



LP-8141-G



LP-8441-G

LP-8841-G



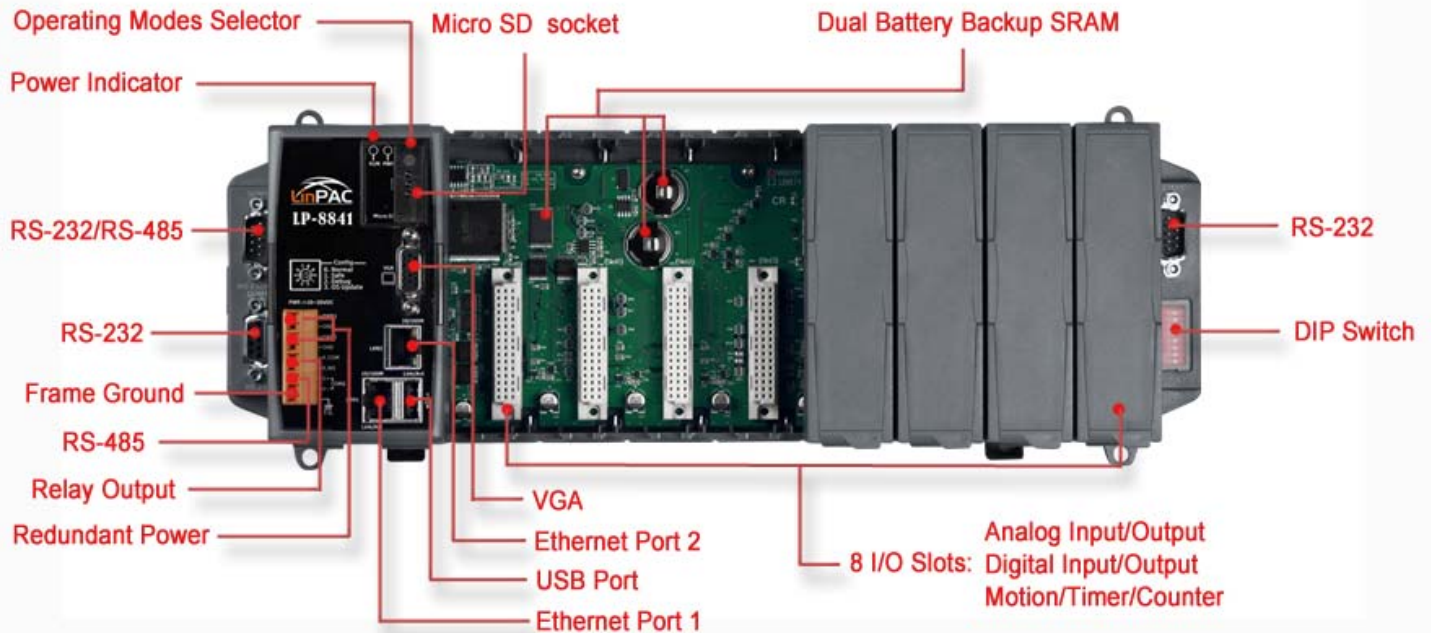
- Linux kernel 2.6.19 inside
- Embedded service:
Web Server,
FTP Server, Telnet Server,
SSH Server
- Power PXA270 CPU:
32-bit & 520MHz
- LP-8141-G: 1 Slot
LP-8441-G: 4 Slots
LP-8841-G: 8 Slots
- 128MB SDRAM
- 48MB Flash
- With Dual Ethernet, VGA,
USB, RS-232/485 ports
- Dual battery backup SRAM
- Redundant power inputs
- -25°C ~ +75°C Operating
Range



LinPAC-8141/8441/8841 is the new generation Linux based PAC (Programmable Automation Controller) of ICP DAS. They equip a PXA270 CPU (520MHz) running a Linux kernel 2.6.19 Operating System, variant connectivity (VGA, USB, Ethernet, RS-232/485) and 1/4/8 slots for high performance parallel I/O modules (high profile I-8K series) and serial-type I/O modules (high profile I-87K I/O modules).

