



LP-8141-G



LP-8441-G

LP-8841-G



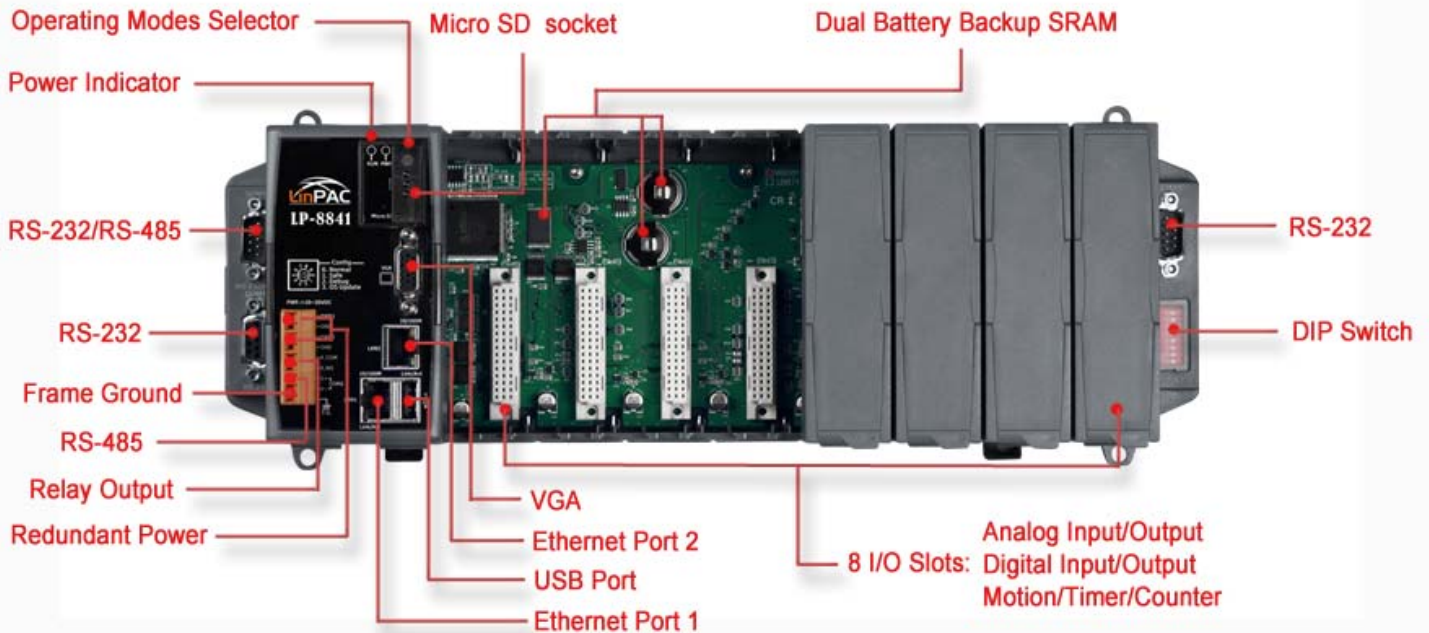
- Linux kernel 2.6.19 inside
- Embedded service:  
Web Server,  
FTP Server, Telnet Server,  
SSH Server
- Power PXA270 CPU:  
32-bit & 520MHz
- LP-8141-G: 1 Slot  
LP-8441-G: 4 Slots  
LP-8841-G: 8 Slots
- 128MB SDRAM
- 48MB Flash
- With Dual Ethernet, VGA,  
USB, RS-232/485 ports
- Dual battery backup 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**

