

# PAC Products



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• Introduction

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Overview

**PAC: Programmable Automation Controller**

The PAC family of ICP DAS includes WinPAC, XPAC, LinPAC, iPAC, ViewPAC, Motion PAC and μPAC for different requirements in OS, CPU and development platform.

This new exciting PAC family offers a flexible, versatile and economical solution to a wide range of applications from Data-Acquisition, process control, test & measurement, Motion Control to energy & building management.

The PAC family comprises a central processor (CPU), power supply, I/O bus, communication interfaces, front panel control facilities and connectors to plug in various I/O modules.



**PAC family**



**WinPAC/LinPAC**



**XPAC**



**iPAC**



**ViewPAC**



**μPAC**

**Four Basic Components of PAC**

**1 Main Control Unit (MCU)**

**4 Remote I/O Expansion**

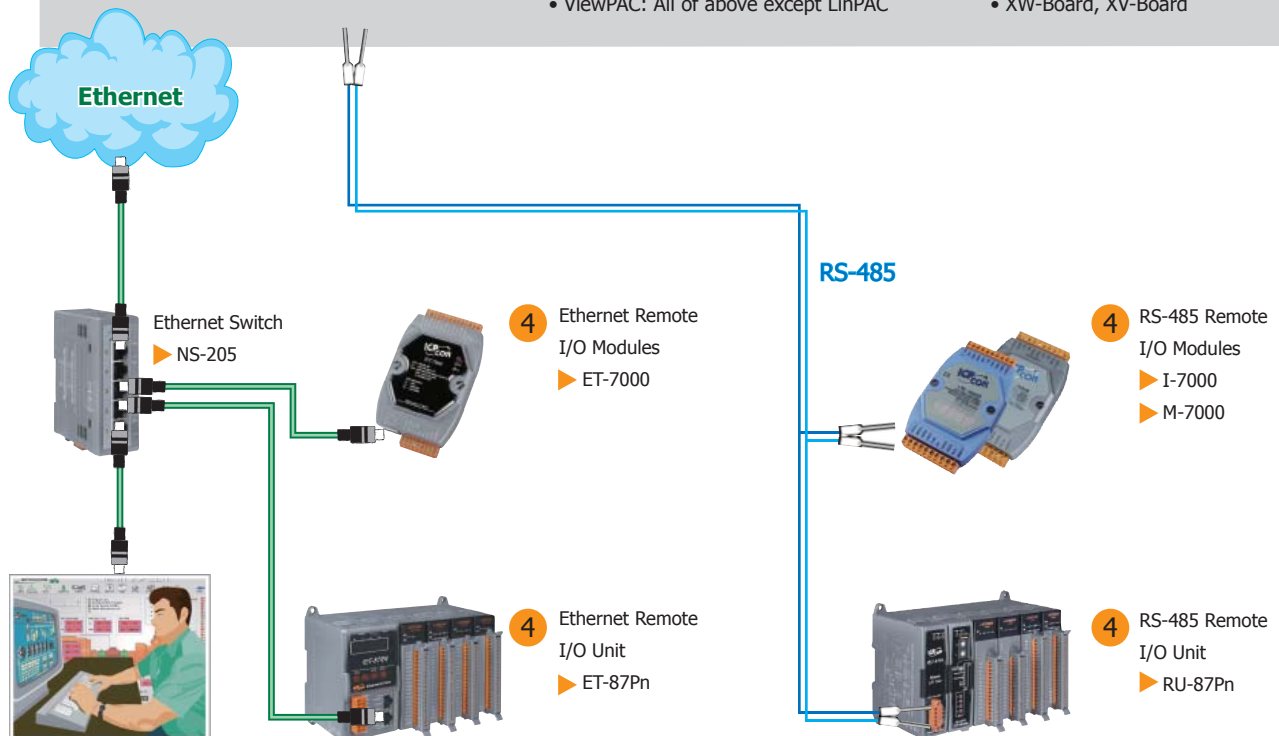
- Remote I/O Modules
- Remote I/O Unit + I/O Modules