The LP-8141, LP-8441 and LP-8841 have many advantages, including the stably properties, open source and the standard LinPAC SDK for Windows and Linux by GNU C language.

The main purpose of LinPAC-8000 is to allow the numerous enthusiastic Linux users to control their own embedded system easily within the Linux Environment.



Hardware Features:

- **Powerful CPU Module**
 - ☑ PXA270 CPU: 32-bit & 520MHz
 - ☑ 128MB SDRAM
- **Built-in VGA Port**
- **64-bit Hardware Serial Number**
 - ☑ Protecting software & applications
- **Rich I/O Expansion Ability**
 - ☑ RS-232/485
 - ☑ Ethernet
 - ☑ FRnet
 - ☑ CAN
- **I/O module hot swap ability**
 - ☑ Plug & play
- **Dual Watchdog timers increase reliability**
 - ☑ OS watchdog
 - ☑ AP watchdog
- **Dual battery-backup SRAM (512Kbytes)**
 - ☑ Retain the data for 10 years while power off
 - ☑ Avoid data lost while replacing a new battery
- **Dual Ethernet ports**
 - ☑ Redundant Ethernet communication
 - ☑ Global Internet / private Ethernet separate system
- **Redundant Power Inputs**
 - ☑ Prevent from failing by the power loss
- **Ventilated Housing Design Allows Operation Between -25°C ~ +75°C**



Software Features:

- **OS: Linux kernel 2.6.19**
 - ☑ Open source
- **Development**
 - ☑ Provide LinPAC SDK
 - ☑ Support GNU C Language
 - ☑ Support JAVA: JVM, JIOD (Java I/O Driver)
 - ☑ Support GUI: using GTK+ library
- **Supported Server**
 - ☑ Web server
 - ☑ FTP server, Telnet server
 - ☑ SSH server
- **Supported Communication**
 - ☑ Wireless LAN, PPP over Modem, GPRS, Ethernet, Dual LAN
 - ☑ VxComm:
 - ☑ Expansion serial ports
 - ☑ Support USB to Serial Converter
- **Supported Protocol**
 - ☑ CAN Bus Network protocol
 - ☑ Industrial Modbus TCP/RTU protocol
- **Security**
 - ☑ Firewall, NAT
 - ☑ Unique Serial Number
 - ☑ VPN
- **Interpret**
 - ☑ Perl, PHP
- **Built-in video program support USB WebCam**

