

*Babel Buster 3*

MODEL MX-61-SP  
NETWORK GATEWAY



CONTROL SOLUTIONS MINNESOTA

Put proprietary serial devices  
on your SNMP network  
or your Modbus TCP network!



### *Control Solutions' Babel Buster MX-61-SP*

is a specialized SNMP Gateway used to connect devices with proprietary serial communication protocols to your SNMP network. The Script Basic programming environment lets you write your own custom protocol interpreter to interact with your serial device, and share data retained in the gateway in the form of "registers" that are accessible as Modbus TCP registers or SNMP MIB variables.

The SNMP manager can use SNMP Get to retrieve contents of any shared data register. In addition, the MX-61 uses threshold rule templates to continuously monitor register data and generate SNMP Traps upon sensing of "alarm" conditions.

The MX-61-SP supports SNMPv3 as well as SNMPv2 and SNMPv1. User credentials for SNMPv3 access are entered via the built-in secure web user interface.

You can write to your serial device using SNMP Set with a little help from your custom program. Simply include code in your program that will check your selected registers for new data, and send that data to your serial device.

The MX-61-SP can also make your serial device's data accessible to Modbus TCP as holding registers or any of the other standard Modbus register types. The MX-61's Modbus register map is user configurable.

### *What is New in Model MX-61-SP*

The MX-61 is a significant enhancement over its predecessor, the SPX. 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
- 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

- Script Basic programming for custom serial protocols
- 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
- 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 TCP Client and Server
- Configure via secure web pages with password protection
- Flash file system with XML configuration files
- Includes "10X" configuration file capacity
- Hardened RS-485 transceiver for serial protocol
- 10/100BaseT Ethernet
- DHCP or static IP address
- Field upgradeable firmware upload via ftp
- 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

Control Solutions has benchmark tested configurations in which the MX-61 MIB size was a few hundred 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 in the MX-61-SP gives you some indication of resource allocation, but is unable to predict how much of the available resources might be taken up by your Script Basic program. Therefore, with Script Basic, the MIB size that can be supported is going to be less than the 1,000 in the standard MX-61.

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.

```
on error goto GotThisError
open "COM:9600" for comm as 1
enable = getreg (9)
'
while enable > 0
line input #1, data$
split data$ by " " to toss$,chan,value
'
if chan >= 1 and chan <= 4 then
reg = chan * 2 - 1
setreg reg, value
end if
'
enable = getreg (9)
wend
close 1
end
'
GotThisError:
errCode = Error()
setreg 11, errCode
sleep (30)
resume
stop
```

Script Basic can program your MX-61 to be a passive listener capturing data from something like a data logger. Script Basic can also program your MX-61 to be an active polling device to query your serial device and interpret the response to provide data to SNMP (or Modbus TCP).

Configuration of the MX-61-SP 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.

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PO BOX 10789

ST. PAUL, MN 55110-0789

VOICE (651) 426-4410 • FAX (651) 426-4418

TOLL FREE 1-800-872-8613

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