

# WP-9221-CE7/WP-9421-CE7/WP-9821-CE7

2/4/8-slot Metal Standard PAC with Cortex-A8 CPU and WinCE 7.0

## Features

- Windows CE 7.0
- Cortex-A8, 1 GHz CPU
- 512 MB SDRAM and 256 MB Flash
- Hard Real-Time Capability
- 64-bit Hardware Serial Number for Software Protection
- Rich I/O Expansion Ability (RS-232/RS-485, FRnet)
- Redundant Power Input
- Operating Temperature: -25 ~ +75 °C

## Introduction

The WP-9000-CE7 is the new generation Windows CE 7.0 based PAC (Programmable Automation Controller) of ICP DAS. Each WP-9000-CE7 is equipped with a Cortex-A8 (1.0 GHz) CPU running a Windows CE 7.0 operating system, a variant of input/output ports (VGA, USB, Ethernet, RS-232/485), and 2/4/8 expansion I/O slots that can be used to integrate high performance I-9K (parallel-type) and I-97K (serial-type) series I/O modules.

Its operating system,Windows CE 7.0, has many advantages, including hard real-time capability, small core size, fast boot speed, interrupt handling at a deeper level, achievable deterministic control and low cost. Using Windows CE 7.0 in the WP-9000-CE7 gives it the ability to run PC-based Control software such as Visual Basic.NET, Visual C#, Visual C++, SCADA software, Soft PLC …etc.

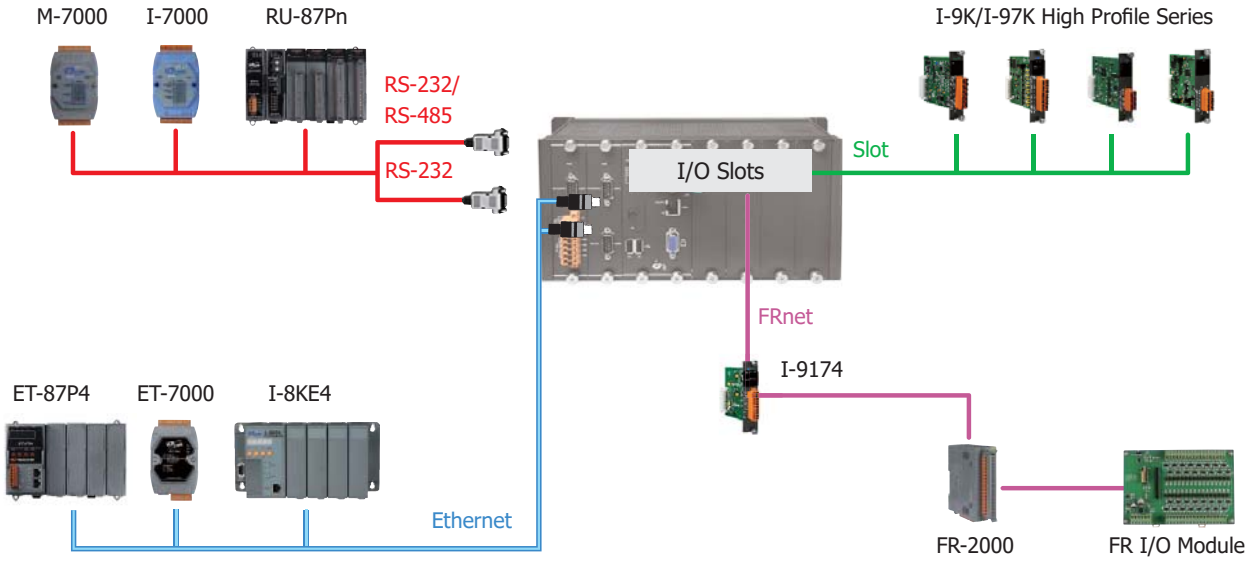
## Windows CE 7.0

Windows® Embedded Compact 7

Windows CE 7.0 is a compact and real-time OS used to quickly create time critical and high performance applications. Using Windows CE 7.0 gives an ability to run PC-based control software such as Visual Basic .NET, Virtual C#.