**2 Embedded OS**

- WinPAC: WinCE 5.0
- XPAC: WES 2009 WinCE 6.0
- LinPAC: Linux Kernel 2.6
- μPAC: MiniOS7
- ViewPAC: All of above except LinPAC

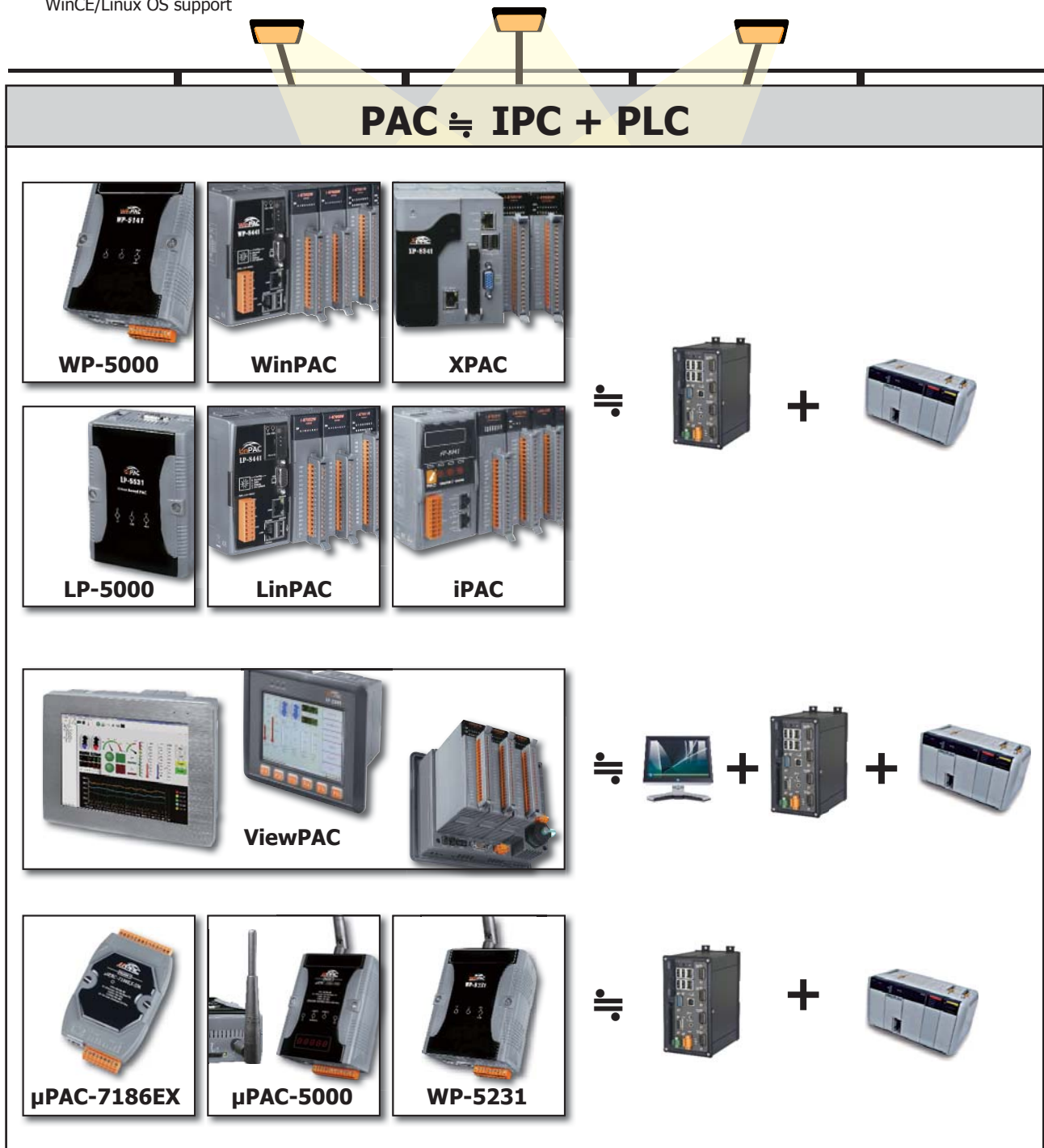
**3 I/O Modules**

- Parallel: I-8KW High speed High Profile I/O modules
- Serial : I-87KW Low speed High Profile I/O modules
- XW-Board, XV-Board



### Advantages of the PAC

- PAC  $\equiv$  IPC+PLC, buy one get more
- Intelligent management controller
- Cost effective
- best price/ performance
- Versatile I/O expansion
- More reliable (VS. IPC)  
Fan-less design  
Wide temperature range  
WinCE/Linux OS support
- Compact size (VS. IPC)  
DIN-Rail support.  
PLC look-like
- More peripherals support (VS. PLC)  
Support Ethernet, USB, VGA
- Flexible programming support (VS. PLC)  
Support C/C++/C#, .Net, BASIC/VB,...etc.



• Features

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Overview

**1. Powerful embedded OS**

OS	PAC	Software Development Tool
WES2009	XP-8000-Atom, XP-8000	VS .NET 2005/2008, VC6, CB6, Delphi, BCB
WinCE 5.0/6.0	XP-8000-Atom-CE6, XP-8000-CE6, WP-8000, WP-5000, VP-25W1	VS .NET 2005/2008, ISaGRAF, InduSoft
Linux kernel 2.6	LP-8000, LP-5000	C language
MiniOS7	iP-8000, I-7188, uPAC-7186, uPAC-5000, VP-2111	C language, ISaGRAF

