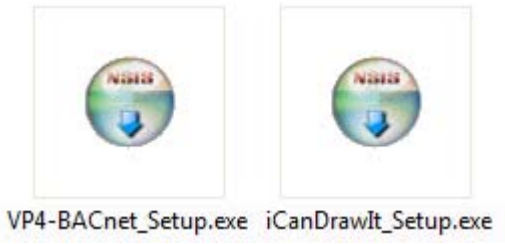
2 Installation and Connections

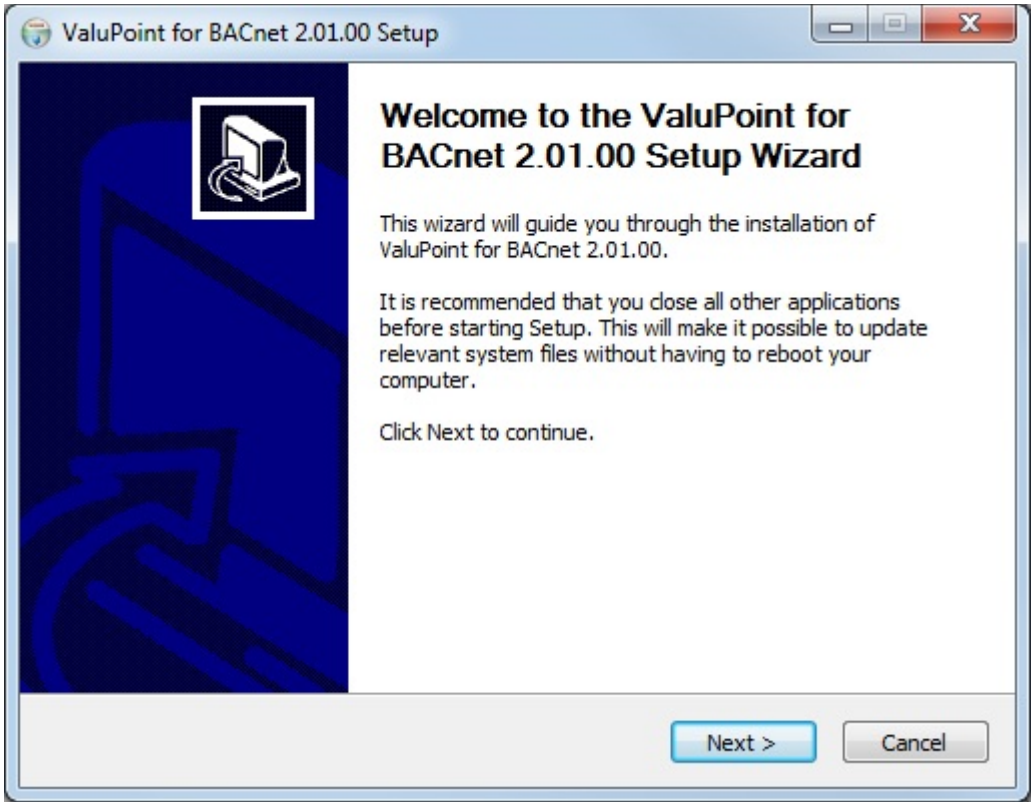
2.1 Installing the configuration software

