



## LP-8121/LP-8421/LP-8821

1/4/8-slot Linux Based PAC with Cortex-A8 CPU

### Features

- Cortex-A8 (1.0 GHz) CPU
- Linux kernel 3.2.14 Inside
- 512 MB RAM and 512 MB Flash
- Hard Real-Time Capability (RTC)
- 64-bit Hardware Serial Number
- 2 10/100/1000M Ethernet Ports
- Rich I/O Expansion Ability (RS-232, RS-485, USB, CAN)
- Redundant Power Input
- Operating Temperature: -25 ~ +75 °C



### Introduction

The LP-8000 is the new generation Linux-based PAC (Programmable Automation Controller) from ICP DAS and is equipped with a Cortex-A8 CPU (1.0 GHz) running a Linux kernel 3.x operation system, multiple communication interfaces (VGA, USB, Ethernet and RS-232/485) and 1/4/8 slots for high performance parallel I/O modules (high profile I-8K series) and serial I/O modules (high profile I-87K series).

Main advantage of the LP-8000 is its high quality control system, including its stably properties, open source and the standard LinPAC SDK for Windows and Linux using the GNU C language, JAVA and GUI software. The main purpose of LP-8000 is to allow the numerous enthusiastic Linux users to control their own embedded system easily within the Linux environment.

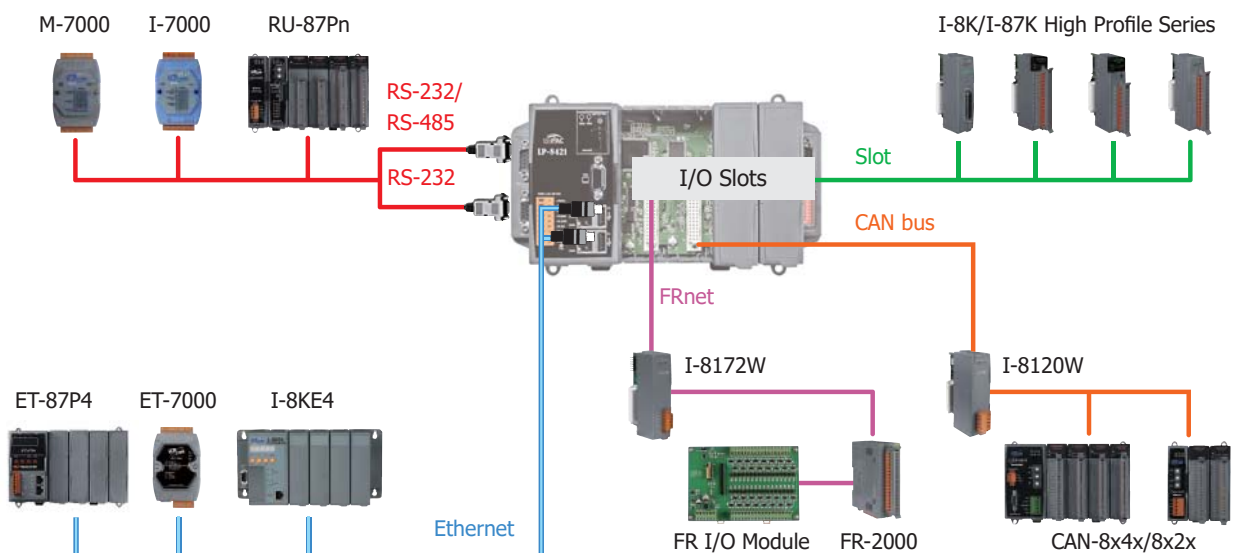
### Linux Kernel OS



Main advantage of the LP-8000 is its high quality control system, including its stably properties, open source and the standard LinPAC SDK for Windows and Linux using the GNU C language, GUI software. The main purpose of LP-8000 is to allow the numerous enthusiastic Linux users to control their own embedded system easily within the Linux environment.

- LinPAC SDK for Windows and Linux
- Support for GNU C Language
- Support for GUI: Using GTK + Library
- Support for USB to Serial Converter
- Support for DCON, Modbus and SNMP Protocols

