TCP/IP to RS-485 Communication Adapter

The M204-NET is a remote communication module that along with Windows based serial redirect software, allows the ICMS software to communication to Solidyne RS-485 control systems via TCP/IP protocol.

This technology, known as serial tunneling, allows users to "tunnel" to networks through internal building Ethernet networks or via the internet through a TCP port.

Specifications

Dimensions: 3.5 x 1.7 x 0.8 in (8.9 x 4.3 x 2.1 cm)
Temperature Range: 0-70°C (32-158°F)
Serial Device Server: Lantronix Xport-03
RS-485 Baud Rate: all baud rates up to 460.8kbps
RS-485 Connector: Removable terminal block
**Network:** 10/100BASE-T (auto sensing), RJ-45
Input Voltage: 8-24VDC, 500mA Max.
Operating System: Windows 2000, XP, Vista
Package Contents: Driver CD

Wiring

The M204-NET has two sets of B+ and B– terminals. Only one of the sets would typically be used, but both can be used if the M204-USB needs to be wired in multi drop (daisy chain) topology. An external 8-24VDC power supply will be needed to power the M204-NET. When powered the PWR LED will illuminate. The ETH port can support 10/100BASE-T connections through its RJ-45 connection. The RX and TX TERM jumpers should NOT be inserted.
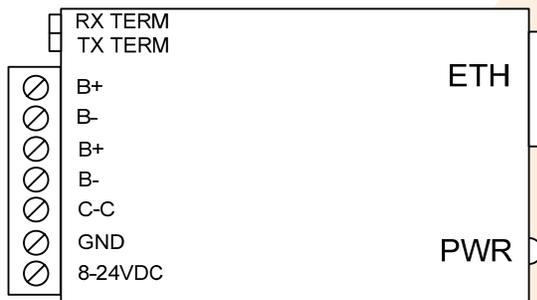
Hardware Installation

The following steps should be taken to install the M204-NET:

1.   Wire the B+, B– and C-C terminals to your device(s)/network.

2.   Plug in Ethernet connection to ETH port.

3.   Wire 8-24VDC power supply.

The device is ready to be used when the Power LED is illuminated. There are also 2 LED's on the ETH port (green, amber). When the green is illuminated/blinking, Ethernet port is operating at 100BASE-T. When the amber is illuminating/blinking, Ethernet port is operating at 10BASE-T.

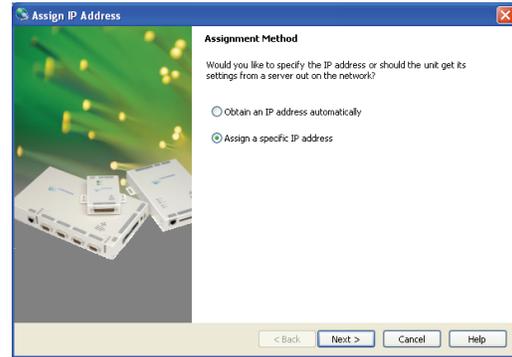

Figure 1

Software Installation

The M204-NET ships with a CD that contains the software for the device. If you have lost or misplaced this CD, you can always download the software by searching the Solidyne.com website for M204-NET.


Step 1: Insert CD into your computer and click *Device Installer* from the autolaunched window. If the autolauch window does not appear, double click the Autorun.exe file on the root of the CD.

Step 2: Allow the Device Installer to install with default parameters.

Step 3: Click *COM Redirector* from the Autolaunched window and install with default parameters.

Step 4: Run the Lantronix Device Installer by clicking *Start>Programs>Lantronix>DeviceInstaller>DeviceInstaller*.

Step 5: Click the *Search* button to find the M204-NET device attached to your network.

Step 6: If you attached the M204-NET to an Ethernet network with DHCP, the M204-NET will already have an assigned IP address as seen above under the IP address column.

Step 7: If you wish to manually set the ip address, or the network that the M204-NET does not have DHCP, click the device that was found in step 6 and then click the *Assign IP* button from the toolbar. This will open the window above, click *Assign a specific IP address* and then click the *Next* button.
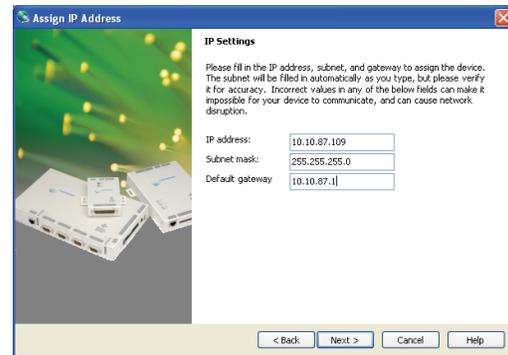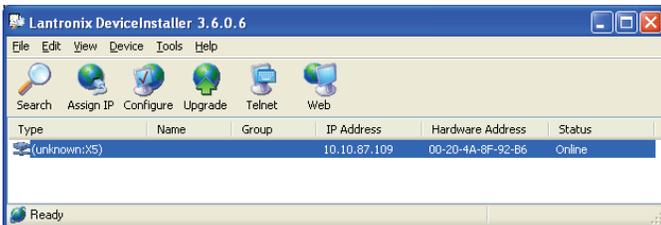

Step 8: After entering the desired IP address information, click *Next* button to save the new IP configuration to the device.

Device Configuration

The M204-NET will require the configuration of a few parameters before you can use it to communicate to the network. To view/change these parameters, click the *Web* button, or use your internet browser and enter the ip address of the device you want to configure.

When using the internet browser to configure the device, a username/password will be needed. By default, the username is *admin* and the password field should be left blank.