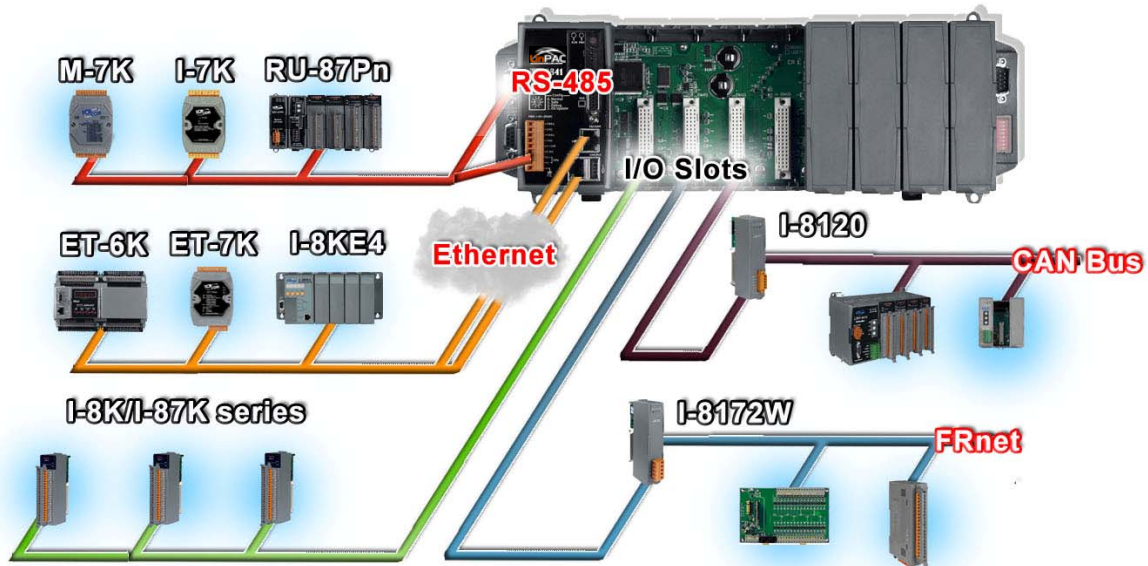
## ● **Field Bus I/O Expansion**

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

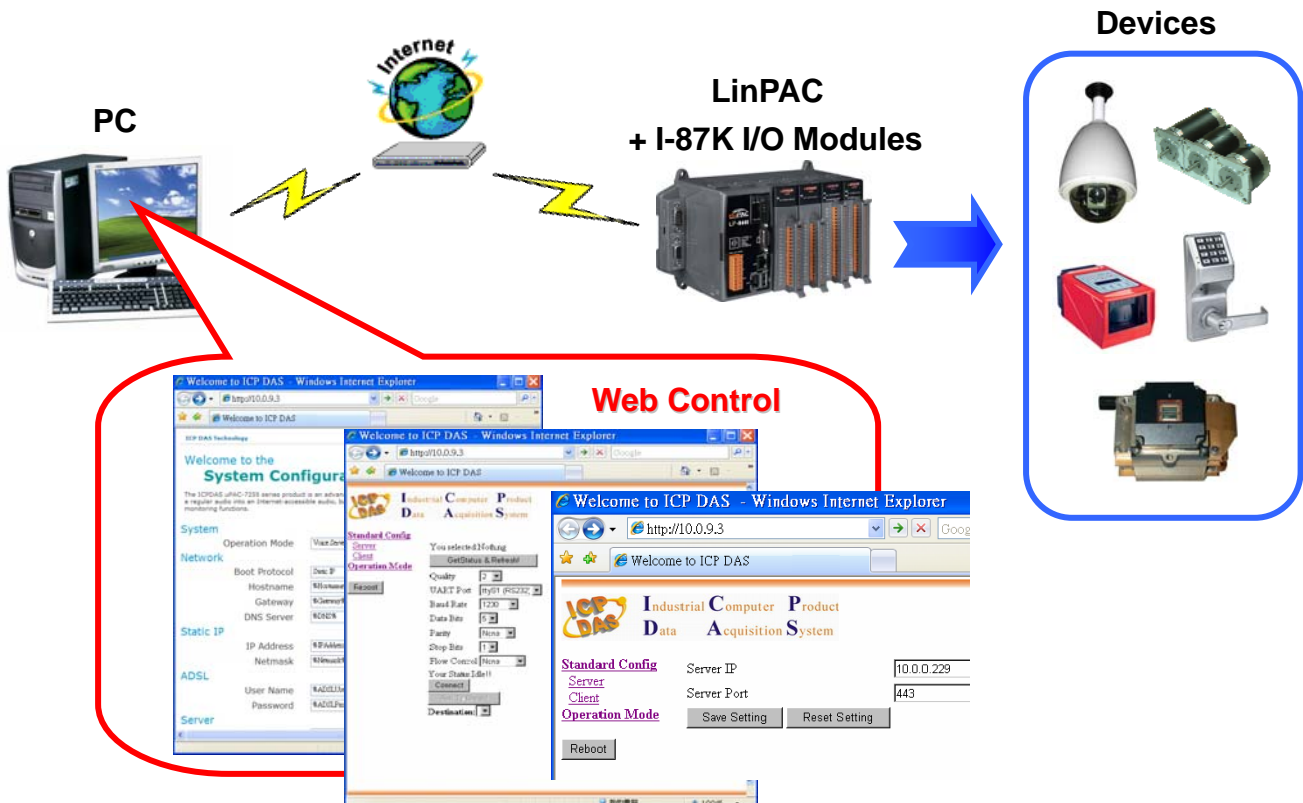
Local I/O slots applications:

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**

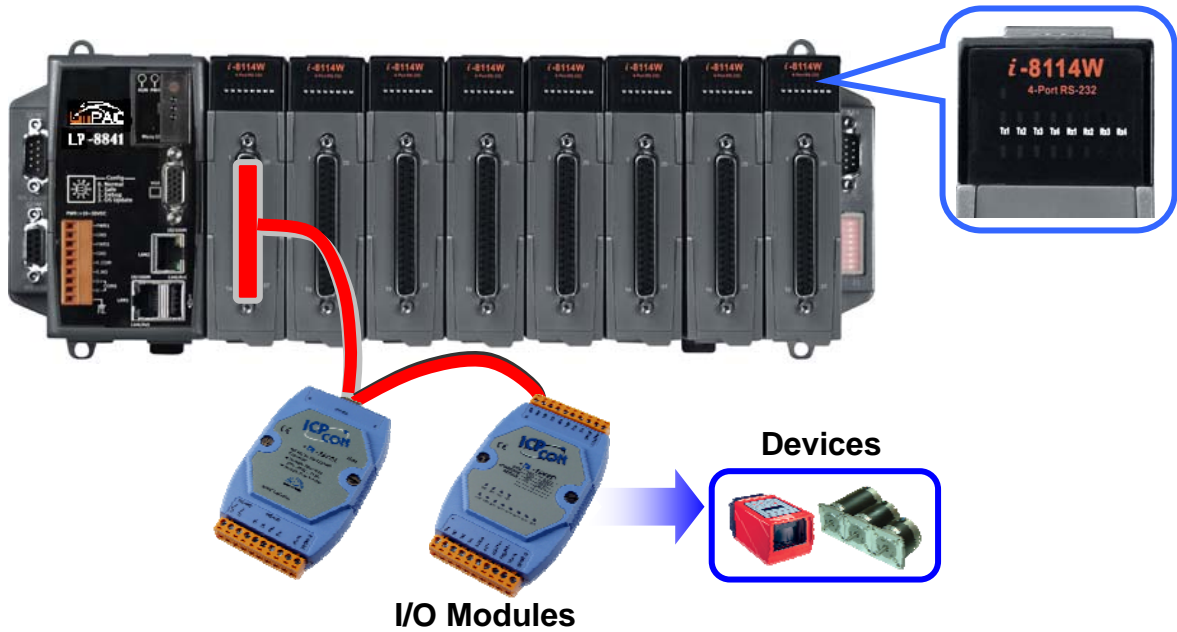
LinPAC is built-in a Web Server that users can develop web control applications to configure the system and control/monitor I/O modules from remote PC.



