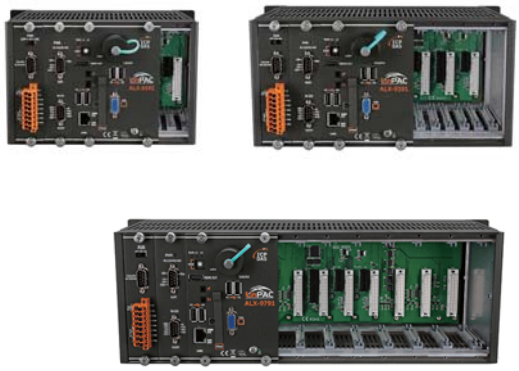


ALX-9191/ALX-9391/ALX-9791

1/3/7-slot Linux Based PAC with E3950 CPU Metal Case

Features

- Linux Ubuntu 20.04 with Kernel 5.4
- Intel Atom® E3950 Processor (1.6 ~ 2.0 GHz, 4C4T)
- 8 GB DDR4 SDRAM
- 64 GB SSD
- Hard Real-Time Capability (RTC)
- VGA / HDMI Display Output
- 2 10/100/1000M Ethernet Ports
- Redundant Power Input
- Operating Temperature: -25 ~ +75 °C

Introduction

The ALX-9000 are Linux based PACs that combine computing, I/O, and operator interface into a single unit, and provide the perfect solution for integrating HMI, data acquisition and control in an individual PAC. It is equipped with an Intel E3950 CPU, 1/3/7 I/O expansion slots and a variety of connectives including dual Gigabit Ethernet, VGA , HDMI, USB port, RS-232 and RS-485 interface. Local I/O slots are available to use our e-9K, I-9K and I-97K series I/O modules and remote I/O expansions are available to use our Ethernet I/O modules and RS-485 I/O modules.

User's programs can be saved in external storage device, such as CFast Card or USB mass storage device. LinPAC SDK is provided for users to develop LinPAC I/O applications rapidly and easily when I-7k/I-9k/I-97k/e-9K series I/O modules are used in the LinPAC. Users can develop LinPAC applications by using GNU C Language. In the meanwhile, all kinds of servers and functions make the LinPAC more powerful and users will be able to operate LinPAC to achieve their own project smoothly.

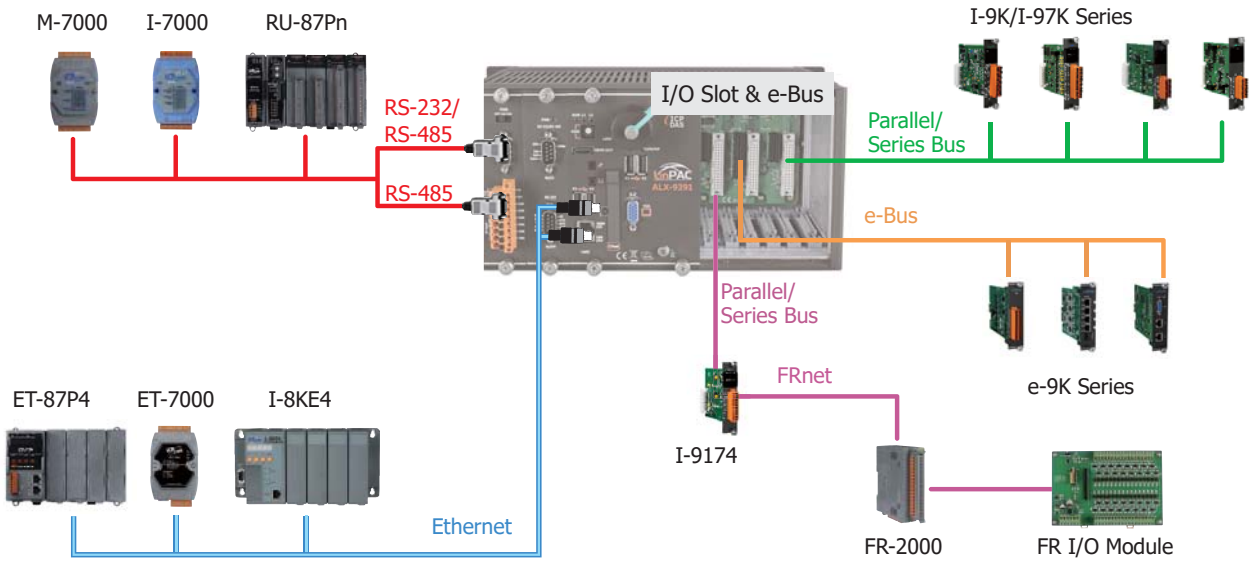
Linux Kernel OS



Main advantage of the ALX-9000 is its high quality control system, including its stably properties, open source and the standard LinPAC SDK for Linux using the GNU C language, GUI software. The main purpose of ALX-9000 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

