



### Highlight Information

- Linux kernel 2.6.19 Inside
- Embedded Service: Web Server, FTP Server, Telnet Server, SSH Server
- Power PXA270 CPU: 32-bit & 520 MHz
- 64 MB Flash, 128 MB SDRAM
- Built-in Ethernet, USB, RS-232, RS-485 Ports
- Built-in 800 × 600 VGA Port
- Built-in Audio with Microphone-In and Earphone-Out (for LP-53/54x1)
- I/O Expansion Board Optional
- Operating Temperature: -25 ~ +75 °C



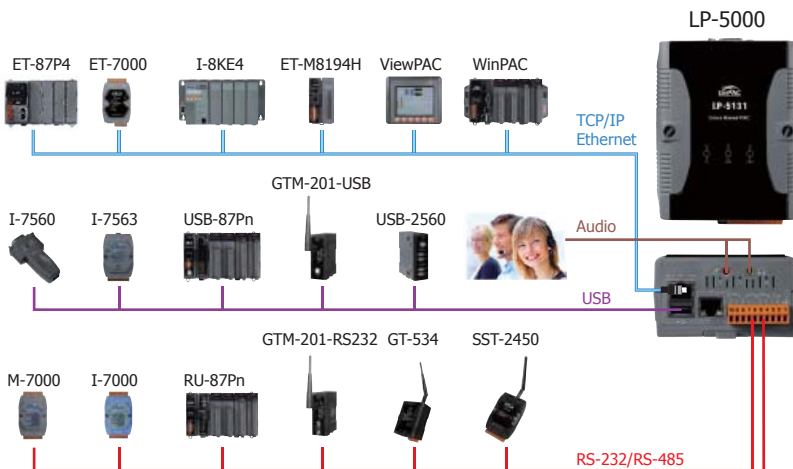
### Introduction

The LinPAC-5000 is the new generation of Linux-based PACs from ICP DAS and is equipped with a PXA270 CPU (520 MHz) running a Linux kernel 2.6.19 operating system, multiple communication interfaces (VGA, USB, Ethernet, RS-232/485 and audio ports) and contains an optional I/O expansion board that can be used for implementing various I/O functions, such as DI, DO, A/D, D/A, Timer/Counter, UART, flash memory, or battery backup SRAM, etc.

Main advantage of the LinPAC-5000 is its high quality control system, including its stability, small core size, optional I/O expansion board, support for Web services (Web/FTP/Telnet/SSH server), and multiple development environments (LinPAC SDK for Linux and Windows environment using the GNU C language, JAVA and GUI software), etc., all of which give users the best features of both traditional PLCs and Linux capable PCs, meaning that it is one of the most powerful and flexible embedded control systems available.

### Applications

#### Field Bus I/O Expansion



### Features

#### Software

- OS: Linux kernel 2.6.19 Inside
- Development Environment
  - Provide LinPAC SDK for Windows and Linux Environment
  - Support for GNU C Language
  - Support for JAVA: JVM, JIOD (Java I/O Driver)
  - Support for GUI: Using GTK + Library
- Built-in Server
  - Web Server, FTP Server, Telnet Server, SSH Server
- Supported Communication
  - Wireless LAN, PPP over Modem, GPRS, Ethernet
  - VxComm
  - Expansion Serial Ports
  - USB to Serial Converter
  - DCON, Modbus and SNMP Protocols
- Security:
  - Firewall, NAT, Unique Serial Number, VPN