- FTP Server
- Web Server
- SQL Compact Edition 3.5
- .NET Compact Framework 3.5
- Virtual CE Pro (VCEP)

## Appications




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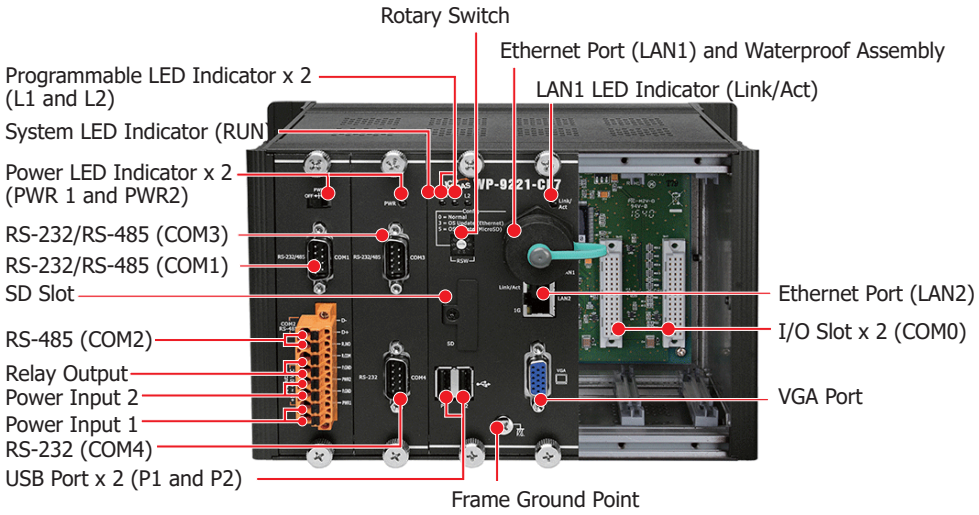
## Specifications

| Model | WP-9221-CE7 | WP-9421-CE7 | WP-9821-CE7 |
|---|---|---|---|
| **Software** | | | |
| OS | Windows CE 7.0 | | |
| Framework Support | .Net Compact Framework 3.5 | | |
| Service | FTP Server, Web Server (Supports VB script, JAVA script), Embedded SQL Server | | |
| SDK | Dll for VC, Dll for Visual Studio.Net 2008 | | |
| Multilanguage Support | English, German, French, Spanish, Russian, Italian, Korean, Simplified Chinese, Traditional Chinese | | |
| **Main Unit** | | | |
| CPU | Cortex-A8, 1.0 GHz | | |
| SDRAM | 512 MB DDR3 | | |
| MRAM | 128 KB | | |
| EEPROM | 16 KB | | |
| Storage | 256 MB Flash, SD card slot (up to 32 GB) | | |
| RTC (Real Time Clock) | Provide seconds, minutes, hours, dates, day of week, month, year | | |
| 64-bit Hardware Serial Number | Yes, for software copy protection | | |
| Watchdog Timer | Dual Watchdog Timer | | |
| Rotary Switch | 1 x 10 Position (0 ~ 9) | | |
| Buzzer | Yes | | |
| **Display** | | | |
| VGA Resolution | 800 × 600, 1024 × 768 | | |
| LED Indicators | 1 x System, 2 x Power, 2 x Programmable | | |
| **Communication Interfaces** | | | |
| Ethernet | 2 x RJ-45, 10/100/1000 Base-TX (Auto-negotiating, Auto MDI/MDI-X, LED indicators) | | |
| USB 2.0 | 2 | | |
| COM 0 | Internal communication with the I-97K series modules in slots | | |
| COM 1 | RS-232/485 (RxD, TxD and GND for RS-232; Data+, Data- for RS-485); 3000 VDC isolated | | |
| COM 2 | RS-485 (Data+, Data-); 3000 VDC isolated | | |
| COM 3 | RS-232/485 (RxD, TxD, CTS, RTS, GND for RS-232; Data+, Data- for RS-485); 3000 VDC isolated | | |
| COM 4 | RS-232 (RxD, TxD, CTS, RTS, DSR, DTR, CD, RI and GND); 3000 VDC isolated | | |
| **I/O Expansion** | | | |
| I/O Type | I-9K, I-97K series | | |
| Slots | 2 | 4 | 8 |
| **Mechanical** | | | |
| Dimension (W x L x H) | 239 mm x 133 mm x 164 mm | 300 mm x 133 mm x 164 mm | 422 mm x 133 mm x 164 mm |
| Ingress Protection Rating | IP30 (Aluminum) | | |
| Weight | 2235 g | 2760 g | 3455 g |
| Installation | DIN-Rail, Wall mounting | | |
| **Environmental** | | | |
| Operating Temperature | -25 ~ +75 °C | | |
| Storage Temperature | -30 ~ +80 °C | | |
| Humidity | 10 ~ 90 % RH, Non-condensing | | |
| **Power** | | | |
| Input Range | +10 ~ 30 VDC (1 kV Isolated) | | |
| Redundant Power Inputs | Yes, with one power relay (1 A @ 24 VDC) for alarm | | |
| Capacity | 3.7 A, 5 V supply to CPU and backplane; 3.3 A, 5 V supply to I/O expansion slots, total 35 W | 3.8 A, 5 V supply to CPU and backplane; 3.2 A, 5 V supply to I/O expansion slots, total 35 W | 4.0 A, 5 V supply to CPU and backplane; 3.0 A, 5 V supply to I/O expansion slots, total 35 W |
| Consumption | 10.8 W (0.45 A @ 24 VDC) | | |

