1 What's in the shipping package?

The package includes the following items:
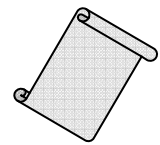
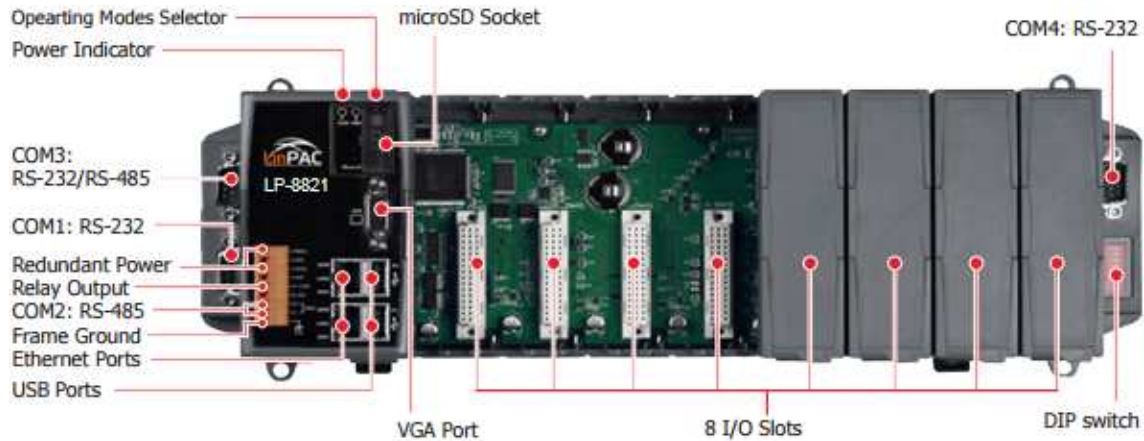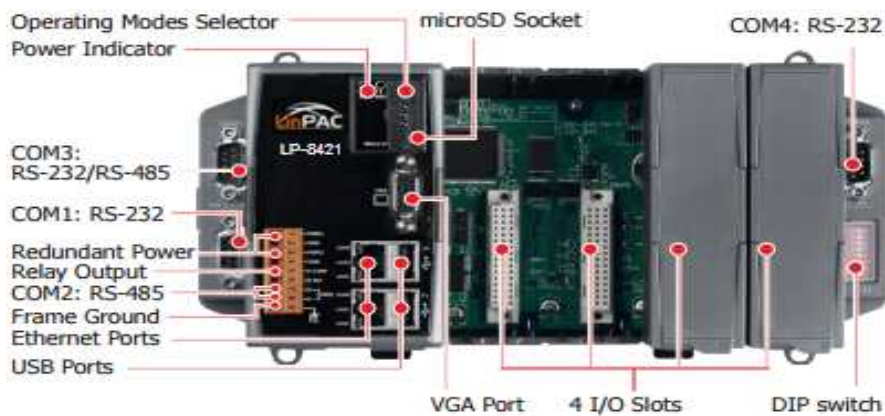|			
LP-8x21	**A microSD card and a micro SD/SD adapter**	**Software CD**	**Quick Start** (This Document)

2 Preparations for devices

1. Power Supply: **+10 ~ +30 V**DC. (Ex: DP-665)
2. Ethernet Hub. (Ex: NS-205)
3. Make sure your PC has workable serial port and network settings.
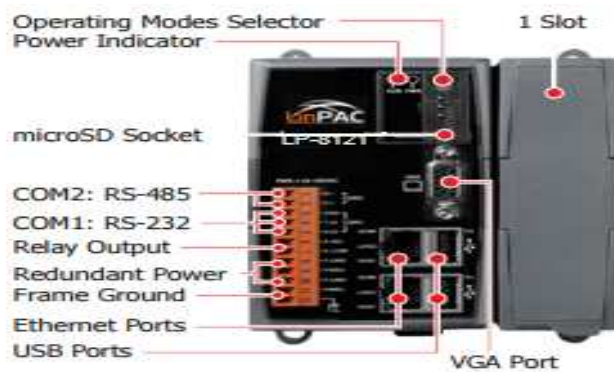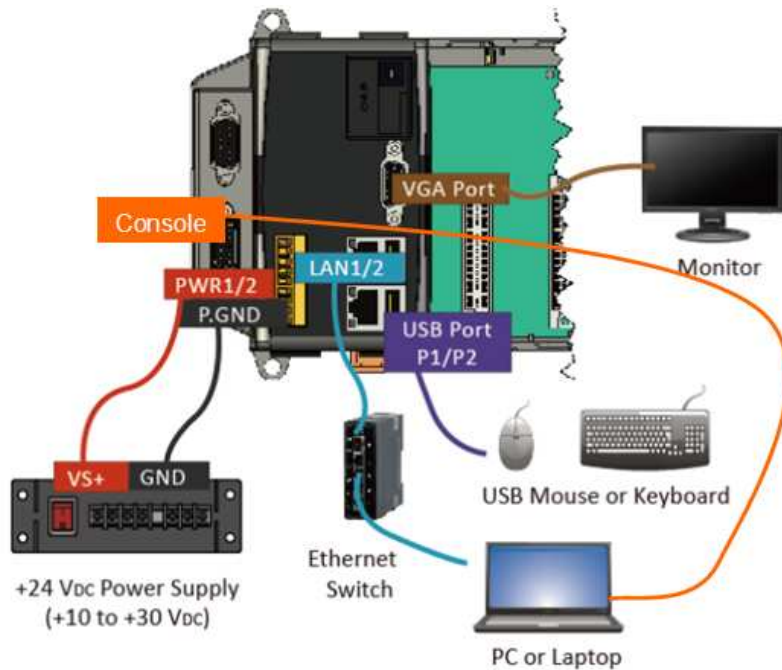
3 Hardware Introduction