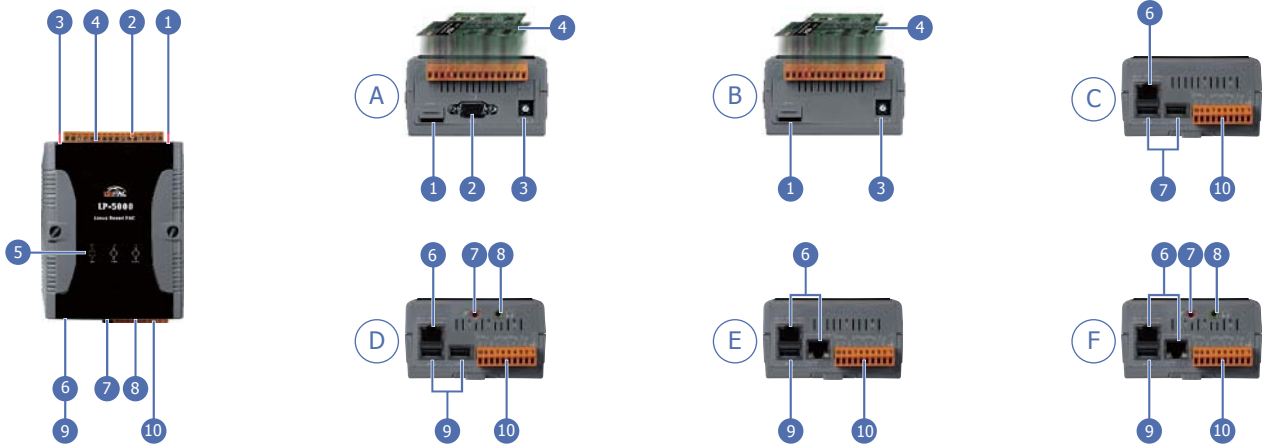
#### Hardware

- PXA270 CPU (32-bit & 520 MHz)
- 128 MB SDRAM & 64 MB Flash
- Built-in 800 × 600 VGA Port
- 64-bit Hardware Serial Number for Software Protection
- Built-in Ethernet, USB, RS-232, RS-485 Ports
- Built-in Audio with Microphone-In and Earphone-Out (for LP-53/54x1)
- Rich I/O Expansion Ability
- I/O Expansion Board Optional
- Operating Temperature: -25 ~ +75 °C

## Specifications

Models	LP-5131	LP-5331	LP-5431	LP-5141	LP-5341	LP-5441
<b>System Software</b>						
OS	Linux kernel 2.6.19					
Embedded Service	Web Server, FTP Server, Telnet Server, SSH Server					
SDK Provided	Standard LinPAC SDK for Windows and Linux by GNU C language					
<b>CPU Module</b>						
CPU	PXA270 or compatible (32-bit and 520 MHz)					
SDRAM	128 MB					
NVRAM	31 Byte (Battery backup, data valid up to 10 years)					
Flash	64 MB					
EEPROM	16 KB Data Retention: 40 years; 1,000,000 erase/write cycles					
Expansion Flash Memory	microSD socket with one 2 GB microSD card (support up to 16 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					
Dual Watchdog Timers	Yes					
LED Indicator	3 Dual-Color LEDs (PWR, RUN, L1 ~ L4; RUN, L1 ~ L4 for user programmable)					
Rotary Switch	Yes (0 ~ 9)					
<b>VGA &amp; Communication Ports</b>						
VGA	Yes 800 × 600	-	Yes 800 × 600	Yes 800 × 600	-	Yes 800 × 600
Ethernet	RJ-45 x 1, 10/100 Base-TX (Auto-negotiating, Auto MDI/MDI-X, LED indicators)			RJ-45 x 2, 10/100 Base-TX (Auto-negotiating, Auto MDI/MDI-X, LED indicators)		
USB 1.1 (host)	2			1		
Audio Port (Microphone-In and Earphone-Out)	-	1	1	-	1	1
COM 1	RS-232 (Rx/D, Tx/D and GND); Non-isolated					
COM 2	RS-485 (D2+, D2-); 2500 V <sub>DC</sub> ; isolated					
COM 3	RS-232 (Rx/D, Tx/D and GND); Non-isolated					
<b>I/O Expansion</b>						
I/O Expansion Bus	I/O expansion board optional					
<b>Mechanical</b>						
Dimensions (W x L x H)	91 mm x 132 mm x 52 mm					
Installation	DIN-Rail					
<b>Environmental</b>						
Operating Temperature	-25 ~ +75 °C					
Storage Temperature	-30 ~ +80 °C					
Ambient Relative Humidity	10 ~ 90% RH (non-condensing)					
<b>Power</b>						
Input Range	+10 ~ +30 V <sub>DC</sub>					
Isolation	1 kV					
Consumption	4.8 W (0.2 A @ 24 V <sub>DC</sub> )	6 W (0.25 A @ 24 V <sub>DC</sub> )	6 W (0.25 A @ 24 V <sub>DC</sub> )	4.8 W (0.2 A @ 24 V <sub>DC</sub> )	6 W (0.25 A @ 24 V <sub>DC</sub> )	6 W (0.25 A @ 24 V <sub>DC</sub> )