**2. Powerful Hardware Design**

The PAC family of ICP DAS with powerful hardware design can operate in harsh, electrically noisy environments and provide faster & more professional performance. This has been achieved through attention to the following:

**Built-in Dual Watchdog Timers**

The integrated watchdog circuit will reset the CPU module if there is a failure in either the hardware or software.

**Wide Operating Temperature**

The PAC product is designed to operate under a very wide temperature range from -25 °C ~ +75 °C.



**Easy-to-Install**

The PAC family is easy-to-installed by either DIN-Rail mounting or Rack mounting. Input signals can be connected to the unit with easy using plug in signal connectors.



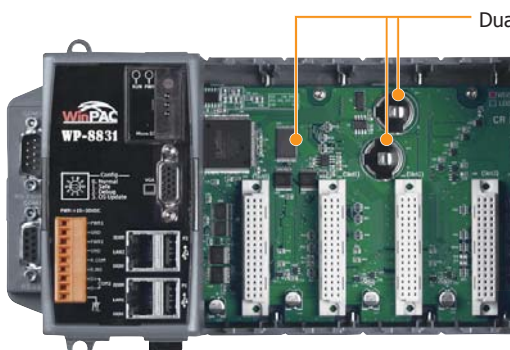
DIN-Rail Mounting

**Input Protection circuitry**

The protection circuitry on both the network and power supply protects the system from external signals such as main spikes and ambient electrical noise. In addition the central processing modules are isolated three ways from external signals. This is through I/O isolation of 3 kV, network isolation to 3 kV and power isolation to 1000 V.

**Support Flash, SRAM/SDRAM/DDR SDRAM, Battery-backup SRAM or microSD**

PAC family provides various memory storages, such as Flash, SRAM/SDRAM/DDR SDRAM, battery-backup SRAM disk or microSD.