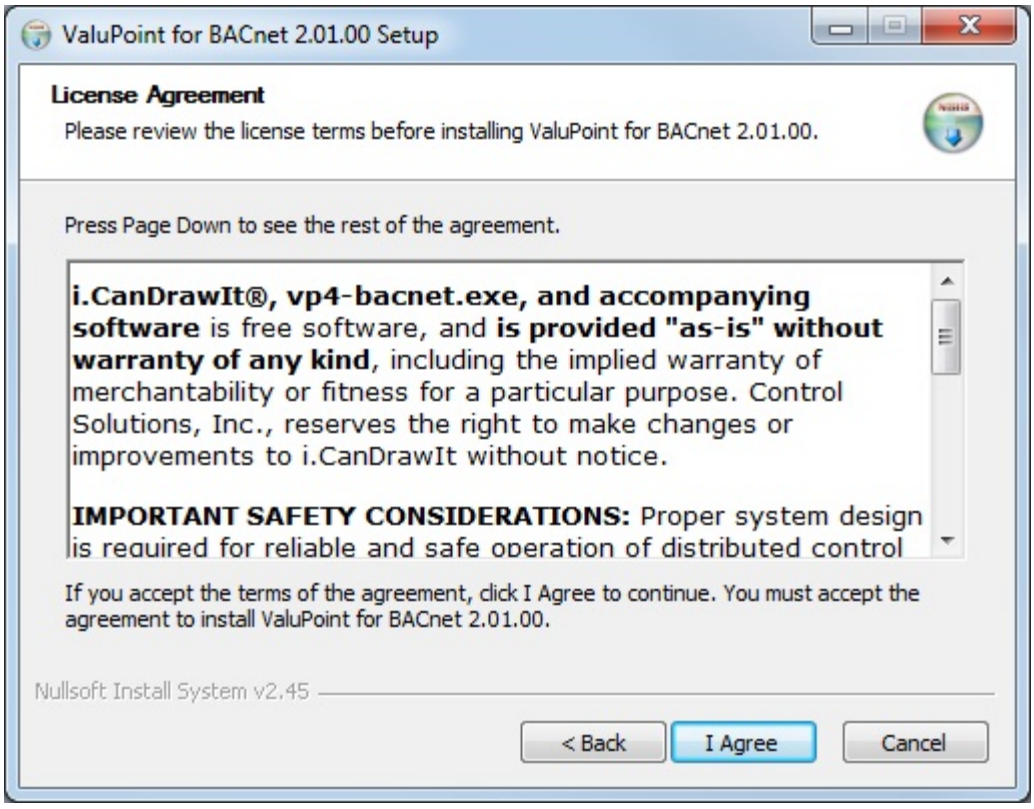
Look for the installer icons in the directory where you unzipped the download that got you to this document. The installer icons look like this:

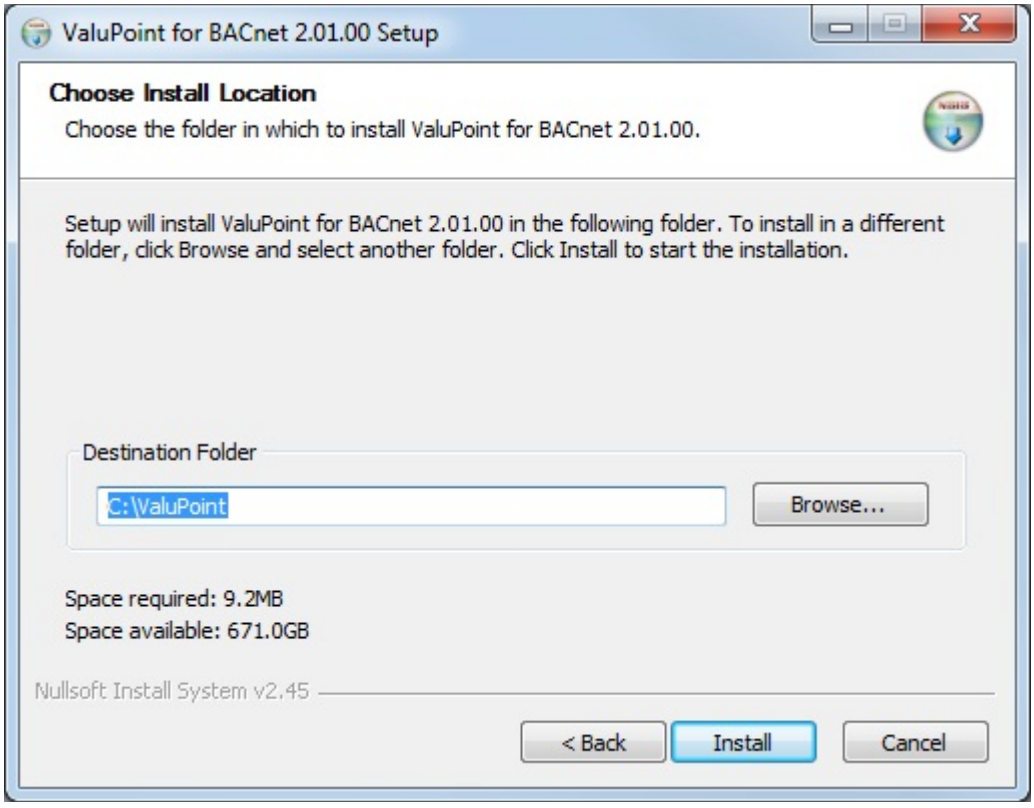


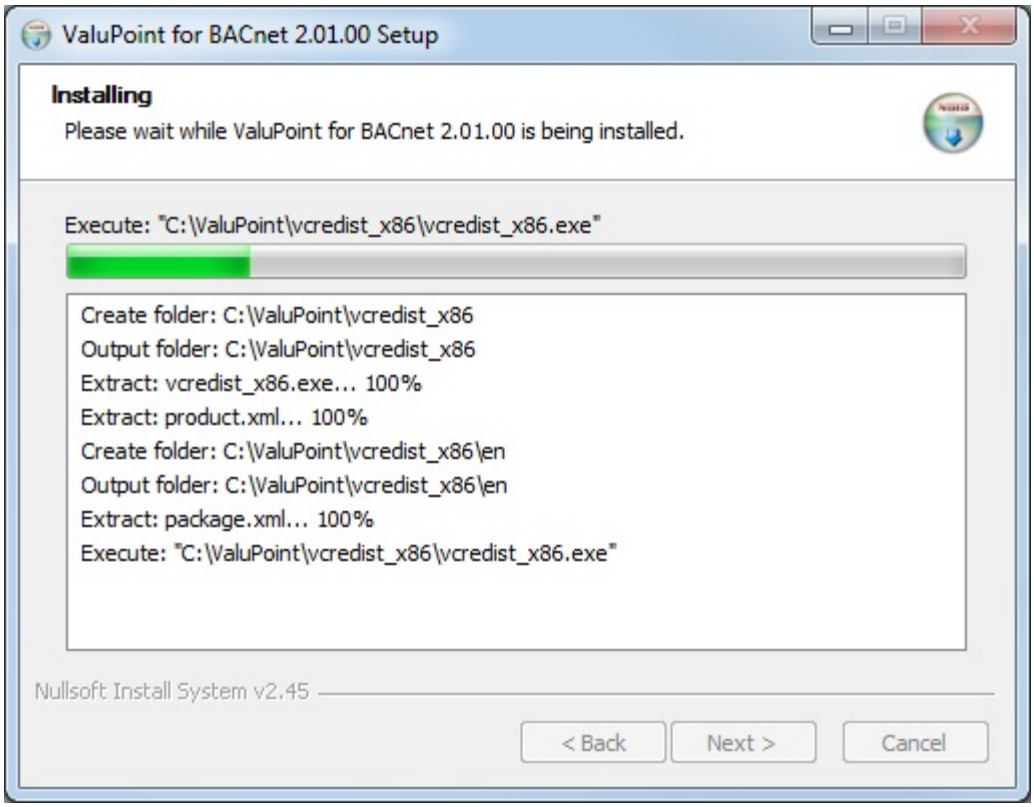
The installation is a 2-step installation. Install VP4-BACnet first. Then install i.CanDrawIt second.

Double click the icon to run the setup.exe. You will be questioned about whether to continue because Windows cannot verify the publisher of the software. Permit installation to continue. The sequence of installer screens include the following on Windows 7:


ValuPoint for BACnet 2.01.00 Setup
Welcome to the ValuPoint for BACnet 2.01.00 Setup Wizard
This wizard will guide you through the installation of ValuPoint for BACnet 2.01.00.
It is recommended that you close all other applications before starting Setup. This will make it possible to update relevant system files without having to reboot your computer.
Click Next to continue.
Next >
Cancel

