2.3. WinPAC-8000 Series

• Overview

Microsoft Windows CE.net

WinPAC-8000 is the new generation PAC of ICP DAS. It is equipped a PXA270 CPU (520 MHz) running a Windows CE.NET 5.0 operating system, various connectivities (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 I/O modules (high profile I-87K I/O modules).

WinPAC operating system, Windows CE 5.0, has many advantages, including hard real-time capability, small core size, short boot time, interrupt handling at a deeper level, achievable deterministic control, and low cost. Using Windows CE.Net 5.0 in the WinPAC-8000 gives it the ability to run PC-based Control software such as Visual Basic. NET, Visual C#, Embedded Visual C++, SCADA software, SoftPLC ... etc.

WinPAC ≒ IPC+PLC

Compared with the first generation WinCon-8000, WinPAC-8000 not only improves the CPU performance (from 206 MHz to 520 MHz) and upgrading OS (from CE 4.1 to CE 5.0), but also adds many reliability features, such as dual LAN, redundant power input, dual battery backup SRAM, etc. It gives you all of the best features of both traditional PLCs and Windows capable PCs.

Main Components:

1 Main Control Unit (MCU)

The MCU is the powerhouse of the WinPAC-8000. Each MCU comprises a Central Processor Module (CPM), a power supply, and a 1, 4, 8-slot backplane for 1, 4, 8 I/O modules. The CPM is powerful integrated processing engine comprising a CPU, RAM and ROM, and an option of communication interfaces including Ethernet, RS-485, CAN bus and FRnet.

2 Embedded OS

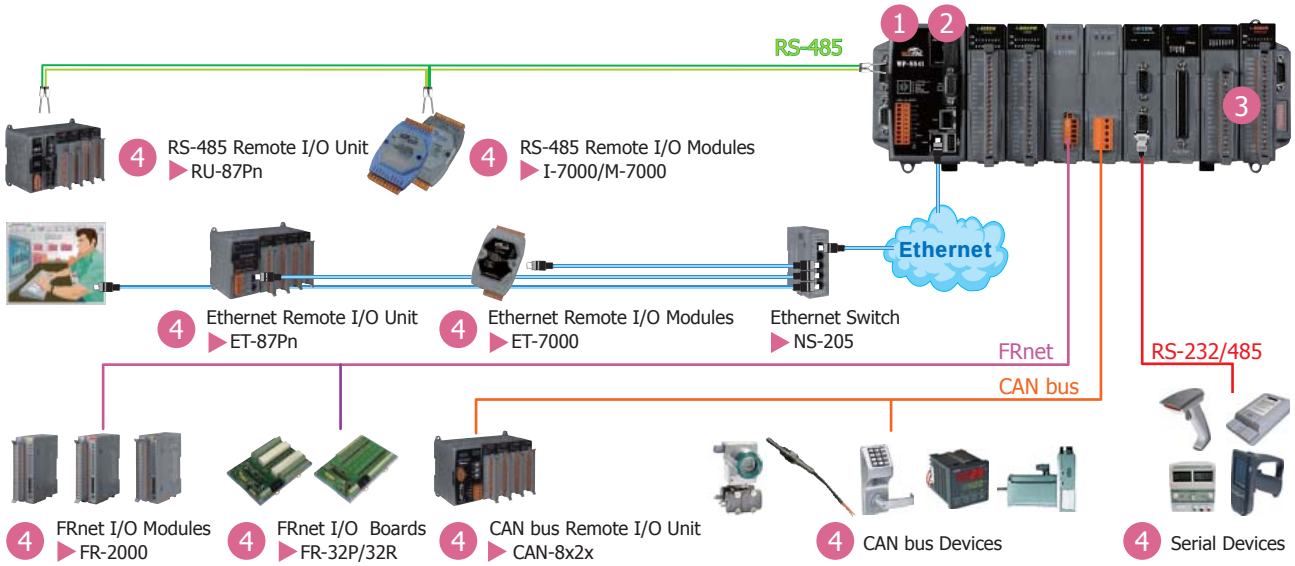
All WinPAC have Windows CE OS inside, and most of the popular features in MS software are included, such as FTP Server, HTTP Server, ASP (Java/VB script), SQL Server embedded 3.5 and compact .NET Framework 2.0. WinPAC supports rich software & development solutions: VB.Net 2005/2008, Visual C#.NET 2005/2008, eVC++ 4.0, ISaGRAF, InduSoft etc.

3 I/O Modules

There are two types of I/O modules, Parallel and Serial. The Parallel I/O modules (I-8K high profile series) are high-speed modules and have to be installed in slots of the WinPAC. The Serial I/O modules (I-87K high profile series) can be installed in slots or Expansion Units (RU-87Pn).

4 Remote I/O Expansion

WinPAC uses built-in RS-485 and Ethernet ports to connect RS-485/Ethernet remote I/O units (Ru-87Pn/ET-87Pn) or modules (I-7000/M-7000/ET-7000). In this configuration, WinPAC expands the I/O very easily. Using CAN or FRnet communication module, WinPAC can connect CAN bus devices, remote I/O units or FRnet I/O modules for deterministic control system.



Selection Guide

WP-8 X X X - XX

NO. of I/O Slot

Hardware
3: PXA270 CPU & VGA 1024 x 768
4: PXA270 CPU & VGA 800 x 600
5: PXA270 CPU & VGA 1024 x 768

Software
1: Standard
7: ISaGRAF
9: InduSoft

Language
EN: English
TC: Traditional Chinese
SC: Simplified Chinese

Standard WinPAC

Model Name	OS	Pre-installed Software	CPU	Flash	SDRAM	VGA Resolution	USB	RS-232/RS-485	I/O Slot	Memory Expansion	Audio	Page
WP-8131	CE 5.0	None	PXA270, 520 MHz	128 MB	128 MB	1024 x 768	2	2	1	microSD	-	2-3-3
WP-8431								4	4			
WP-8831									8			
WP-8141	CE 5.0	None	PXA270, 520 MHz	96 MB	128 MB	800 x 600	1	2	1	microSD	-	2-3-3
WP-8441								4	4			
WP-8841									8			
WP-8051	CE 5.0	None	PXA270, 520 MHz	128 MB	128 MB	1024 x 768	2	5	0	CF	Yes	2-3-7
WP-8351								4	3			
WP-8751									7			

The controller supports the following software development tools:
1. DLLs of I/O modules for eVC, VS.Net 2005/2008
2. DLLs of Modbus/RTU and Modbus/TCP for eVC and VS.Net 2005/2008
3. OPC server (Quicker)

ISaGRAF Based WinPAC

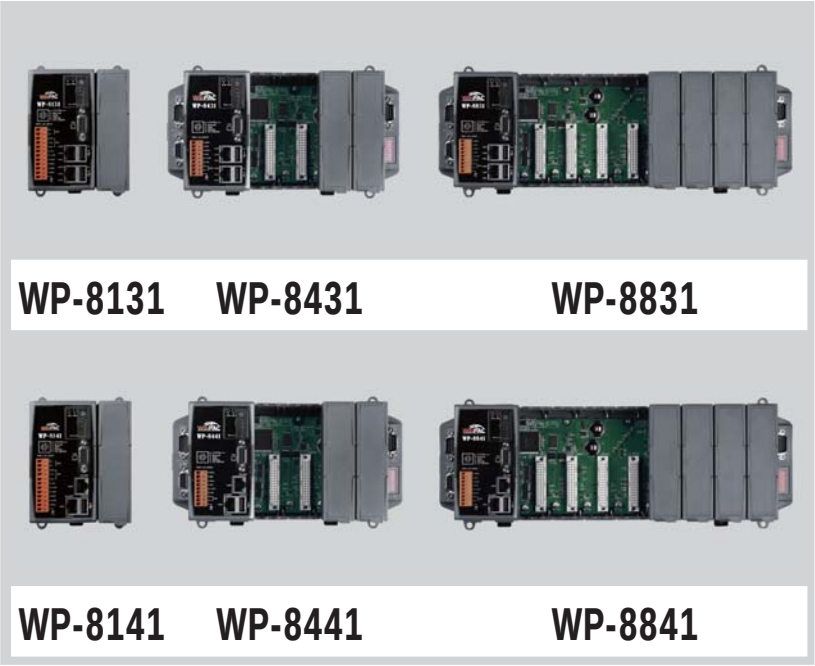
Model Name	OS	Pre-installed Software	CPU	Flash	SDRAM	VGA Resolution	USB	RS-232/RS-485	I/O Slot	Memory Expansion	Audio	Page
WP-8137	CE 5.0	ISaGRAF	PXA270, 520 MHz	128 MB	128 MB	1024 x 768	2	2	1	microSD	-	2-3-11
WP-8437								4	4			
WP-8837									8			
WP-8147	CE 5.0	ISaGRAF	PXA270, 520 MHz	96 MB	128 MB	800 x 600	1	2	1	microSD	-	2-3-11
WP-8447								4	4			
WP-8847									8			
WP-8057	CE 5.0	ISaGRAF	PXA270, 520 MHz	128 MB	128 MB	1024 x 768	2	5	0	CF	Yes	2-3-17
WP-8357								4	3			
WP-8757									7			

The controller fully supports all five of the IEC61131-3 standard PLC languages:
1. Ladder diagram
2. Function block diagram
3. Sequential function chart
4. Structured text
5. Instruction List plus flow chart
It supports Modbus protocol and can link to distributed I/O modules with Modbus or DCON protocol via the RS-232/485 or Ethernet.

InduSoft Based WinPAC

Model Name	OS	Pre-installed Software	CPU	Flash	SDRAM	VGA Resolution	USB	RS-232/RS-485	I/O Slot	Memory Expansion	Audio	Page
WP-8139	CE 5.0	InduSoft	PXA270, 520 MHz	128 MB	128 MB	1024 x 768	2	2	1	microSD	-	2-3-23
WP-8439								4	4			
WP-8839									8			
WP-8149	CE 5.0	InduSoft	PXA270, 520 MHz	96 MB	128 MB	800 x 600	1	2	1	microSD	-	2-3-23
WP-8449								4	4			
WP-8849									8			
WP-8059	CE 5.0	InduSoft	PXA270, 520 MHz	128 MB	128 MB	1024 x 768	2	5	0	CF	Yes	2-3-28
WP-8359								4	3			
WP-8759									7			

The controller supports the following software development tools:
1. DLLs of I/O modules for eVC, VS.Net 2005/2008
2. DLLs of Modbus/RTU and Modbus/TCP for eVC and VS.Net 2005/2008
3. OPC server (Quicker)



Highlight Information

- Windows CE 5.0
- Hard Real-Time Capability
- Fast Boot Speed
- PXA270 CPU (32-bit & 520 MHz)
- VGA Port Output
- Support eLogger HMI
- Open System
- Redundant Power Input
- Operating Temperature: -25 ~ +75 °C

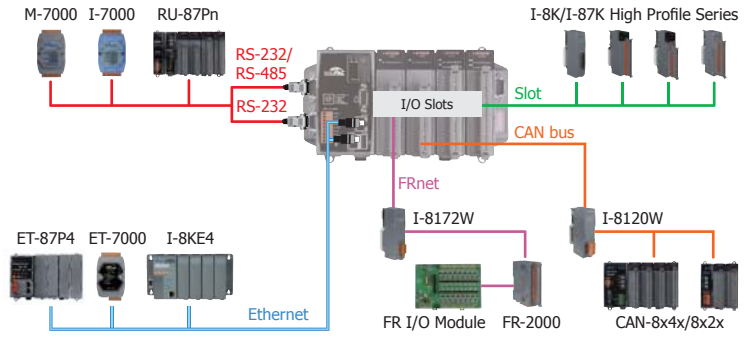
Introduction

WP-8x31 and WP-8x41 Series are the new generation Windows CE 5.0 based PACs of ICP DAS. It is equipped with a PXA270 CPU (520 MHz), various connectivity (VGA, USB, Ethernet, RS-232/485) and 0/4/8 I/O slots for high performance parallel I/O modules (high profile I-8K Series) and serial I/O modules (high profile I-87K series). The benefits of running Windows CE 5.0 on WinPAC include hard real-time capability, small core size, fast boot speed, interrupt handling at a deeper level and achievable deterministic control. WinPAC is also capable of running PC-based control software such as Visual Basic .NET, Visual C#, SCADA software, SoftPLC.... etc. It has all of the best features of both traditional PLCs and Windows capable PCs.

For software copy protection, programmers can design software based on the 64-bit hardware serial number for making software copy protected.

Applications

Rich I/O Expansion Ability



Features

Software

- Windows CE.NET 5.0 Operating System
- Easy Remote Maintenance Via Ethernet
  - FTP server
  - VCEP software
- Built-in OPC Server: Quicker
  - An OPC Server & SCADA Software
  - Integrate Local/Remote I/O Modules Via RS-232/485 or Ethernet
  - Provide Library for eVC, C# or VB.NET
  - Support Modbus and DCON Protocols
- Development Software
  - Visual Studio.NET 2005/2008 and eVC
  - SDK/Demo Programs for C#, VB.NET & eVC
- Upgrade Applications Just Copy and Play

Hardware

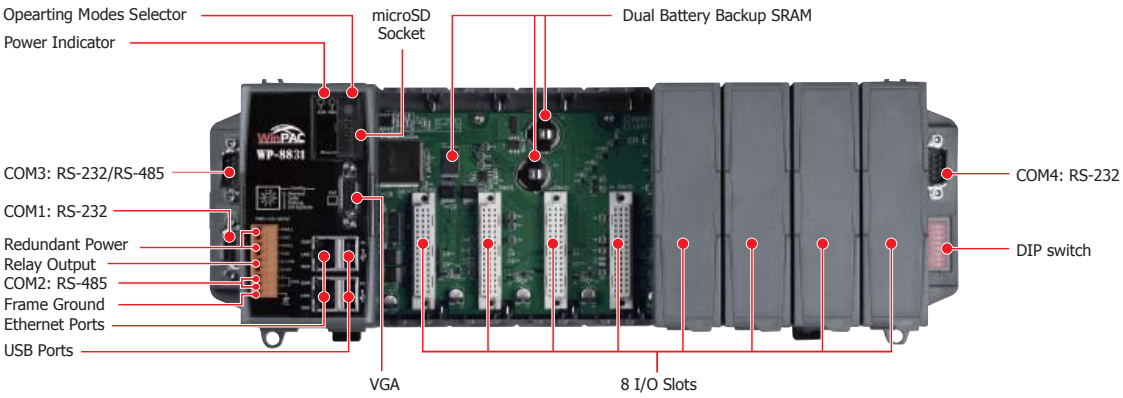
- Powerful CPU Module
- Built-in VGA Port: 640 x 480 ~ 1024 x 768 (for WP-8x31)
- Built-in VGA Port: 640 x 480 ~ 800 x 600 (for WP-8x41)
- 64-bit Hardware Serial Number
- Rich I/O Expansion Ability
- I/O Module Hot Swap Ability
  * Will be available
  (For High Profile I-87K Modules Only)
- Built-in 63 MB Flash Disk (for WP-8x31)
- Built-in 31 MB Flash Disk (for WP-8x41)
- Dual Watchdog Timers
- Dual Battery Backup SRAM (512 KB)
- Dual Ethernet Ports
- Redundant Power Input
- DIN-Rail or Wall Mounting
- Operating Temperature: -25 ~ +75 °C

Specifications

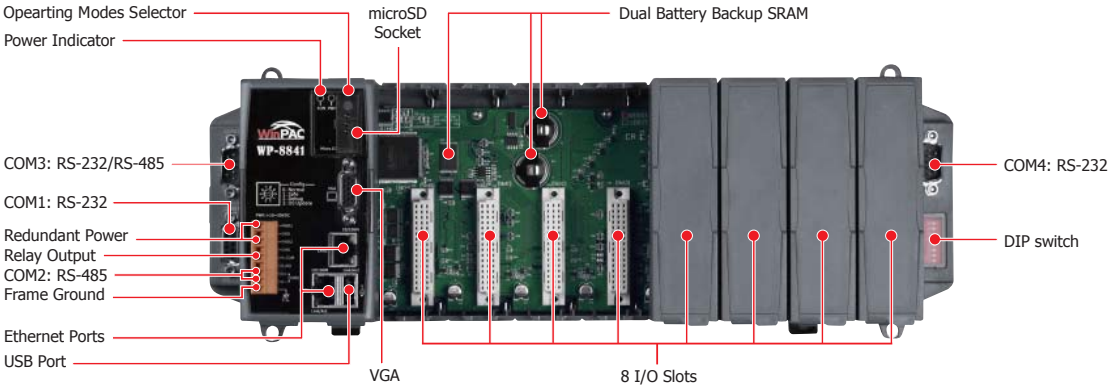
Models		WP-8131	WP-8141	WP-8431	WP-8441	WP-8831	WP-8841
System Software							
OS		Windows CE 5.0					
.Net Compact Framework		2.0					
Embedded Service		FTP server, Web server (supports VB script, JAVA script), Embedded SQL server					
SDK Provided		Dll for eVC, Dll for Visual Studio.Net 2005/2008					
Multilanguage Support		English, German, French, Spanish, Russian, Italian, Simplified Chinese, Traditional Chinese					
CPU Module							
CPU		PXA270 or compatible (32-bit and 520 MHz)					
SDRAM		128 MB					
Dual Battery Backup SRAM		512 KB (for 5 years data retain while power off)					
Flash	Total size	128 MB	96 MB	128 MB	96 MB	128 MB	96 MB
	OS image	64 MB		64 MB		64 MB	
	Built-in Flash disk	63 MB	31 MB	63 MB	31 MB	63 MB	31 MB
	Registry	1 MB		1 MB		1 MB	
EEPROM		16 KB					
		Data Retention: 40 years; 1,000,000 erase/write cycles					
microSD		microSD socket with one 2 GB microSD card (support 1 GB, 2 GB microSD card only)					
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					
Programmable LED Indicator		1					
Rotary Switch		Yes (0 ~ 9)					
DIP Switch		-		Yes (8 bits)			
VGA & Communication Ports							
VGA	Extra GPU	Yes	-	Yes	-	Yes	-
	Resolution	1024 x 768, 800 x 600, 640 x 480	800 x 600, 640 x 480	1024 x 768, 800 x 600, 640 x 480	800 x 600, 640 x 480	1024 x 768, 800 x 600, 640 x 480	800 x 600, 640 x 480
Ethernet		RJ-45 x 2, 10/100 Base-TX (Auto-negotiating, LED indicators)					
USB 1.1 (host)		2	1	2	1	2	1
COM 0		Internal communication with the high profile I-87K series modules in slots					
COM 1		RS-232 (to update firmware) (RxD, TxD and GND); non-isolated					
COM 2	RS-485	D2+, D2-; self-tuner ASIC inside					
	Isolation	2500 V_{DC}		3000 V_{DC}			
COM 3		-		RS-232/RS-485 (RxD, TxD, CTS, RTS and GND for RS-232, Data+ and Data- for RS-485); non-isolated			
COM 4		-		RS-232 (RxD, TxD, CTS, RTS, DSR, DTR, CD, RI and GND); non-isolated			
I/O Expansion Slots							
Slot Number		1		4		8	
		(For High Profile I-8K and I-87K Modules Only)					
Hot Swap * Will be available		For High Profile I-87K Modules Only					
Mechanical							
Dimensions (W x L x H)		95 mm x 132 mm x 111 mm		231 mm x 132 mm x 111 mm		355 mm x 132 mm x 111 mm	
Installation		DIN-Rail or Wall Mounting					
Environmental							
Operating Temperature		-25 ~ +75 °C					
Storage Temperature		-30 ~ +80 °C					
Ambient Relative Humidity		10 ~ 90% RH (non-condensing)					
Power							
Input Range		+10 ~ +30 V_{DC}					
Isolation		1 kV					
Redundant Power Inputs		Yes, with one power relay (1 A @ 24 V_{DC}) for alarm					
Capacity		1.0 A, 5 V supply to CPU and backplane, 0.6 A, 5 V supply to I/O expansion slots, 8 W in total		1.1 A, 5 V supply to CPU and backplane, 4.9 A, 5 V supply to I/O expansion slots, 30 W in total for WP-8441 25 W in total for WP-8431		1.2 A, 5 V supply to CPU and backplane, 4.8 A, 5 V supply to I/O expansion slots, 30 W in total for WP-8841 25 W in total for WP-8831	
Consumption		7.3 W (0.3 A @ 24 V_{DC})		9.1 W (0.38 A @ 24 V_{DC})		9.1 W (0.38 A @ 24 V_{DC})	