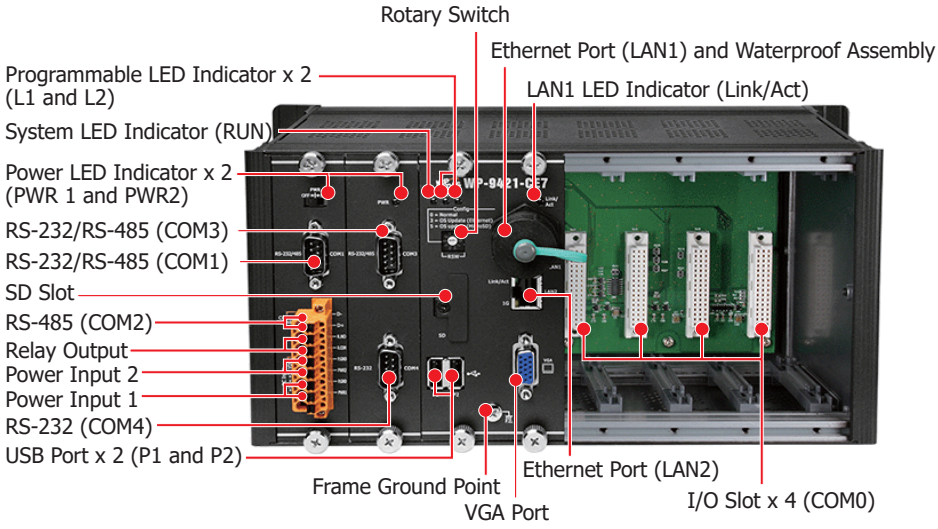
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## Appearance