Dual Battery Backup SRAM



**Cost-effective Display Solution**

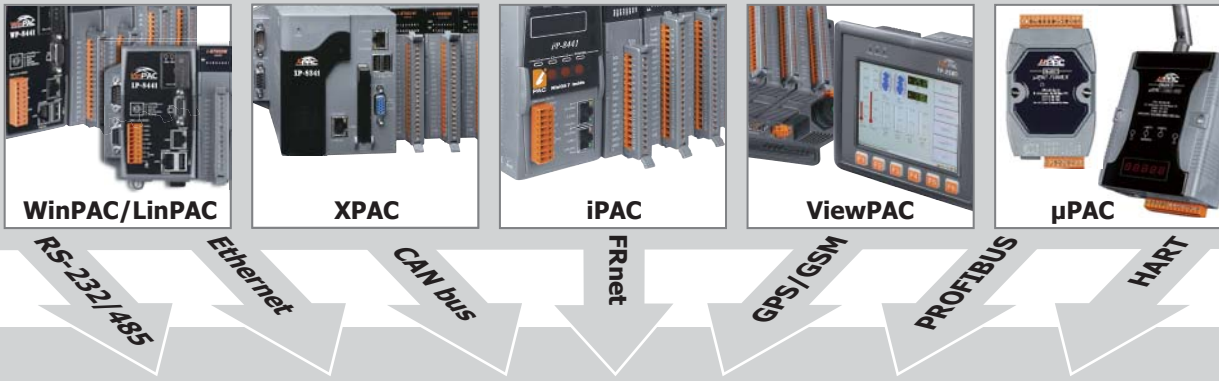
The user chooses LCD monitor instead of the HMI



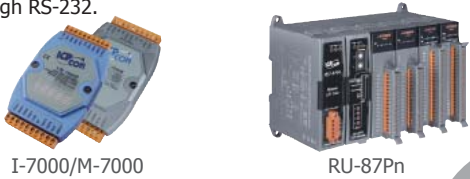
# PAC family

## 3. Powerful Communication and Networking

The PAC family is featured with the powerful communication and networking ability to connect with other PAC, devices, I/O modules and other systems through RS-232, RS-485, Ethernet, CAN/CANopen/ DeviceNet or FRnet bus etc. The PAC family also supports the GPRS/GSM, GPS, ZigBee, Wi-Fi, 2G, 3G modules for wireless applications. In addition, the HART and PROFIBUS modules with PAC family can be applied in the high security environments.



The main control unit of PAC is equipped with RS-232/RS-485 communication interfaces. The PAC is easy to communicate with Serial remote I/O modules through RS-485 and PC/HMI through RS-232.



RS-232/485

The PAC can plug in a CAN communication module I-8120W or I-87120W to control CAN Bus I/O devices or our remote I/O unit, such as CAN-8x2x, CAN-2000.



CAN bus

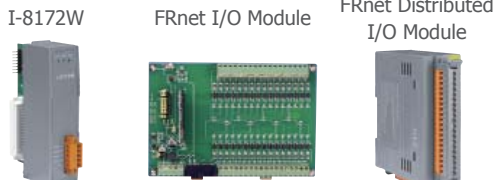


### Ethernet



The main control unit is designed for Internet/ Ethernet applications and supports the TCP/IP, Web-Server. The TCP/IP library provides an easy way to connect these modules directly to the Internet through the Ethernet controller. A built-in Web-server library provides directly link to a standard HTML browser, IE, Firefox or Chrome.

### FRnet



FRnet is an innovative industrial field bus that has many special features, such as high-speed deterministic I/O control, real I/O synchronization capabilities, non-protocol communication, and easy programming. Plugging a FRnet communication module (I-8172W), the PAC can link FRnet I/O modules to implement high-speed distributed I/O control.

### GPRS/GSM, GPS, ZigBee, Wi-Fi, 2G, 3G

The PAC can plug a GSM/GPRS communication module (I-8212W) or a GSM/GPRS/GPS communication module (I-8213W) to access mobile network services. They expand the capability of PAC series into Machine to Machine, Mobile, Human communication applications.



