STAUFF®

Local Solutions For Individual Customers Worldwide

LPM II-Ethernet

# Particle Monitor

Manual

# 1 Introduction

The LPM-ETHi provides a convenient solution for connecting the LPMII to an ethernet network. It plugs in directly to the LPMII using a pre-wired connector. It can be used with Lantronix software for network configuration.

The following functions are provided:

- Ethernet to RS485 adaptor using Lantronix drivers.
- DC input socket for LPMII power.
- Pre-wired LPMII connector on 3m flying lead.
- LPMII signals brought out to user-accessible terminal block. This allows external alarms, PLCs or a start button to be easily connected.
- LED Indicators indicating Transmit (Tx) and Receive (Rx) data.

**Figure 1**

# 2 Installation

An overview is given here for when the customer will be using our LasPaC-View software. This involves the following steps:

## 1 Connection

- Connect LPM-ETHi to the LPMII.
- Plug the LPM-ETHi cable into the LPMII.
- Connect DC power supply, either using the DC connector provided or via the internal terminal block.
- Connect network cable between LPM-ETHi and customer network switch.
- Install the Device Installer software from the Software CD or from the following web address: http://ltxfaq.custhelp.com/app/answers/detail/a_id/644
- Navigate to the Device Installer via Program menu - Follow menu instructions.
- Identify and record the LAN address used by the device, e.g. 81.187.19.55
- Access the Internet explorer (enter the LAN address in the navigation bar, Press enter)
- Access the ''Serial Settings'' tab and configure with the following changes from the default (can ''reset to default settings'' first):

  ***Protocol***
  ***RS485-2wire***

  ***Flow Control***
  ***None***

  ***Baud Rate***
  ***115200***

***Data Bits***
***8***

***Parity***
***Even***

***Stop Bits***
***1***

- Scroll Down to the bottom of the window and click 'Ok'
- From the left hand options, click 'Apply Settings'
- Install the Com Port redirector software from the Software CD or from the following web address: http://ltxfaq.custhelp.com/app/answers/detail/a_id/928
- Navigate to the CPR Manager via Program menu and Open
- Add a new Com Port/ Add and Remove
- Select (tick) an unused Com Port, e.g. Com 3 and click 'Ok'
- Configure the Com Port being used - double click on COM port

  Host (use value recorded earlier e.g.81.187.19.55) TCP Port 10001
- Press the Save button - menu bar save settings
- Please Note: the following message may appear:

**Figure 1**

- Click Continue Anyway on all warnings
- Access e.g. Com 3 test tab, click ’Open’ to prove connection to the Ethernet adapter
- Click ’Close’ and shut down CPR manager and Device installer
- The new COM port (e.g.COM 3) will now be available in LasPaC-View
- Install LasPaC-View as per the user guide.
- Open LasPaC-View, open remote control (7th button from left on toolbar)
- Choose relevant Com port and click ’Ok’

# 3 Lantronix Software Installation

We supply a version of the software on CD, or the latest version from the Lantronix web site can be used.

Run the CPR installer. This is a file with a name like ``setup_cpr_x86x64cd_4.3.0.0''. Accept the security warning and license.

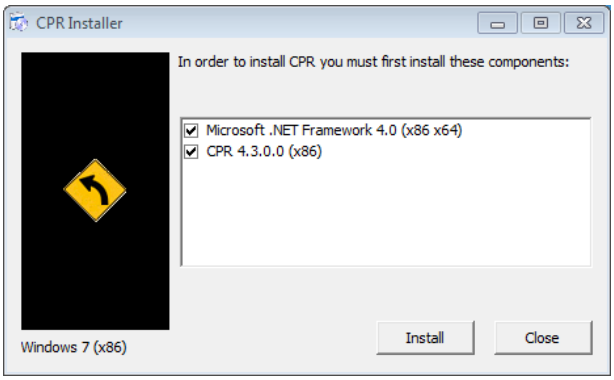


**Figure 1** The ``CPR Installer''

The software requires the Microsoft .NET Framework. If you do not have this already, the installer will first install it for you. You will then need to restart the computer and run the installer again to install the actual CPR program. Follow the installation wizard accepting the defaults. You will need to accept another security warning in order to install the Com Port driver software.