Appearance

WP-8831



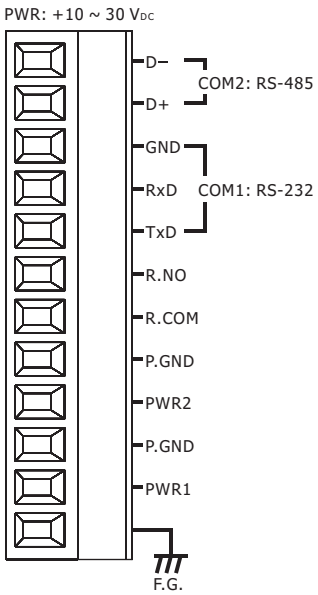
WP-8841



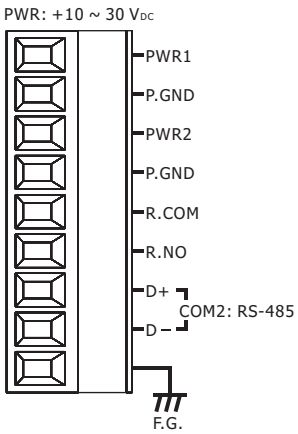
Pin Assignments

Terminal Block

WP-81x1

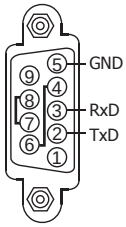


WP-84x1/88x1

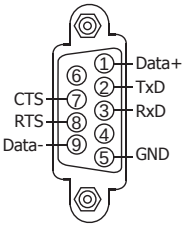


WP-84x1/88x1 COM Port

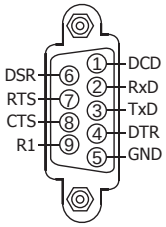
COM1: RS-232



COM3: RS-232/RS-485

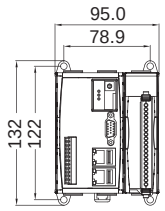


COM4: RS-232



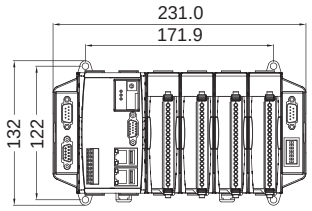
Dimensions (Units: mm)

WP-8131



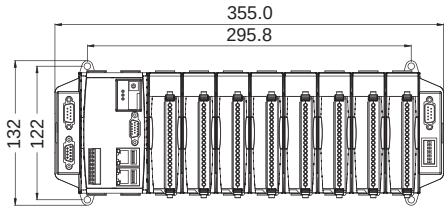
Front View

WP-8431



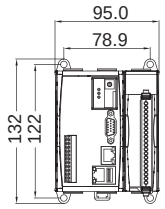
Front View

WP-8831



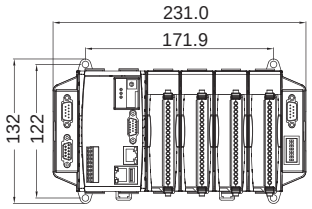
Front View

WP-8141



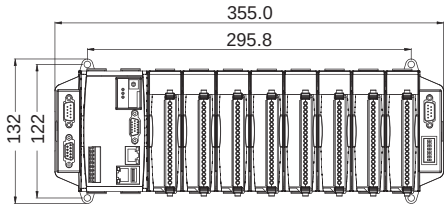
Front View

WP-8441



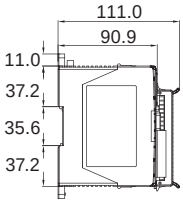
Front View

WP-8841



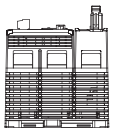
Front View

WP-8x31/8x41



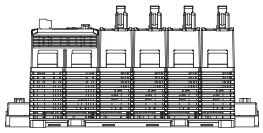
Left Side View

WP-81x1



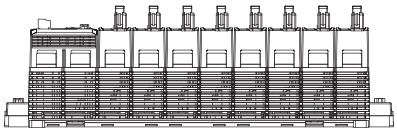
Bottom View

WP-84x1



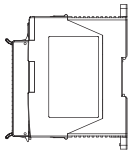
Bottom View

WP-88x1



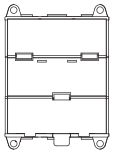
Bottom View

WP-8x31/8x41



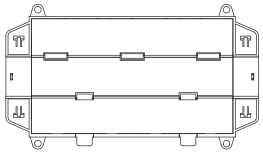
Right Side View

WP-81x1



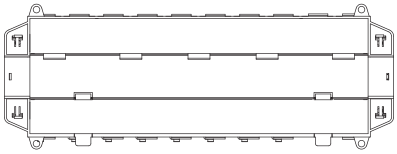
Rear View

WP-84x1



Rear View

WP-88x1



Rear View

Ordering Information

WP-8131-EN	WP-8141-EN	Standard WinPAC-8000 with 1 I/O Slot (Multilanguage Version of OS)
WP-8431-EN	WP-8441-EN	Standard WinPAC-8000 with 4 I/O Slots (Multilanguage Version of OS)
WP-8831-EN	WP-8841-EN	Standard WinPAC-8000 with 8 I/O Slots (Multilanguage Version of OS)
WP-8131-TC	WP-8141-TC	Standard WinPAC-8000 with 1 I/O Slot (Traditional Chinese Version of OS)
WP-8431-TC	WP-8441-TC	Standard WinPAC-8000 with 4 I/O Slots (Traditional Chinese Version of OS)
WP-8831-TC	WP-8841-TC	Standard WinPAC-8000 with 8 I/O Slots (Traditional Chinese Version of OS)
WP-8131-SC	WP-8141-SC	Standard WinPAC-8000 with 1 I/O Slot (Simplified Chinese Version of OS)
WP-8431-SC	WP-8441-SC	Standard WinPAC-8000 with 4 I/O Slots (Simplified Chinese Version of OS)
WP-8831-SC	WP-8841-SC	Standard WinPAC-8000 with 8 I/O Slots (Simplified Chinese Version of OS)

Accessories

DP-660	24 VDC/2.5 A, 60 W and 5 VDC/0.5 A, 2.5 W Power Supply with DIN-Rail Mounting
DP-1200 CR	24 VDC/5.0 A, 120 W Power Supply with DIN-Rail Mounting (RoHS)
MDR-60-24 CR	24 VDC/2.5 A, 60 W Power Supply with DIN-Rail Mounting (RoHS)

Highlight Information

- Windows CE 5.0
- Hard Real-Time Capability
- Fast Boot Speed
- PXA270 CPU (32-bit & 520 MHz)
- Audio with Microphone-In and Earphone-Out
- VGA Port Output
- Support eLogger HMI
- Open System
- Redundant Power Input
- Operating Temperature: -25 ~ +75 °C

Introduction

WP-8x51 Series is the new generation Windows CE 5.0 based PACs of ICP DAS. It is equipped with a PXA270 CPU (520 MHz), various connectivity (VGA, USB, Ethernet, RS-232/485) and 0/3/7 I/O slots for high performance parallel I/O modules (high profile I-8K Series) and serial I/O modules (high profile I-87K series). The benefits of running Windows CE 5.0 on WinPAC include hard real-time capability, small core size, fast boot speed, interrupt handling at a deeper level and achievable deterministic control. WinPAC is also capable of running PC-based control software such as Visual Basic .NET, Visual C#, SCADA software, SoftPLC.... etc. It has all of the best features of both traditional PLCs and Windows capable PCs.

For software copy protection, programmers can design software based on the 64-bit hardware serial number for making software copy protected.

Features

Software

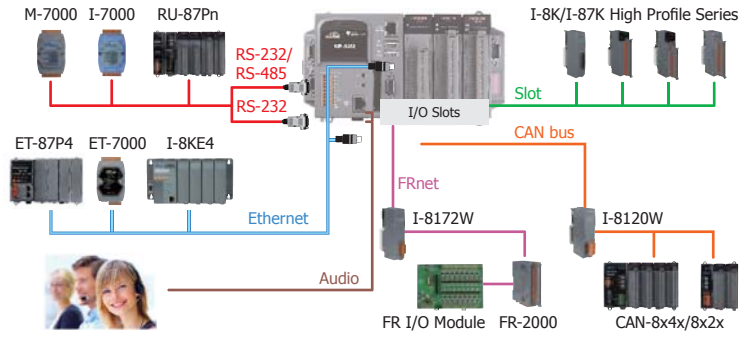
- Windows CE.NET 5.0 Operating System
- Easy Remote Maintenance Via Ethernet
  - FTP server
  - VCEP software
- Built-in OPC Server: Quicker
  - An OPC Server & SCADA Software
  - Integrate Local/Remote I/O Modules Via RS-232/485 or Ethernet
  - Provide Library for eVC, C# or VB.NET
  - Support Modbus and DCON Protocols
- Development Software
  - Visual Studio.NET 2005/2008 and eVC
  - SDK/Demo Programs for C#, VB.NET & eVC
- Upgrade Applications Just Copy and Play

Hardware

- Powerful CPU Module
- Built-in VGA Port: 640 x 480 ~ 1024 x 768
- 64-bit Hardware Serial Number
- Audio with Microphone-In and Earphone-Out
- Rich I/O Expansion Ability
- I/O Module Hot Swap Ability
  * Will be available
  (For High Profile I-87K Modules Only)
- Built-in 63 MB Flash Disk
- Dual Watchdog Timers
- Dual Battery Backup SRAM (512 KB)
- Dual Ethernet Ports
- Redundant Power Input
- DIN-Rail or Wall Mounting
- Operating Temperature: -25 ~ +75 °C

Applications

Rich I/O Expansion Ability

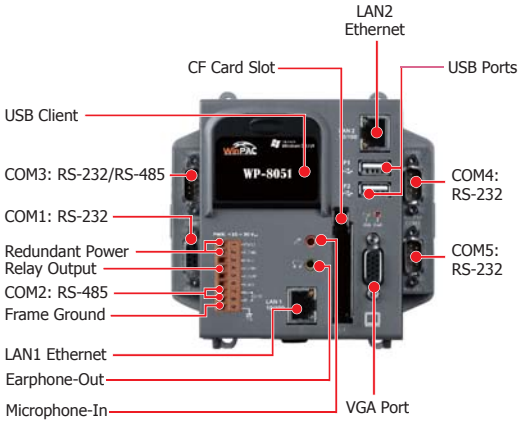


Specifications

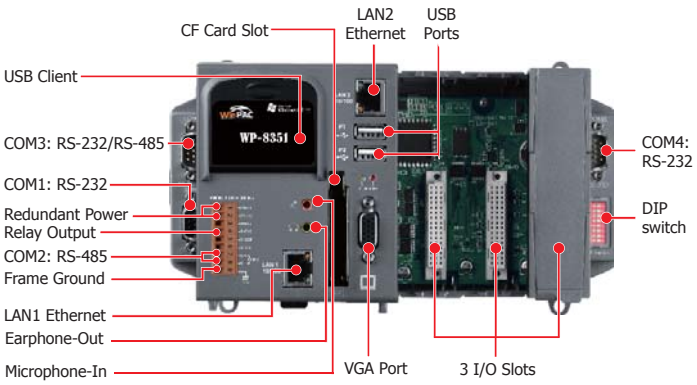
Models		WP-8051	WP-8351	WP-8751
System Software				
OS		Windows CE 5.0		
.Net Compact Framework		2.0		
Embedded Service		FTP server, Web server (supports VB script, JAVA script), Embedded SQL server		
SDK Provided		Dll for eVC, Dll for Visual Studio.Net 2005/2008		
Multilanguage Support		English, German, French, Spanish, Russian, Italian, Simplified Chinese, Traditional Chinese		
CPU Module				
CPU		PXA270 or compatible (32-bit and 520 MHz)		
SDRAM		128 MB		
Dual Battery Backup SRAM		512 KB (for 5 years data retain while power off)		
Flash	Total size	128 MB		
	OS image	64 MB		
	Built-in Flash disk	63 MB		
	Registry	1 MB		
EEPROM		16 KB		
		Data Retention: 40 years; 1,000,000 erase/write cycles		
Compact Flash		4 GB CF card (support up to 32 GB)		
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		
Programmable LED Indicator		1		
Rotary Switch		Yes (0 ~ 9)		
DIP Switch		-	Yes (8 bits)	
Audio		Microphone-In and Earphone-Out		
VGA & Communication Ports				
VGA	Extra GPU	Yes		
	Resolution	1024 x 768, 800 x 600, 640 x 480		
Ethernet		RJ-45 x 2, 10/100 Base-TX (Auto-negotiating, LED indicators)		
USB 1.1 (host)		2		
USB 1.1 (client)		1		
COM 0		-	Internal communication with the high profile I-87K series modules in slots	
COM 1		RS-232 (to update firmware) (RxD, TxD and GND); non-isolated		
COM 2		RS-485 (D2+, D2-); 3000 V_{DC} isolated		
COM 3		RS-232/RS-485 (RxD, TxD, CTS, RTS and GND for RS-232, Data+ and Data- for RS-485); non-isolated		
COM 4		RS-232 (RxD, TxD, CTS, RTS, DSR, DTR, CD, RI and GND); non-isolated		
COM 5		RS-232 (RxD, TxD, and GND); non-isolated	-	
I/O Expansion Slots				
Slot Number		0	3	7
		(For High Profile I-8K and I-87K Modules Only)		
Hot Swap * Will be available		For High Profile I-87K Modules Only		
Mechanical				
Dimensions (W x L x H)		137 mm x 132 mm x 111 mm	231 mm x 132 mm x 111 mm	355 mm x 132 mm x 111 mm
Installation		DIN-Rail or Wall Mounting		
Environmental				
Operating Temperature		-25 ~ +75 °C		
Storage Temperature		-30 ~ +80 °C		
Ambient Relative Humidity		10 ~ 90% RH (non-condensing)		
Power				
Input Range		+10 ~ +30 V_{DC}		
Isolation		1 kV		
Redundant Power Inputs		Yes, with one power relay (1 A @ 24 V_{DC}) for alarm		
Capacity		1.2 A, 5 V supply to CPU and backplane, 15 W in total	1.3 A, 5 V supply to CPU and backplane, 4.7 A, 5 V supply to I/O expansion slots, 30 W in total	1.4 A, 5 V supply to CPU and backplane, 4.6 A, 5 V supply to I/O expansion slots, 30 W in total
Consumption		8.4 W (0.35 A @ 24 V_{DC})	9.6 W (0.4 A @ 24 V_{DC})	10 W (0.42 A @ 24 V_{DC})

Appearance

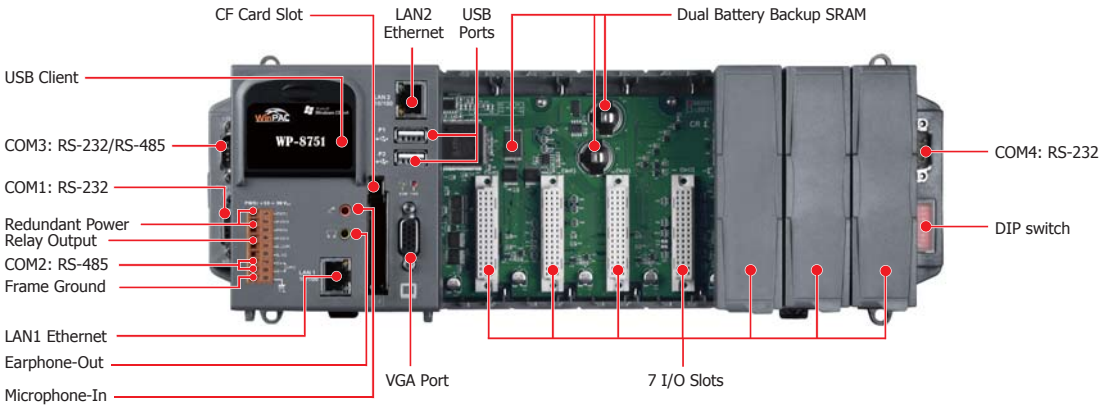
WP-8051



WP-8351

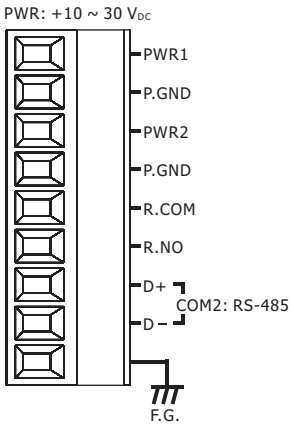


WP-8751

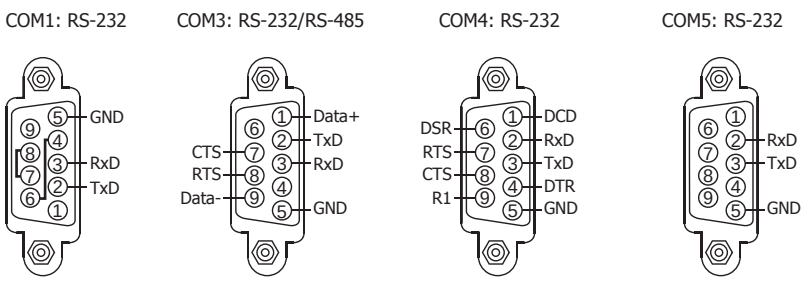


Pin Assignments

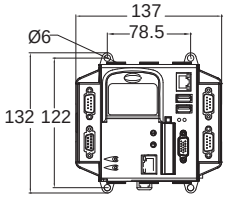
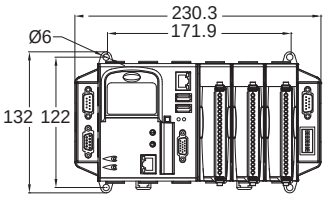
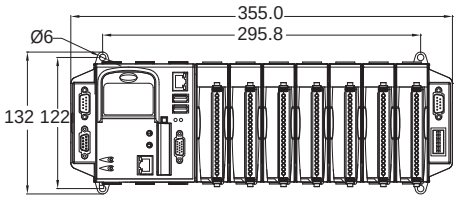
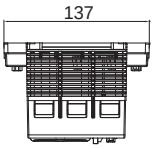
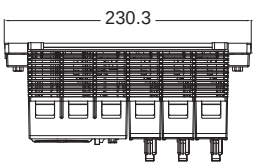
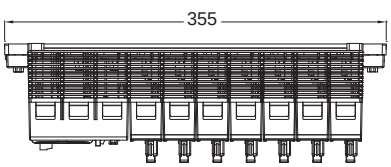
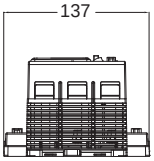
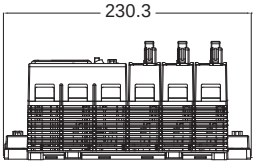
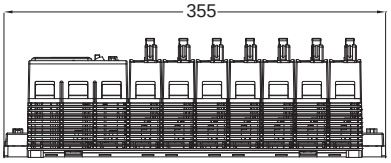
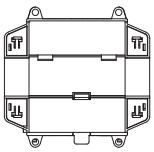
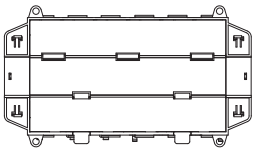
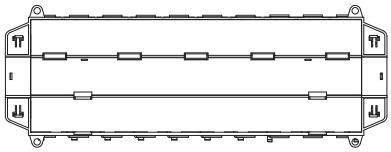
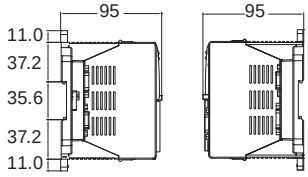
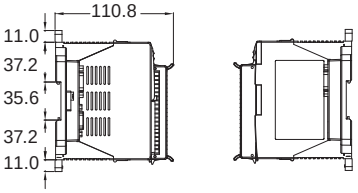
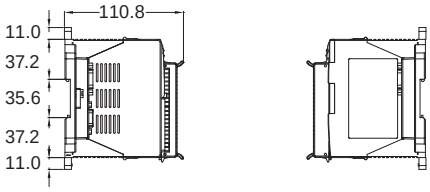
Terminal Block