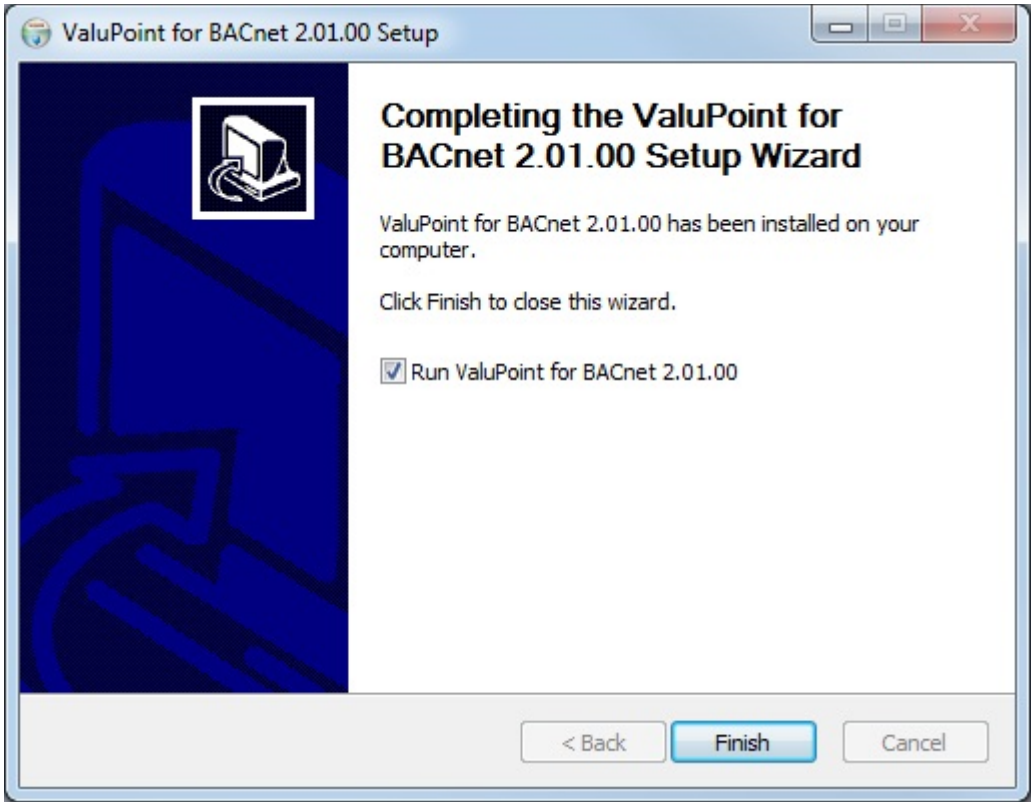

ValuPoint for BACnet 2.01.00 Setup
License Agreement
Please review the license terms before installing ValuPoint for BACnet 2.01.00.
Press Page Down to see the rest of the agreement.
i.CanDrawIt®, vp4-bacnet.exe, and accompanying software is free software, and is provided "as-is" without warranty of any kind, including the implied warranty of merchantability or fitness for a particular purpose. Control Solutions, Inc., reserves the right to make changes or improvements to i.CanDrawIt without notice.
IMPORTANT SAFETY CONSIDERATIONS: Proper system design is required for reliable and safe operation of distributed control
If you accept the terms of the agreement, click I Agree to continue. You must accept the agreement to install ValuPoint for BACnet 2.01.00.
Nullsoft Install System v2.45
< Back
I Agree
Cancel



