnet Standardized Device Profile (Annex L):
► BACnet Application Specific Controller (B-ASC)
► BACnet Gateway (B-GW)

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,GW-EO-B

Segmentation Capability: Request & response, window size 8

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? Yes

Networking Options: BBMD, supports registration by foreign devices

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
  - Up to 5,000 objects
    - Analog, Binary, Multi-State object types
    - Input, Output, Value objects
- BACnet slave is Modbus RTU master or vice versa
- MX-71-RTU is also Modbus TCP client/server
- Bidirectional data exchange between BACnet and Modbus
- Direct import of CSV files for faster point mapping
- Supports Modbus "coils", input registers, holding registers
- Single or double Modbus registers, signed, unsigned, IEEE 754
- Modbus register mapping configured via secure 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 24VAC 50/60 Hz
- Power Consumption: 0.1A @ 24VDC
- Panel mount, 70mm H x 131mm W x 38mm D
- Pluggable screw terminal block for power & RTU network
- Operating temperature -20°C to +75°C
- Humidity 5% to 90% non-condensing
- FCC Class A, CE Mark

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