### Applications

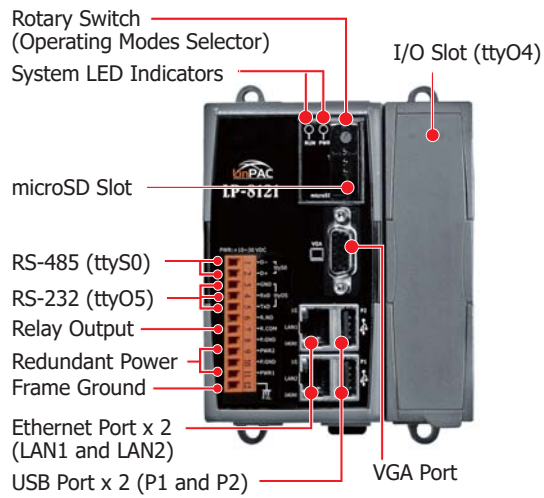


## Specifications

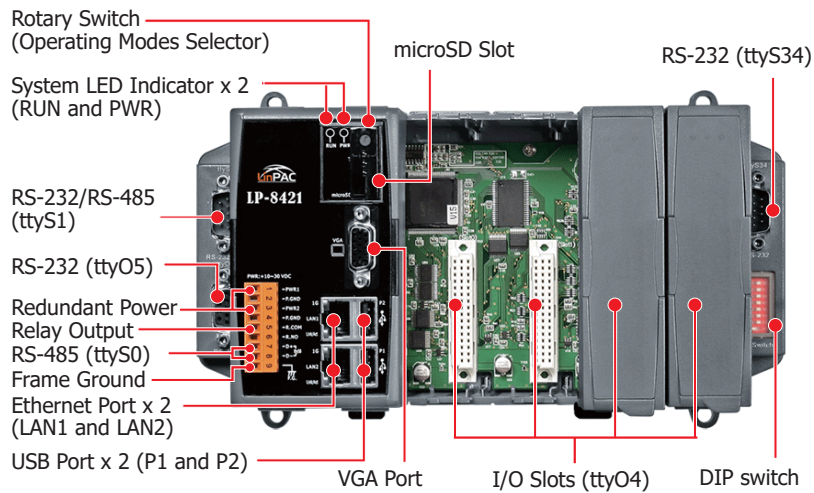
Model	LP-8121	LP-8421	LP-8821
<b>System Software</b>			
OS	Linux kernel 3.2.14 Inside		
Embedded Service	FTP server, Web server (supports VB script, JAVA script), Embedded SQL server		
SDK	Standard LinPAC SDK for Windows and Linux by GNU C language		
<b>Main Unit</b>			
CPU	Cortex-A8 (1.0 GHz) CPU		
SDRAM	512 MB DDR3		
MRAM	128 KB		
EEPROM	16 KB (Data Retention: 40 years; 1,000,000 erase/write cycles)		
Flash	512 MB		
Storage	microSD socket with a 4 GB microSD card (support up to 32 GB microSDHC card)		
RTC (Real Time Clock)	Provide second, minute, hour, date, day of week, month, year		
64-bit Hardware Serial Number	Yes, for Software Copy Protection		
Watchdog Timer	Dual Watchdog Timers		
<b>HMI</b>			
Rotary Switch	Yes (0 ~ 9)		
DIP Switch	Yes (8 bits)		
LED Indicator	1 x Power, 1 x Run (Programmable)		
<b>Display</b>			
VGA	1 (Analog RGB), Resolution: Up to 1280 x 1024		
<b>I/O Expansion</b>			
I/O Type	I-8K, I-87K series		
Slots	1	4	8
<b>Communication Ports</b>			
Ethernet	2 x RJ-45, 10/100/1000M Base-TX (Auto-negotiating, Auto MDI/MDI-X, LED indicators)		
USB	2 x USB 2.0		
ttyO4	Internal communication with the I-87K series modules in slots		
ttyO5 (Console Port)	RS-232 (Rx/D, Tx/D and GND); Non-isolation		
ttyS0	RS-485 (Data+, Data-);self-tuner ASIC inside; 3000 VDC isolated		
ttyS1	-	RS-232/485 (Rx/D, Tx/D, CTS, RTS and GND for RS-232; Data+, Data- for RS-485); Non-isolation	
ttyS34	-	RS-232 (RX/D, TX/D, CTS, RTS, DSR, DTR, CD, RI and GND); Non-isolation	
<b>Mechanical</b>			
Dimensions (W x L x H)	95 mm x 132 mm x 111 mm	231 mm x 132 mm x 111 mm	355 mm x 132 mm x 111 mm
Installation	DIN-Rail Mounting/Wall Mounting		
<b>Environmental</b>			
Operating Temperature	-25 ~ +75 °C		
Storage Temperature	-30 ~ +80 °C		
Ambient Relative Humidity	10 ~ 95 % RH (non-condensing)		
<b>Power</b>			
Input Range	+10 ~ 30 VDC (1 kV Isolated)		
Redundant Power Input	Yes, with one power relay (1A @ 24 VDC) for alarm		
Consumption	7.3 W (0.3 A @ 24 VDC)	9.1 W (0.38 A @ 24 VDC)	9.6 W (0.4 A @ 24 VDC)