# 4 Configuration

## IP Address

In order to communicate on the network the LPM-ETHi requires an IP address. If you have a DHCP server on the network, this will happen automatically. Otherwise it is possible to assign one manually using the Lantronix Device Installer program (a separate free program available from the Lantronix web site).

## Creating the Virtual Com Port

Connect up the LPM-ETHi as described above and apply power. When the unit is connected correctly you should see a continuous green LED to the left of the RJ45 socket after it has obtained an IP address.

Run the CPR program. Once started, press the Search button to search the network for LPM-ETHi devices. Any such are displayed on the bottom line as in the example below (with an appropriate IP address for your network).

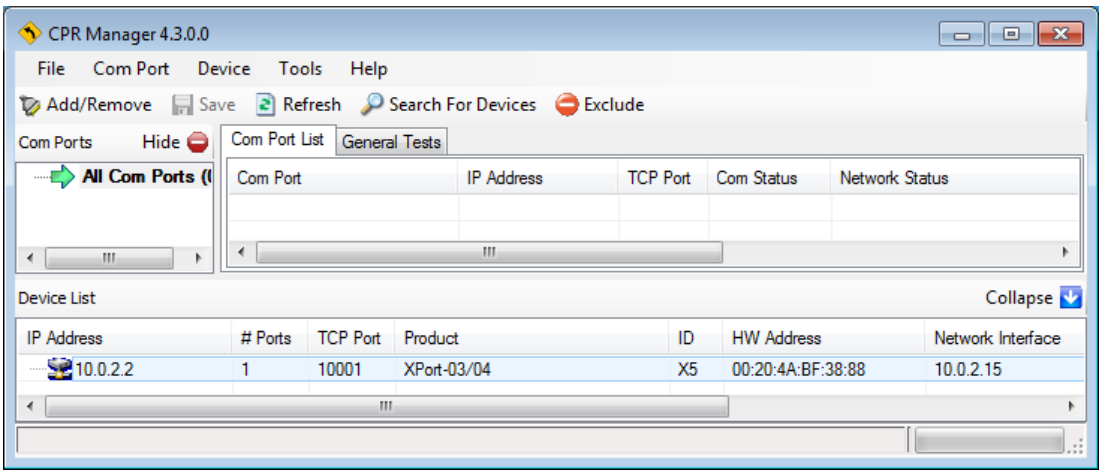


**Figure 1** Searching the Network

Once the device is found, a COM port can be created to enable it to be accessed from LasPaC-View. Click the Add/Remove button to display the Com Ports dialogue (Figure 2).