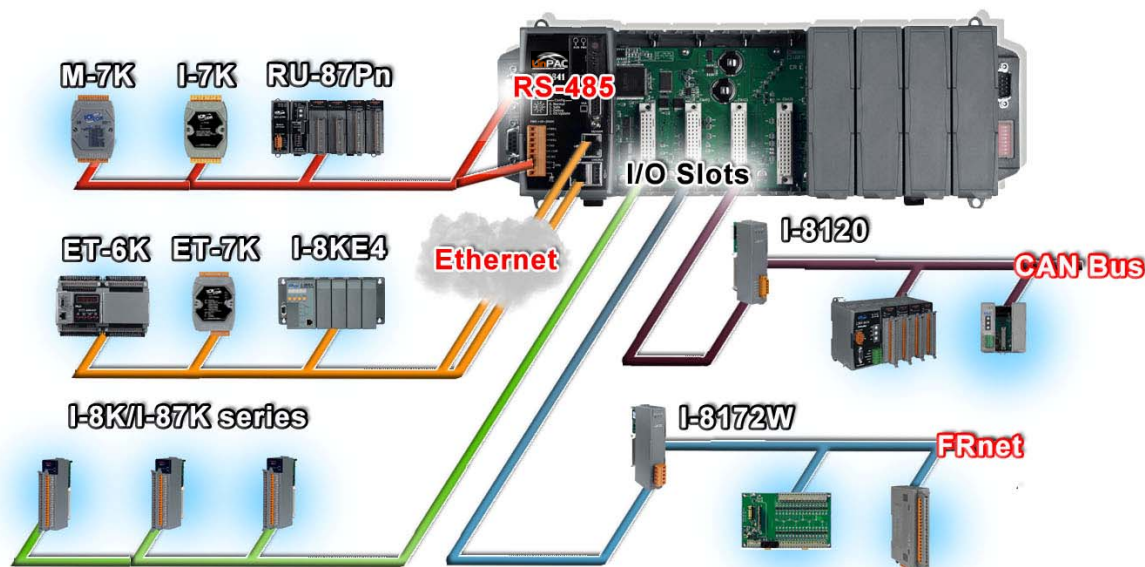
● Field Bus I/O Expansion

Remote I/O applications:

RS-485: I-7K / M-7K series / RU-87Pn + high profile I-87K series
Ethernet: ET-6K / ET-7K / I-8KE4 series

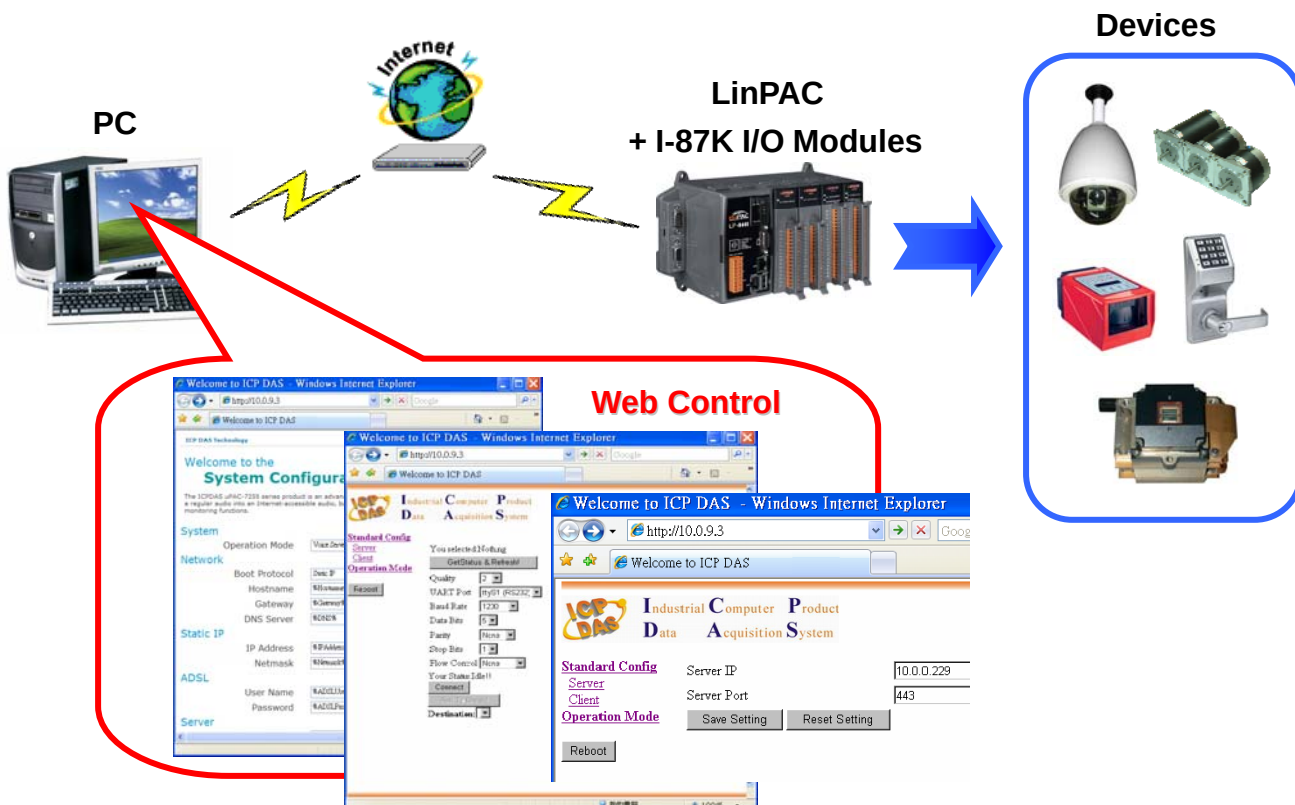
Local I/O slots applications:

High profile I-8K/I-87K series
High profile I-8172W + FRnet I/O series
High profile I-8120 + CAN bus I/O series



● Web Enabled

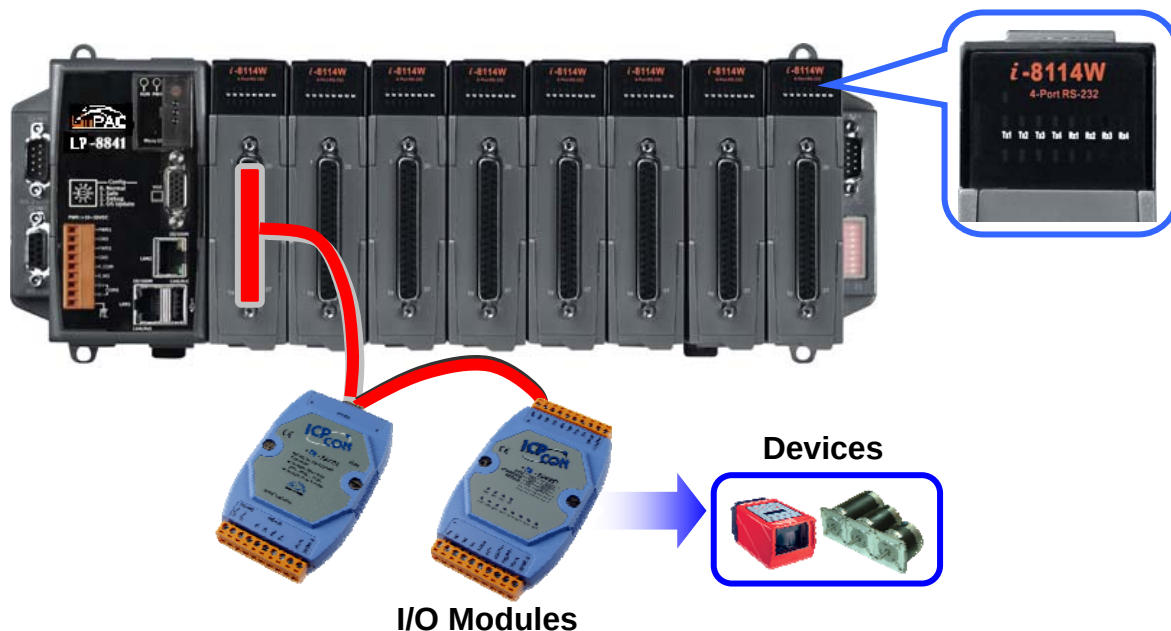
LinPAC is built-in a Web Server that users can develop web control applications to configure the system and control/monitor I/O modules from remote PC.



