

Local Solutions For Individual Customers Worldwide



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).

♦ CPR Manager 4.3.0.0									
File Com Port Device Tools Help									
🔯 Add/Remove 🛛 🔄 Save 🖹 Refresh 🔑 Search For Devices 🤤 Exclude									
Com Ports Hide 🤤 Com Port List General Tests									
All Com Ports (Com Port		IP Address	TCP Port	Com Status	Network Status			
<	•	•					4		
Device List Collapse 🛂									
IP Address	# Ports	TCP Port	Product	ID	HW Address		Network Interface		
	1	10001	XPort-03/04	X5	00:20:4A:BF:38:88 10.0.2		10.0.2.15		
۲									

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).

Com Ports							
Com1	Com21	Com41	Com61	Com81	Com101	Com121	
Com2	Com22	Com42	Com62	Com82	Com102	Com122	
Com3	Com23	Com43	Com63	Com83	Com103	Com123	
Com4	Com24	Com44	Com64	Com84	Com104	Com124	
Com5	Com25	Com45	Com65	Com85	Com105	Com125	
Com6	Com26	Com46	Com66	Com86	Com106	Com126	
Com7	Com27	Com47	Com67	Com87	Com107	Com127	
Com8	Com28	Com48	Com68	Com88	Com108	Com128	
Com9	Com29	Com49	Com69	Com89	Com109	Com129	
Com10	Com30	Com50	Com70	Com90	Com110	Com130	
Com11	Com31	Com51	Com71	Com91	Com111	Com131	
Com12	Com32	Com52	Com72	Com92	Com112	Com132	
Com13	Com33	Com53	Com73	Com93	Com113	Com133	
Com14	Com34	Com54	Com74	Com94	Com114	Com134	
Com15	Com35	Com55	Com75	Com95	Com115	Com135	
Com16	Com36	Com56	Com76	Com96	Com116	Com136	
Com17	Com37	Com57	Com77	Com97	Com117	Com137	
Com18	Com38	Com58	Com78	Com98	Com118	Com138	
Com19	Com39	Com59	Com79	Com99	Com119	Com139	
Com20	Com40	Com60	Com80	Com100	Com120	Com140	
•						+	
ОК	Cance		heck (Range)	to 🔁 to	256 🌩		
Select All Select None Uncheck (Range) 1 🚔 to 256 荣							

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.

N CPR Manager 4.3.0.0										
File Com Port Device Tools	Help									
Add/Remove Save Refres	р	earch For Devices 🛛 🦰 Ev	volude							
V Add/Remove m save referes v search For Devices v Exclude										
Com Ports Hide 🥃	Setting									
□ □ □ All Com Ports (1)	Com	T (New)								
Com 1 (New)	Wi	ndow's Port Name:								
	Wi	ndow's Device Name:	Com Status: Closec							
	Wi	ndow's Service Name:			Network Status: Discor					
		Listen Mode	Normal - port clo	osed after disconnect	TCP P					
		TCP KeepAlive	1000 🚊 KeepAlive							
		RFC 2217 DTR (In): (TruPort)	Ŧ							
	s t	ervice Host 1 217.169.15.184	! TCP Po 10001	WARNING firewall, th added to t	6! If the Host is on t hen UDP ports 30718, the firewall's exclusion == }					
Device List Collapse 👽										
IP Address # Ports Ti	P Port	Product	ID	HW Address	Network Interface					
217 169 15 184 1 1/	001	XPort-03/04	X5	00-20-44-BE-38-88	217 169 15 180					
<	1001	III	//3	00.20.47.01.00.00	4					
Complete!				Mod	ified					

Figure 3 Com Port Settings

🔨 CPR Manager 4.3.0.0											×
File Com Port Dev	vice To	ols Help									
🏷 Add/Remove 🛛 🕞 Sav	e 📄 Re	fresh 🖉 🔎 S	earch For Dev	vices (🔵 Excl	ude					
Com Ports Hide 🤤 Settings Com 1 Tests											
All Com Ports (1)			/Close								
Com 1			Help Close Com Status: Open								
					Networ	k Stat	us: Connected	l to 217.169.1	5.184:10001		
	R	232									
			<	IN		>	< (OUT>			
		ц.	DCD	CTS	DSR		RTS	DTR			
		Lo	• ©	\odot	\odot		\odot				
		Ro	Data 0			R	rs Hi	DTR Hi			
		Ro	EOF 0			RT	'S Lo	DTR Lo			
		•	< [4 111			F.		
	# D .	TOPP	D 1 1							N. LL.	
IP Address	# Ports	TCP Port	Product					HW Address	0.00	Network Interface	
217.169.15.184	1	10001	XPort-03/04			,	CX CX	00:20:4A:BF:3	8:88	217.169.15.180	•
Status of Com Port 1 is Or	on and C		217 160 15 10	4.10001	_	_	0-	on/Close Tee	t ic Dunning	_	
Istatus of Com Port 1 is Op	en and Ci	innected to	217.109.15.18	4:10001			ТОР	en/ciose res	t is kunning		

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 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.

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