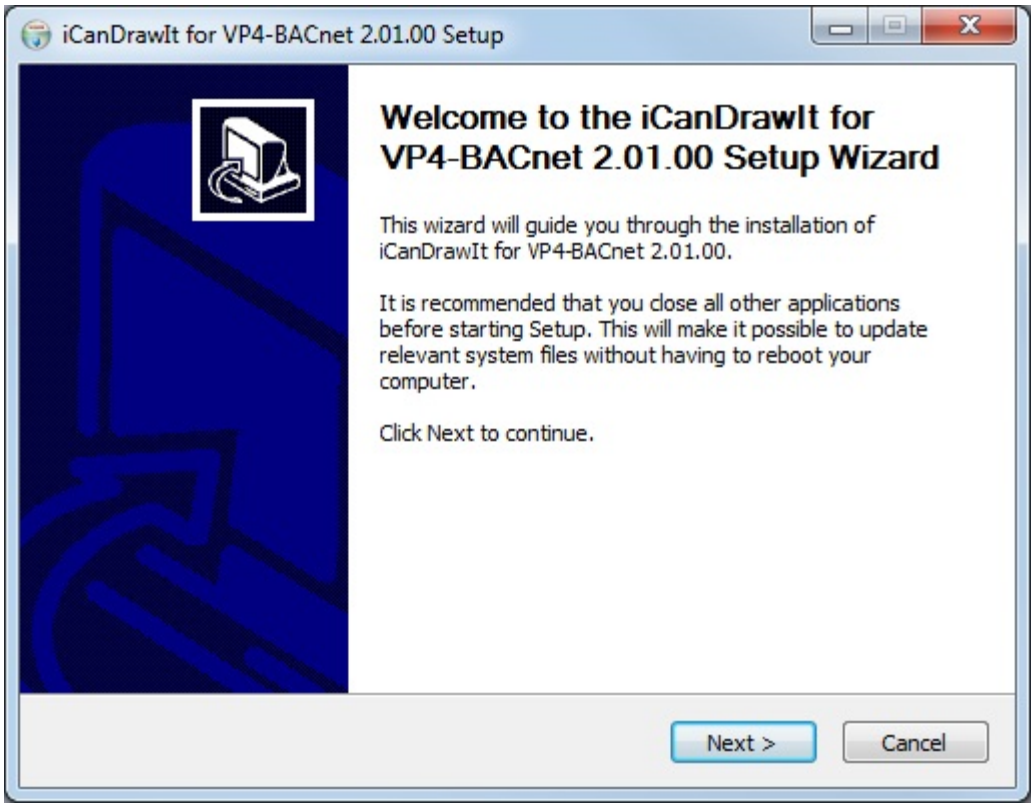


The installer will check to see whether Visual C++ support is already installed on your system, and install it if not. This is standard software provided by Microsoft.

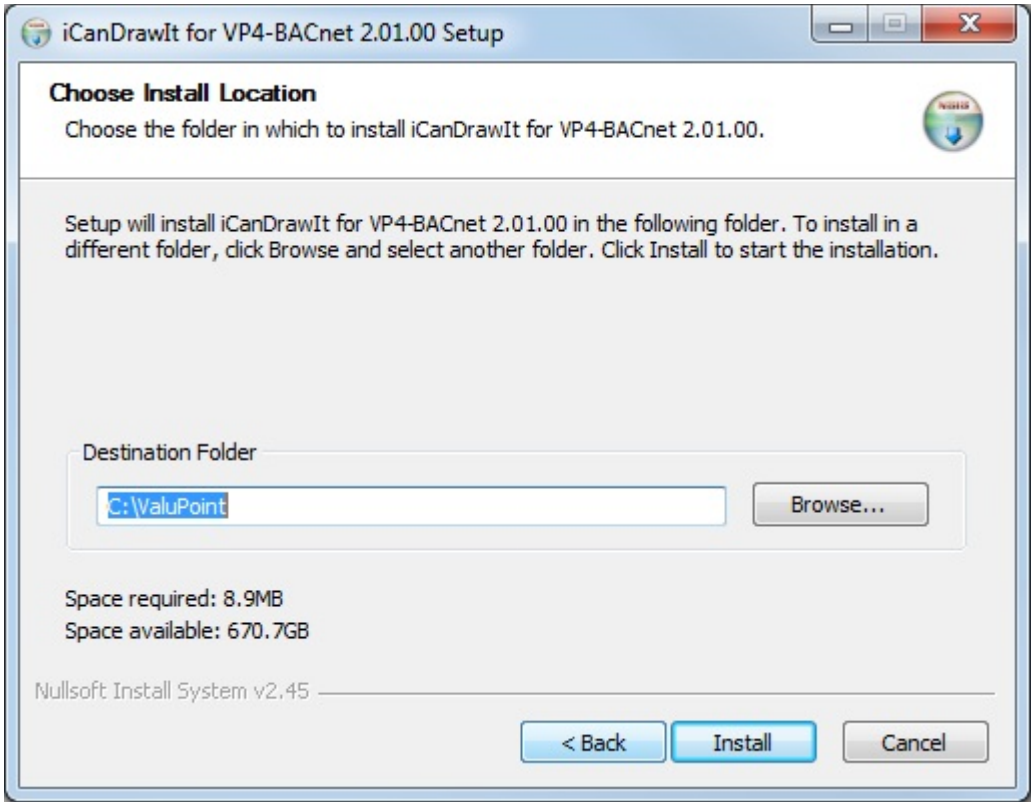
When you get to the “Finish” screen, you are ready to go.