### PROFIBUS

PROFIBUS (Process Field Bus) is a standard for field bus communication in automation technology. The PAC can become a PROFIBUS DP Slave Station by plugging in a PROFIBUS DP Slave communication.

### HART

HART technology offers a reliable and long-term solution for plant operating. The PAC can plug a HART AI or AO module to communicate with HART devices.

## • Operating System

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Overview

### Microsoft Windows Embedded Standard 2009 WES 2009

#### Advantages:

- Has same Win32 API as Windows XP Professional does.
- Enhanced Write Filter (WES) to protect the system disk (C:\) from write access and unpredictable power lost.

#### Features:

- FTP server
- HTTP server
- SQL express
- .NET framework 3.5
- Win32 APIs



XP-8000-Atom

#### Software development tools:

- Visual Studio 2005/2008
- VC++ 6.0
- VB 6.0
- Delphi
- BCB Builder
- and most development tools available on Windows XP

**Note:** ISaGRAF is not available on this platform.

### Microsoft Windows CE.net WinCE 5.0/6.0

#### Advantages:

- Hard real-time capability
- Small core size
- Short boot time
- Interrupt handling at a deeper level
- Achievable deterministic control
- Low cost

#### Features:

- FTP server
- HTTP server
- SQL server embedded
- .NET compact framework 2.0/3.5

#### Software development tools:

- Visual Studio 2005/2008
- ISaGRAF (Soft PLC)
- InduSoft (SCADA)
- eLogger (HMI and data logger)



XP-8000-Atom-CE6



WinPAC



ViewPAC



### Linux Kernel 2.6

#### Advantages:

- Stability
- Flexibility
- Low cost
- Powerful software and development tools
- Open and standard programming environments

#### Features:

- Open source
- Small core size
- Support for XWindows
- Support for service: Web, FTP, Telnet and SSH server
- GNU Toolchain for Windows and Linux operating systems

#### Support programming:

- GNU C
- GUI



LinPAC



### Minios7

#### Advantages:

- Stability
- Short boot time period (<1 second)
- Less memory resource required
- Faster watchdog response time
- Free IDE development: Minios7 Studio

#### Features:

- DOS-like embedded OS
- Antivirus ability
- Internet connectivity
- Rich libraries & demo programs

#### Support Programming:

- C Language
- SoftPLC Logic (ISaGRAF)



iPAC



µPAC



ViewPAC

• Software

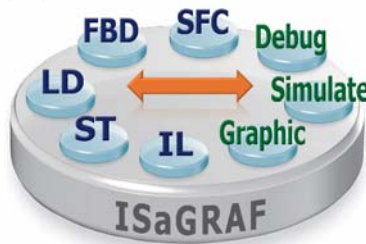
# 1. ISaGRAF (SoftPLC Solution)

ISaGRAF is a powerful SoftLogic package on the industrial market. **ISaGRAF Workbench** is a PLC-like development software running on Windows 95/98/NT/2000/XP/Vista/7 and its **ISaGRAF Runtime** application programs can run on any **ISaGRAF PACs** such as WP-8xx7, VP-2xx7, XP-8xx7-CE6, iP-8xx7, μPAC-7186(P)EG etc. Using ISaGRAF PACs, the control/monitor systems can easily implement industrial level of real-time data acquisition and data/devices control via wiring or wireless network in various industries.

**Application area:** data acquisition system, distributed control system, factory and building automation, motor control, remote I/O system, wireless control system...