Appications



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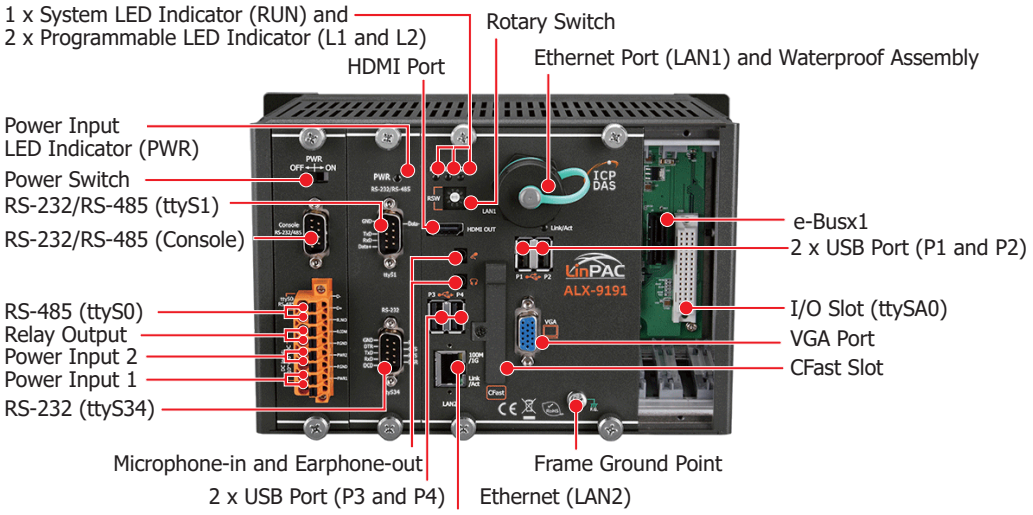
Specifications

Model	ALX-9191	ALX-9391	ALX-9791
System Software			
OS	Ubuntu 20.04 with kernel 5.4		
Embedded Service	SFTP server, Web server, SSH		
SDK Provided	Standard LinPAC SDK for Linux by GNU C language		
CPU Module			
CPU	Intel Atom® Processor Apollo Lake E3950, 1.6 ~ 2.0 GHz, 64-bit, 4C4T		
SDRAM	8 GB DDR4		
MRAM	128 KB		
EEPROM	16 KB		
Storage	1 x 64 GB SSD (SATAIII), 1 x CFast slot		
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 Timer		
HMI			
Power Switch	Yes		
Rotary Switch	Yes (0 ~ 9)		
Buzzer	Yes		
Programmable LED Indicator	3 (RUN, L1, L2)		
Display			
VGA	1, Resolution: 1920 x 1200 @ 60Hz		
HDMI	1, Resolution: 4096 x 2160 @ 30P		
Graphic Processor	Intel® HD Graphics 505		
Audio			
Jack	Microphone-in and Earphone-out		
I/O Expansion			
I/O Type	e-9K, I-9K, I-97K series		
Parallel/Series Bus	1	3	7
e-Bus	1	3	3
Communication Ports			
Ethernet Port	2 x RJ-45, 10/100/1000 Base-TX (Intel® Ethernet Controller I210IT)		
USB Port	2 x USB 2.0, 2 x USB 3.0		
ttySA0	Internal communication with the I-97K series modules in slots		
Console	RS-232/485 (RxD, TxD and GND for RS-232; Data+, Data- for RS-485); 3000 VDC isolated		
ttyS0	RS-485 (Data+, Data-); 3000 VDC isolated		
ttyS1	RS-232/485 (RxD, TxD, CTS, RTS and GND for RS-232; Data+, Data- for RS-485); 3000 VDC isolated		
ttyS34	RS-232 (RxD, TxD, CTS, RTS, DSR, DTR, CD, RI and GND); 3000 VDC isolated		
Mechanical			
Dimensions (W x L x H)	239 mm x 164 mm x 133 mm	300 mm x 164 mm x 133 mm	422 mm x 164 mm x 133 mm
Installation	DIN-Rail Mounting/Wall Mounting		
Cooling Type	CPU Heat Sink/Fanless		
Environmental			
Operating Temperature	-25 ~ +60 °C		
Storage Temperature	-30 ~ +80 °C		
Ambient Relative Humidity	10 ~ 90% RH (non-condensing)		
Power			
Input Range	+19 ~ 30 VDC (2 kV Isolated)		
Redundant Power Input	Yes, with one power relay (1A @ 24 VDC) for alarm		
Capacity	25 W supply to CPU and backplane, 25 W supply to I/O expansion slots and USB ports, 50 W in total		
Consumption	19 W	20 W	21 W