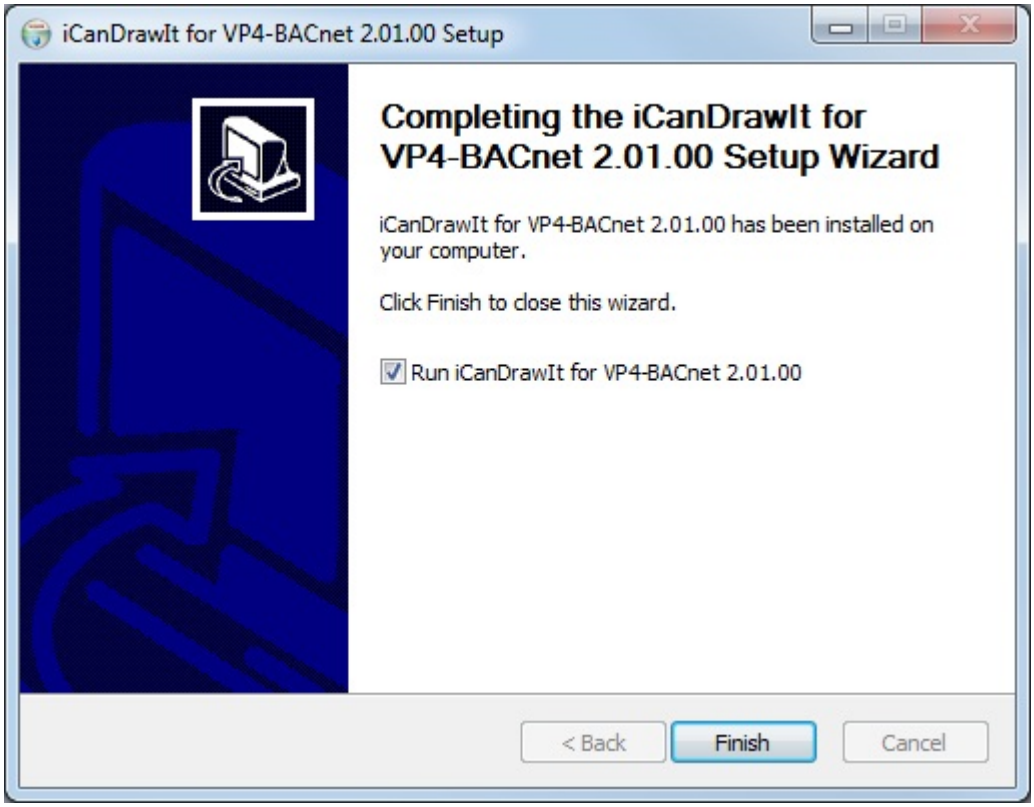
Next, proceed to install i.CanDrawIt. This part is optional. If you will not be using the ValuPoint as a programmable controller, you can skip this step. The first installer screen looks like this:



The installation directory should be the same directory that VP4-BACnet was installed into.



After a few more screens, you will get the familiar 'done' screen.



2.2 Installing the USB to MS/TP adapter

Install the USB adapter by plugging it into your PC. However, prior to doing so, you

should install the USB driver provided by Control Solutions. Complete instructions including step by step screen shots are provided in Appendix A.

The necessary driver was already included in Windows XP, but anything newer requires an explicitly installed driver. A properly signed and verified USB driver is provided for the MTX002.

2.3 Connecting the ValuPoint

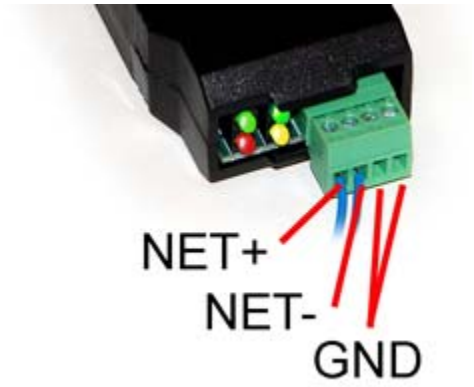
Connecting Power: Connect +24VDC or 24VAC to the terminal marked POWER. Connect common to the terminal marked GND.

Connecting BACnet MS/TP: Connect RS-485 (EIA-485) data lines to NET+ and NET- next to POWER. Observe polarity of the data lines. Reverse polarity will be tolerated (i.e., not damage the unit) but will not function either. Connect RS-485 common and/or cable shield to one of the terminals marked GND as applicable.

Connecting I/O: Refer to section 13 for physical I/O connections.

2.4 Connecting the USB Adapter

Connect the NET+ and NET- terminals to the corresponding MS/TP terminals on the gateway (or to +/- on the MS/TP network). Connect GND to network common.