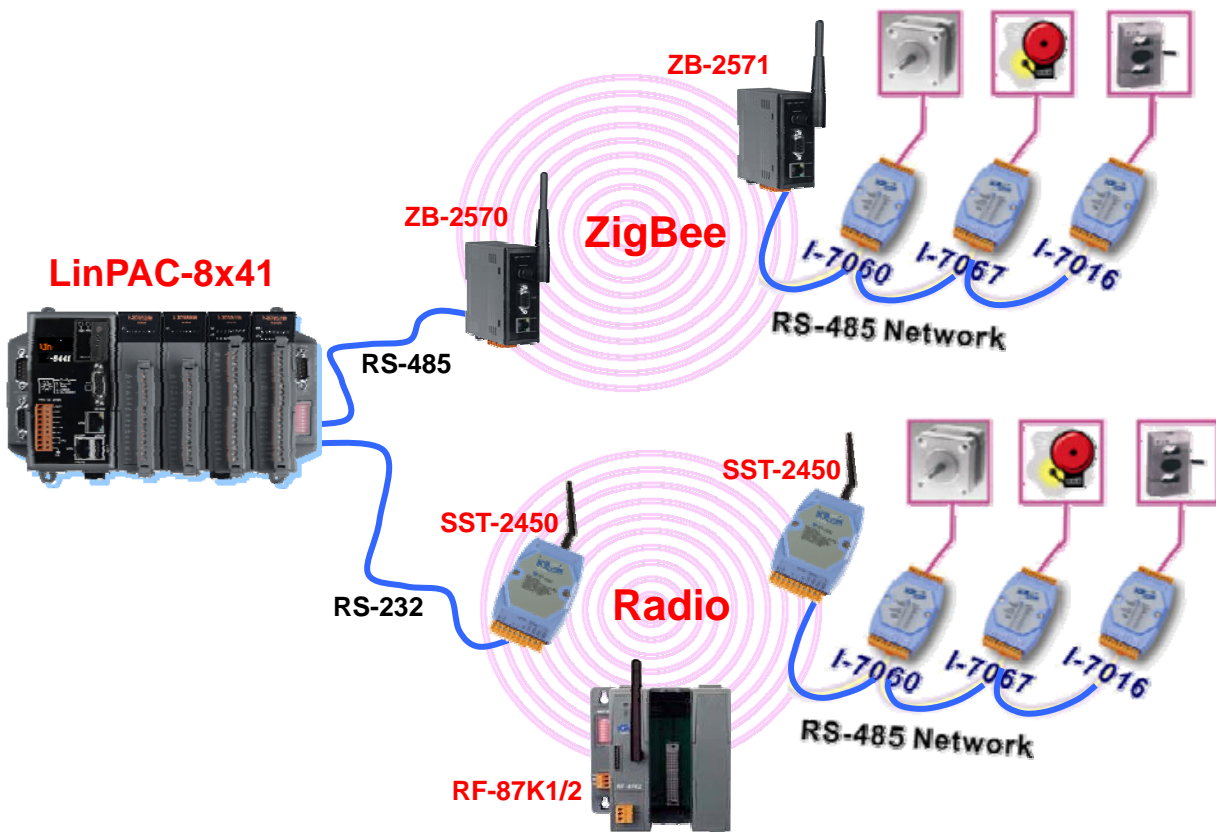


## ● Multi-Serial Ports

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





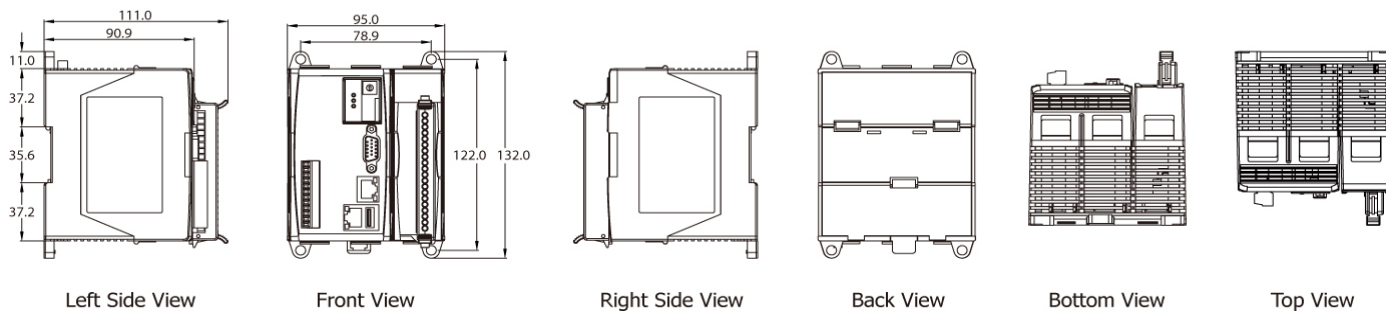
## Specifications of LinPAC-8x41

Models	LP-8141	LP-8441	LP-8841
<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 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)
<b>VGA &amp; Communication Ports</b>			
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 <sub>DC</sub>	3000V <sub>DC</sub> 3000V <sub>DC</sub>
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;	
<b>I/O expansion slots (Supports high profile I-8K and I-87K modules only)</b>			
Slot numbers	1 slot	4 slots	8 slots
Hot Plug <i>*Will be available</i>	I/O Module Hot Swap Ability (For high profile I-87K modules only)		
<b>Mechanical</b>			
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		
<b>Operating Environment</b>			
Operating Temperature	-25°C ~ +75°C		
Storage Temperature	-30°C ~ +85°C		