COM Port



Dimensions (Units: mm)

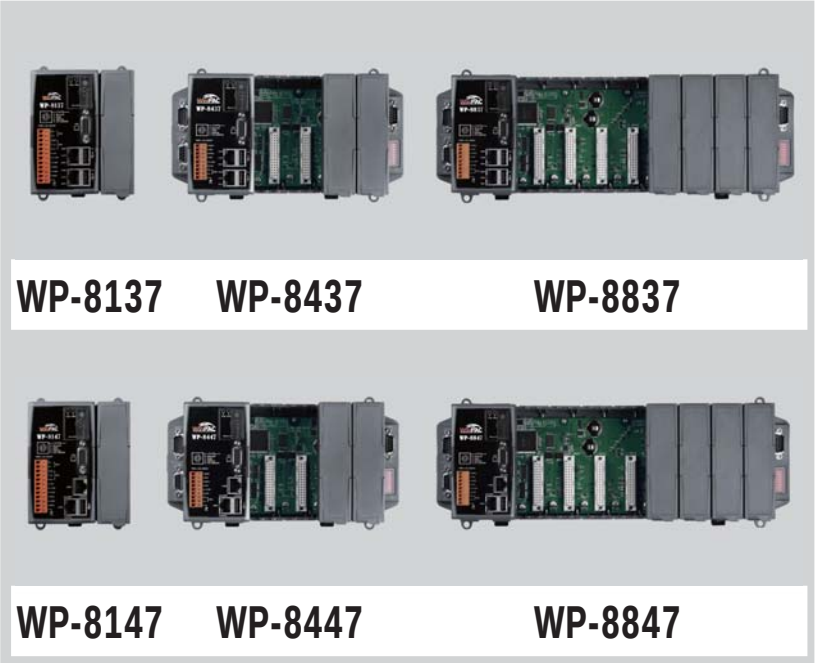
WP-8051	WP-8351	WP-8751
		
Front View	Front View	Front View
		
Top View	Top View	Top View
		
Bottom View	Bottom View	Bottom View
		
Rear View	Rear View	Rear View
		
Left Side View / Right Side View	Left Side View / Right Side View	Left Side View / Right Side View

Ordering Information

WP-8051	Standard WinPAC-8000 without I/O Slot (Multilanguage Version of OS)
WP-8351	Standard WinPAC-8000 with 3 I/O Slots (Multilanguage Version of OS)
WP-8751	Standard WinPAC-8000 with 7 I/O Slots (Multilanguage Version of OS)

Accessories

DP-660	24 VDC/2.5 A, 60 W and 5 VDC/0.5 A, 2.5 W Power Supply with DIN-Rail Mounting
DP-1200 CR	24 VDC/5.0 A, 120 W Power Supply with DIN-Rail Mounting (RoHS)
MDR-60-24 CR	24 VDC/2.5 A, 60 W Power Supply with DIN-Rail Mounting (RoHS)



Highlight Information

- Windows CE 5.0
- Hard Real-Time Capability
- Fast Boot Speed
- ISaGRAF Ver.3 SoftLogic Inside (IEC 61131-3)
- PLC Feel
- PXA270 CPU (32-bit & 520 MHz)
- VGA Port Output
- Simple graphic HMI
- Support eLogger HMI
- Open System
- Redundant Power Input
- Operating Temperature: -25 ~ +75 °C

Introduction

WP-8x37 and WP-8x47 Series are the new generation ISaGRAF based PACs of ICP DAS. It is equipped with a PXA270 CPU (520 MHz), various connectivity (VGA, USB, Ethernet, RS-232/485) and 1/4/8 I/O slots for high performance parallel I/O modules (high profile I-8K Series) and serial I/O modules (high profile I-87K series). The benefits of running Windows CE 5.0 on WinPAC include hard real-time capability, small core size, fast boot speed, interrupt handling at a deeper level and achievable deterministic control. WinPAC is also capable of running ISaGRAF and PC-based control software such as Visual Basic .NET, Visual C#,.... etc. It has all of the best features of both traditional PLCs and Windows capable PCs.

ISaGRAF is the most powerful SoftLogic package on the market. ISaGRAF is a PLC-like software and it supports IEC 61131-3 standard PLC programming languages (LD, FBD, SFC, ST, IL, FC), and can run the application generated by the workbench on any ISaGRAF PACs. The ISaGRAF workbench Ver. 3.x features

- IEC 61131-3 Standard Open PLC Programming Languages (LD, FBD, SFC, ST, IL, FC) + Flow Chart (FC)
- Auto-Scan I/O
- On-Line Debug/Control/Monitor, Off-Line Simulation
- Simple Graphic HMI
- Support eLogger HMI

Features

Software

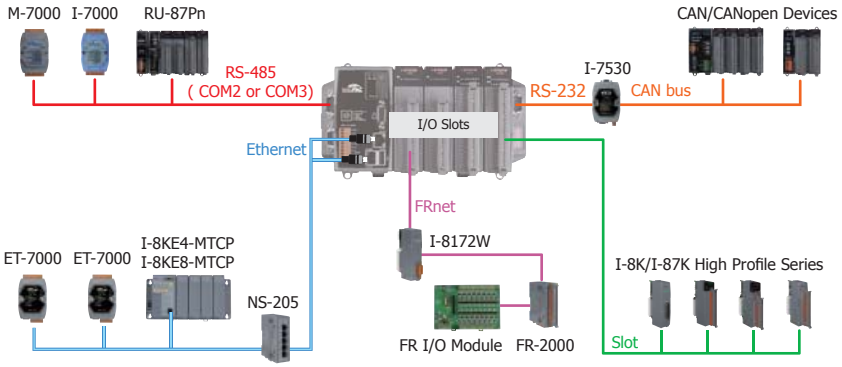
- Windows CE.NET 5.0 Operating System
- Development Softwre: ISaGRAF Ver.3
  - Windows 95/98/NT/2000/XP/Vista/7
  - All-in-one design environment
  - Easy to integrating with HMI/SCADA/MMI
- Support Modbus Master & Slave Protocols
  - Modbus TCP Master (Max. 100 devices)
  - Modbus RTU, ASCII, RS-232/485/422 Master (Max. 10 ports)
  - Modbus RTU (RS-232/485/422) Slave (Max. 5 ports)
  - Modbus TCP/IP Slave (Max. 32 connections)
- Support GPS/ZigBee/Radio Wireless & SMS
- Support Ebus/Fbus Data Exchange
- Support CAN/CANopen
- Support FRnet I/O (Via I-8172W)
- Support Data-Recorder & Data-Logger
- Support Motion Control & VW Solutions
- Support eLogger HMI

Hardware

- Powerful CPU Module
- Built-in VGA Port: 640 x 480 ~ 1024 x 768 (for WP-8x37)
- Built-in VGA Port: 640 x 480 ~ 800 x 600 (for WP-8x47)
- 64-bit Hardware Serial Number
- Rich I/O Expansion Ability
- High Profile I-87K I/O Modules Hot Swap Ability
- Built-in 2 USB Ports (for WP-8x37)
- Built-in 1 USB Ports (for WP-8x47)
- Built-in 128 MB Flash (for WP-8x37)
- Built-in 96 MB Flash (for WP-8x47)
- Dual Watchdog Timers
- Dual Battery-Backup SRAM (512 KB)
- Dual Ethernet Ports
- Redundant Power Input
- DIN-Rail or Wall Mounting
- Operating Temperature: -25 ~ +75 °C

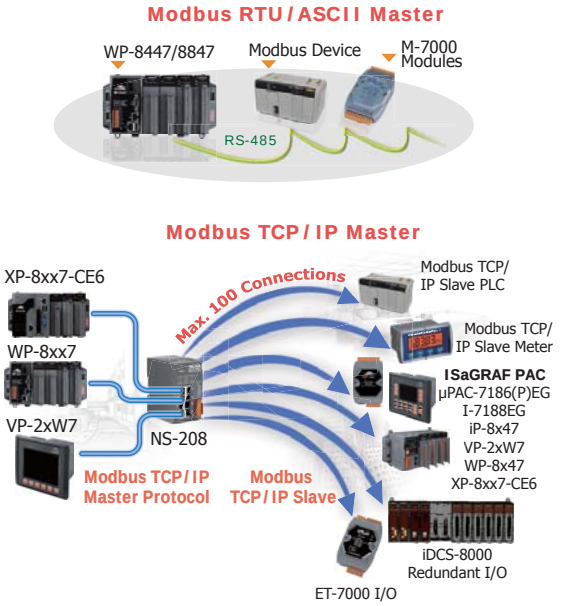
Applications

Rich I/O Expansion Ability

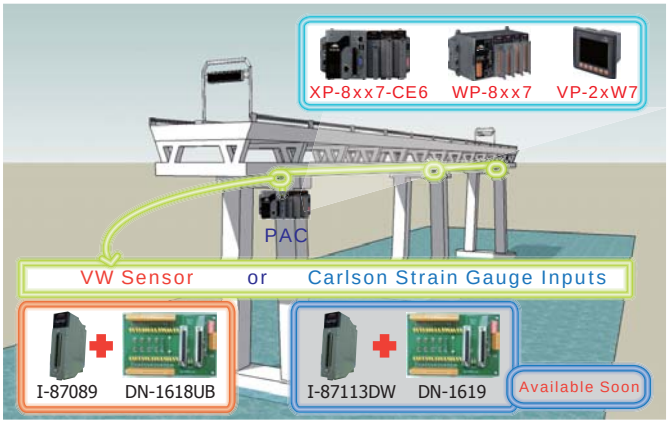


Soft-GRAF: Create A Colorful HMI in the ISaGRAF PAC

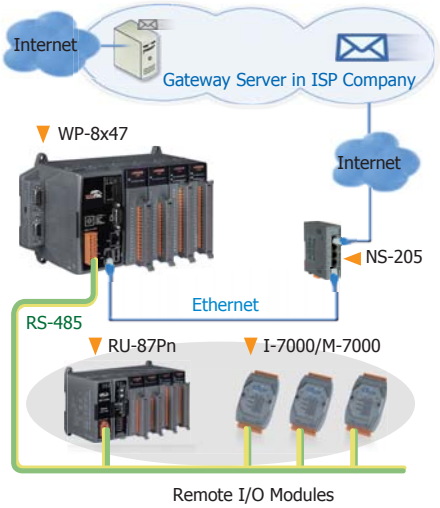
Modbus Master Ports



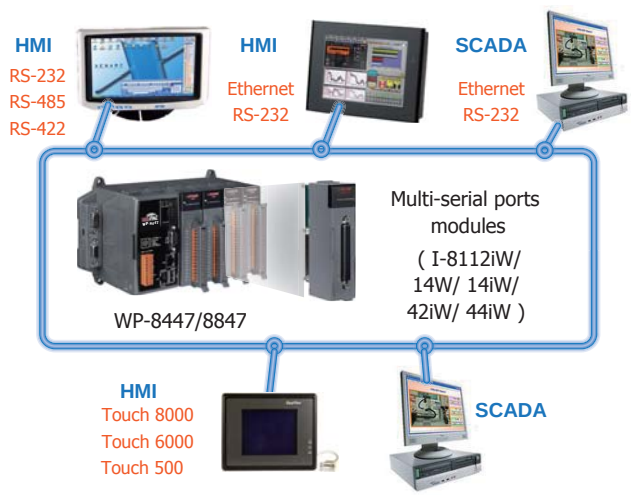
Stress Monitoring of Constructions



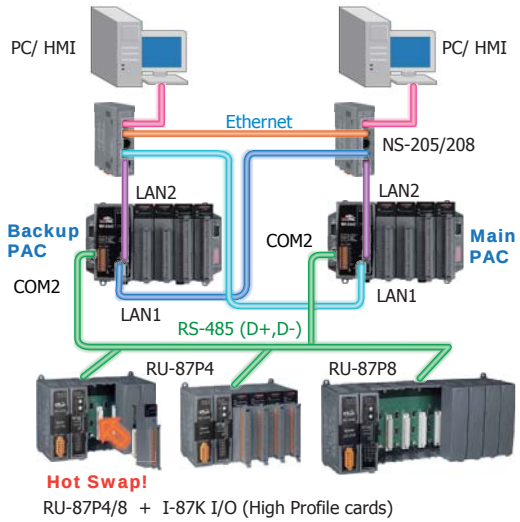
Send Email with one Attached File



Modbus RTU/TCP Slave Ports



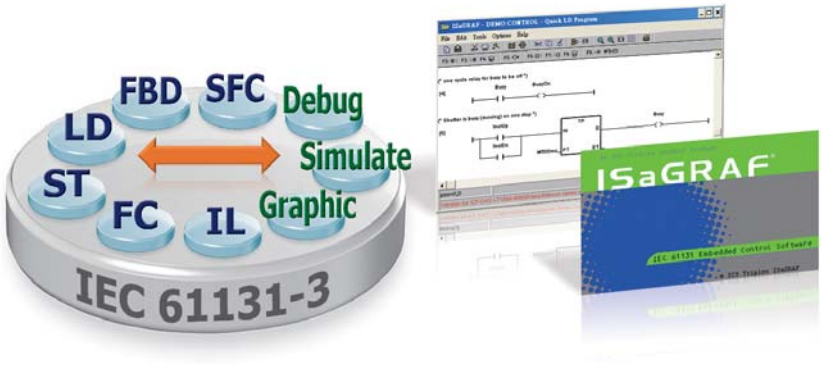
New Hot-Swap Redundant System



PAC Specifications

Models		WP-8137	WP-8147	WP-8437	WP-8447	WP-8837	WP-8847
System Software							
OS		Windows CE 5.0					
.Net Compact Framework		2.0					
Embedded Service		FTP server, Web server					
Multilanguage Support		English, German, French, Spanish, Russian, Italian, Simplified Chinese, Traditional Chinese					
Development Software							
ISaGRAF Software	ISaGRAF Ver.3	IEC 61131-3 standard.					
	Languages	LD, ST, FBD, SFC, IL & FC					
	Max. Code Size	1 MB					
	Scan Time	3 ~ 15 ms for normal program 15 ~ 50 ms for complex or large program					
Non-ISaGRAF		Options: MS eVC++ 4.0 or VS.NET 2005/2008 (VB.NET, C#.NET)					
Web Service							
Web HMI		PC running Internet Explorer can monitor/control PAC via Internet/modem					
Security		Support three levels username and password protection. (high/middle/low)					
CPU Module							
CPU		PXA270 or compatible (32-bit and 520 MHz)					
SDRAM		128 MB					
Dual Battery Backup SRAM		512 KB (for 5 years data retain while power off)					
Flash	Total size	128 MB	96 MB	128 MB	96 MB	128 MB	96 MB
	OS image	64 MB		64 MB		64 MB	
	Built-in Flash disk	63 MB	31 MB	63 MB	31 MB	63 MB	31 MB
	Registry	1 MB		1 MB		1 MB	
EEPROM		16 KB					
		Data Retention: 40 years; 1,000,000 erase/write cycles					
microSD		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					
Programmable LED Indicator		1					
Rotary Switch		Yes (0 ~ 9)					
DIP Switch		-		Yes (8 bits)			
VGA & Communication Ports							
VGA	Extra GPU	Yes	-	Yes	-	Yes	-
	Resolution	1024 x 768, 800 x 600, 640 x 480	800 x 600, 640 x 480	1024 x 768, 800 x 600, 640 x 480	800 x 600, 640 x 480	1024 x 768, 800 x 600, 640 x 480	800 x 600, 640 x 480
Ethernet		RJ-45 x 2, 10/100 Base-TX (Auto-negotiating, LED indicators)					
USB 1.1 (host)		2	1	2	1	2	1
COM 0		Internal communication with the high profile I-87K series modules in slots					
COM 1		RS-232 (to update firmware) (RxD, TxD and GND); non-isolated					
COM 2	RS-485	D2+, D2-; self-tuner ASIC inside					
	Isolation	2500 V_{DC}		3000 V_{DC}			
COM 3		-		RS-232/RS-485 (RxD, TxD, CTS, RTS and GND for RS-232, Data+ and Data- for RS-485); non-isolated			
COM 4		-		RS-232 (RxD, TxD, CTS, RTS, DSR, DTR, CD, RI and GND); non-isolated			
I/O Expansion Slots							
Slot Number		1		4		8	
		(For High Profile I-8K and I-87K Modules Only)					
Hot Swap * Will be available		For High Profile I-87K Modules Only					
Mechanical							
Dimensions (W x L x H)		95 mm x 132 mm x 111 mm		231 mm x 132 mm x 111 mm		355 mm x 132 mm x 111 mm	
Installation		DIN-Rail or Wall Mounting					
Environmental							
Operating Temperature		-25 ~ +75 °C					
Storage Temperature		-30 ~ +80 °C					
Ambient Relative Humidity		10 ~ 90% RH (non-condensing)					
Power							
Input Range		+10 ~ +30 V_{DC}					
Isolation		1 kV					
Redundant Power Inputs		Yes, with one power relay (1 A @ 24 V_{DC}) for alarm					
Capacity		1.0 A, 5 V supply to CPU and backplane, 0.6 A, 5 V supply to I/O expansion slots, 8 W in total		1.1 A, 5 V supply to CPU and backplane, 4.9 A, 5 V supply to I/O expansion slots, 30 W in total for WP-8447 25 W in total for WP-8437		1.2 A, 5 V supply to CPU and backplane, 4.8 A, 5 V supply to I/O expansion slots, 30 W in total for WP-8847 25 W in total for WP-8837	
Consumption		7.3 W (0.3 A @ 24 V_{DC})		9.1 W (0.38 A @ 24 V_{DC})		9.6 W (0.4 A @ 24 V_{DC})	