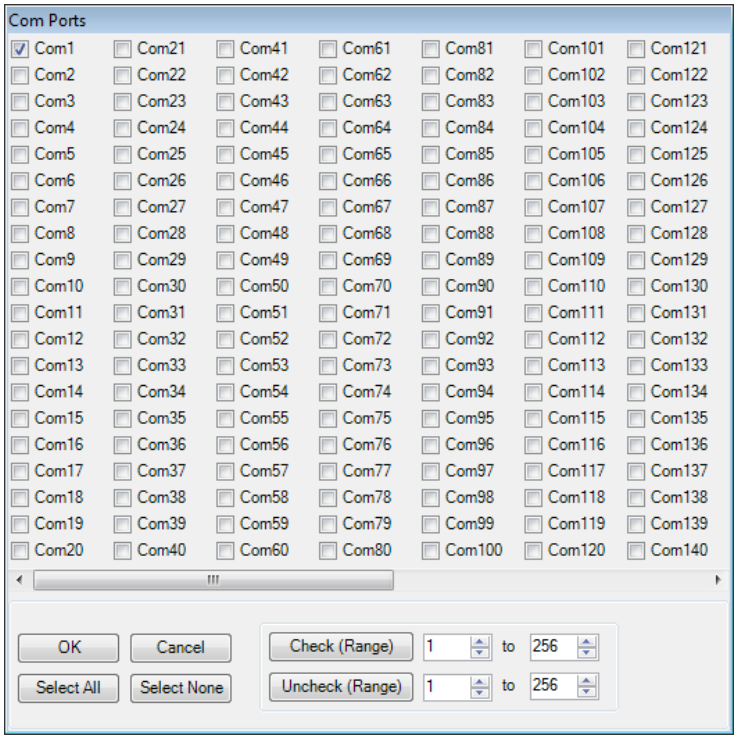


**Figure 2** Com Ports dialogue

Click on the desired Com port number (any can be used that do not conflict with existing allocations). Press OK to close the dialogue. The new Com port will be shown in the left hand pane, with the settings in red in the right hand pane.

As a shortcut, the settings can be filled in automatically. Click on the (New) Com port shown on the left hand pane in Figure 3. Then double-click the found device shown in the Device List at the bottom of the dialogue. Press the Save button to save the configuration.

## Configuration Test

Network communications can be tested using the Tests tab as in Figure 4.

Press the Open button. If successful, the dialogue will show ``Com Status: Open''. Press Close afterwards otherwise the Com port will not be available to LasPaC-View.

After this configuration, the new ``COM'' port will be available to the LasPaC-View Test Analysis Software. Proceed to connect to the LPMII as detailed in the main LPMII manual.