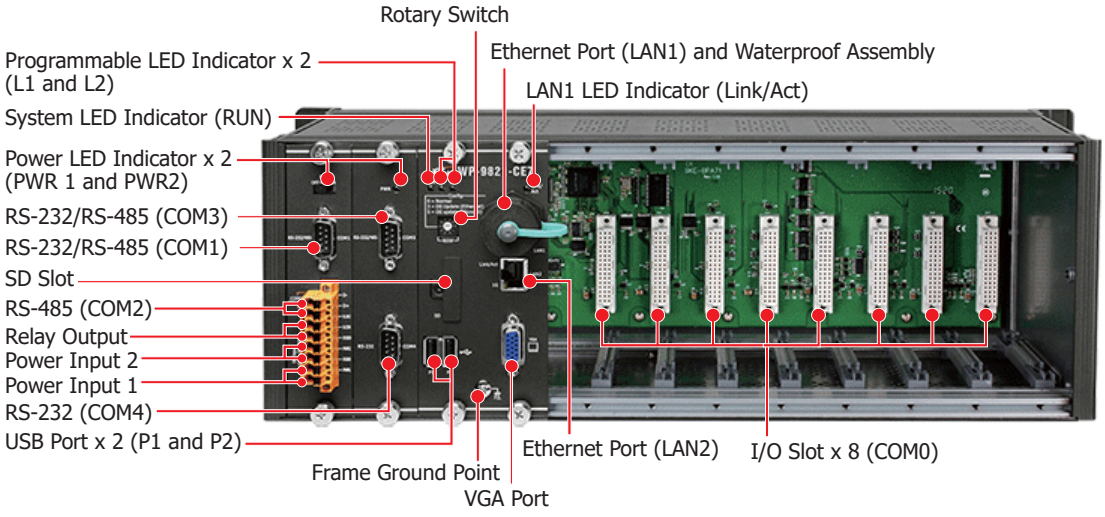
### WP-9221-CE7




### WP-9421-CE7



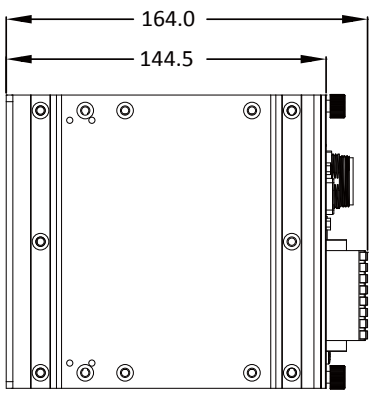

### WP-9821-CE7




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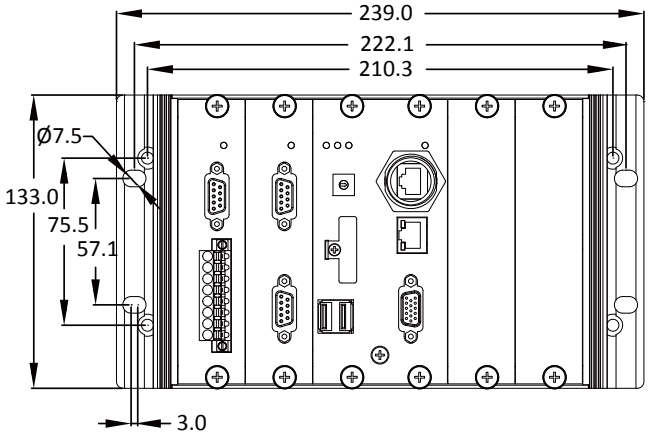
## Dimensions (Units: mm)

**WP-9221-CE7/WP-9421-CE7/WP-9821-CE7**



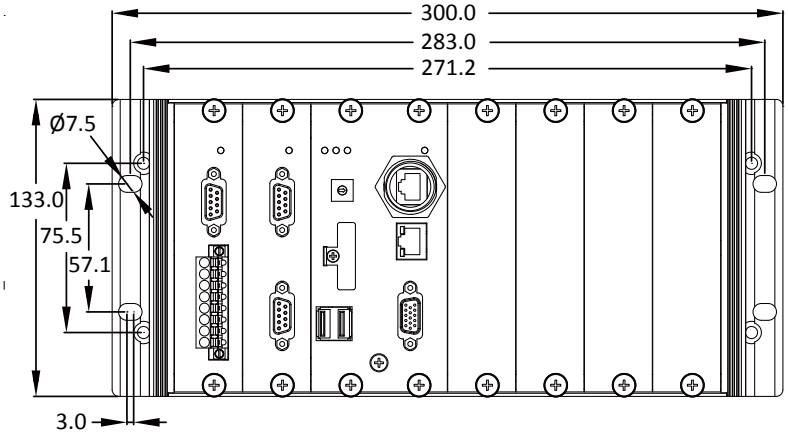

Left Side View

**WP-9221-CE7**



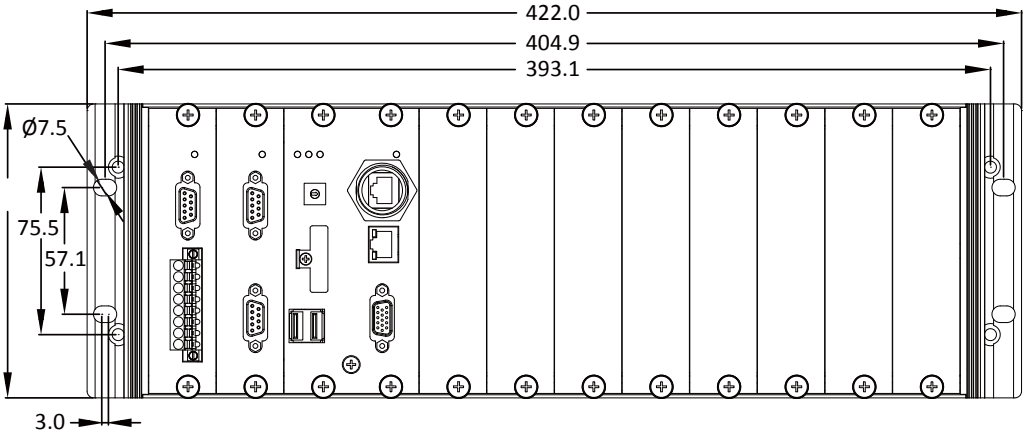

Front View

**WP-9421-CE7**




Front View

**WP-9821-CE7**




Front View

## Ordering Information

| | |
|---|---|
| **WP-9221-CE7 CR** | 2-slot Metal Standard PAC with Cortex-A8 CPU and WinCE 7.0 (RoHS) |
| **WP-9421-CE7 CR** | 4-slot Metal Standard PAC with Cortex-A8 CPU and WinCE 7.0 (RoHS) |
| **WP-9821-CE7 CR** | 8-slot Metal Standard PAC with Cortex-A8 CPU and WinCE 7.0 (RoHS) |

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