ISaGRAF Specifications

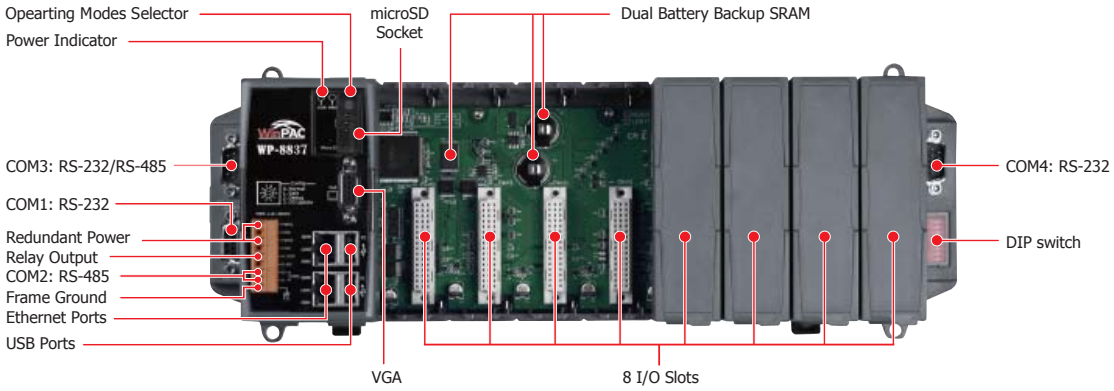


Protocols (some protocols need optional devices)		
NET ID		1~255, user-assigned by software
Modbus TCP/IP Master		Link to max. 100 devices that support Standard Modbus TCP/IP Slave protocol
Modbus RTU/ASCII Master		Max. 10 ports: COM1 ~ 14 (To connect to other Modbus Slave devices). Support Multi-ports. (*)
Modbus RTU Slave		Max. 5 ports: COM1, one of COM2/3, COM4 ~ 8 (For connecting ISaGRAF, PC/HMI/OPC Server & HMI panels). (*)
Modbus TCP/IP Slave		Ethernet LAN1 & LAN2 support total up to 32 connections. When one port is broken, the other one can still connect to PC/HMI.
Web HMI Protocol		Ethernet Ports for connecting PC running Internet Explorer
I-7000 & I-87K RS-485 Remote I/O		One of COM2, COM3 supports I-7000 I/O modules, I-87K base + I-87K Serial I/O boards and RU-87Pn + I-87K High Profile I/O boards as Remote I/O. Max. 255 modules for one controller. (*)
M-7000 Series Modbus I/O		Max. 10 RS-485 ports (COM1 ~ 14) can support M-7000 I/O. Each port can connect up to 32 M-7000 Modules.
Modbus TCP/IP I/O		LAN2 supports ICP DAS Ethernet I/O: I-8KE4-MTCP and I-8KE8-MTCP. If LAN2 is broken, it will switch to LAN1 automatically to continuously work. (LAN1 & LAN2's IP are requested set in the same IP domain)
FRnet I/O		Max. 8 pcs. I-8172W boards in slot 0 ~ 7 to connect to FRnet I/O modules
Send Email		Supports functions to send email with one attached file via Ethernet port.
Ebus		LAN2 to exchange data between ISaGRAF Ethernet PAC via Ethernet port.
SMS: Short Message Service		WP-84x7/88x7's COM4/5 and WP-81x7's COM1/COM5 can link to a GSM Modem to support SMS. User can request data/control the controller by cellular phone. The controller can also send data & alarms to user's cellular phone. (*)
User-Defined Protocol		COM1 ~ COM14 by Serial communication function blocks (*)
MMICON/LCD		COM4 or COM5 and supports ICP DAS's MMICON. (*)
UDP Server & UDP Client : Exchange Message & Auto-Report		LAN1 or LAN2 (To send/receive message to/from PC/HMI or other devices.)
TCP Client : Exchange Message & Auto-Report		LAN1 or LAN2 (To send/receive message to/from PC/HMI or other devices which support TCP server protocol.) Ex: automatically report data to InduSoft's RXTX driver, or to connect a location camera.
New Hot-Swap and Redundant System		This redundant system has setup two "Active IP" address point to the active LAN1 and LAN2 ports always. One or more PC/HMI/SCADA can communicate with this redundant system via one of the two given active IP. So the PC/HMI/SCADA can access to the system easily without any notice about which WP-8xx7 is currently active. Moreover, the new redundant system can integrate with the RU-87P4/87P8 Expansion Unit plus the I-87K high-profile I/O cards to support the hot-swap application. If the I/O card is damaged, the maintenance person just takes one good-card with same model number to hot-swap the damaged one without stopping this redundant system.
CAN/CANopen		COM1, COM3 ~ COM14 can connect one I-7530 (converter: RS-232 to CAN) to support CAN/CANopen devices and sensors. One WP-8xx7 supports max.10 RS-232 ports to connect max.10 I-7530. (*)
Optional I/O Functions (Refer to ISaGRAF PAC I/O Selection Guide for I/O Module list)		
PWM Output	High Speed PWM Module	I-7088, I-8088W, I-87088W: 8-ch. PWM outputs, software support 1Hz~100KHz (non-continuous), duty: 0.1~99.9%
	DO Module as PWM	8-ch max. 250 Hz max. For Off=2 & On=2 ms. Output square wave: Off: 2~32766 ms, On: 2 ~ 32766 ms. Optional DO Boards: I-8037W, 8041W, 8041AW, 8042W, 8050W... (Relay Output boards can not generate fast square wave)
Counter, Encoder, Frequency	Parallel DI Counter	8 ch. max. for 1 controller. Counter val: 32 bit. 250 Hz max. Min. ON & OFF width must > 2 ms. Optional DI Boards: I-8040W, 8040PW, 8042W, 8046W, 8048W, 8050W, 8051W, 8052W, 8053W, 8053PW, 8054W, 8055W...
	Serial DI Counter	Counter input: 100 Hz max. Counter value: 0 ~ 65535 (16 bit) Optional Serial I-87K DI Boards: I-87040W, 87046W, 87051W, 87052W, 87053W, 87053W-A5, 87054W, 87055W, 87058W...
	Remote DI Counter	All I-7K/I-87K DI modules support counters. 100 Hz max. value: 0 ~ 65535
	High Speed Counter	I-87082W: 100 kHz max.; I-8084W: 250 kHz max.
	Encoder	I-8093W: 3-axis Encoder Module, max. 1M Hz for quadrant input mode, max. 4 MHz for pulse/direction and cw/ccw input mode. I-8084W: 250 kHz max., 4-ch encoder, can be dir/pulse, or up/down or A/B phase (Quad. mode), Not support Encoder Z-index.
	Frequency	I-87082W: 2-ch, 1 Hz ~ 100 kHz; I-8084W: 8-ch, 1 Hz ~ 250 kHz
Motion	Motion Control	With one I-8091W (2-axis) or two I-8091W (4-axis)

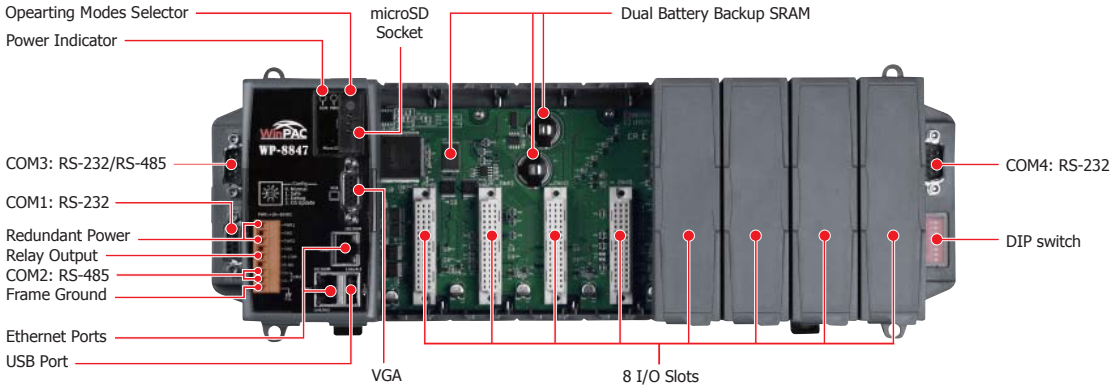
***Note: COM5 ~ COM14 are resided at the expansion boards if they are plugged on slot0~7 of WP-8xx7.**
WP-8137/8147 has no COM3 & COM4.

Appearance

WP-8837



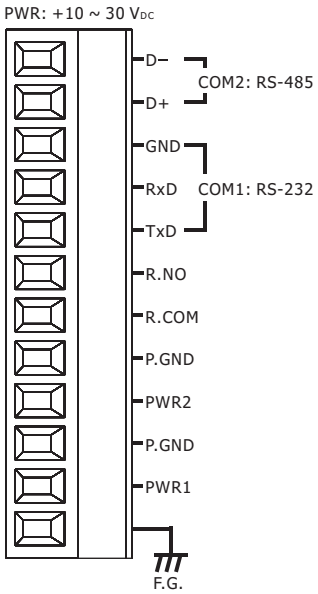
WP-8847



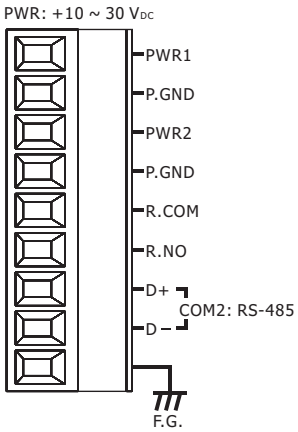
Pin Assignments

Terminal Block

WP-81x7

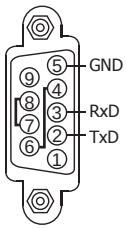


WP-84x1/88x7

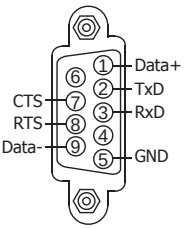


WP-84x7/88x7 COM Port

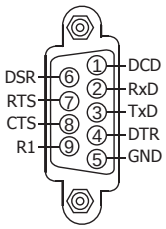
COM1: RS-232



COM3: RS-232/RS-485

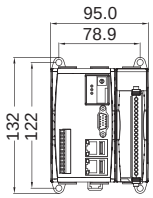


COM4: RS-232



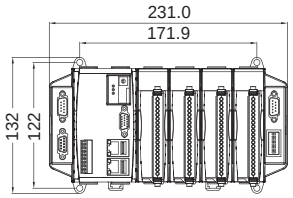
Dimensions (Units: mm)

WP-8137



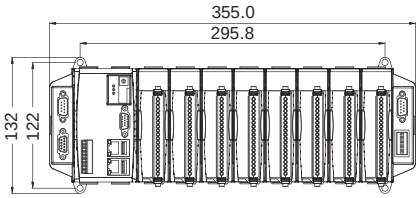
Front View

WP-8437



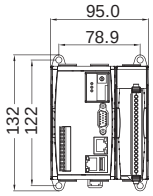
Front View

WP-8837



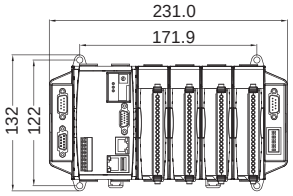
Front View

WP-8147



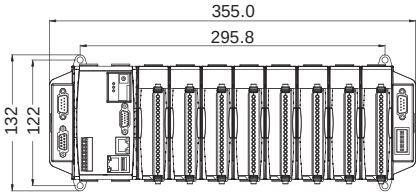
Front View

WP-8447



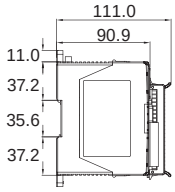
Front View

WP-8847



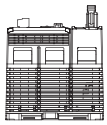
Front View

WP-8x37/8x47



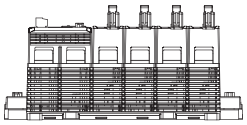
Left Side View

WP-81x7



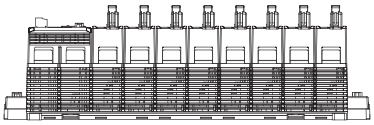
Bottom View

WP-84x7



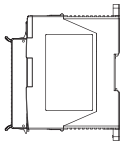
Bottom View

WP-88x7



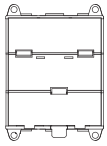
Bottom View

WP-8x37/8x47



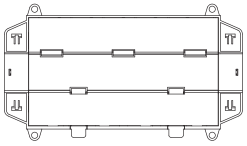
Right Side View

WP-81x7



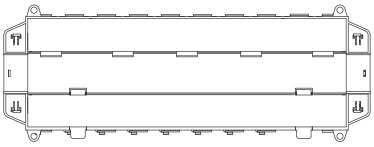
Rear View

WP-84x7



Rear View

WP-88x7



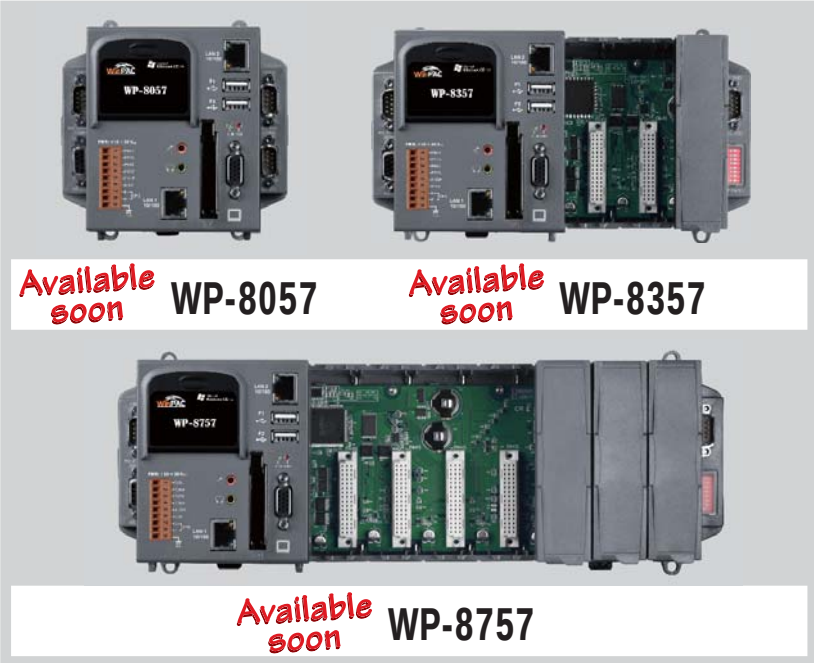
Rear View

Ordering Information

WP-8137-EN	WP-8147-EN	ISaGRAF based WinPAC-8000 with 1 I/O Slot (Multilanguage Version of OS)
WP-8437-EN	WP-8447-EN	ISaGRAF based WinPAC-8000 with 4 I/O Slots (Multilanguage Version of OS)
WP-8837-EN	WP-8847-EN	ISaGRAF based WinPAC-8000 with 8 I/O Slots (Multilanguage Version of OS)
WP-8137-TC	WP-8147-TC	ISaGRAF based WinPAC-8000 with 1 I/O Slot (Traditional Chinese Version of OS)
WP-8437-TC	WP-8447-TC	ISaGRAF based WinPAC-8000 with 4 I/O Slots (Traditional Chinese Version of OS)
WP-8837-TC	WP-8847-TC	ISaGRAF based WinPAC-8000 with 8 I/O Slots (Traditional Chinese Version of OS)
WP-8137-SC	WP-8147-SC	ISaGRAF based WinPAC-8000 with 1 I/O Slot (Simplified Chinese Version of OS)
WP-8437-SC	WP-8447-SC	ISaGRAF based WinPAC-8000 with 4 I/O Slots (Simplified Chinese Version of OS)
WP-8837-SC	WP-8847-SC	ISaGRAF based WinPAC-8000 with 8 I/O Slots (Simplified Chinese Version of OS)

Accessories

ISaGRAF Development Software	
ISaGRAF-256-E	ISaGRAF Workbench Software Ver.3 (256 I/O Tags) with One Application Book (English version) and one USB Dongle
ISaGRAF-256-C	ISaGRAF Workbench Software Ver.3 (256 I/O Tags) with One Application Book (Chinese version) and one USB Dongle
ISaGRAF-32-E	ISaGRAF Workbench Software Ver.3 (32 I/O Tags) with One Application Book (English version) Note: No upgrade service from ISaGRAF-32 to ISaGRAF-256. (Using ISaGRAF-32 can control more than 32 I/O tags. Please refer to ISaGRAF User's Manual Ch. 3.4)
ISaGRAF-32-C	ISaGRAF Workbench Software Ver.3 (32 I/O Tags) with One Application Book (Chinese version) Note: No upgrade service from ISaGRAF-32 to ISaGRAF-256. (Using ISaGRAF-32 can control more than 32 I/O tags. Please refer to ISaGRAF User's Manual Ch. 3.4)
Power Supply	
DP-660	24 VDC/2.5 A, 60 W and 5 VDC/0.5 A, 2.5 W Power Supply with DIN-Rail Mounting
DP-1200 CR	24 VDC/5.0 A, 120 W Power Supply with DIN-Rail Mounting (RoHS)
MDR-60-24 CR	24 VDC/2.5 A, 60 W Power Supply with DIN-Rail Mounting (RoHS)



Highlight Information

- Windows CE 5.0
- Hard Real-Time Capability
- Fast Boot Speed
- ISaGRAF Ver.3 SoftLogic Inside (IEC 61131-3)
- PLC Feel
- PXA270 CPU (32-bit & 520 MHz)
- Audio with Microphone-In and Earphone-Out
- VGA Port Output
- Simple graphic HMI
- Support eLogger HMI
- Open System
- Redundant Power Input
- Operating Temperature: -25 ~ +75 °C

Introduction

WP-8x57 Series is the new generation ISaGRAF based PACs of ICP DAS. It is equipped with a PXA270 CPU (520 MHz), various connectivity (VGA, USB, Ethernet, RS-232/485) and 0/3/7 I/O slots for high performance parallel I/O modules (high profile I-8K Series) and serial I/O modules (high profile I-87K series). The benefits of running Windows CE 5.0 on WinPAC include hard real-time capability, small core size, fast boot speed, interrupt handling at a deeper level and achievable deterministic control. WinPAC is also capable of running ISaGRAF and PC-based control software such as Visual Basic .NET, Visual C#,.... etc. It has all of the best features of both traditional PLCs and Windows capable PCs.