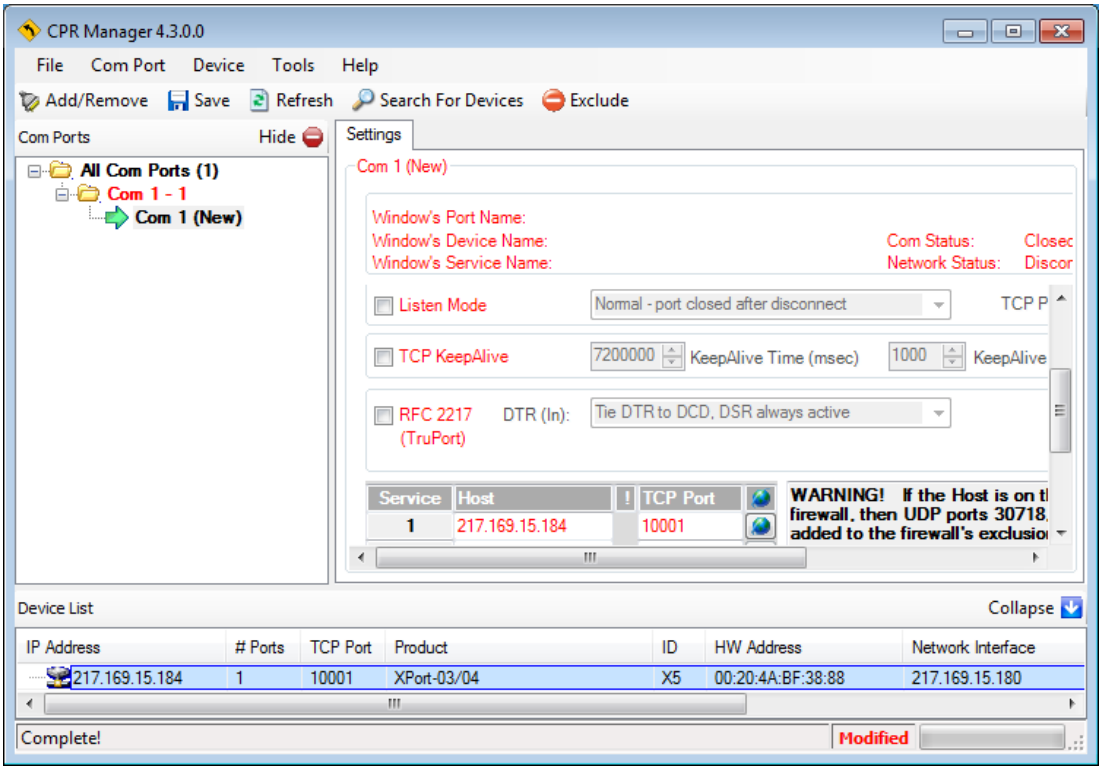


**Figure 3** Com Port Settings

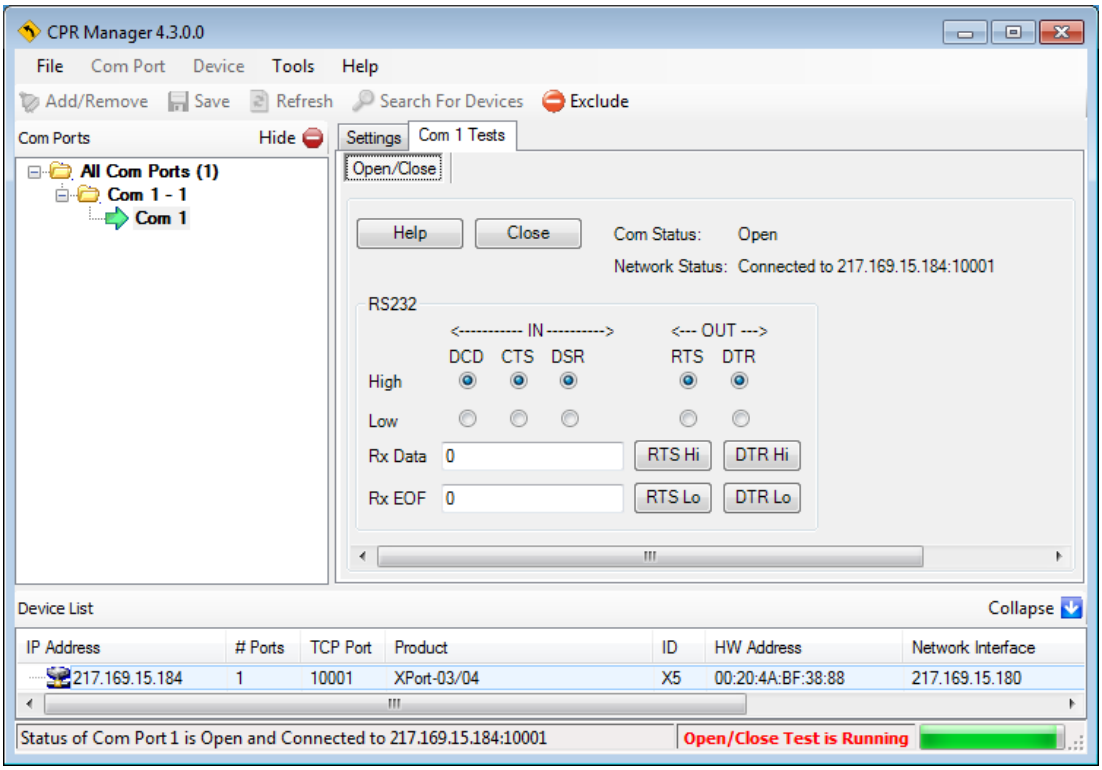


**Figure 4** Testing

# 5 Wiring Options

The unit can be used as-is for simple PC control of an LPMII.

However all the LPMII signals are made available at a terminal strip within the interface, so that these can be connected to a customers equipment. These include a start signal and the two alarm outputs. Also included are the DC power input, customers may prefer to permanently connect an existing supply here rather than plugging in the provided DC adaptor. The RS485 signals (Data+, Data-) are also present - these may be connected to an existing Modbus network.

To access the terminal strip, remove the four screws holding on the right hand end-plate (the one with the LPMII cable). The end-plate can then be detached and the top plate slid off. An additional cable gland (supplied) can be fitted in the spare position on the end-plate and used for customer wires. Some example arrangements are shown here, there is more information in the main LPMII manual.