DO NOT connect power to the terminal block on the adapter. The adapter gets its power from the USB port of your PC. The adapter only draws a very small amount of power, well below the limit provided by standard USB ports.

2.5 Indicators on the VP4-0630 Programmable I/O

The LED indicators for the VP4-0630 are mounted on the circuit board inside the device, and are viewable through the vent slots in the case. The two blue LEDs are power indicators. There are two power supplies in the VP4-0630, and both are necessary for proper operation.

The four LEDs toward the bottom are status and communications - primarily used for communications. The green LED to the left indicates token passing. This LED flashes each time the token is passed. The red LED is the error indicator which flashes red when there is an error, such as request for an object that does not exist in the device. The yellow indicator flashes each time the VP4-0630 polls for master. The green LED to the right flashes each time a data request is replied to.

The yellow poll-for-master LED may flash quite frequently, or nearly never. How often the device polls for master depends on whether there is another master at some higher MAC address after the VP4-0630. If the next consecutive MAC address is in use by another device on the link, the poll for master will rarely flash. If the VP4-0630 has a low MAC address and there are few or no other devices with higher MAC addresses, the poll for master LED will be quite busy.

The token pass led (green LED on left) should always be flashing. If there is a small number of devices on the network, it will flash rapidly. The more devices there are on the network, the more slowly it will flash because there are more devices passing the token around. If it never flashes, there is a communication problem, such as baud rate mismatch.

The red LED is a communication error indicator most of the time. However, during restart it will be on solid. Immediately following startup, it may flash a fault code if a serious error has occurred.

2.6 Indicators on the VP4-2330 Programmable I/O

The LED indicators for the VP4-2330 are mounted on the circuit board inside the device, and are viewable through the vent slots in the case. The two blue LEDs are power indicators. There are two power supplies in the VP4-2330, and both are necessary for proper operation.

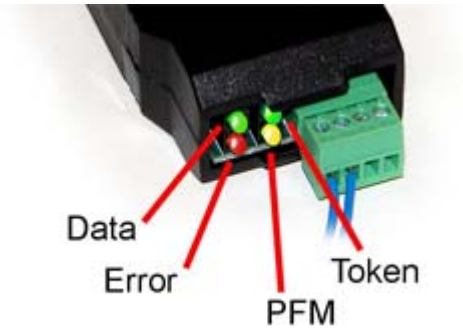
The four LEDs toward the bottom are status and communications - primarily used for communications. The green LED to the left indicates token passing. This LED flashes each time the token is passed. The red LED is the error indicator which flashes red when there is an error, such as request for an object that does not exist in the device. The yellow indicator flashes each time the VP4-2330 polls for master. The green LED to the right flashes each time a data request is replied to.

The yellow poll-for-master LED may flash quite frequently, or nearly never. How often the device polls for master depends on whether there is another master at some higher MAC address after the VP4-2330. If the next consecutive MAC address is in use by another device on the link, the poll for master will rarely flash. If the VP4-2330 has a low MAC address and there are few or no other devices with higher MAC addresses, the poll for master LED will be quite busy.

The token pass led (green LED on left) should always be flashing. If there is a small number of devices on the network, it will flash rapidly. The more devices there are on the network, the more slowly it will flash because there are more devices passing the token around. If it never flashes, there is a communication problem, such as baud rate mismatch.

The red LED is a communication error indicator most of the time. However, during restart it will be on solid. Immediately following startup, it may flash a fault code if a serious error has occurred.

2.7 Indicators on the MTX002 USB to MS/TP Adapter



The yellow LED next to the USB connector will light up any time the PC recognizes this device. There is a blue power LED inside the adapter visible by looking into the adapter through the slot next to the USB adapter. The power LED should always be on if connected to the PC. The yellow LED will only come on when recognized by PC software.

The LEDs next to the terminal block indicate network traffic on the MS/TP network.

The Token LED flashes green each time the adapter passes the token. The adapter functions as another MS/TP device on the network, and gets into the token passing loop just like any other MS/TP device.

The PFM LED flashes yellow each time the adapter sends a Poll For Master (PFM).

The Data LED flashes green each time a good packet other than token or PFM is received, or a packet other than token or PFM is sent, by the adapter.

The Error LED flashes each time a valid packet is received by the adapter, but resulted in an error. The Error LED can also indicate a timeout waiting for the slave device to respond (typically the device being configured).