ISaGRAF is the most powerful SoftLogic package on the market. ISaGRAF is a PLC-like software and it supports IEC 61131-3 standard PLC programming languages (LD, FBD, SFC, ST, IL, FC), and can run the application generated by the workbench on any ISaGRAF PACs. The ISaGRAF workbench Ver. 3.x features

- IEC 61131-3 Standard Open PLC Programming Languages (LD, FBD, SFC, ST, IL, FC) + Flow Chart (FC)
- Auto-Scan I/O
- On-Line Debug/Control/Monitor, Off-Line Simulation
- Simple Graphic HMI
- Support eLogger HMI

Features

Software

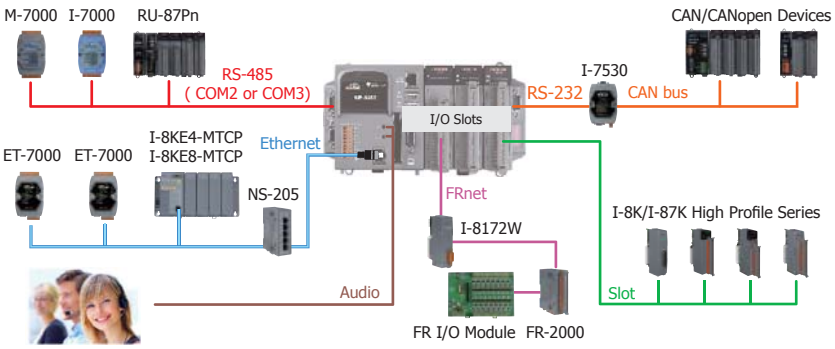
- Windows CE.NET 5.0 Operating System
- Development Softwre: ISaGRAF Ver.3
  - Windows 95/98/NT/2000/XP/Vista/7
  - All-in-one design environment
  - Easy to integrating with HMI/SCADA/MMI
- Support Modbus Master & Slave Protocols
  - Modbus TCP Master (Max. 100 devices)
  - Modbus RTU, ASCII, RS-232/485/422 Master (Max. 10 ports)
  - Modbus RTU (RS-232/485/422) Slave (Max. 5 ports)
  - Modbus TCP/IP Slave (Max. 32 connections)
- Support GPS/ZigBee/Radio Wireless & SMS
- Support Ebus/Fbus Data Exchange
- Support CAN/CANopen
- Support FRnet I/O (Via I-8172W)
- Support Data-Recorder & Data-Logger
- Support Motion Control & VW Solutions
- Support eLogger HMI

Hardware

- Powerful CPU Module
- Built-in VGA Port: 640 x 480 ~ 1024 x 768
- 64-bit Hardware Serial Number
- Audio with Microphone-In and Earphone-Out
- Rich I/O Expansion Ability
- High Profile I-87K I/O Modules Hot Swap Ability
- Built-in 2 USB Ports
- Built-in 128 MB Flash
- Dual Watchdog Timers
- Dual Battery-Backup SRAM (512 KB)
- Dual Ethernet Ports
- Redundant Power Input
- DIN-Rail or Wall Mounting
- Operating Temperature: -25 ~ +75 °C

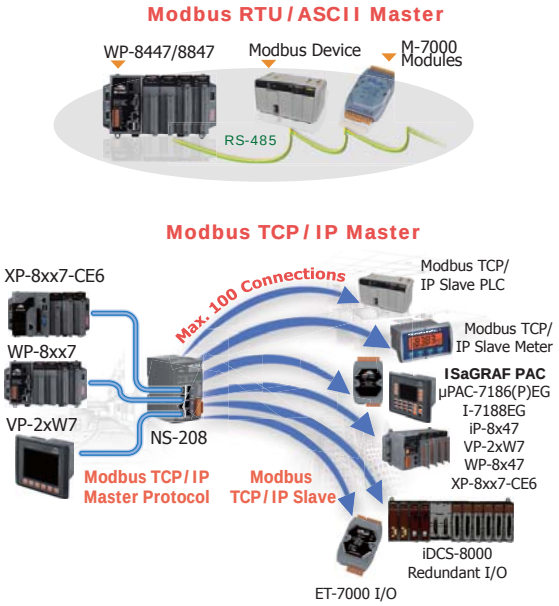
Applications

Rich I/O Expansion Ability

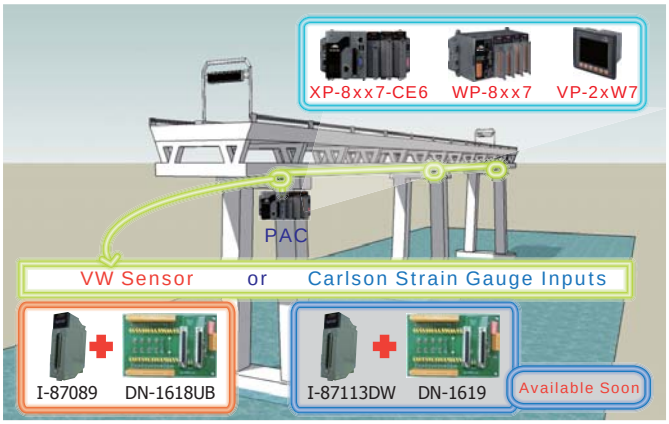


Soft-GRAF: Create A Colorful HMI in the ISaGRAF PAC

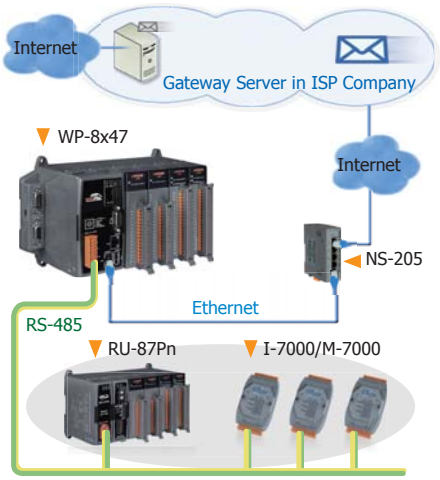
Modbus Master Ports



Stress Monitoring of Constructions

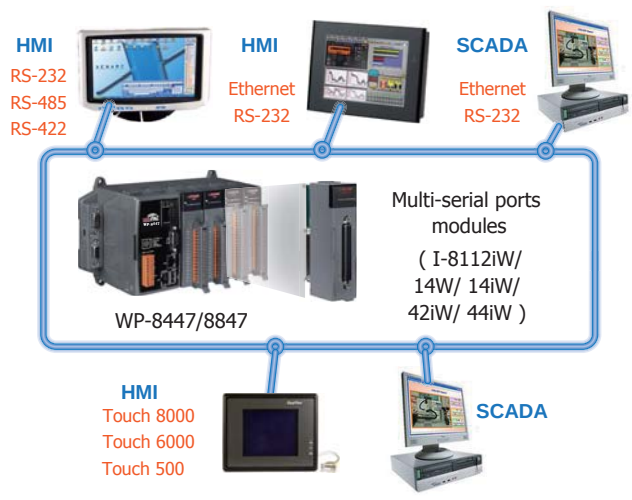


Send Email with one Attached File

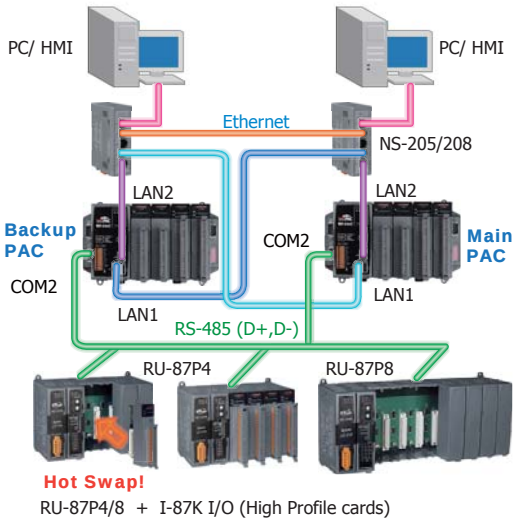


Remote I/O Modules

Modbus RTU/TCP Slave Ports



New Hot-Swap Redundant System

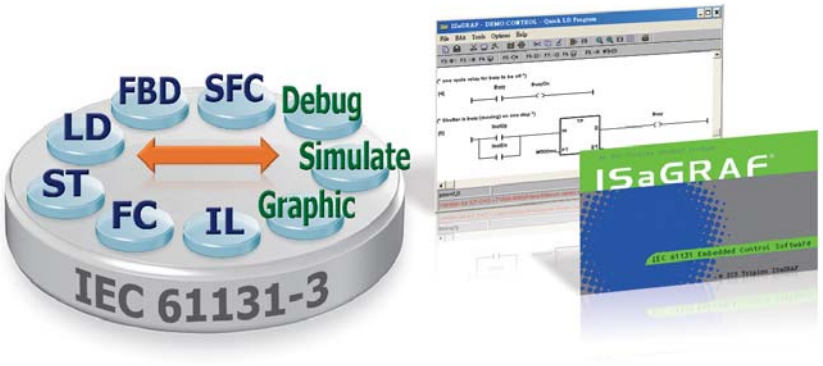


RU-87P4/8 + I-87K I/O (High Profile cards)

PAC Specifications

Models		WP-8057	WP-8357	WP-8757
System Software				
OS		Windows CE 5.0		
.Net Compact Framework		2.0		
Embedded Service		FTP server, Web server		
Multilanguage Support		English, German, French, Spanish, Russian, Italian, Simplified Chinese, Traditional Chinese		
Development Software				
ISaGRAF Software	ISaGRAF Ver.3	IEC 61131-3 standard.		
	Languages	LD, ST, FBD, SFC, IL & FC		
	Max. Code Size	1 MB		
	Scan Time	3 ~ 15 ms for normal program 15 ~ 50 ms for complex or large program		
Non-ISaGRAF		Options: MS eVC++ 4.0 or VS.NET 2005/2008 (VB.NET, C#.NET)		
Web Service				
Web HMI		PC running Internet Explorer can monitor/control PAC via Internet/modem		
Security		Support three levels username and password protection. (high/middle/low)		
CPU Module				
CPU		PXA270 or compatible (32-bit and 520 MHz)		
SDRAM		128 MB		
Dual Battery Backup SRAM		512 KB (for 5 years data retain while power off)		
Flash	Total size	128 MB		
	OS image	64 MB		
	Built-in Flash disk	63 MB		
	Registry	1 MB		
EEPROM		16 KB		
		Data Retention: 40 years; 1,000,000 erase/write cycles		
Compact Flash		4 GB CF card (support up to 32 GB)		
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		
Programmable LED Indicator		1		
Rotary Switch		Yes (0 ~ 9)		
DIP Switch		-	Yes (8 bits)	
Audio		Microphone-In and Earphone-Out		
VGA & Communication Ports				
VGA	Extra GPU	Yes		
	Resolution	1024 x 768, 800 x 600, 640 x 480		
Ethernet		RJ-45 x 2, 10/100 Base-TX (Auto-negotiating, LED indicators)		
USB 1.1 (host)		2		
USB 1.1 (client)		-	1	
COM 0		Internal communication with the high profile I-87K series modules in slots		
COM 1		RS-232 (to update firmware) (RxD, TxD and GND); non-isolated		
COM 2		RS-485 (D2+, D2-); 3000 V_{DC} isolated		
COM 3		RS-232/RS-485 (RxD, TxD, CTS, RTS and GND for RS-232, Data+ and Data- for RS-485); non-isolated		
COM 4		RS-232 (RxD, TxD, CTS, RTS, DSR, DTR, CD, RI and GND); non-isolated		
COM 5		RS-232 (RxD, TxD, and GND); non-isolated	-	
I/O Expansion Slots				
Slot Number		0	3	7
		(For High Profile I-8K and I-87K Modules Only)		
Hot Swap * Will be available		For High Profile I-87K Modules Only		
Mechanical				
Dimensions (W x L x H)		137 mm x 132 mm x 111 mm	231 mm x 132 mm x 111 mm	355 mm x 132 mm x 111 mm
Installation		DIN-Rail or Wall Mounting		
Environmental				
Operating Temperature		-25 ~ +75 °C		
Storage Temperature		-30 ~ +80 °C		
Ambient Relative Humidity		10 ~ 90% RH (non-condensing)		
Power				
Input Range		+10 ~ +30 V_{DC}		
Isolation		1 kV		
Redundant Power Inputs		Yes, with one power relay (1 A @ 24 V_{DC}) for alarm		
Capacity		1.0 A, 5 V supply to CPU and backplane, 0.6 A, 5 V supply to I/O expansion slots, 8 W in total	1.1 A, 5 V supply to CPU and backplane, 4.9 A, 5 V supply to I/O expansion slots, 30 W in total	1.2 A, 5 V supply to CPU and backplane, 4.8 A, 5 V supply to I/O expansion slots, 30 W in total
Consumption		7.3 W (0.3 A @ 24 V_{DC})	9.1 W (0.38 A @ 24 V_{DC})	9.6 W (0.4 A @ 24 V_{DC})

ISaGRAF Specifications

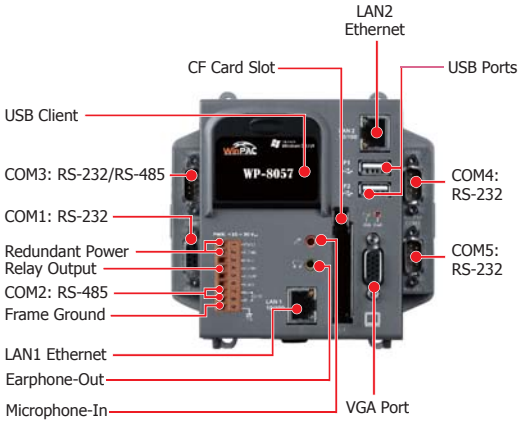


Protocols (some protocols need optional devices)		
NET ID		1~255, user-assigned by software
Modbus TCP/IP Master		Link to max. 100 devices that support Standard Modbus TCP/IP Slave protocol
Modbus RTU/ASCII Master		Max. 10 ports: COM1 ~ 14 (To connect to other Modbus Slave devices). Support Multi-ports. (*)
Modbus RTU Slave		Max. 5 ports: COM1, one of COM2/3, COM4 ~ 8 (For connecting ISaGRAF, PC/HMI/OPC Server & HMI panels). (*)
Modbus TCP/IP Slave		Ethernet LAN1 & LAN2 support total up to 32 connections. When one port is broken, the other one can still connect to PC/HMI.
Web HMI Protocol		Ethernet Ports for connecting PC running Internet Explorer
I-7000 & I-87K RS-485 Remote I/O		One of COM2, COM3 supports I-7000 I/O modules, I-87K base + I-87K Serial I/O boards and RU-87Pn + I-87K High Profile I/O boards as Remote I/O. Max. 255 modules for one controller. (*)
M-7000 Series Modbus I/O		Max. 10 RS-485 ports (COM1 ~ 14) can support M-7000 I/O. Each port can connect up to 32 M-7000 Modules.
Modbus TCP/IP I/O		LAN2 supports ICP DAS Ethernet I/O: I-8KE4-MTCP and I-8KE8-MTCP. If LAN2 is broken, it will switch to LAN1 automatically to continuously work. (LAN1 & LAN2's IP are requested set in the same IP domain)
FRnet I/O		Max. 8 pcs. I-8172W boards in slot 0 ~ 7 to connect to FRnet I/O modules
Send Email		Supports functions to send email with one attached file via Ethernet port.
Ebus		LAN2 to exchange data between ISaGRAF Ethernet PAC via Ethernet port.
SMS: Short Message Service		WP-84x7/88x7's COM4/5 and WP-81x7's COM1/COM5 can link to a GSM Modem to support SMS. User can request data/control the controller by cellular phone. The controller can also send data & alarms to user's cellular phone. (*)
User-Defined Protocol		COM1 ~ COM14 by Serial communication function blocks (*)
MMICON/LCD		COM4 or COM5 and supports ICP DAS's MMICON. (*)
UDP Server & UDP Client : Exchange Message & Auto-Report		LAN1 or LAN2 (To send/receive message to/from PC/HMI or other devices.)
TCP Client : Exchange Message & Auto-Report		LAN1 or LAN2 (To send/receive message to/from PC/HMI or other devices which support TCP server protocol.) Ex: automatically report data to InduSoft's RXTX driver, or to connect a location camera.
New Hot-Swap and Redundant System		This redundant system has setup two "Active IP" address point to the active LAN1 and LAN2 ports always. One or more PC/HMI/SCADA can communicate with this redundant system via one of the two given active IP. So the PC/HMI/SCADA can access to the system easily without any notice about which WP-8xx7 is currently active. Moreover, the new redundant system can integrate with the RU-87P4/87P8 Expansion Unit plus the I-87K high-profile I/O cards to support the hot-swap application. If the I/O card is damaged, the maintenance person just takes one good-card with same model number to hot-swap the damaged one without stopping this redundant system.
CAN/CANopen		COM1, COM3 ~ COM14 can connect one I-7530 (converter: RS-232 to CAN) to support CAN/CANopen devices and sensors. One WP-8xx7 supports max.10 RS-232 ports to connect max.10 I-7530. (*)
Optional I/O Functions (Refer to ISaGRAF PAC I/O Selection Guide for I/O Module list)		
PWM Output	High Speed PWM Module	I-7088, I-8088W, I-87088W: 8-ch. PWM outputs, software support 1Hz~100KHz (non-continuous), duty: 0.1~99.9%
	DO Module as PWM	8-ch max. 250 Hz max. For Off=2 & On=2 ms. Output square wave: Off: 2~32766 ms, On: 2 ~ 32766 ms. Optional DO Boards: I-8037W, 8041W, 8041AW, 8042W, 8050W... (Relay Output boards can not generate fast square wave)
Counter, Encoder, Frequency	Parallel DI Counter	8 ch. max. for 1 controller. Counter val: 32 bit. 250 Hz max. Min. ON & OFF width must > 2 ms. Optional DI Boards: I-8040W, 8040PW, 8042W, 8046W, 8048W, 8050W, 8051W, 8052W, 8053W, 8053PW, 8054W, 8055W...
	Serial DI Counter	Counter input: 100 Hz max. Counter value: 0 ~ 65535 (16 bit) Optional Serial I-87K DI Boards: I-87040W, 87046W, 87051W, 87052W, 87053W, 87053W-A5, 87054W, 87055W, 87058W...
	Remote DI Counter	All I-7K/I-87K DI modules support counters. 100 Hz max. value: 0 ~ 65535
	High Speed Counter	I-87082W: 100 kHz max.; I-8084W: 250 kHz max.
	Encoder	I-8093W: 3-axis Encoder Module, max. 1M Hz for quadrant input mode, max. 4 MHz for pulse/direction and cw/ccw input mode. I-8084W: 250 kHz max., 4-ch encoder, can be dir/pulse, or up/down or A/B phase (Quad. mode), Not support Encoder Z-index.
	Frequency	I-87082W: 2-ch, 1 Hz ~ 100 kHz; I-8084W: 8-ch, 1 Hz ~ 250 kHz
Motion	Motion Control	With one I-8091W (2-axis) or two I-8091W (4-axis)

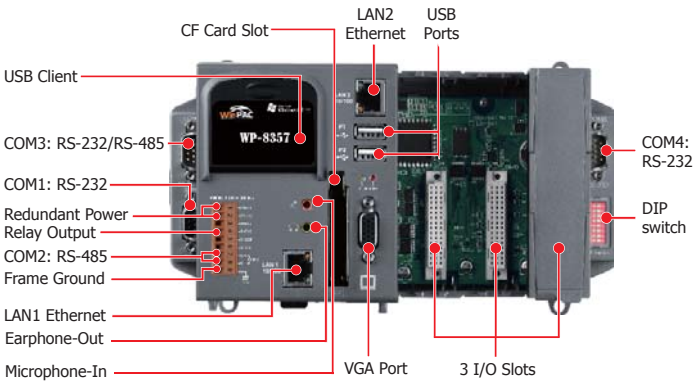
***Note: COM5 ~ COM14 are resided at the expansion boards if they are plugged on slot0~7 of WP-8xx7.**
WP-8137/8147 has no COM3 & COM4.

