

Babel Buster® 3
MODBUS-SNMP
NETWORK GATEWAY
MODEL BB3-6101-V3



CONTROL SOLUTIONS MINNESOTA

Put Modbus devices
on your SNMP network!



Control Solutions' Babel Buster BB3-6101-V3

is a Modbus to SNMP Gateway used to connect Modbus RTU or Modbus TCP devices to your SNMP network. The SNMP manager can use SNMP Get to retrieve contents of any mapped Modbus register. In addition, the BB3-6101 uses threshold rule templates to continuously monitor Modbus data and generate SNMP Traps upon sensing of "alarm" conditions.

The BB3-6101-V3 supports SNMPv3 as well as SNMPv2 and SNMPv1. User credentials for SNMPv3 access are entered via the built-in secure web user interface.

The BB3-6101-V3 will automatically poll whatever Modbus devices and registers you tell it to, and hold a copy of the data for access by SNMP. You can provide SNMP access to Modbus coils, discrete inputs, input registers or holding registers. The BB3-6101-V3 supports 16, 32, and 64 bit integer data, 32 and 64 bit floating point, and character strings as a series of Modbus registers. The Modbus registers you want to make accessible to SNMP are configured with "read maps" in the BB3-6101.

You can also write to Modbus using SNMP Set. Simply configure a "write map" in the BB3-6101 to make this connection. SNMP can send data to Modbus coils or holding registers in the remote Modbus device.

The BB3-6101-V3 can be Modbus RTU master or slave, and can be Modbus TCP client and server concurrently. The BB3-6101's Modbus register map is user configurable.

What is New in Model BB3-6101-V3

The BB3-6101 is a significant enhancement over its predecessor, the BB2-6010. The hardware includes a faster processor and hardware encryption engine for efficient rendering of secure web pages and for support of encryption as needed for SNMPv3. The software includes numerous enhancements.

- SNMPv3 support (in addition to SNMPv1/v2)
- IPv6 support
- Secure (HTTPS) web server
- Higher point count, up to 1,000 MIB variables typical
- User defined register map for Modbus
- Greater flexibility in assigning local register data types
- Support for reading character strings from Modbus
- CSV import of register maps for client/master configuration
- Menu options to clear part or all of configuration

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FEATURES

- SNMPv3 in addition to SNMPv1/v2
- SNMP Get/Set access to all data points
- SNMP trap generation, user programmable criteria
- MD5/DES support for Get/Set, encrypted traps not supported
- Supports MIB size of 1,000 variables typical
- Up to 2,000 Modbus registers
- Support for multi-register 32-bit, 64-bit data and character strings
- Local registers accessible as any Modbus register type
- Modbus coils, discrete inputs, input registers, holding registers
- Modbus register mapping configured via web interface
- Built-in data scaling for units conversion
- Support for packed holding registers
- Modbus RTU Master or Slave
- Modbus TCP Client and Server
- Modbus (master) polling interval configurable per point
- Configure via secure web pages with password protection
- Flash file system with XML configuration files
- Includes "10X" configuration file capacity
- Direct import of CSV configuration files
- Hardened RS-485 transceiver for Modbus RTU
- Optional RS-232 transceiver for Modbus RTU
- 10/100BaseT Ethernet
- DHCP or static IP address
- Field upgradeable firmware upload via ftp
- Powered by 10-30VDC or 24VAC 50/60 Hz, 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% non-condensing
- FCC Class A, CE Mark
- Listed to UL 916 and (Canadian) C22.2 No. 205-M1983

Control Solutions has benchmark tested a configuration in which the BB3-6101 MIB size was 1,500 variables and external SNMP manager tools could successfully walk the entire MIB in a very short time. Your MIB size may vary depending on how resources are allocated in your particular application. The resource allocation page allows you to tell the BB3-6101 how many of each type resource you want. It then calculates usage and indicates utilization as a percentage of resources available. As long as your total utilization remains at 100% or less, you can reconfigure the resources any way you like.

The MIB is divided into branches, with the 32-bit integer branch being the most universal. There are also 64-bit integer, and both 32-bit and 64-bit floating point branches as well as a character string branch. You configure the MIB by assigning local Modbus registers to positions in the MIB branch.

Traps (or SNMPv3 Notifications) are generated based on rule templates you fill in, and they reference data found in the MIB branches. In addition to sending the relevant data with the trap or notification message, the templates include user defined character string messages.



Configuration of the BB3-6101-V3 gateway is done via the web pages served by the internal web server. You simply fill in templates. The entire configuration is saved in the internal Flash file system in XML format. This file may be exported to replicate additional copies of the configured device, or for backup.

The BB3-6101-V3 includes template based rules for simple calculations and data tests. These can be used for simple data manipulation. Reformatting from one register type to another is automatic. Therefore, a simple copy rule will transform a number into an ASCII string for use in sending traps.

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