LP-8821

Opearting Modes Selector
Power Indicator
microSD Socket
COM4: RS-232
COM3: RS-232/RS-485
COM1: RS-232
Redundant Power
Relay Output
COM2: RS-485
Frame Ground
Ethernet Ports
USB Ports
VGA Port
8 I/O Slots
DIP switch

LP-8421

Operating Modes Selector
Power Indicator
microSD Socket
COM4: RS-232
COM3: RS-232/RS-485
COM1: RS-232
Redundant Power
Relay Output
COM2: RS-485
Frame Ground
Ethernet Ports
USB Ports
VGA Port
4 I/O Slots
DIP switch

LP-8121

Operating Modes Selector
Power Indicator
1 Slot
microSD Socket
COM2: RS-485
COM1: RS-232
Relay Output
Redundant Power
Frame Ground
Ethernet Ports
USB Ports
VGA Port

4 Console/Ethernet Connection

1. Connect both the LP-8x21 and your computer through the "Console" or "LAN 1/2". User can choose the terminal software(ex Putty or others) to connect the LP-8x21

2. If user chose the COM1("Console"), user can set the baud rate "115200" to connect the device.

Fig 4-1 Console Connection

3. If user used the LAN 1/2, user can refer to below default network configuration, then using the terminal software(ex Putty or others) to connect the LP-8x21

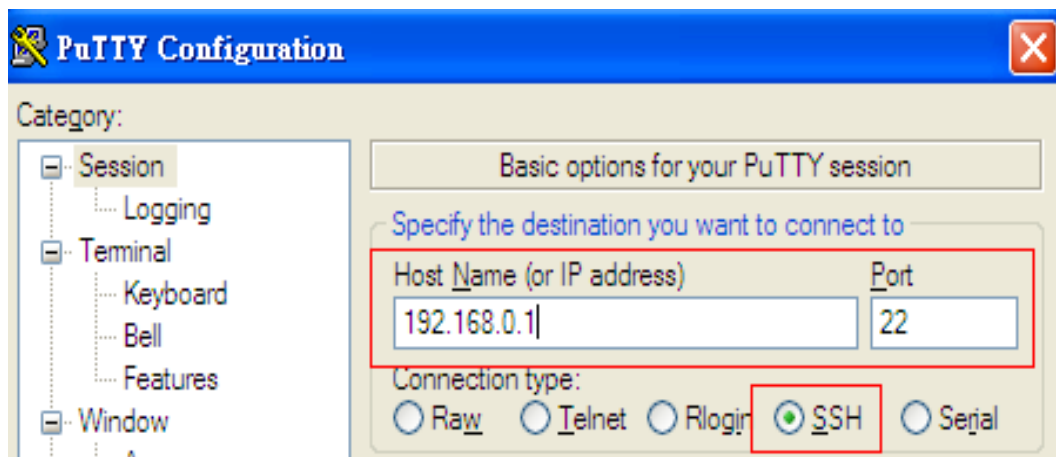|		
LAN1	**IP**	**192.168.0.1**
	Netmask	**255.255.255.0**
LAN2	**IP**	**192.168.0.2**
	Netmask	**255.255.255.0**

Fig 4-2 SSH Connection

4. After user connect to the LP-8x21, user can input default ID "root" and password "icpdas" to login.

5 Network Configuration

1. After user follow step 4 "Console/Ethernet Connection" to connect to the device bash terminal, user can change the default network setting.

2. If user want to change the network configuration, user can use the linux command "vi" to modify the configuration file "/etc/network/interfaces".

3. Using the '#' to mark the default configuration. Please refer to the Fig 5-1:

```
# interfaces(5) file used by ifup(8) and ifdown(8)

# loopback network interface
auto lo
iface lo inet loopback

# primary network interface
auto eth0 eth1
iface eth0 inet dhcp
#iface eth0 inet static
#address 192.168.0.1
#netmask 255.255.255.0

iface eth1 inet dhcp
#iface eth1 inet static
#address 192.168.0.2
#netmask 255.255.255.0
```

Fig 5-1 network configuration

4. After user save the file and reboot device, user can use the new network configuration to connect to the LP-8x21.

6 Application Support

1. Web Server

The web server daemon "apache2" has been built in the LP-8x21 and it will be started automatically at boot time.

2. Software Package Manager

The "apt-get" utility is a package manager used to download and install packages from local package repositories or ones located in the Internet.

3. XFCE GUI Desktop

LP-8x21 provides the XFCE package, after user type "root" to login, the local terminal would execute the XFCE Desktop.

7 Product Related Information

■ **LinPAC-8x21 Product Page:**

http://www.icpdas.com/root/product/solutions/pac/linpac/lp-8x21.html

■ **LinPAC-8x21 Document Download:**

http://ftp.icpdas.com/pub/cd/linpac/napdos/lp-8x2x/user_manual/

■ **LinPAC-8x21 Software Download:**

http://ftp.icpdas.com/pub/cd/linpac/napdos/lp-8x2x/sdk/

■ **NS-205 and DP-665 Product Page (optional):**
http://www.icpdas.com/products/Switch/industrial/ns-205.htm
http://www.icpdas.com/products/Accessories/power_supply/dp-665.htm