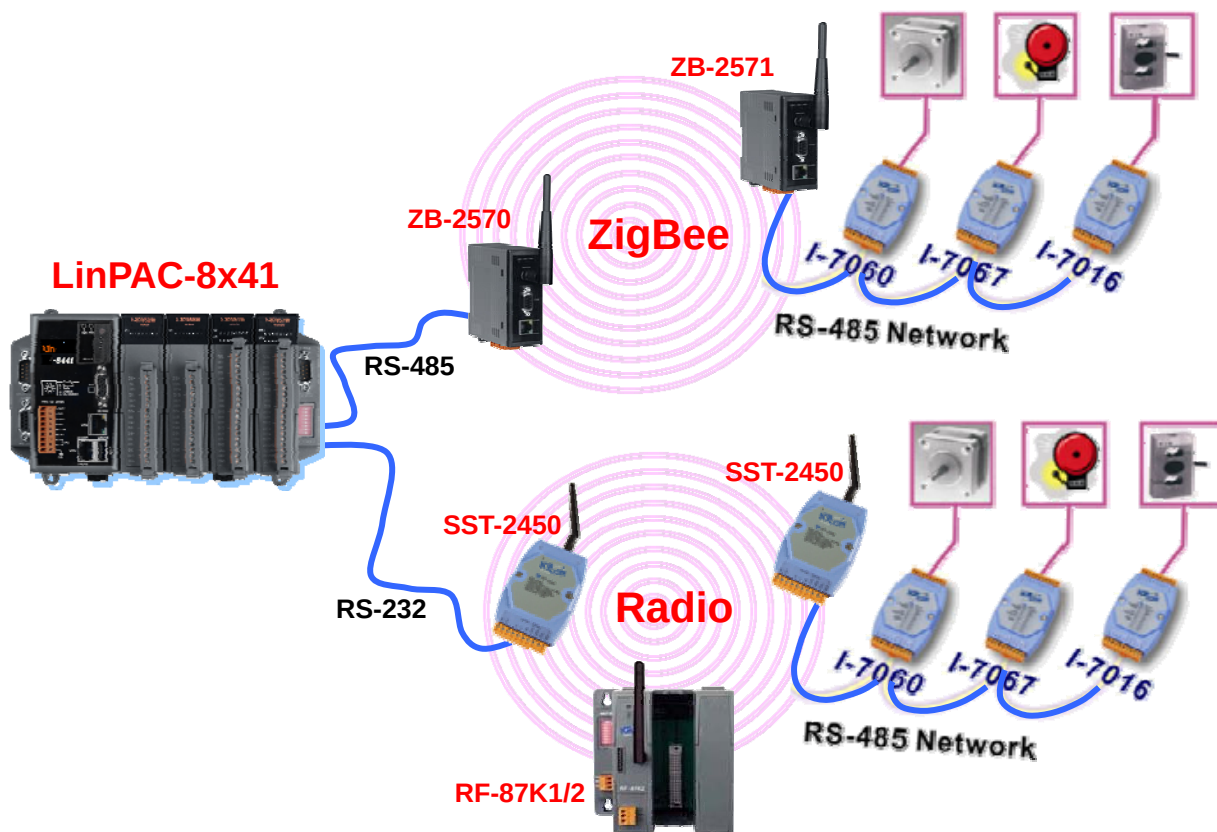
● Multi-Serial Ports

The I-8114W and I-8112W modules provide multiple serial ports respectively. Users can insert them into the LinPAC-8000 slots to increase the serial ports.

The LinPAC-8000 is a multi-tasking unit, therefore users can control all the serial ports simultaneously.