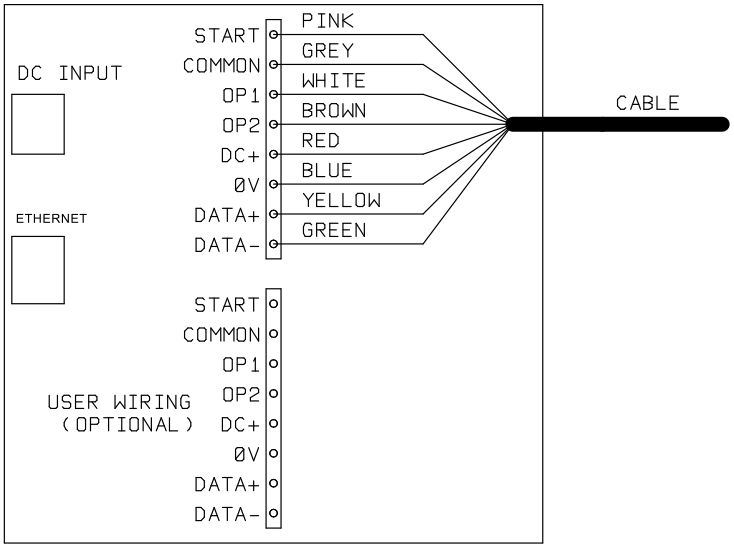


**Figure 1** Pre-wired LPMII Cable

Figure 1 shows the standard cable wiring. This is how the standard LPM-ETHi unit is delivered.

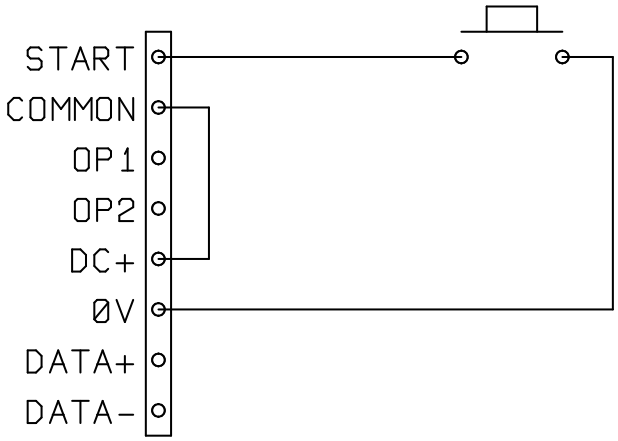


**Figure 2** External Start

Figure 2 shows how to connect an external start button (or PLC output relay).

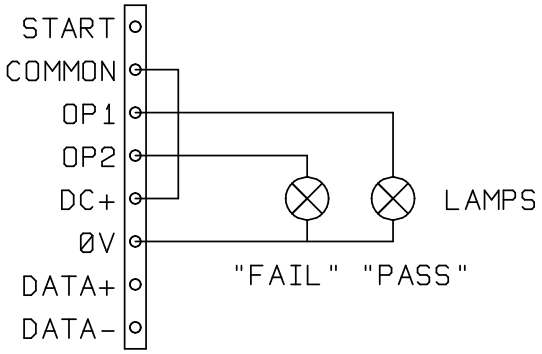


**Figure 3** External Indicators

Figure 3 shows how to connect external indicator lamps (in case the built-in LED is not sufficient). These could also be PLC inputs.

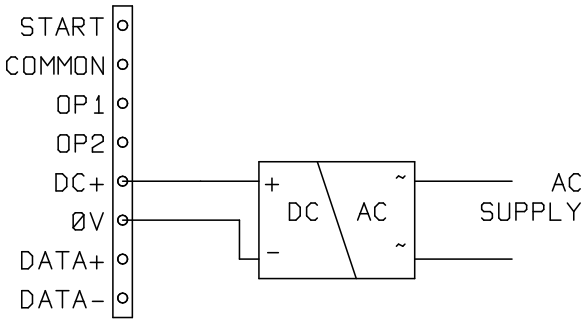


**Figure 4** External Power Supply

Figure 4 shows how to connect an external power supply. This arrangement may be preferred for permanent installations over the removable ``plug-top'' power supply that comes with the unit.