All settings and parameters on the M204-NET should be left at default. For more information about these extended settings, visit lantronix.com and search for *XPort-03*.
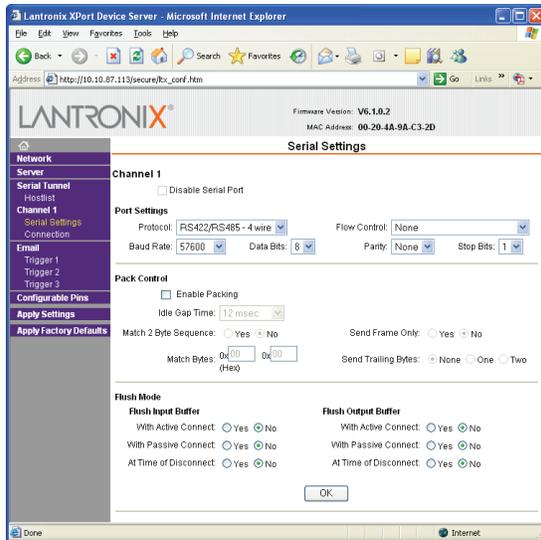

Step 1: Click *Serial Settings* from the left hand side of the page, under Channel 1 and change the following parameters.

Protocol: RS-422/RS-485 - 4 wire
Baud Rate: Select desired baud rate

All other settings should be left in default. If you are not sure of the default settings, click *Apply Factory Defaults* before making modifications above.

Step 2: Click *OK* button at the bottom of the page.

This will only temporarily save your settings until you click *Apply Settings* on the left hand side of the page.
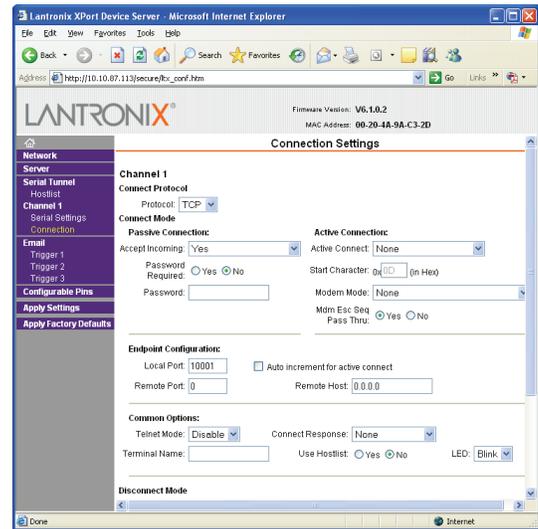

Step 3: The M204-NET uses the TCP port 10001 for the serial tunneling. If you wish to change this port, click *Connection* from under Channel 1 on the left hand side of the page.

In the End Point Configuration settings is a field labeled Local Port. This is the TCP port for the tunneling and can be changed at any time.

Redirector Configuration

The M204-NET's COM Redirect software will create a fictional COM port on your computer so that the windows based software (ie. ICMS) can use the fictional COM port to communicate to your network.

Click *Start>Programs>Lantronix>Redirector>Configuration* to launch the Redirector Configuration window. This software will automatically create a new COM port on your computer (typically the next available COM number) and will already be selected in the configuration window.
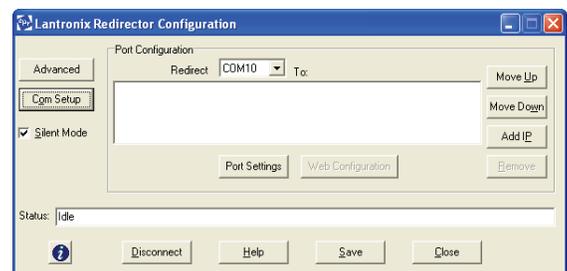
Step 1: Click *Add IP* button and enter the ip address of the M204-NET. If you forgot the ip address, go back to page 2 of this document and review the Software Installation section.

Remember to also enter the TCP Port as 10001 and then click the *OK* button to save the IP information.

Step 2: Click *Port Settings* button and check *Raw Mode* and then click *OK* button to save.

Step 3: Click the *Save* button at the bottom of the Redirector Configuration window to save the parameters.

ICMS Configuration

The ICMS software can now be configured to use this new fictional COM port. From the ICMS Port Settings window, click the tab that references your M204-NET COM port and select the Device type to be *TCP/IP*. This selection will relax some internal software timing for Ethernet/Internet latency.
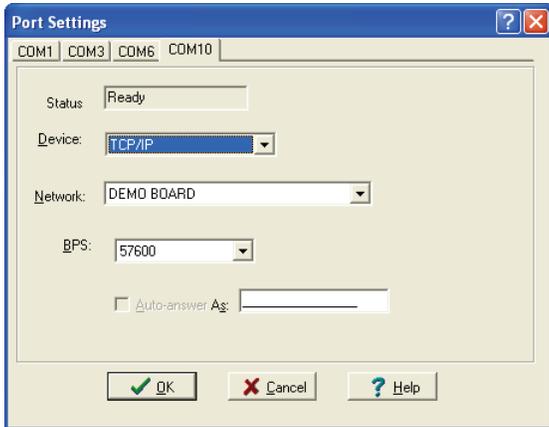
Serial Tunneling via the Internet

The M204-NET does support serial tunneling via the internet. If you wish to serial tunnel via the internet, the IT department will have to create some sort of route from the internet to the M204-NET. The TCP port that is required in the route is 10001 (default).

Broadband internet on both sides of the connection is required when tunneling via the internet. Attempting to serial tunnel using dialup or non broadband cable/DSL internet access may be severely degraded.