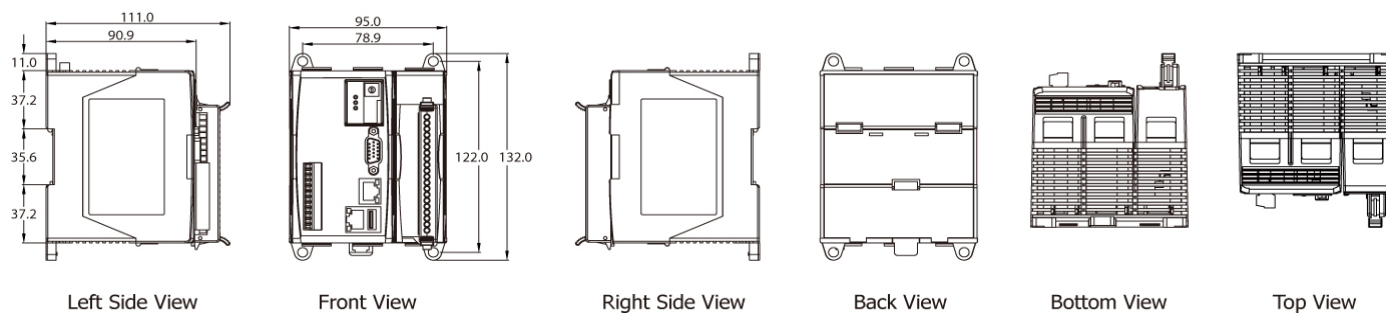
● Wireless Communication



Models		LP-8141	LP-8441	LP-8841
System Software				
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		
CPU Module				
CPU		PXA270 or compatible (32-bit and 520MHz)		
SDRAM		128MB		
Dual Battery Backup SRAM		512 Kbytes (for 5 years data retain)		
Flash		48MB		
EEPROM		16 Kbytes Data Retention: 40 years; 1,000,000 erase/write cycles		
Expansion Flash Memory		microSD socket with one 1GB microSD card (can support 8 GB microSDHC card)		
RTC (real time clock)		Provide seconds, minutes, hours, date of the month; month, year, valid up from 1980 to 2079		
64-bit Hardware Serial Number		Yes		
Dual Watchdog Timer		Yes		
Programmable LED indicator		1		
Rotary Switch		Yes (0~9)		
DIP Switch		–	Yes (8 bits)	Yes (8 bits)
VGA & Communication Ports				
VGA		1 (800 x 600 resolution)		
Ethernet Port		RJ-45 x 2, 10/100Base-TX Ethernet Controller (Auto-negotiating, auto MDIX/MDI-X, LED indicator)		
USB 1.1 (host)		1		
COM 0		Internal communication with the 87K modules in slots		
COM 1		RS-232 (to update firmware) (RXD, TXD, and GND); Non-isolation		
COM 2	RS-485	D2+,D2-;self-tuner ASIC inside		
	Isolation	2500V _{DC}	3000V _{DC}	3000V _{DC}
COM 3		–	RS-232/RS-485 (RXD, TXD, CTS, RTS and GND for RS-232, Data+ and Data- for RS-485); Non-isolation;	
COM 4		–	RS-232 (RXD, TXD, CTS, RTS, DSR, DTR, CD, RI and GND); Non-isolation;	
I/O expansion slots (Supports high profile I-8K and I-87K modules only)				
Slot numbers		1 slot	4 slots	8 slots
Hot Plug *Will be available		I/O Module Hot Swap Ability (For high profile I-87K modules only)		
Mechanical				
Dimensions(W x L x H, Unit: mm)		95 x 132 x 111	231 x 132 x 111	355 x 132 x 111
Installation		DIN-Rail or Wall Mounting		
Operating Environment				
Operating Temperature		-25°C ~ +75°C		
Storage Temperature		-30°C ~ +85°C		
Humidity		5% ~ 90% RH, non-condensing		
Power				
Input Range		+10 V _{DC} ~ +30 V _{DC}		
Isolation		1kV		
Redundant Power Inputs		Yes, with one power relay (1 A @ 24 V _{DC}) for alarm		
Capacity		1.0A, 5V supply to CPU and backplane; 0.6A, 5V supply to expansion slots, total 8W	1.1A, 5V supply to CPU and backplane; 4.9A, 5V supply to expansion slots, total 30W	1.2A, 5V supply to CPU and backplane; 4.8A, 5V supply to expansion slots, total 30W
Consumption		7.3W (0.3A@24 V _{DC})	9.1W (0.38A@24 V _{DC})	9.6W (0.4A@24 V _{DC})

