

# HM-USB-ISO User Manual

# Introduction

The HM-USB-ISO HART Modem, USB is designed to connect PC's to HART networks. Application software can then configure, monitor, and document HART based instrumentation.

## **Software Drivers**

Before use, a USB Virtual Serial Port must be installed on the PC. Simply connect the HM-USB-ISO USB cable to the PC and follow the Windows "Found New Hardware Wizard" prompts. Insert the driver CD when prompted for the driver location. Note that two drivers are installed: the USBMOD3 USB Serial Converter, and the USB Serial Port. This means the Found New Hardware Wizard will run 2 times.

# Found New Hardware Wizard for Windows XP

Here is a detailed description of the Wizard prompts and the required responses:

#### 1. Welcome to the Found New Hardware Wizard

Found New Hardware	Wizard
	Welcome to the Found New Hardware Wizard Windows will search for current and updated software by looking on your computer, on the hardware installation CD, or on the Windows Update Web site (with your permission). Read our privacy policy
	Can Windows connect to Windows Update to search for software? Yes, this time only Yes, now and every time I connect a device No, not this time
	Click Next to continue.
	< Back, Next > Cancel

## Select No, not this time.



# 2. This wizard helps you install software for USBMOD3.

Found New Hardware Wizard	
	This wizard helps you install software for: USBMOD3 If your hardware came with an installation CD or floppy disk, insert it now.
	What do you want the wizard to do? C Install the software automatically (Recommended) Install from a list or specific location (Advanced) Click Next to continue.
	< Back Next > Cancel

Select Install from a list or specific location (Advanced)

3. Choose search and installation options

Pleas	e choose your search and installation options.
	Search for the best driver in these locations.
	Use the check boxes below to limit or expand the default search, which includes local paths and removable media. The best driver found will be installed.
	☞ Search removable media (floppy, CD-ROM)
	Include this location in the search:
	C: Browse
C	Don't search. I will choose the driver to install.
	Choose this option to select the device driver from a list. Windows does not guarantee the driver you choose will be the best match for your hardware.

Select Best driver at these locations. Select Search removable media (floppy, CD-ROM...)



#### 4. USB Serial Converter installation finished.

Found New Hardware Wizard	
	Completing the Found New Hardware Wizard The wizard has finished installing the software for: USB Serial Converter
	Click Finish to close the wizard.
	K Back Finish Cancel

5. This process now repeats for the USB Serial Port. Welcome to the Found New Hardware Wizard.



Select No, not this time.



# 6. This wizard helps you install software for USB Serial Port.

Found New Hardware Wizard	
	This wizard helps you install software for: USB Serial Port If your hardware came with an installation CD or floppy disk, insert it now.
	What do you want the wizard to do? C Install the software automatically (Recommended) Install from a list or specific location (Advanced) Click Next to continue.
	<back next=""> Cancel</back>

Select Install from a list or specific location (Advanced)

7. Choose search and installation options

und New Hardwa	re Wizard		
Please choose	your search and installation o	options.	So -
Search for	r the best driver in these locations.		
Use the cl paths and	neck boxes below to limit or expand removable media. The best driver fr	the default search, whi ound will be installed.	ch includes local
🔽 Se	arch removable media (floppy, CD-R	OM)	
∏ Inc	lude this location in the search:		
C;		<b>_</b>	Browse
C Don't sea	rch. I will choose the driver to install		
Choose th the driver	is option to select the device driver you choose will be the best match fr	from a list. Windows do or your hardware.	pes not guarantee that
		<back next=""></back>	Cancel

Select Best driver at these locations. Select Search removable media (floppy, CD-ROM...)



#### 8. USB Serial Port installation finished.

Found New Hardware Wizard	Completing the Found New Hardware Wizard The wizard has finished installing the software for:
	USB Serial Port
	Click Finish to close the wizard.

When completed successfully, the following will appear at the bottom of the screen:



## Found New Hardware Wizard for Windows Vista

Here is a detailed description of the Wizard prompts and the required responses:

#### 1. Found New Hardware USBMOD3



Select Locate and install driver software (recommended).



#### 2. Allow Windows to search online for driver software



# Select Don't search online

#### 3. Insert the disc that came with your USBMOD3



Insert the disk. If disk already in, select Next.



#### 4. The software for this device has been successfully installed

G I Found New Hardware - USB Serial Converter	
The software for this device has been successfully installed	
Windows has finished installing the driver software for this device:	
USB Serial Converter	
	Close

Select Close

# 5. Found New Hardware USB Serial Port



Select Don't search online



# 6. Insert the disc that came with your USBMOD3

Found New Hardware - USB Serial Port
Insert the disc that came with your USB Serial Port If you have the disc that came with your device, insert it now. Windows will automatically search the disc for driver software.
➔ I don't have the disc. Show me other options.
Next Cancel

Select Next.

7. The software for this device has been successfully installed

Found New Hardware - USB Serial Port (COM4)	×
The software for this device has been successfully installed	
Windows has finished installing the driver software for this device:	
USB Serial Port	
	Close





8. When completed successfully, the following will appear at the bottom of the screen:



## **COM Port Assignment**

After installing, and with the HM-USB-ISO still connected to the PC, go to Start -> Settings -> Control Panel -> System -> Hardware -> Device Manager -> Ports, to see what com port number was assigned to the modem by the Windows operating system. The port labeled "USB Serial Port" is the assigned port.

In Windows Vista, the COM port is shown on the final install screen (Step 7 above). This port assignment can be changed by the user. From the "Device Manager" menu, select the USB Serial Port you wish to change. From the "Properties" page, select "Port Settings". Then select "Advanced". The Com port can be set in the range 1-256.

# HART Connections

The modem can be connected in one of two ways: across the loop load resistor (A - B) or across the HART transmitter terminals (C - D). See Figure 1.



Figure 1. HART Connections

# **USB** Connection

Connect the integral USB-A connector to any available USB port on your PC. The module supports both USB 1.1 and USB 2.0.

## Power

No external power sources are required for the HM-USB-ISO. Power is derived from the USB connection to the PC.

## **Test Software**

Program "HM Test" is included on the installation CD to test the operation of the HM-USB-ISO. Launch the program from the CD or from the installed icon. Enter the com port that was assigned to the modem by Windows. Then select "Poll HART Network" to connect to a HART device. The program sends HART Command 0 to determine what transmitters are connected to the loop. The "Status" box will indicate successful operation of the HM-USB-ISO in your system. Consult the "Troubleshooting" section of this manual if test failure.



# Troubleshooting

Verify the following:

- 1. Com port number in application is the HM-USB-ISO com port number.
- 2. Loop power supply is on.
- 3. Loop resistance between 250 ohms and 1Kohms.
- 4. Loop current within HART limits.
- 5. If multi drop configuration, all transmitters in loop have unique addresses.
- 6. HM-USB-ISO HART connections across loop resistor or across transmitter terminals.
- 7. HM-USB-ISO USB connector seated firmly in PC USB connector.

# Warranty

The USB-HM is warranted for 1 year for materials and workmanship. Contact Support at ProComSol, Ltd if having trouble. An RMA (Return Material Authorization) number obtained from ProComSol, Ltd is required on all returned items.

# **Contact Information**

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