

Put Modbus RTU RS-485 devices  
on a LonWorks® network!

### CONTROL SOLUTIONS' BABEL BUSTER BB2-2010

is a bindable LonWorks® node that functions as a Modbus RTU master/slave. A large number of data objects gives you flexibility in mapping Modbus registers to scalar or structured LonWorks network variables. Packed Modbus registers may be parsed to multiple network variables when reading. Multiple data objects may be packed into a single Modbus register when writing. All standard Modbus register types are supported.

Data objects associated with Network Variable Outputs will poll their assigned Modbus register at the interval you specify, and provide the Modbus data to the LonWorks network as an NV update.

Data objects associated with Network Variable Inputs will receive their data from the LonWorks network as an NV update. The received data will be written to the assigned Modbus registers periodically or upon NV update (user selected).

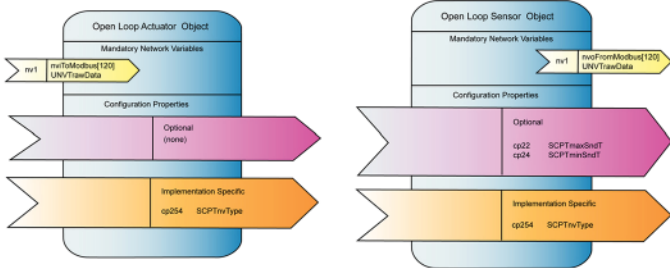
The BB2-2010 is most often used as a Modbus master, but it can operate as a slave. This makes it possible to put LonWorks devices on a Modbus network (but does still require binding and network commissioning with LonMaker or equivalent).

The Babel Buster BB2-2010 is the upgraded replacement for the legacy Babel Buster 485. The BB2-2010 provides four times the network variable capacity, faster processing speed, and requires no installation credits for installation in an LNS based network.

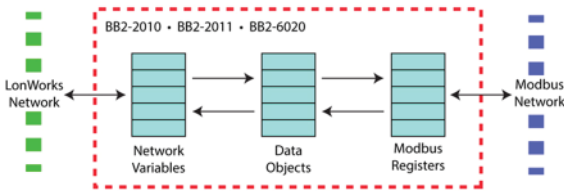
### BABEL BUSTER BB2-2010 FEATURES

- Read/Write any standard Modbus register via LonWorks® NV's
  - 400 Data objects accessible as Modbus registers
  - 120 Network Variable Inputs
  - 120 Network Variable Outputs
- Supports structured network variables
- Free topology LonWorks network
- Based on FT 5000, no installation credits required
- 32-bit ARM co-processor for greater processing power
- Bidirectional communication between LonWorks and Modbus
- Supports Modbus "coils", input registers, holding registers
- Single or double Modbus registers, signed, unsigned, IEEE 754
- Support for "Mod10" 2, 3, and 4-register data formats
- Modbus (master) polling interval configurable per point
- Operation as Modbus slave also possible, user selectable
- USB connection directly to PC for configuration
- Configuration software provided at no extra charge
- Internal flash card for simplified firmware updates
- Hardened EIA-485 transceiver for ModbusRTU
- Modbus RTU baud rates: 1200 to 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, standard -25°C to +85°C
- Operating temperature, extended -40°C to +85°C
- Humidity 5% to 90%
- FCC, CE Mark, LonMark certified
- Listed to UL 916 and (Canadian) C22.2 No. 205-M1983





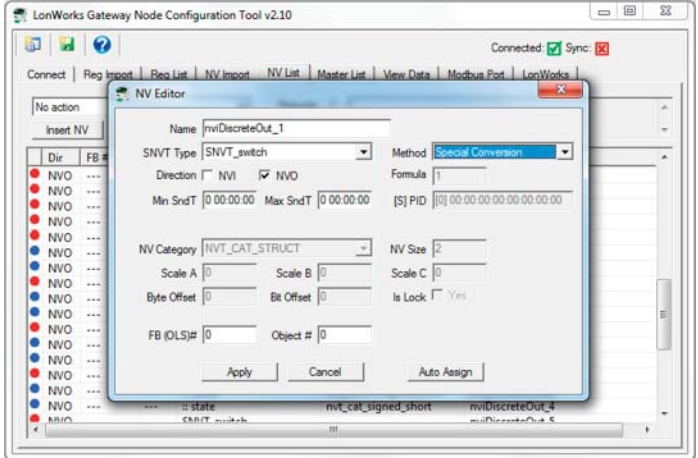
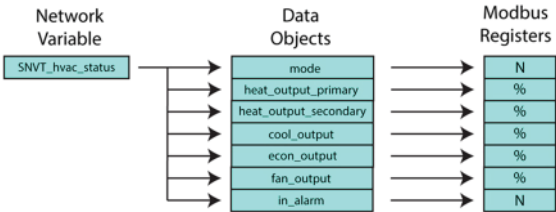
The LonWorks Network Variables (NV's) contained within the Babel Buster gateway are configured as standard sensor and actuator function blocks with user changeable network variable types. Each variable has been allocated the maximum of 31 bytes of memory, meaning any known LonWorks variable type (including UNVTs) can be used. The NV's are bound to other nodes on the LonWorks network using LonMaker or other comparable network management tool.



Many LonWorks network variables are a single data value, such as temperature. However, many other LonWorks network variables are 'structured', meaning a single variable contains several related data values such as in the HVAC status variable. Modbus registers, on the other hand, always contain exactly one and only one data value. This means a single structured LonWorks variable cannot be translated to a single Modbus register. The single structured LonWorks network variable must be translated to or from multiple Modbus registers.

The method of making structured LonWorks data available to Modbus involves intermediary data 'objects' in the Babel Buster gateway. The LonWorks network variable input data structure is dispersed to multiple data objects. These data objects are, in turn, made accessible as Modbus registers after appropriate data scaling and reformatting.

The process is reversed for structured network variable outputs, with multiple data objects (Modbus registers) collected up and formatted into a single LonWorks structured variable.



The Gateway Node Configuration Tool is the most user friendly LonWorks gateway configuration tool to date. Connect the gateway to your laptop via a USB cable - no need for any adapters or "dongles", and no need to have a functional network on either side of the gateway for initial setup.

Import Modbus register lists formatted as CSV files. Create your register list using any standard spreadsheet program, save as CSV, then import. The tool will then automatically create and assign network variables. Next, you export an XIF file representing your device. The XIF includes all configuration property file data and is ready to import into LonMaker.

You can also import an XIF file of a LonWorks device you want to provide Modbus access to. The tool will automatically assign Modbus registers, which is especially useful if the gateway will be a Modbus slave.

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