



Quick Install Guide

This Quick Install Guide is applicable for models: 620S, 620S-BT, 640S, 760S, 780S, and 780S-UHP.

A copy of this Quick Install Guide, the 600/700 Series Modbus manual and the 620S, 640S, and 780S product manuals are also included on the digital communication information CD included in your shipment. This information is also available for [download](#).

Connecting to a Modbus Network

You will need the following to connect Modbus to your device:

1. A Modbus equipped 600/700 Series flow meter
2. A PC equipped with a 2-wire RS-485 interface card or USB to RS-485 adapter.
3. A 2-wire RS-485 network with an end of line terminator with pull up and pull down resistors. This becomes more critical when you have more slaves, longer wires, and higher baud rates. See 600/700 Series Modbus Manual, Chapter 1.
4. A HyperTerminal or another terminal program to access the boot loader to set the ID#, Baud rate, Parity, and Tx delay.

Note: The HyperTerminal has been removed from Windows 7. Go to <http://helpdeskgeek.com/windows-7/windows-7-hyperterminal> for alternative and information.

5. Power supply to power 600/700 Series instrument, 24VDC @ 625 MA, or 15 VDC (620S-BT only)

Installation Steps

1. Connect the flow meter to the A and B RS-485 network connections.
2. Start the HyperTerminal (Baud 9600, bits 8, Parity N, Stop 1).
3. Power-up the meter. Pin 1 +24 VDC and Pin 2- 24 VDC.
4. Press Enter on your PC within 2 seconds of powering up the 600/700 Series to start the boot loader.
5. Setup meter ID (1 to 247) and the other COM settings. See Set Up instructions in the 600/700 Series Modbus Manual, Chapter 2.
6. Quit the boot loader and exit the HyperTerminal. Start your Modbus application.
7. All the available registers are listed below.

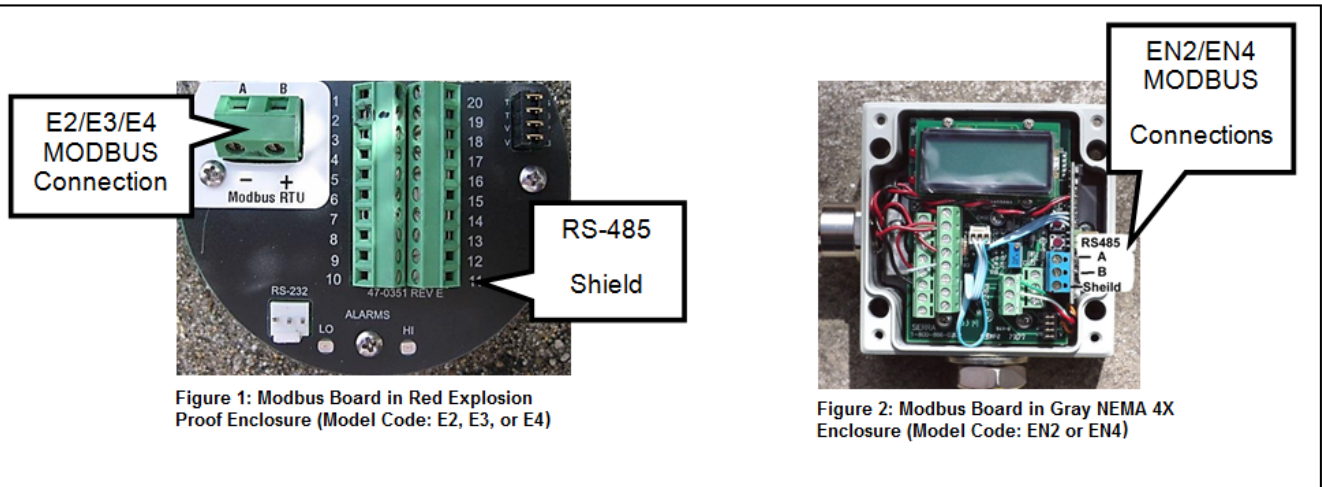


Figure 1: Modbus Board in Red Explosion Proof Enclosure (Model Code: E2, E3, or E4)

Figure 2: Modbus Board in Gray NEMA 4X Enclosure (Model Code: EN2 or EN4)

Commands Implemented

Function	Sub Function	Description
0x03	N/A	Read holding registers
0x06	N/A	Write single holding register
0x08		Diagnostics
	0x00	Return query data
	0x01	Restart communications option
	0x04	Force listen only mode
	0x0A	Clear counters
	0x0B	Return bus message count
	0x0C	Return bus communication error count
	0x0D	Return bus exception error count
	0x0E	Return slave message count
	0x0F	Return slave no response count
	0x10	Return slave NAK count
	0x11	Return slave busy count
	0x12	Return bus character overrun count
	0x14	Clear overrun counter and flag

Holding Registers

Register	Read	Write	Type	No. Registers
40001	Actual flow - low word		32 bit float	2
40002	Actual flow - high word			
40003	Totalizer - low word		32 bits int	2
40004	Totalizer - high word			
40005	User full scale	User full scale	16 bits int	1
40006	Factory full scale		16 bits int	1
40007	K factor	K factor	16 bits int	1
40008	Dummy (reads \$0001)	Reset totalizer	16 bits int	1
40009	Calibration - high word *		32 bits Int	2
40010	Calibration - low word *			
40011	Flow unit - char 1,2		String	3
40012	Flow unit - char 3,4			
40013	Flow unit - char 5,6			
40014	Totalizer unit- char 1,2		String	2
40015	Totalizer unit- char 3,4			
40016	Serial number – char 1,2		String	6
40017	Serial number – char 3,4			
40018	Serial number – char 5,6			
40019	Serial number – char 7,8			
40020	Serial number – char 9,10			
40021	Serial number – char 11,12			
40022	Tag number - char 1,2		String	5
40023	Tag number - char 3,4			
40024	Tag number - char 5,6			
40025	Tag number - char 7,8			
40026	Tag number - char 9,10			
40027	Decimal point – flow/totalizer		16 bits int	1
40032	Totalizer alternate, low word		32 bit float	2
40033	Totalizer alternate, high word			

* Format = mmdyyyy (decimal)