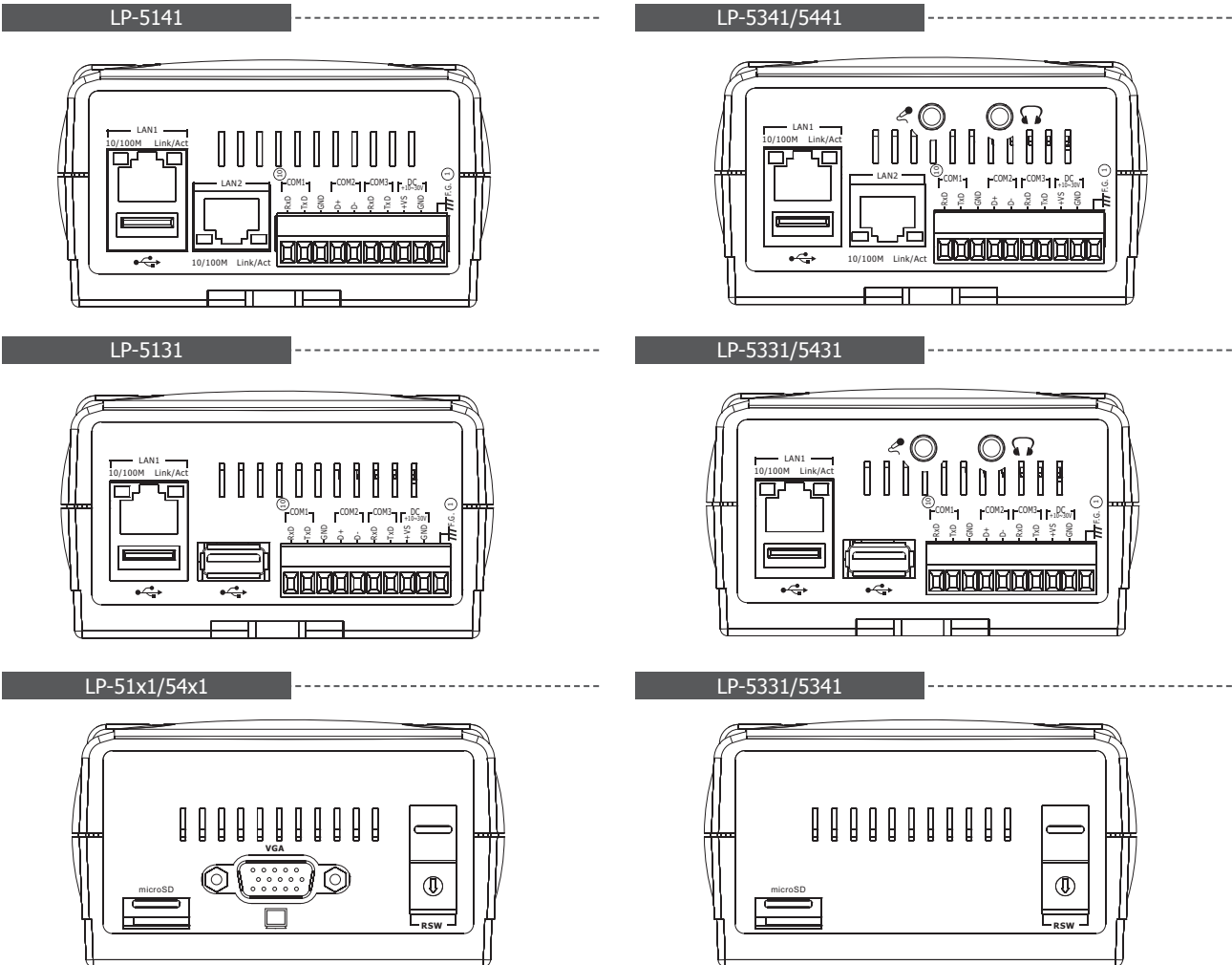
### Appearance



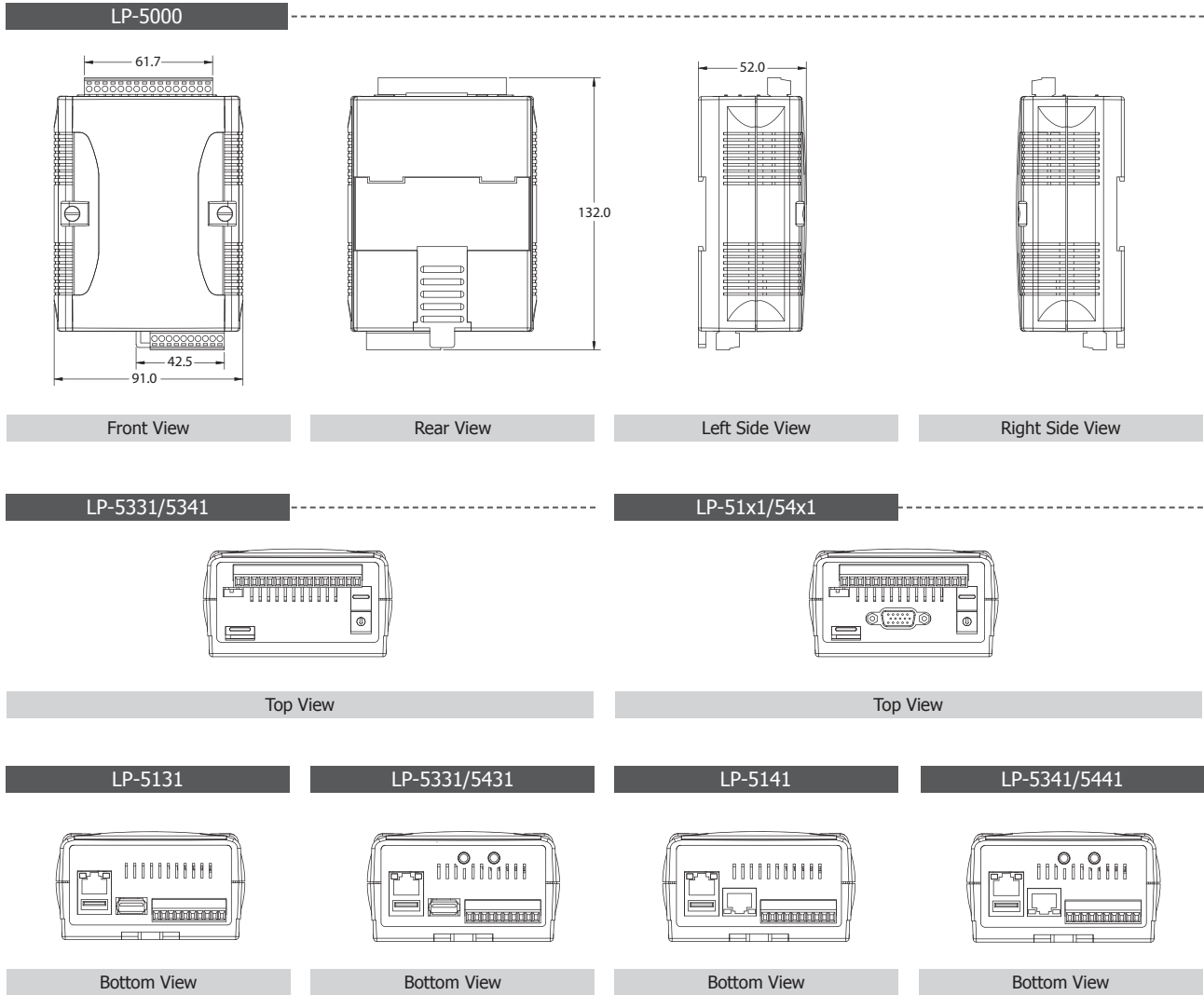
1	microSD Socket	2	VGA Port	3	Operating Modes Selector
4	XW-Board ( optional)	5	LED Indicator	6	Ethernet Port
7	Microphone-In	8	Earphone-Out	9	USB Port
10	COM Port				

LP-5131	Include: A, C	LP-5331	Include: B, D	LP-5431	Include: A, D
LP-5141	Include: A, E	LP-5341	Include: B, F	LP-5441	Include: A, F

### Pin Assignments



## ▣ Dimensions (Units: mm)



## ▣ Ordering Information

LP-5131-EN CR	Standard LinPAC-5000 with 800 × 600 VGA port (English Version of OS) (RoHS)
LP-5331-EN CR	Standard LinPAC-5000 with audio port (English Version of OS) (RoHS)
LP-5431-EN CR	Standard LinPAC-5000 with 800 × 600 VGA port and audio port (English Version of OS) (RoHS)
LP-5141-EN CR	Standard LinPAC-5000 with 800 × 600 VGA port (English Version of OS) (RoHS)
LP-5341-EN CR	Standard LinPAC-5000 with audio port (English Version of OS) (RoHS)
LP-5441-EN CR	Standard LinPAC-5000 with 800 × 600 VGA port and audio port (English Version of OS) (RoHS)

## ▣ Accessories

DP-660	24 V <sub>dc</sub> /2.5 A, 60 W and 5 V <sub>dc</sub> /0.5 A, 2.5 W Power Supply with DIN-Rail Mounting
DP-1200 CR	24 V <sub>dc</sub> /5.0 A, 120 W Power Supply with DIN-Rail Mounting (RoHS)
MDR-20-24 CR	24 V <sub>dc</sub> /5.0 A, 120 W Power Supply with DIN-Rail Mounting (RoHS)
MDR-60-24 CR	24 V <sub>dc</sub> /2.5 A, 60 W Power Supply with DIN-Rail Mounting (RoHS)