Appearance

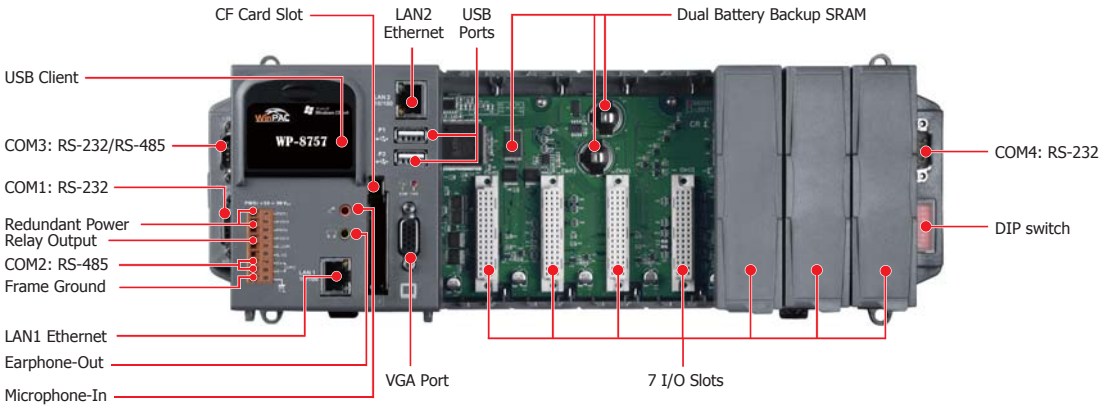
WP-8057



WP-8357

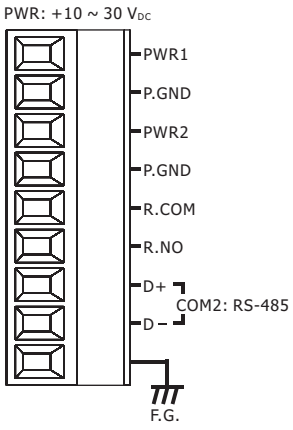


WP-8757



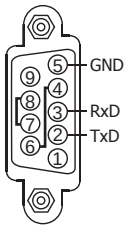
Pin Assignments

Terminal Block

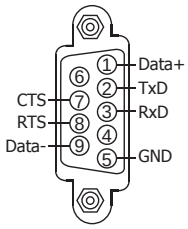


COM Port

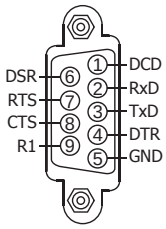
COM1: RS-232



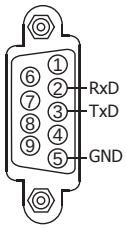
COM3: RS-232/RS-485



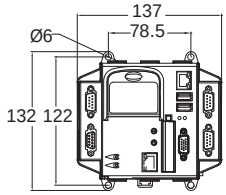
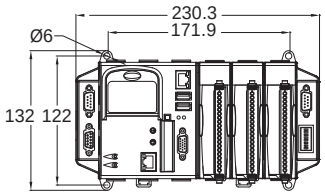
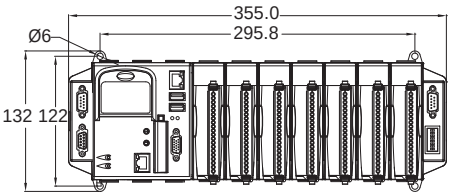
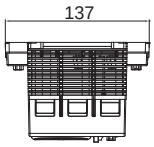
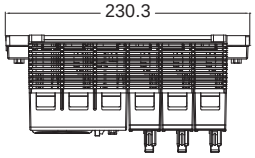
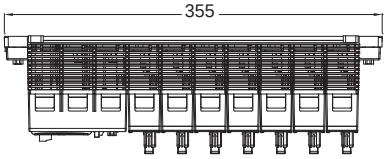
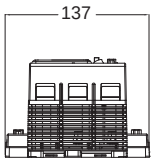
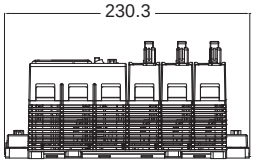
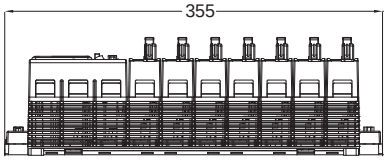
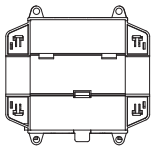
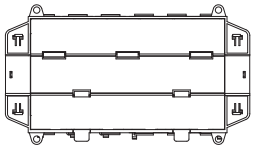
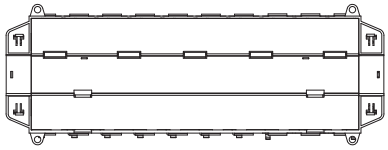
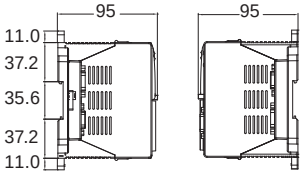
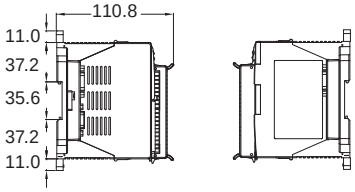
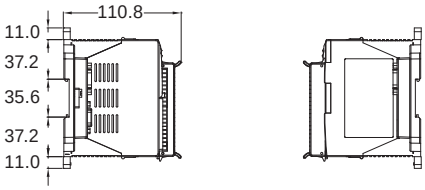
COM4: RS-232



COM5: RS-232



Dimensions (Units: mm)

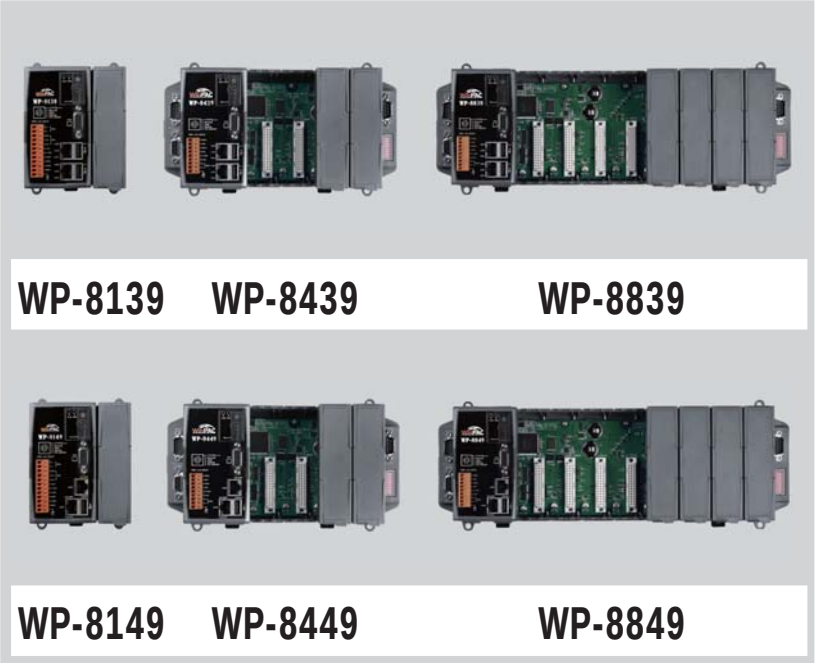
WP-8057	WP-8357	WP-8757
		
Front View	Front View	Front View
		
Top View	Top View	Top View
		
Bottom View	Bottom View	Bottom View
		
Rear View	Rear View	Rear View
		
Left Side View / Right Side View	Left Side View / Right Side View	Left Side View / Right Side View

Ordering Information

WP-8057	ISaGRAF based WinPAC-8000 without I/O Slot (Multilanguage Version of OS)
WP-8357	ISaGRAF based WinPAC-8000 with 3 I/O Slots (Multilanguage Version of OS)
WP-8757	ISaGRAF based WinPAC-8000 with 7 I/O Slots (Multilanguage Version of OS)

Accessories

ISaGRAF Development Software	
ISaGRAF-256-E	ISaGRAF Workbench Software Ver.3 (256 I/O Tags) with One Application Book (English version) and one USB Dongle
ISaGRAF-256-C	ISaGRAF Workbench Software Ver.3 (256 I/O Tags) with One Application Book (Chinese version) and one USB Dongle
ISaGRAF-32-E	ISaGRAF Workbench Software Ver.3 (32 I/O Tags) with One Application Book (English version) Note: No upgrade service from ISaGRAF-32 to ISaGRAF-256. (Using ISaGRAF-32 can control more than 32 I/O tags. Please refer to ISaGRAF User's Manual Ch. 3.4)
ISaGRAF-32-C	ISaGRAF Workbench Software Ver.3 (32 I/O Tags) with One Application Book (Chinese version) Note: No upgrade service from ISaGRAF-32 to ISaGRAF-256. (Using ISaGRAF-32 can control more than 32 I/O tags. Please refer to ISaGRAF User's Manual Ch. 3.4)
Power Supply	
DP-660	24 VDC/2.5 A, 60 W and 5 VDC/0.5 A, 2.5 W Power Supply with DIN-Rail Mounting
DP-1200 CR	24 VDC/5.0 A, 120 W Power Supply with DIN-Rail Mounting (RoHS)
MDR-60-24 CR	24 VDC/2.5 A, 60 W Power Supply with DIN-Rail Mounting (RoHS)



Highlight Information

- Windows CE 5.0
- Hard Real-Time Capability
- Fast Boot Speed
- InduSoft Web Studio v6.1
- PXA270 CPU (32-bit & 520 MHz)
- VGA Port Output
- Open System
- Redundant Power Input
- Operating Temperature: -25 ~ +75 °C

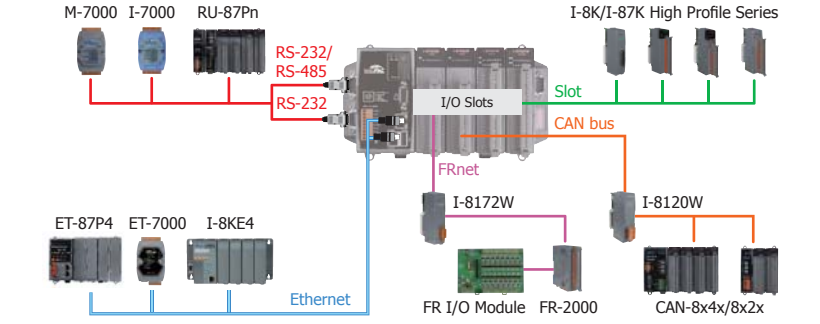
Introduction

WP-8x39 and WP-8x49 Series are the new generation InduSoft based PACs of ICP DAS. It is equipped with a PXA270 CPU (520 MHz), various connectivity (VGA, USB, Ethernet, RS-232/485) and 0/4/8 I/O slots for high performance parallel I/O modules (high profile I-8K Series) and serial I/O modules (high profile I-87K series). The benefits of running Windows CE 5.0 on WinPAC include hard real-time capability, small core size, fast boot speed, interrupt handling at a deeper level and achievable deterministic control. WinPAC is also capable of running InduSoft and PC-based control software such as Visual Basic .NET, Visual C#,.... etc. It has all of the best features of both traditional PLCs and Windows capable PCs.

InduSoft Web Studio is a powerful, integrated collection of automation tools that includes all the building blocks needed to develop modern Human Machine Interfaces (HMI), Supervisory Control and Data Acquisition (SCADA) systems, and ViewPAC applications. InduSoft Web Studio's application runs in native Windows NT, 2000, XP, CE and CE .NET environments and conforms to industry standards such as Microsoft .NET, OPC, DDE, ODBC, XML, and ActiveX.

Applications

Rich I/O Expansion Ability



Access Database Easily

- Supports third-party SQL relational databases such as SQL Server, MS Access, Excel, Oracle ...etc.
- Database connectivety from any platform supported by IWS or CEView, through the unique Studio Database Gateway.
- Supports Secondary Database in the modes "Redundancy" or "Store and Forward" to increase the reliability of the system and avoid loss of data.

SNMP Protocol Supported

- I/O Status of WinPAC can be gathered via Internet by polling or inform actively (trap) mode to remote SNMP manager station.
- WinPAC controller can be treated as a SNMP gateway to transfer the information including I/O and user-defined data to SNMP manager station.
- Integrating I/O and Network information in SNMP manager station.

Features

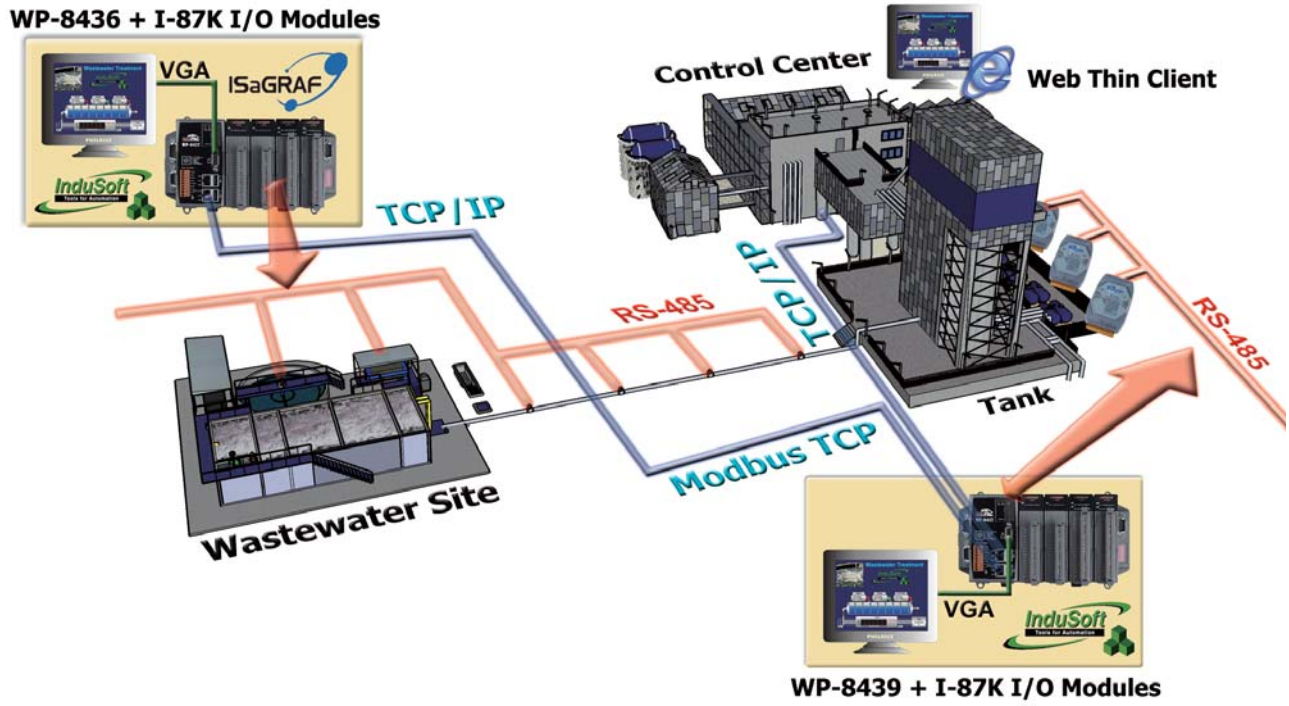
Software

- Windows CE.NET 5.0 Operating System
- Easy Remote Maintenance Via Ethernet
- Built-in OPC Server: Quicker
- Simply Copy and Play to Upgrade Applications
- Pre-installed Run-time InduSoft v6.1 SP3
  - ☐ Intuitive Scripting Language
  - ☐ Support Microsoft .NET, OPC, DDE, ODBC, XML
  - ☐ Support Modbus RTU/TCP Protocol
  - ☐ Full-Featured WinCE-based Run-time Environment
  - ☐ Dynamic Library of Symbols
  - ☐ ActiveX Container
  - ☐ Communication Driver of ICP DAS is Provided

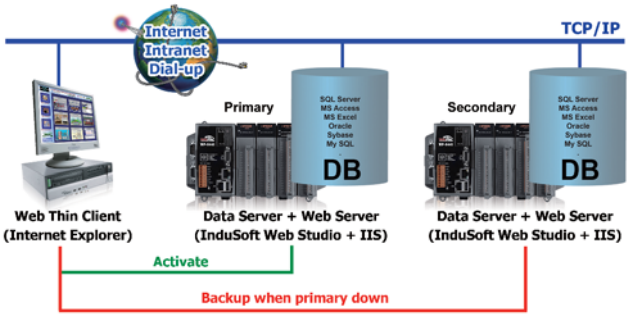
Hardware

- Powerful CPU Module
- Built-in VGA Port with Extra GPU
- 64-bit Hardware Serial Number
- Rich I/O Expansion Ability
- I/O Module Hot Swap Ability
  - * Will be available
  - (For High Profile I-87K Modules Only)
- Built-in 63 MB Flash Disk (for WP-8x39)
- Built-in 31 MB Flash Disk (for WP-8x49)
- Dual Watchdog Timers
- Dual Battery Backup SRAM (512 KB)
- Dual Ethernet Ports
- Dual USB Ports (for WP-8x39)
- Redundant Power Input
- DIN-Rail or Wall Mounting
- Operating Temperature: -25 ~ +75 °C

