



# Ethernet I/O: Software Support

## AMXX Series ActiveX / .NET Controls for Modbus I/O



Easy PC-based communication to Acromag BusWorks and EtherStax I/O ♦ Modbus/TCP or Modbus/RTU

### Description

Acromag's AMXX Series software controls provide a fast, easy way to communicate with any Modbus/RTU or Modbus/TCP slave devices connected to your PC's serial or network ports. Within minutes, your Visual Basic, Visual C, .NET, Excel, or other compatible applications will be talking Modbus protocol.

#### AMRX Modbus/RTU ActiveX Control

The AMRX package is an easy to use ActiveX control that provides a convenient way to communicate to Modbus/RTU slave devices. It also includes a timer for polled data acquisition and a floating point conversion ActiveX control.

#### AMRN Modbus/RTU Forms Control

AMRN is a simple Windows Forms Control that provides a quick way to communicate with Modbus/RTU slave devices connected to your PC's serial port.

#### AMTX Modbus/TCP ActiveX Control

AMTX is an easy to use ActiveX control that simplifies communication with Modbus/TCP slave devices connected to your PC's wired or wireless network.

#### AMTN Modbus/TCP Forms Control

AMTN is an easy to use Windows Forms Control for Modbus/TCP to communication with slave devices connected to your PC's Ethernet port. It can be used on a form or optionally without a form.

#### Demonstration Programs

Demonstration versions are available. The demos are complete operating ActiveX controls that have a time limit. After 60-90 minutes, communication functions will be disabled. Re-starting the application will initiate another functional demonstration period.

### Key Features & Benefits

- Any container application that can embed ActiveX controls can use the AMXX software packages
- At design time, you can access your Modbus device from the software's test property page
- Property page device access makes start-up and troubleshooting a snap – all without writing a single line of code
- Talking to a Modbus slave is as simple as calling a function with the necessary arguments
- The software automatically builds the command, appends a CRC, sends the request over the network, and validates the response
- Your program just reads and writes simple 16-bit data values
- ActiveX controls include a help file and examples for Excel, Visual Basic, C++
- .NET controls include a help file and examples for Visual Basic, C#, and Managed C++

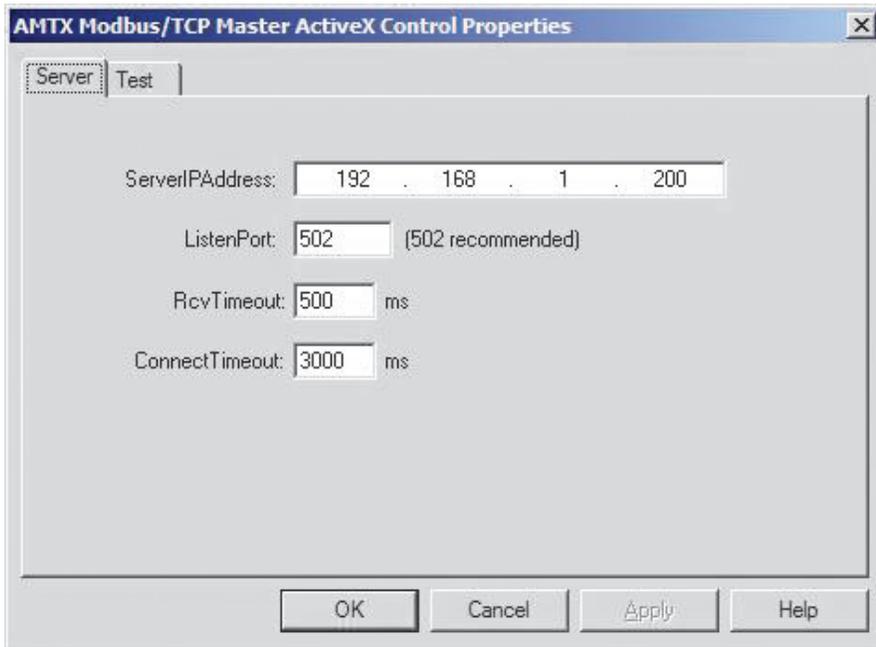


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## Software Controls Selection Guide

Controls	Protocols		Visual Studio 6.0		Visual Studio 2005/2008/2010			Windows			Compatible Products		
	Modbus/RTU (RS-485)	Modbus/TCP (Ethernet)	Visual Basic (VB6)	Visual C++ (VC6)	Visual Basic (.NET)	Visual C++ (.NET)	Visual C# (.NET)	Excel	32-bit	64-bit	900MB	900EN ES2000	BusWorks XT
AMRX	•		•	•				•	•		•		
AMRN	•				•	•	•		•	•	•		
AMTX		•	•	•				•	•			•	•
AMTN		•			•	•	•		•	•		•	•



**AMTX Modbus/TCP Master ActiveX Control Properties**

Server | Test

ServerIPAddress: 192 . 168 . 1 . 200

ListenPort: 502 (502 recommended)

RcvTimeout: 500 ms

ConnectTimeout: 3000 ms

OK Cancel Apply Help

## Ordering Information

### AMRX-CD

Modbus/RTU ActiveX Control,  
Single Development Site License (on CD-ROM)

### AMRN-CD

Modbus/RTU Windows Forms Control,  
Single Development Site License (on CD-ROM)