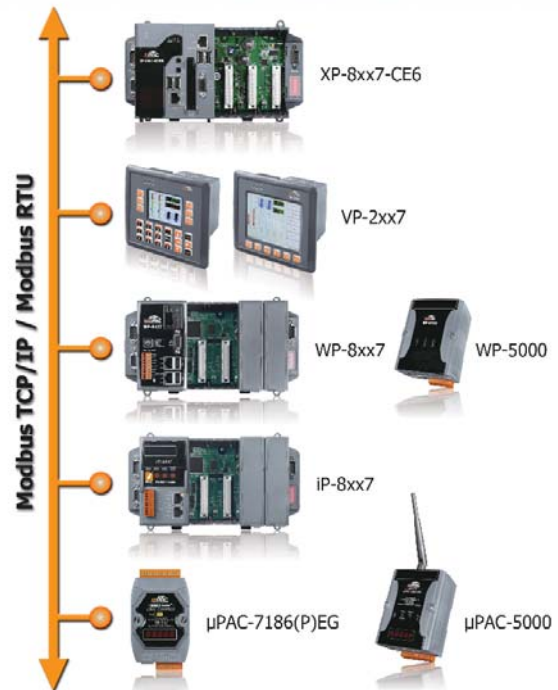
**ISaGRAF Workbench Features:**

- Support IEC 61131-3 Standard Open PLC Languages
  - + Flow Chart (FC) :
  - 1. Quick Ladder (LD)
  - 2. Function Block Diagram (FBD)
  - 3. Sequential Function Chart (SFC)
  - 4. Structured Text (ST)
  - 5. Instruction List (IL)
  - 6. Flow Chart (FC)
- On-line debugging/control/monitor
- Off-line simulation
- On-line change (For WP-8xx7, VP-2xW7, XP-8xx7 only)
- Spotlight: Simple graphic HMI
- Auto-Scan I/O
- Lock & unlock I/O
- Uploading the program in the PAC



**ISaGRAF Solution Features:**

- Support Soft-GRAF HMI
  - A free HMI software on the WinPAC, XPAC and ViewPAC
  - Soft-GRAF Studio: simplify HMI screen editing (Mouse drag & drop)
- Modbus Master Protocol
  - Modbus RTU, ASCII, RS-232/485/422 Master
  - Modbus TCP Master
  - For connecting other Modbus PLCs, meters, I/Os and devices
- Modbus Slave Protocol
  - Modbus RTU (RS-232/485/422) Slave
  - Modbus TCP/IP Slave
  - For connecting other PC/HMI/SCADA (Ex. InduSoft) and touch HMI (Ex. Touch-506T)
- Data-Recorder & Data-Logger
- Data Exchange
  - Ebus: Through Ethernet
  - Fbus: Through RS-485
  - PAC to PAC
- CAN/CANopen
  - Via I-7530 to connect CAN/CANopen devices
  - For connecting other CAN/CANopen meters, I/Os, devices
- FRnet I/O
- Motion Control
  - For controlling server motors (P-command)
- PAC can send e-mail to the internet
- SMS: Short Message Service: GSM modem
  - For reporting data and alarms to the operators
- Wireless Communication: GPS, ZigBee & Radio
- Auto-report Acquisition/Control Data
- Redundant Solution : Hot-swap/Ethernet
- Construction Stress Monitoring: VW sensor and Carlson strain gauge inputs solutions (Bridge/dam/building...)



**Software Development: ISaGRAF V.S. C++ and VS.net 2008**

Item	ISaGRAF Ver. 3.xx	C++	VS.net 2008
Programming	Easy	Hard	Middle hard
Debug	Easy	Hard	Middle hard
SoftLogic	Yes	No	No
Program I/O	Just connect and play	Hard coding	Hard coding
Communication	Already built-in Modbus TCP, Modbus RTU, Modbus ASCII, DCON, SMS, e-mail, TCP, UDP, ...	Hard coding	Hard coding



## 2. Soft-GRAF HMI

### ● Soft-GRAF Studio: Create a Colorful HMI by Graphical Drag-and-Drop Operation

Soft-GRAF Studio is an HMI (Human Machine Interface) software developed by ICP DAS which allows user to create his colorful HMI application running with the control logic in the same ISaGRAF WinCE series PAC: XP-8047-CE6/8347-CE6/8747-CE6, WP-8137/8437/8837, WP-8147/8447/8847 and VP-25W7/23W7 ISaGRAF PAC. User can edit the HMI screen by Soft-GRAF Studio using the graphical drag and drop operation. And use ISaGRAF to design the control logic by PLC Languages (Ladder, ST, FBD.....).