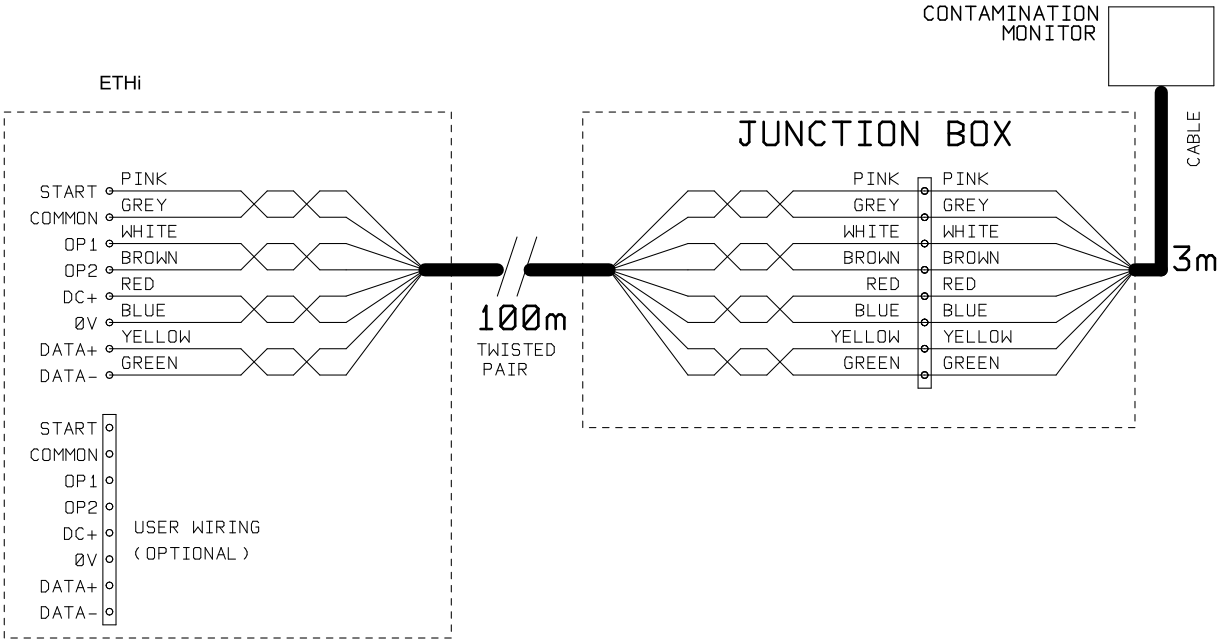


**Figure 5** Control Cable Extension

The standard cable is 3m in length. Wiring over longer distances should be done using twisted pair cabling (assuming the serial communications signals are being used). Figure 5 shows an example.

***Produced by Stauff***

Revision 0.4

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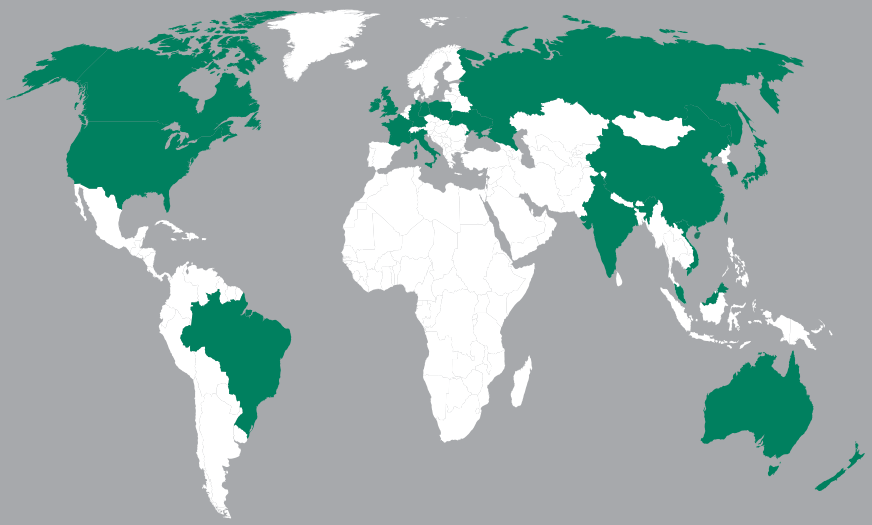

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