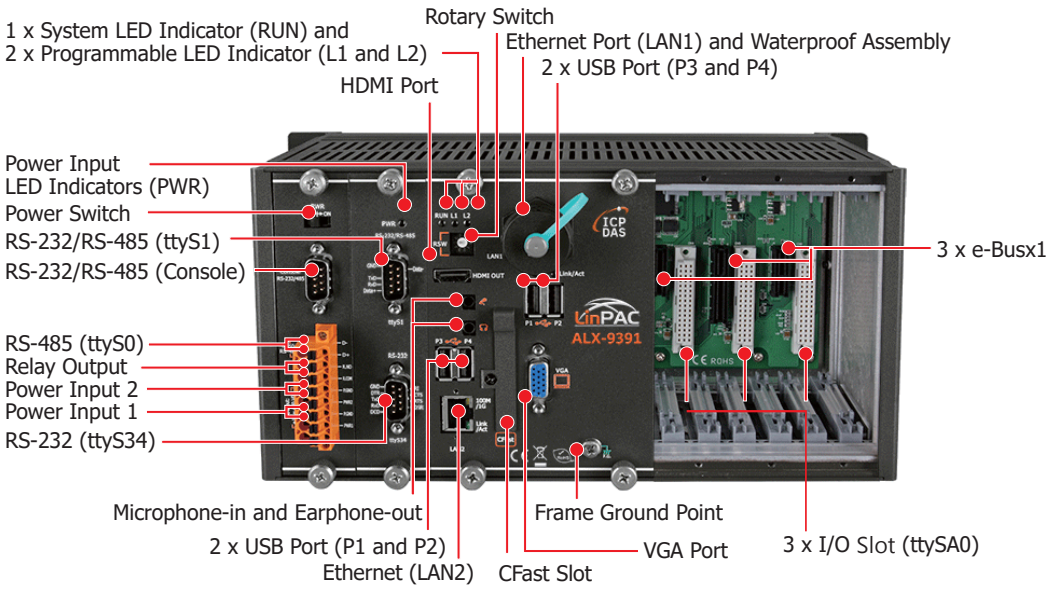
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Appearance