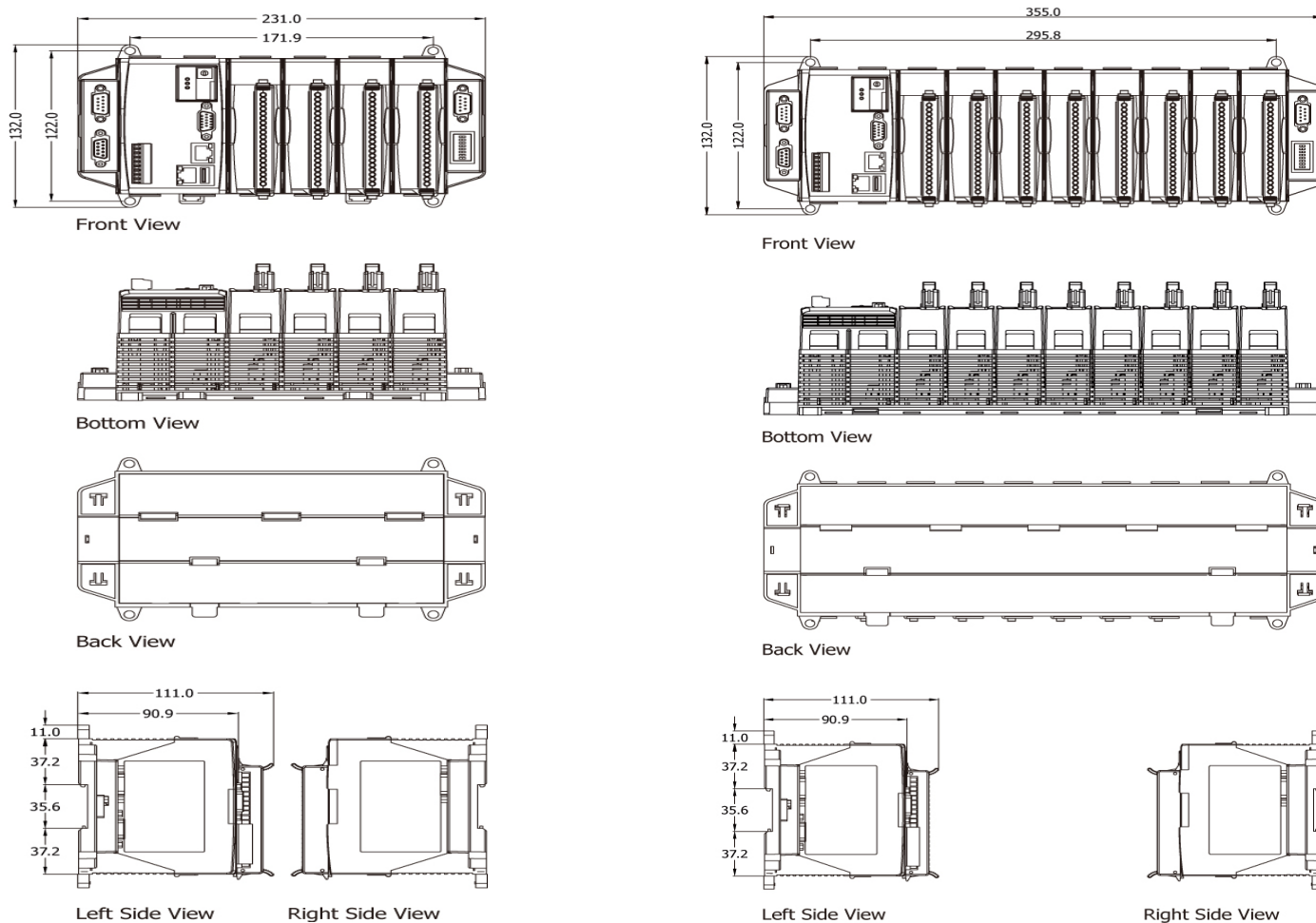
● Mechanical Drawing

LP- 8141



LP- 8441

LP- 8841



Ordering Information

LP-8141-EN	Standard LinPAC-8000 with 1 I/O slot
LP-8441-EN	Standard LinPAC-8000 with 4 I/O slots
LP-8841-EN	Standard LinPAC-8000 with 8 I/O slots

Optional Accessories

DP-665	AC 85~270V input, DC 24V/1.7A and 5V/0.5A output power supply
DP-1200	AC 85~270V input, DC 24V/5.0A output power supply
MDR-20-24	24V/1.0A, 24W Power Supply with DIN-Rail Mounting
MDR-60-24	24V/2.5A, 60W Power Supply with DIN-Rail Mounting