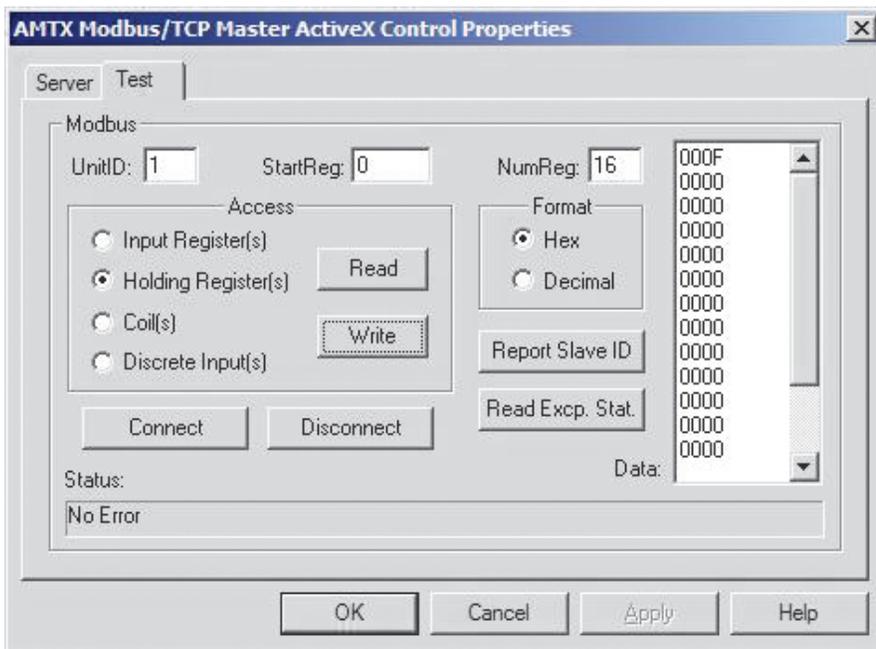
### AMTX-CD

Modbus/TCP ActiveX Control,  
Single Development Site License (on CD-ROM)

### AMTN-CD

Modbus/TCP Windows Forms Control,  
Single Development Site License (on CD-ROM)

By purchasing a single development site license you may install the software and develop your application on a single PC and distribute it with your compiled application program royalty free an unlimited number of times. When used in a Microsoft Excel, Word, PowerPoint or other non-compiling end-user application program where full development capabilities are always present, a separate license file must be purchased and installed on each computer that the end-user application program is installed and running on. Please see the EULA included with the demo for complete licensing information.



**AMTX Modbus/TCP Master ActiveX Control Properties**

Server | Test

Modbus

UnitID: 1 StartReg: 0 NumReg: 16

Access:  Input Register(s)  Holding Register(s)  Coil(s)  Discrete Input(s)

Format:  Hex  Decimal

Buttons: Read, Write, Report Slave ID, Read Excp. Stat

Connect Disconnect

Status: No Error

Data: 000F, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000, 0000

OK Cancel Apply Help

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# Ethernet I/O: EtherStax® Series

## ESW-MBLIB Ethernet Modbus C Library Software

2 YEAR WARRANTY



```

Command Prompt - exmbtcpip

Modbus TCP/IP Example 9500-3700

1. Exit this Program
2. Set IP Address: 10.1.1.161
3. Set Register Address: 0
4. Set Register Count: 4
5. Report Slave I.D.
6. Read Output Status
7. Read Input Status
8. Force Single Coil
9. Force Multiple Coils
10. Read Output Registers
11. Read Input Registers
12. Preset Single Register
13. Preset Multiple Registers

Select: 11

00 0002
01 0000
02 0000
03 0000
    
```

Universal support for five operating systems ♦ C source code provided ♦ Demo program included

### Description

Acromag's Modbus C Library software greatly simplifies development of programs to interface with Acromag's BusWorks® and EtherStax® Ethernet I/O products. The library also supports any standard Ethernet Modbus slave device that communicates via Modbus TCP/IP or UDP/IP protocol. This utility is ideal for developers that are unfamiliar with Modbus protocol or the framing of TCP/IP or UDP/IP messages.

The C library makes programming easy and portable by simply linking user code with the provided function calls (below). Most function calls require passing only a few parameters such as the IP address, Modbus register address, and register count.

Codes	Functions
01 (01H)	Read Coil (Output) Status
02 (02H)	Read Input Status
03 (03H)	Read Holding Registers
04 (04H)	Read Input Registers
05 (05H)	Force Single Coil (Output)
06 (06H)	Preset Single Register
15 (0FH)	Force Multiple Coils (Outputs)
16 (10H)	Preset Multiple Registers
17 (11H)	Report Slave ID

### Example Program

The included example program is menu-driven to help users build Modbus TCP/IP and UDP/IP commands. Menu selections let users configure, read, and write Ethernet I/O slave devices such as Acromag's Busworks and EtherStax products.

Users may also leverage this demonstration application into a tool for configuration or test by supplying commands and/or data values in the form of a text file. The program will execute each command in the text file as if it had been typed from the console terminal.

### Key Features & Benefits

- Library of function routines simplify communication with I/O modules
- Works with 32 Bit and 64 Bit operating systems
- Function calls provided for a variety of operating systems
- C source code supplied
- Demonstration program included
- Saves development time
- Ideal for use with Acromag's BusWorks and EtherStax I/O modules
- Compatible with any standard Modbus TCP/IP or UDP/IP device



### Ordering Information

**ESW-MBLIB**  
Ethernet Modbus C Library Software (CD-ROM)



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