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Overview

### Soft-GRAF Studio HMI Software



<http://www.icpdas.com/products/Software/Soft-GRAF/soft-graf.htm>

### ● Soft-GRAF Studio Features:

- ▶ Soft-GRAF Studio:
  - Easy HMI screen editing (Mouse drag and drop)
  - No programming is required to implement HMI editing.
- ▶ Support various and colorful HMI objects:
  - Page (Max. 200, support password security)
  - Numeric (Input, input security, display)
  - Text (Dynamic/static text display)
  - Picture (Animated/static picture display)
  - Moving Trace (1-axis or 2-axis)
  - Bar-meter (Vertical/horizontal dynamic display)
  - Buttons displayed as text
  - Buttons displayed as Picture
  - Built-in various objects (Will be more)
- ▶ Multi-language:
  - English, Traditional Chinese, Simplified Chinese, Russian, etc.
- ▶ HMI behaves smoothly



### ● Soft-GRAF Studio Online Tutorial:

The Soft-GRAF Studio website provides a tutorial video for online or downloaded learning. Through the seven and a half minutes, you will learn the software download, installation, HMI pages design and program downloading to the controller. Such a total tutoring will let you know that using the Soft-GRAF Studio is so easy!!



### ● My Sweet Home Demo Video:

"My Sweet Home" is a simple demo of an interesting animated application. The intuitive operating HMI looked like the screen of mobile phones or tablet PC and you can test it intuitively even without connecting to the I/O modules. The "My Sweet Home" video is this demo operation video. By watching this video, customers can feel how powerful and how colorful of the Soft-GRAF Studio will be even it is a free software.





### 3. InduSoft (SCADA Solution)



**Introduction :**

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 embedded instrumentation and control 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. We provide the InduSoft bundled driver to integrate InduSoft software into ICP DAS products (IO Modules: I-7000, I-8000, I-87K ; PACs: WinPAC, WinPAC, XPAC) for SCADA system.

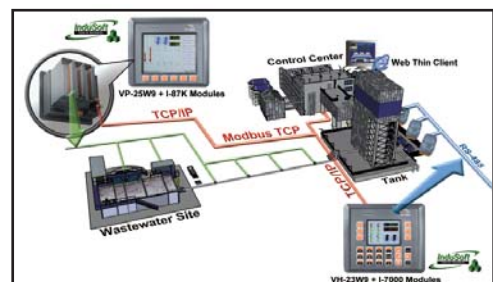
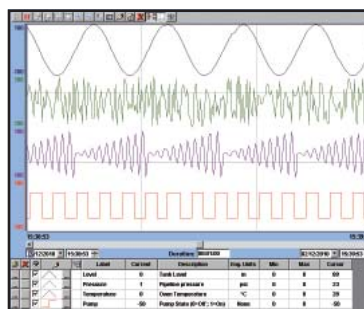
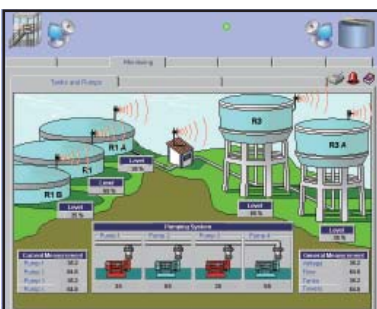
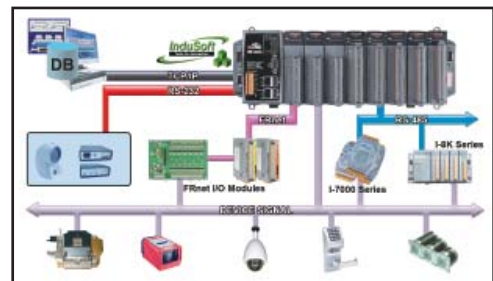
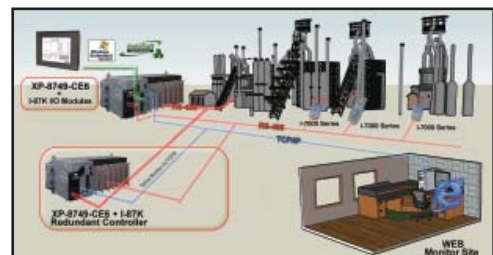
**Integrated with ICP DAS PACs :**