Humidity	5% ~ 90% RH, non-condensing		
<b>Power</b>			
Input Range	+10 V <sub>DC</sub> ~ +30 V <sub>DC</sub>		
Isolation	1kV		
Redundant Power Inputs	Yes, with one power relay (1 A @ 24 V <sub>DC</sub> ) 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 <sub>DC</sub> )	9.1W (0.38A@24 V <sub>DC</sub> )	9.6W (0.4A@24 V <sub>DC</sub> )



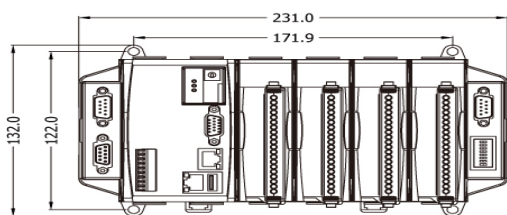
● **Mechanical Drawing**

**LP- 8141**

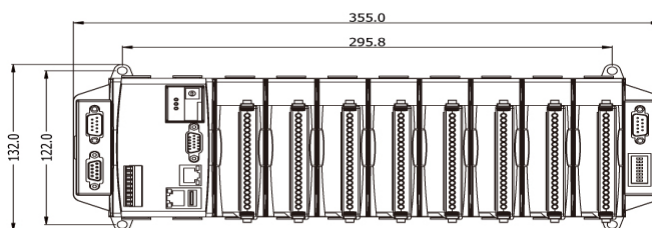


**LP- 8441**

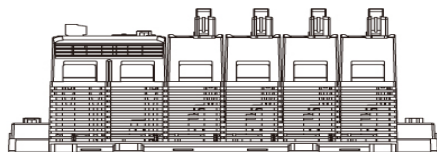
**LP- 8841**



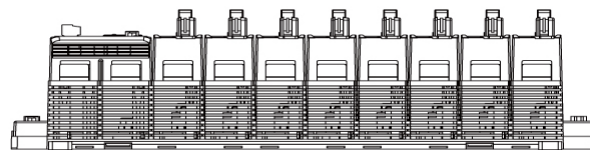
Front View



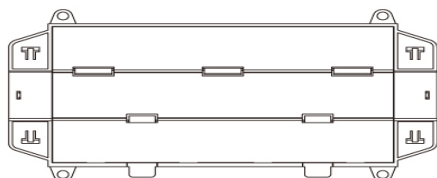
Front View



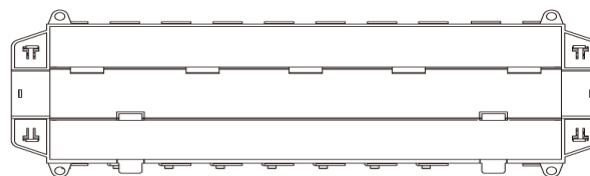
Bottom View



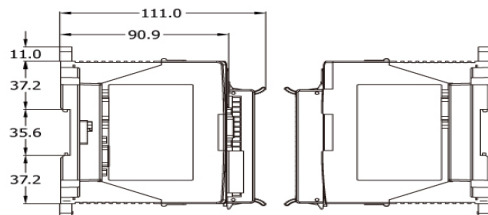
Bottom View



Back View

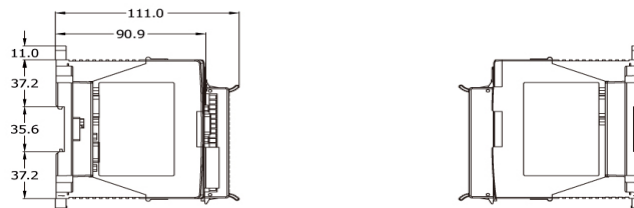


Back View



Left Side View

Right Side View



Left Side View

Right Side View

**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