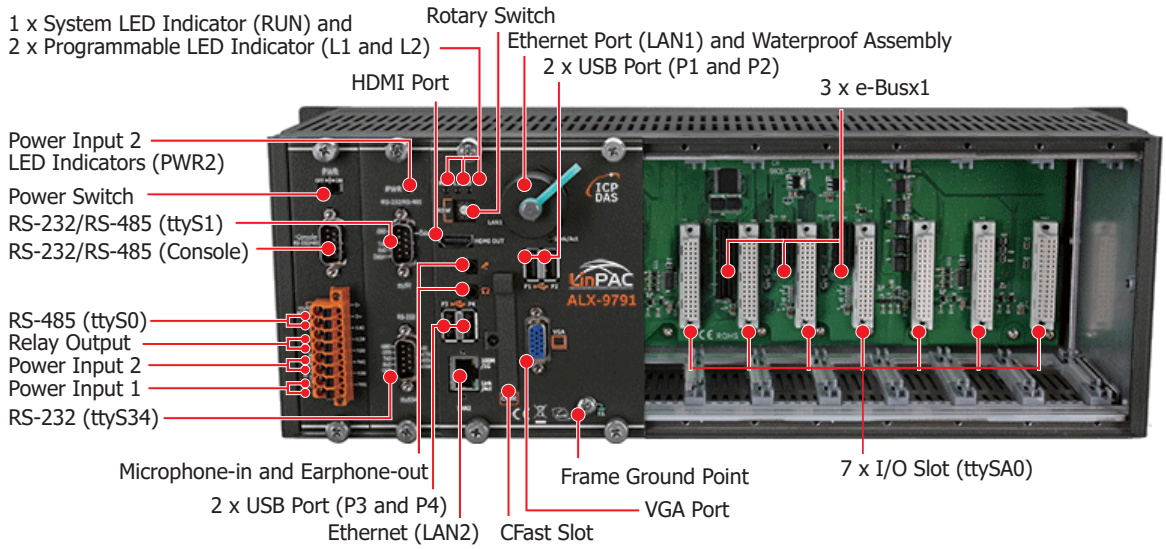
ALX-9191



ALX-9391



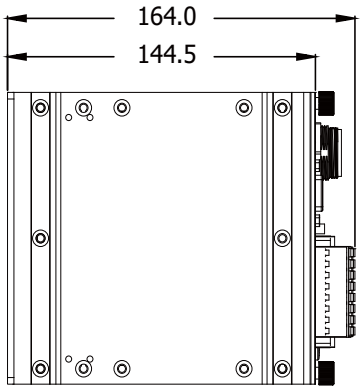
ALX-9791



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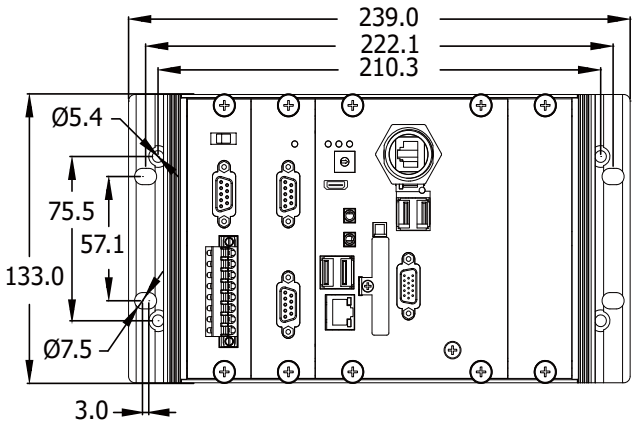
Dimensions (Units: mm)

ALX-9191/ALX-9391/ALX-9791



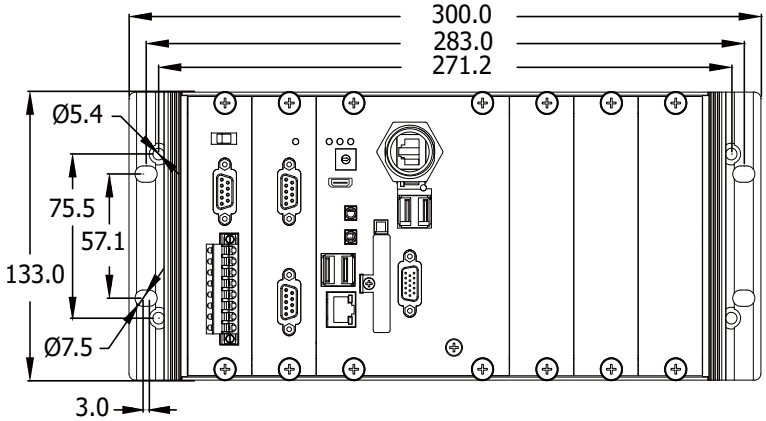
Left Side View

ALX-9191



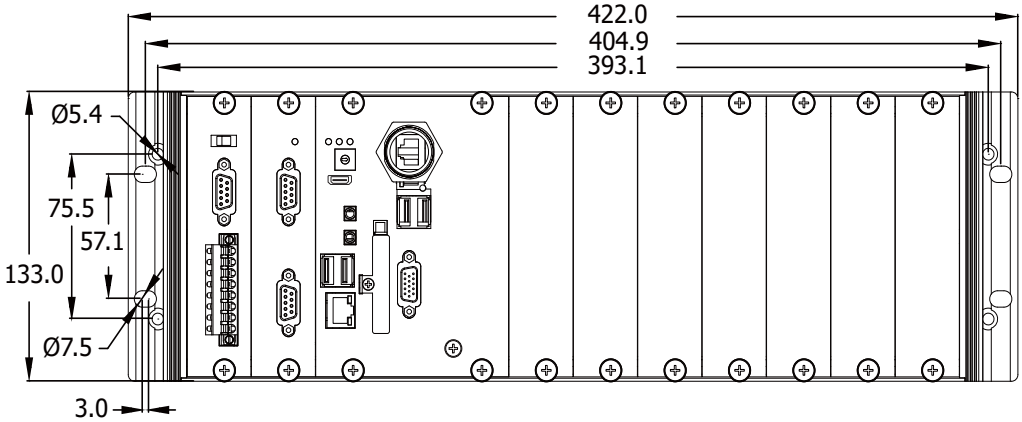
Front View

ALX-9391



Front View

ALX-9791



Front View

Ordering Information

ALX-9191 CR	1-slot Metal Standard PAC with E3950 CPU and Ubuntu 20.04 (RoHS)
ALX-9391 CR	3-slot Metal Standard PAC with E3950 CPU and Ubuntu 20.04 (RoHS)
ALX-9791 CR	7-slot Metal Standard PAC with E3950 CPU and Ubuntu 20.04 (RoHS)

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