## Appearance

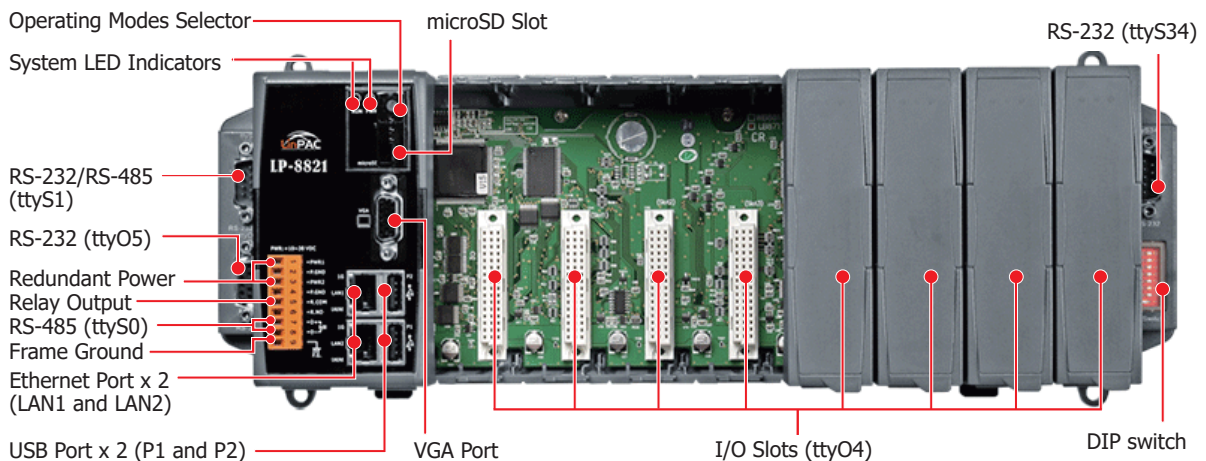
### LP-8121



### LP-8421

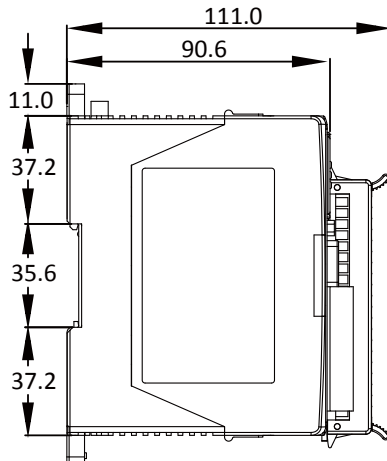


### LP-8821



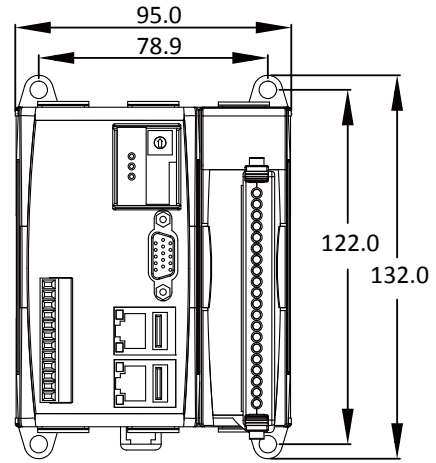
## ■ Dimensions (Units: mm)

LP-8121/LP-8421/LP-8821



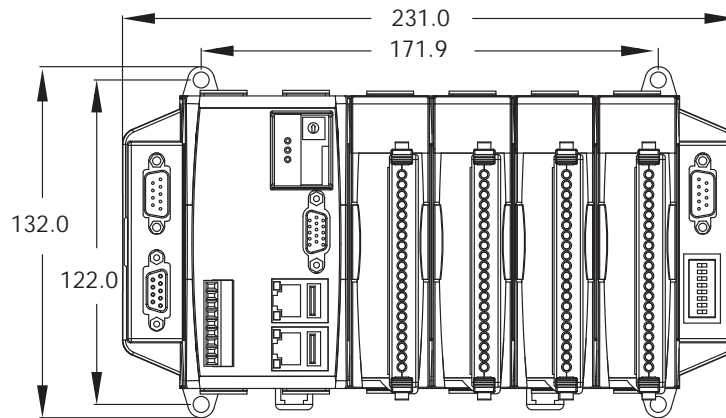
Left Side View

LP-8121



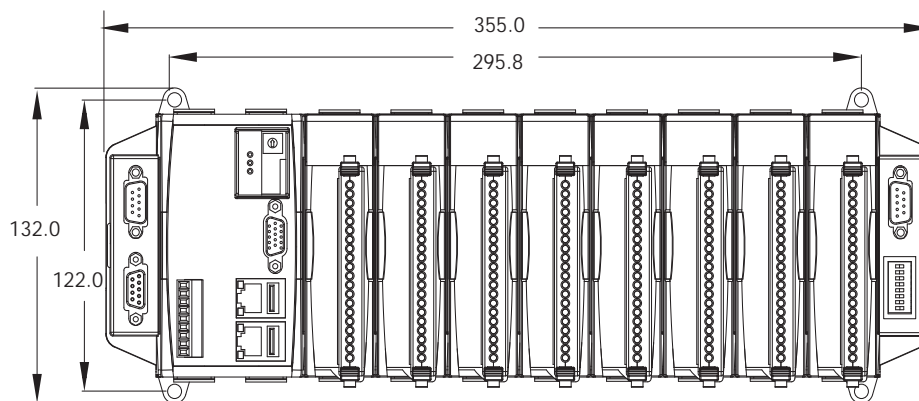
Front View

LP-8421



Front View

LP-8821



Front View

## ■ Ordering Information

<b>LP-8121 CR</b>	1-slot Linux Based PAC with Cortex-A8 CPU (RoHS)
<b>LP-8421 CR</b>	4-slot Linux Based PAC with Cortex-A8 CPU (RoHS)
<b>LP-8821 CR</b>	8-slot Linux Based PAC with Cortex-A8 CPU (RoHS)