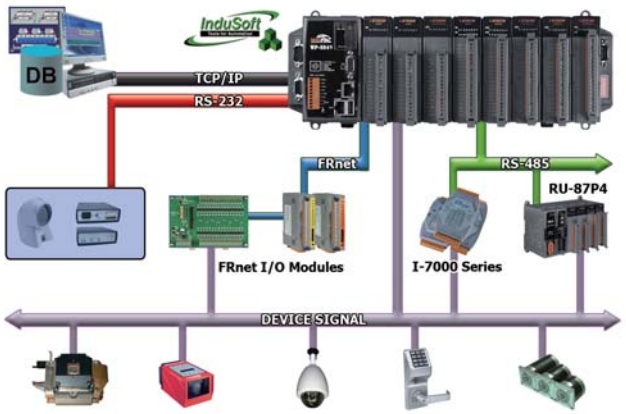
WP-8xx9 Total Solution



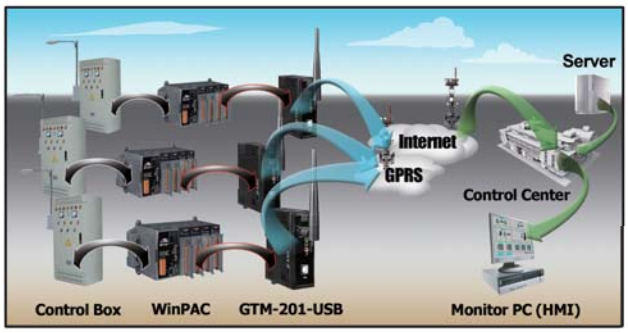
Database & Redundancy



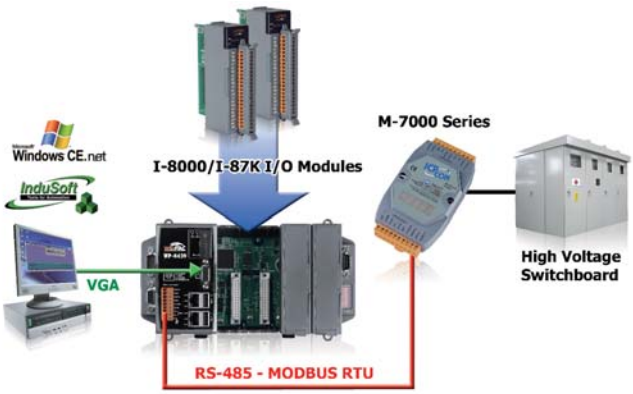
Variety of I/O supported



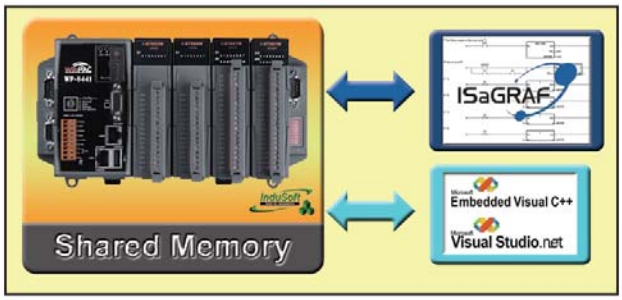
Street lamp monitor and control system



Variaty of communication drivers



Share data with 3rd. party application



Specifications

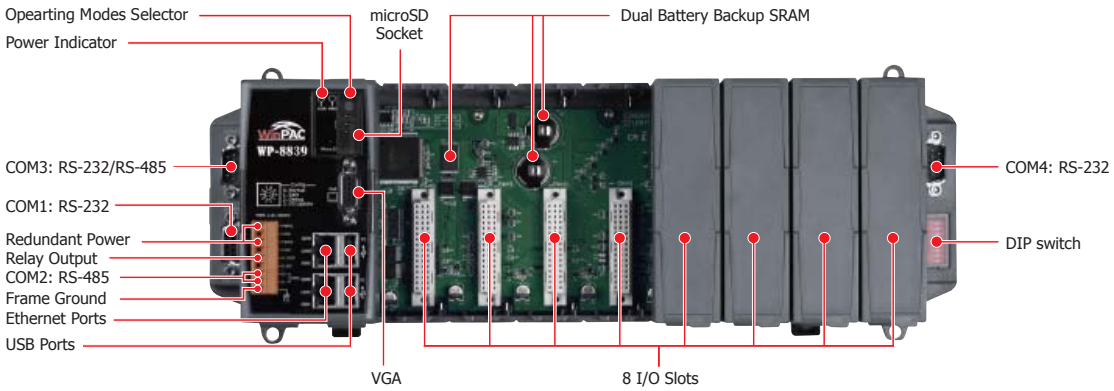
Models		WP-8139	WP-8149	WP-8439	WP-8449	WP-8839	WP-8849
System Software							
OS		Windows CE 5.0					
.Net Compact Framework		2.0					
Embedded Service		FTP server, Web server (supports VB script, JAVA script), Embedded SQL server					
Multilanguage Support		English, German, French, Spanish, Russian, Italian, Simplified Chinese, Traditional Chinese					
Development Software							
InduSoft Software		InduSoft Web Studio v6.1 Service Pack 6					
Non-ISaGRAF		Options: Microsoft EVC++4.0 or VS .NET 2005/2008 (VB .NET 2005/2008, C# .NET 2005/2008)					
Web Service							
Web HMI		Support Web HMI function, PC running Internet Explorer can access to the WP-8x39 via Local Ethernet or Internet or dial Modem, monitoring and control.					
Security		Web HMI supports three levels user name and password protection					
CPU Module							
CPU		PXA270 or compatible (32-bit and 520 MHz)					
SDRAM		128 MB					
Dual Battery Backup SRAM		512 KB (for 5 years data retain while power off)					
Flash	Total size	128 MB	96 MB	128 MB	96 MB	128 MB	96 MB
	OS image	64 MB					
	Built-in Flash disk	63 MB	31 MB	63 MB	31 MB	63 MB	31 MB
	Registry	1 MB					
EEPROM		16 KB					
		Data Retention: 40 years; 1,000,000 erase/write cycles					
microSD		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					
Programmable LED Indicator		1					
Rotary Switch		Yes (0 ~ 9)					
DIP Switch		-		Yes (8 bits)			
LED, NET ID		1 programmable LED indicator. NET ID: From 1 ~ 255, set by software					
VGA & Communication Ports							
VGA	Extra GPU	Yes	-	Yes	-	Yes	-
	Resolution	1024 x 768, 800 x 600, 640 x 480	800 x 600, 640 x 480	1024 x 768, 800 x 600, 640 x 480	800 x 600, 640 x 480	1024 x 768, 800 x 600, 640 x 480	800 x 600, 640 x 480
Ethernet		RJ-45 x 2, 10/100 Base-TX (Auto-negotiating, LED indicators)					
USB 1.1 (host)		2	1	2	1	2	1
COM 0		Internal communication with the high profile I-87K series modules in slots					
COM 1		RS-232 (to update firmware) (RxD, TxD and GND); non-isolated					
COM 2	RS-485	D2+, D2-; self-tuner ASIC inside					
	Isolation	2500 VDC		3000 VDC			
COM 3		-		RS-232/RS-485 (RxD, TxD, CTS, RTS and GND for RS-232, Data+ and Data- for RS-485); non-isolated			
COM 4		-		RS-232 (RxD, TxD, CTS, RTS, DSR, DTR, CD, RI and GND); non-isolated			
I/O Expansion Slots							
Slot Number		1		4		8	
		(For High Profile I-8K and I-87K Modules Only)					
Hot Swap * Will be available		For High Profile I-87K Modules Only					
Mechanical							
Dimensions (W x L x H)		95 mm x 132 mm x 111 mm		231 mm x 132 mm x 111 mm		355 mm x 132 mm x 111 mm	
Installation		DIN-Rail or Wall Mounting					
Environmental							
Operating Temperature		-25 ~ +75 °C					
Storage Temperature		-30 ~ +80 °C					
Ambient Relative Humidity		10 ~ 90% RH (non-condensing)					
Power							
Input Range		+10 ~ +30 VDC					
Isolation		1 kV					
Redundant Power Inputs		Yes, with one power relay (1 A @ 24 VDC) for alarm					
Capacity		1.0 A, 5 V supply to CPU and backplane, 0.6 A, 5 V supply to I/O expansion slots, 8 W in total		1.1 A, 5 V supply to CPU and backplane, 4.9 A, 5 V supply to I/O expansion slots, 30 W in total for WP-8449 25 W in total for WP-8439		1.2 A, 5 V supply to CPU and backplane, 4.8 A, 5 V supply to I/O expansion slots, 30 W in total for WP-8849 25 W in total for WP-8839	
Consumption		7.3 W (0.3 A @ 24 VDC)		9.1 W (0.38 A @ 24 VDC)		9.6 W (0.4 A @ 24 VDC)	

InduSoft Features

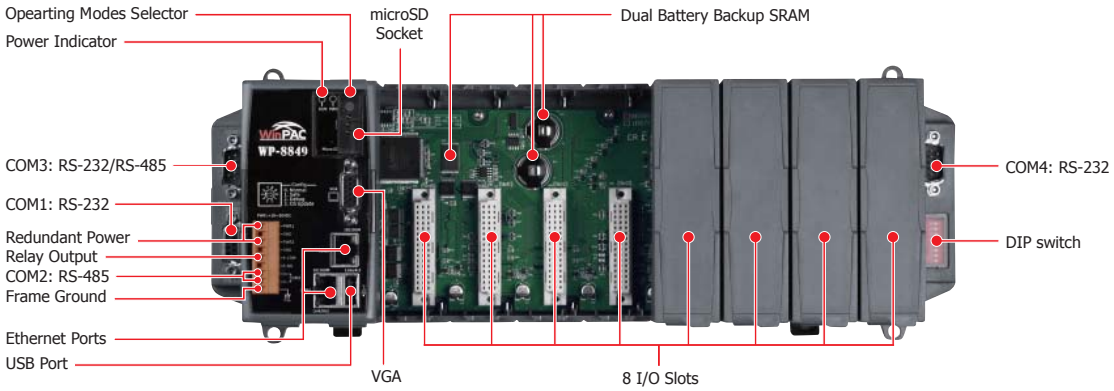
- Elegant Graphics
- Multi-Language
- Database (Access, Excel, SQL, Oracle…)
- Recipes and Reports
- Online and History Alarm / Event / Trend
- Various Communication Driver (DCON, Modbus, OPC, DDE, TCP/IP…)
- Remote Web Client Control & Security
- ActiveX (GSM / SHM / COM /WEB provided by ICP DAS)
- System Redundancy
- Online Configuration and debugging
- Others (VBScript, E-mail, FTP, SNMP...)

Appearance

WP-8839



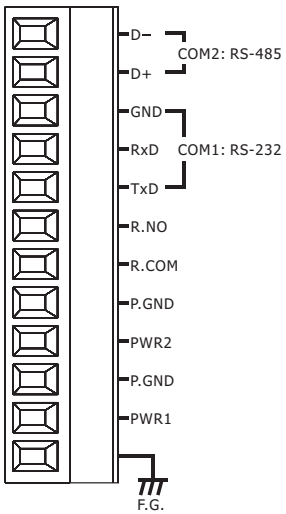
WP-8849



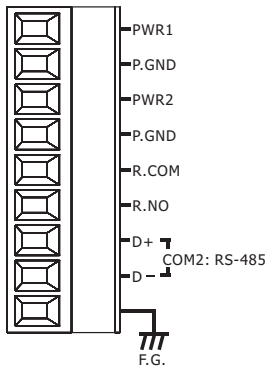
Pin Assignments

Terminal Block

WP-81x9

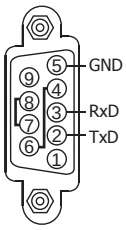


WP-84x9/88x9

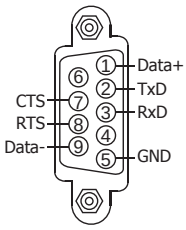


WP-84x9/88x9 COM Port

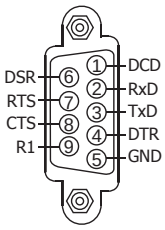
COM1: RS-232



COM3: RS-232/RS-485

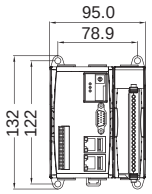


COM4: RS-232



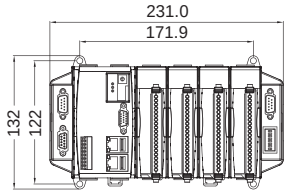
Dimensions (Units: mm)

WP-8139



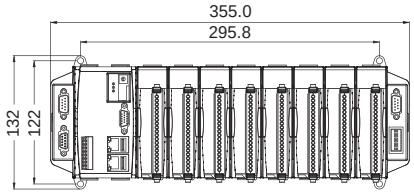
Front View

WP-8439



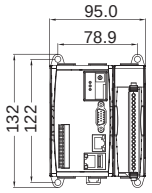
Front View

WP-8839



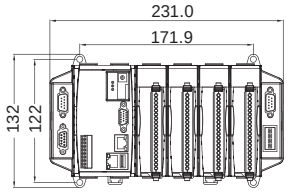
Front View

WP-8149



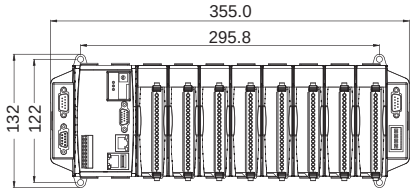
Front View

WP-8449



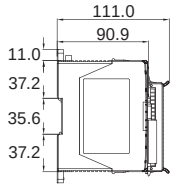
Front View

WP-8849



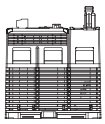
Front View

WP-8x39/8x49



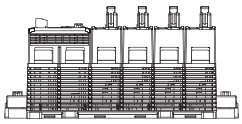
Left Side View

WP-81x9



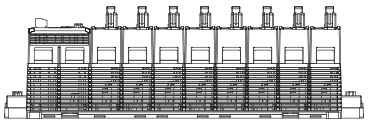
Bottom View

WP-84x9



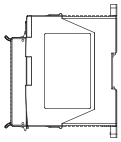
Bottom View

WP-88x9



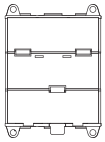
Bottom View

WP-8x39/8x49



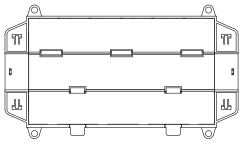
Right Side View

WP-81x9



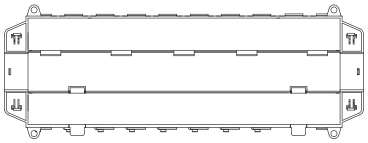
Rear View

WP-84x9



Rear View

WP-88x9



Rear View

Ordering Information

WP-8139-EN	WP-8149-EN	InduSoft based WinPAC-8000 with 1 I/O Slot (Multilanguage Version of OS)
WP-8439-EN	WP-8449-EN	InduSoft based WinPAC-8000 with 4 I/O Slots (Multilanguage Version of OS)
WP-8839-EN	WP-8849-EN	InduSoft based WinPAC-8000 with 8 I/O Slots (Multilanguage Version of OS)
WP-8139-TC	WP-8149-TC	InduSoft based WinPAC-8000 with 1 I/O Slot (Traditional Chinese Version of OS)
WP-8439-TC	WP-8449-TC	InduSoft based WinPAC-8000 with 4 I/O Slots (Traditional Chinese Version of OS)
WP-8839-TC	WP-8849-TC	InduSoft based WinPAC-8000 with 8 I/O Slots (Traditional Chinese Version of OS)
WP-8139-SC	WP-8149-SC	InduSoft based WinPAC-8000 with 1 I/O Slot (Simplified Chinese Version of OS)
WP-8439-SC	WP-8449-SC	InduSoft based WinPAC-8000 with 4 I/O Slots (Simplified Chinese Version of OS)
WP-8839-SC	WP-8849-SC	InduSoft based WinPAC-8000 with 8 I/O Slots (Simplified Chinese Version of OS)

Note: The default runtime license (CEView Lite Plus - 300 tags and 3 driver) is installed.

Accessories

InduSoft Development Software	
InduSoft-NT512000D	Advanced Server for Windows NT/2000/XP (512,000 Tags, unlimited drivers)
InduSoft-NT64000D	Control Room for Windows NT/2000/XP (64,000 Tags, 8 drivers)
InduSoft-NT4000D	Operator Workstation for Windows NT/2000/XP (4,000 Tags, 5 drivers)
InduSoft-NT1500D	Local Interface for Windows NT/2000/XP (1500 Tags, 3 drivers)
InduSoft-NT300D	NTView PRO for Windows NT/2000/XP (300 Tags, 3 drivers)
InduSoft Runtime License	
InduSoft-CE1500R	CEView standard for Windows CE Run-time (CE View)(1500 Tags, 3 drivers)
InduSoft-CE300R	CEView Lite Plus for Windows CE Run-time (300 Tags, 3 drivers)
Power Supply	
DP-660	24 VDC/2.5 A, 60 W and 5 VDC/0.5 A, 2.5 W Power Supply with DIN-Rail Mounting
DP-1200 CR	24 VDC/5.0 A, 120 W Power Supply with DIN-Rail Mounting (RoHS)
MDR-60-24 CR	24 VDC/2.5 A, 60 W Power Supply with DIN-Rail Mounting (RoHS)

Highlight Information

- Windows CE 5.0
- Hard Real-Time Capability
- Fast Boot Speed
- InduSoft Web Studio v6.1
- PXA270 CPU (32-bit & 520 MHz)
- Audio with Microphone-In and Earphone-Out
- VGA Port Output
- Open System
- Redundant Power Input
- Operating Temperature: -25 ~ +75 °C

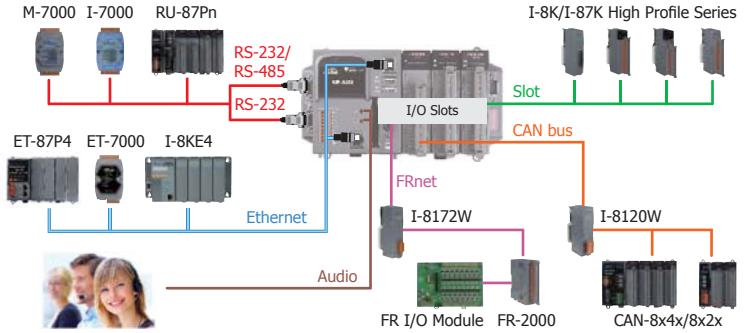
Introduction

WP-8x59 Series is the new generation InduSoft based PACs of ICP DAS. It is equipped with a PXA270 CPU (520 MHz), various connectivity (VGA, USB, Ethernet, RS-232/485) and 0/3/7 I/O slots for high performance parallel I/O modules (high profile I-8K Series) and serial I/O modules (high profile I-87K series). The benefits of running Windows CE 5.0 on WinPAC include hard real-time capability, small core size, fast boot speed, interrupt handling at a deeper level and achievable deterministic control. WinPAC is also capable of running InduSoft and PC-based control software such as Visual Basic .NET, Visual C#,.... etc. It has all of the best features of both traditional PLCs and Windows capable PCs.

InduSoft Web Studio is a powerful, integrated collection of automation tools that includes all the building blocks needed to develop modern Human Machine Interfaces (HMI), Supervisory Control and Data Acquisition (SCADA) systems, and ViewPAC applications. InduSoft Web Studio's application runs in native Windows NT, 2000, XP, CE and CE .NET environments and conforms to industry standards such as Microsoft .NET, OPC, DDE, ODBC, XML, and ActiveX.

Applications

Rich I/O Expansion Ability



Features

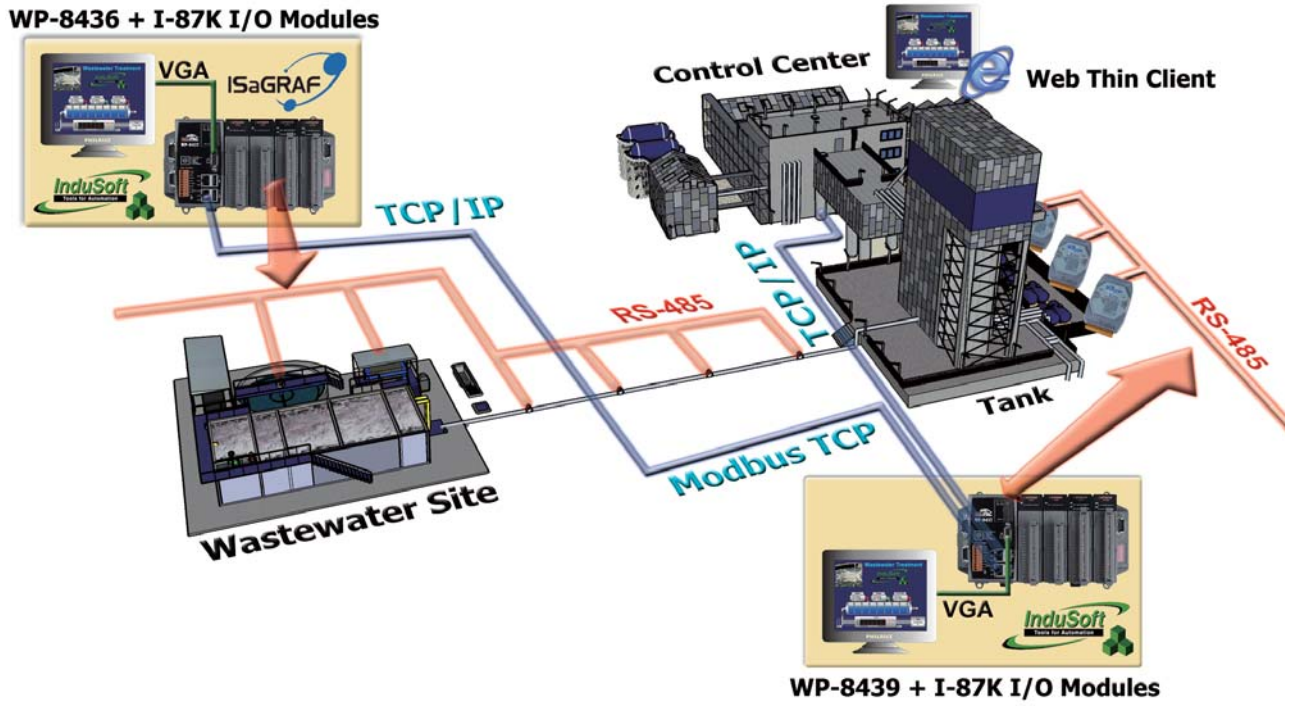
Software

- Windows CE.NET 5.0 Operating System
- Easy Remote Maintenance Via Ethernet
- Built-in OPC Server: Quicker
- Simply Copy and Play to Upgrade Applications
- Pre-installed Run-time InduSoft v6.1 SP3
  - ☐ Intuitive Scripting Language
  - ☐ Support Microsoft .NET, OPC, DDE, ODBC, XML
  - ☐ Support Modbus RTU/TCP Protocol
  - ☐ Full-Featured WinCE-based Run-time Environment
  - ☐ Dynamic Library of Symbols
  - ☐ ActiveX Container
  - ☐ Communication Driver of ICP DAS is Provided

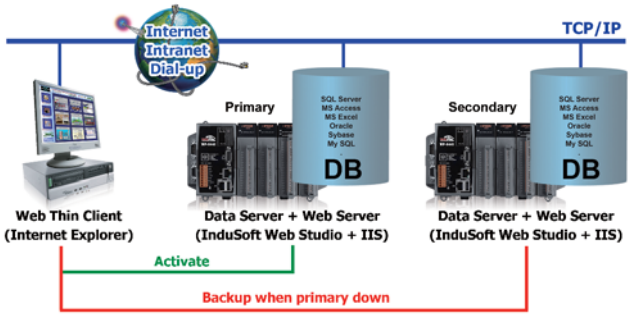
Hardware

- Powerful CPU Module
- Built-in VGA Port with Extra GPU
- 64-bit Hardware Serial Number
- Audio with Microphone-In and Earphone-Out
- Rich I/O Expansion Ability
- I/O Module Hot Swap Ability
  - * Will be available
  - (For High Profile I-87K Modules Only)
- Built-in 63 MB Flash Disk
- Dual Watchdog Timers
- Dual Battery Backup SRAM (512 KB)
- Dual Ethernet Ports
- Dual USB Ports
- Redundant Power Input
- DIN-Rail or Wall Mounting
- Operating Temperature: -25 ~ +75 °C

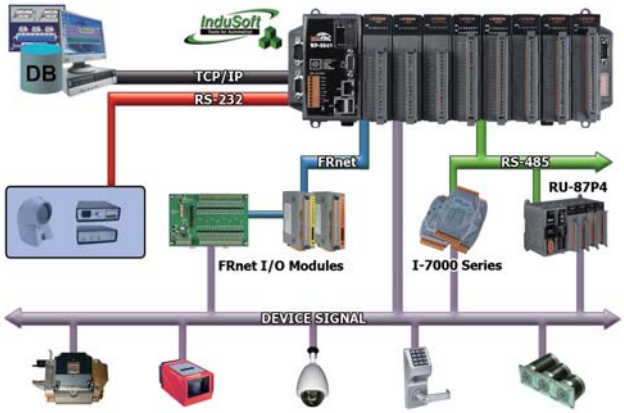
WP-8xx9 Total Solution



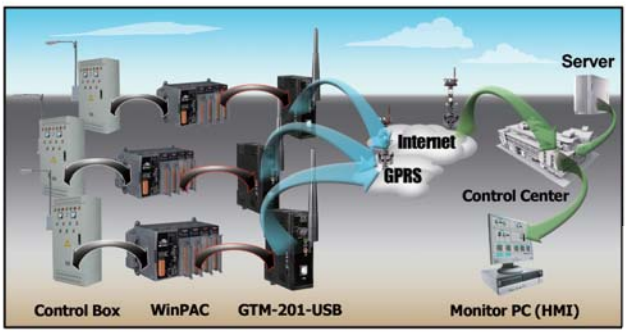
Database & Redundancy



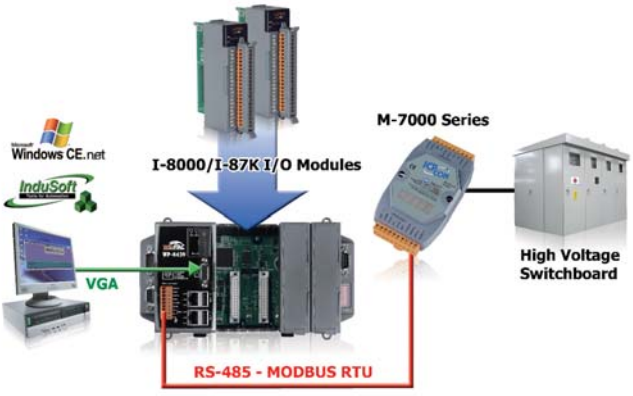
Variety of I/O supported



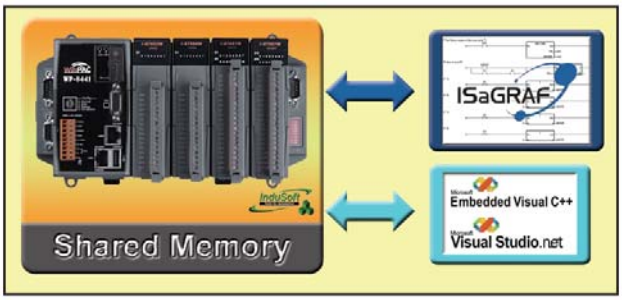
Street lamp monitor and control system



Variaty of communication drivers



Share data with 3rd. party application



Specifications

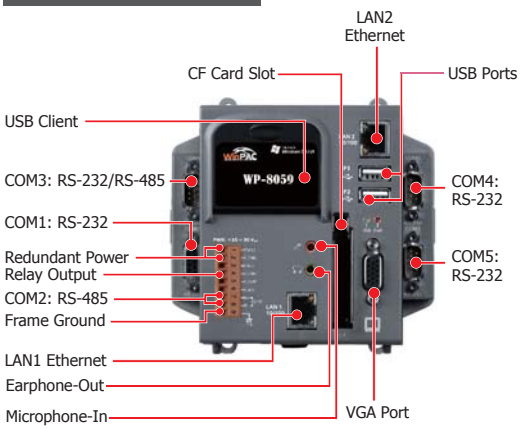
Models		WP-8059	WP-8359	WP-8759
System Software				
OS		Windows CE 5.0		
.Net Compact Framework		2.0		
Embedded Service		FTP server, Web server (supports VB script, JAVA script), Embedded SQL server		
Multilanguage Support		English, German, French, Spanish, Russian, Italian, Simplified Chinese, Traditional Chinese		
Development Software				
InduSoft Software		InduSoft Web Studio v6.1 Service Pack 6		
Others		Options: Microsoft EVC++4.0 or VS .NET 2005/2008 (VB .NET 2005/2008, C# .NET 2005/2008)		
Web Service				
Web HMI		Support Web HMI function, PC running Internet Explorer can access to the WP-8x39 via Local Ethernet or Internet or dial Modem, monitoring and control.		
Security		Web HMI supports three levels user name and password protection		
CPU Module				
CPU		PXA270 or compatible (32-bit and 520 MHz)		
SDRAM		128 MB		
Dual Battery Backup SRAM		512 KB (for 5 years data retain while power off)		
Flash	Total size	128 MB		
	OS image	64 MB		
	Built-in Flash disk	63 MB		
	Registry	1 MB		
EEPROM		16 KB		
		Data Retention: 40 years; 1,000,000 erase/write cycles		
Compact Flash		4 GB CF card (support up to 32 GB)		
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		
Programmable LED Indicator		1		
Rotary Switch		Yes (0 ~ 9)		
DIP Switch		-	Yes (8 bits)	
LED, NET ID		1 programmable LED indicator. NET ID: From 1 ~ 255, set by software		
Audio		Microphone-In and Earphone-Out		
VGA & Communication Ports				
VGA	Extra GPU	Yes		
	Resolution	1024 x 768, 800 x 600, 640 x 480		
Ethernet		RJ-45 x 2, 10/100 Base-TX (Auto-negotiating, LED indicators)		
USB 1.1 (host)		2		
USB 1.1 (client)		-	1	
COM 0		Internal communication with the high profile I-87K series modules in slots		
COM 1		RS-232 (to update firmware) (RxD, TxD and GND); non-isolated		
COM 2		RS-485 (D2+, D2-); 3000 V_{DC} isolated		
COM 3		RS-232/RS-485 (RxD, TxD, CTS, RTS and GND for RS-232, Data+ and Data- for RS-485); non-isolated		
COM 4		RS-232 (RxD, TxD, CTS, RTS, DSR, DTR, CD, RI and GND); non-isolated		
COM 5		RS-232 (RxD, TxD, and GND); non-isolated	-	
I/O Expansion Slots				
Slot Number		0	3	7
		(For High Profile I-8K and I-87K Modules Only)		
Hot Swap * Will be available		For High Profile I-87K Modules Only		
Mechanical				
Dimensions (W x L x H)		137 mm x 132 mm x 111 mm	231 mm x 132 mm x 111 mm	355 mm x 132 mm x 111 mm
Installation		DIN-Rail or Wall Mounting		
Environmental				
Operating Temperature		-25 ~ +75 °C		
Storage Temperature		-30 ~ +80 °C		
Ambient Relative Humidity		10 ~ 90% RH (non-condensing)		
Power				
Input Range		+10 ~ +30 V_{DC}		
Isolation		1 kV		
Redundant Power Inputs		Yes, with one power relay (1 A @ 24 V_{DC}) for alarm		
Capacity		1.0 A, 5 V supply to CPU and backplane, 0.6 A, 5 V supply to I/O expansion slots, 8 W in total	1.1 A, 5 V supply to CPU and backplane, 4.9 A, 5 V supply to I/O expansion slots, 30 W in total	1.2 A, 5 V supply to CPU and backplane, 4.8 A, 5 V supply to I/O expansion slots, 30 W in total
Consumption		7.3 W (0.3 A @ 24 V_{DC})	9.1 W (0.38 A @ 24 V_{DC})	9.6 W (0.4 A @ 24 V_{DC})

InduSoft Features

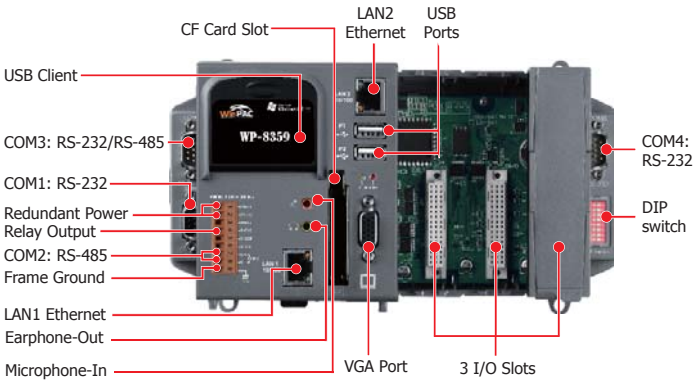
- Elegant Graphics
- Multi-Language
- Database (Access, Excel, SQL, Oracle…)
- Recipes and Reports
- Online and History Alarm / Event / Trend
- Various Communication Driver (DCON, Modbus, OPC, DDE, TCP/IP…)
- Remote Web Client Control & Security
- ActiveX (GSM / SHM / COM /WEB provided by ICP DAS)
- System Redundancy
- Online Configuration and debugging
- Others (VBScript, E-mail, FTP, SNMP...)

Appearance

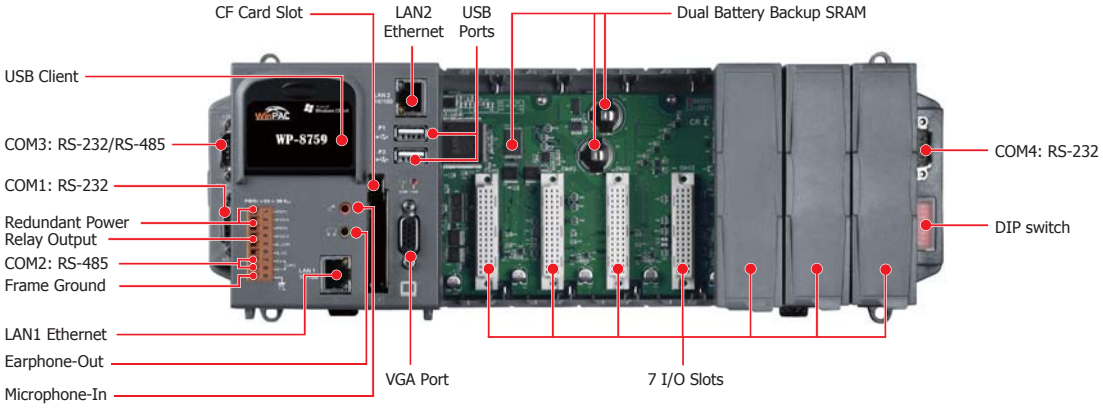
WP-8059



WP-8359

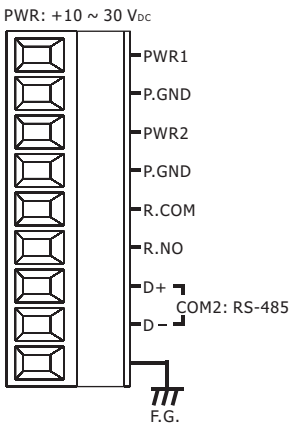


WP-8759

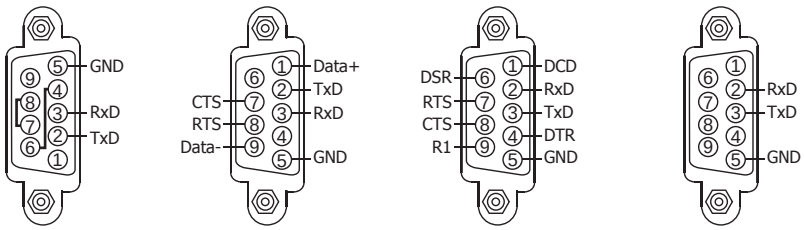


Pin Assignments

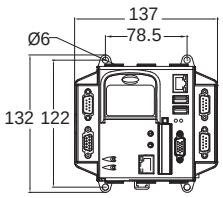
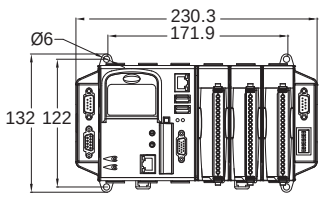
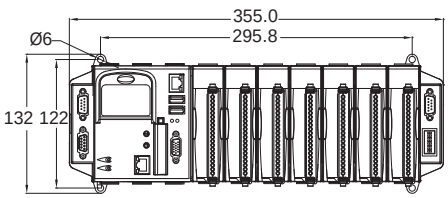
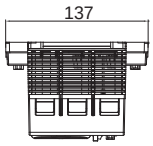
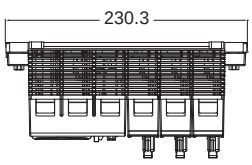
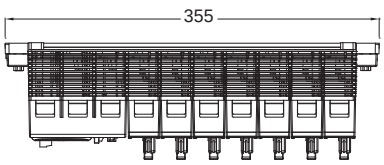
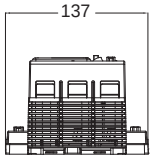
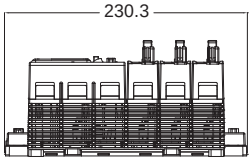
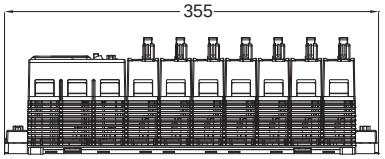
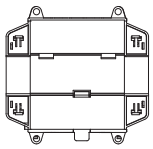
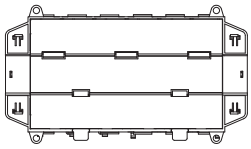
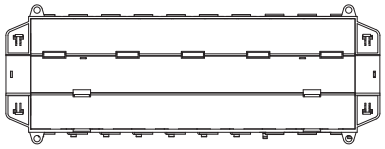
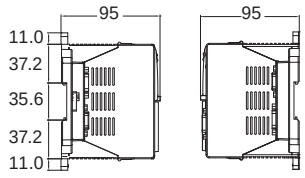
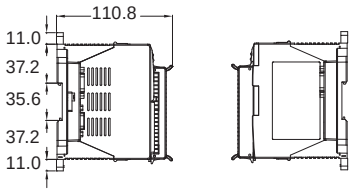
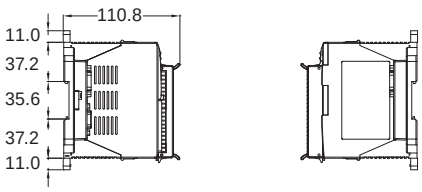
Terminal Block



COM Port



Dimensions (Units: mm)

WP-8059	WP-8359	WP-8759
		
Front View	Front View	Front View
		
Top View	Top View	Top View
		
Bottom View	Bottom View	Bottom View
		
Rear View	Rear View	Rear View
		
Left Side View / Right Side View	Left Side View / Right Side View	Left Side View / Right Side View

Ordering Information

WP-8059	InduSoft based WinPAC-8000 without I/O Slot (Multilanguage Version of OS)
WP-8359	InduSoft based WinPAC-8000 with 3 I/O Slots (Multilanguage Version of OS)
WP-8759	InduSoft based inPAC-8000 with 7 I/O Slots (Multilanguage Version of OS)
Note: The default runtime license (CEView Lite Plus - 300 tags and 3 driver) is installed.	

Accessories

InduSoft Development Software	
InduSoft-NT512000D	Advanced Server for Windows NT/2000/XP (512,000 Tags, unlimited drivers)
InduSoft-NT64000D	Control Room for Windows NT/2000/XP (64,000 Tags, 8 drivers)
InduSoft-NT4000D	Operator Workstation for Windows NT/2000/XP (4,000 Tags, 5 drivers)
InduSoft-NT1500D	Local Interface for Windows NT/2000/XP (1500 Tags, 3 drivers)
InduSoft-NT300D	NTView PRO for Windows NT/2000/XP (300 Tags, 3 drivers)
InduSoft Runtime License	
InduSoft-CE1500R	CEView standard for Windows CE Run-time (CE View)(1500 Tags, 3 drivers)
InduSoft-CE300R	CEView Lite Plus for Windows CE Run-time (300 Tags, 3 drivers)
Power Supply	
DP-660	24 VDC/2.5 A, 60 W and 5 VDC/0.5 A, 2.5 W Power Supply with DIN-Rail Mounting
DP-1200 CR	24 VDC/5.0 A, 120 W Power Supply with DIN-Rail Mounting (RoHS)
MDR-60-24 CR	24 VDC/2.5 A, 60 W Power Supply with DIN-Rail Mounting (RoHS)