InduSoft has been integrated into ICP DAS various PACs including WinPAC, ViewPAC, XPAC and XPAC-CE6. The following is the advantages when using InduSoft with ICP DAS PACs.

	Features
WinPAC	<ul style="list-style-type: none"> <li>Stable and high performance-to-price ratio small SCADA system</li> <li>Rapidly and easily develop I/O integrated graphic supervisory control system</li> </ul>
ViewPAC	<ul style="list-style-type: none"> <li>Provide integrated touch HMI/SCADA system solution</li> <li>Suitable for spatial narrow and small machine control system</li> </ul>
XPAC	<ul style="list-style-type: none"> <li>High performance and various Win32 API and Tool integrated SCADA system</li> <li>Easily integrate third party software for multi-purpose application</li> </ul>
XPAC-CE6	<ul style="list-style-type: none"> <li>Provide the best choice for high efficiency real time embedded system</li> <li>Suitable for massive data acquisition and processing centralized system</li> </ul>

**Features:**

- Elegant Graphics
- Multi-Language
- Database (Access, Excel, SQL, Oracle...)
- Recipes and Reports
- Online and History Alarm / 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
- Others (VBScript, E-mail, FTP, SNMP...)



## 4. EZ Data Logger

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Overview

**EZ Data Logger** DCON Modbus TCP Modbus Serial

★Virtual Channel Definition ★Control Logic (VB Script)

★Alarm Notifier

High/Low Alarm

★IP Camera Viewer

Layout

Data Trend

Database and Report

EZ Data Logger is the software that ICP DAS provides for users to easily build a SCADA system on Windows 2000/XP/Vista. It comes with two versions, "Lite" & "Professional". The Lite version is not only full-functioned but free to all ICP DAS users!

EZ Data Logger is a small data logger software. It can be applied to small remote I/O system. With its user-friendly interface, users can quickly and easily build a data logger software without any programming skill.

### Features:

- Support DCON, Modbus RTU, Modbus ASCII, Modbus TCP protocols
- Support multiple COM Ports and TCP/IP connections
- Support Virtual Channel definition
- Support Control Logic (VB Script)
- Support Alarm Notifier (by sending SMS to cell phone or E-Mail)
- Flexible module configuration (different description and color)
- Flexible workgroup configuration
- Real time data trend (with zoom in and zoom out)
- Each trend line can store more than 86400 records.
- Provide Layout view
- Provide IP Camera Viewer
- Access database supported (can be exported to Excel file or CVS file)
- Provide Reporter to print trend line or data
- Provide High/Low alarm with audio warning
- Can search for DCON (I-7000/8000/87K) modules and Modbus (M-7000) serial modules
- Provide Value scaling
- All operations are done by click mouse and enter value.

**Build your SCADA system with ICP DAS modules in 5 minutes.**

Watch the video & Download the "Lite" Version **FOR FREE** now!

62.603

A01 30 40 50 60

A02 20.996

Timer1 1.000

D00 ON Safe On

D01 D02 D03 D04 D05 D06 D07

A00 100 80 60 40 20 0

A01 10 9 8 7 6 5 4 3 2 1 0

A02 25.230

A03 32.743

Counter 0 000000141

A15 49.667 %

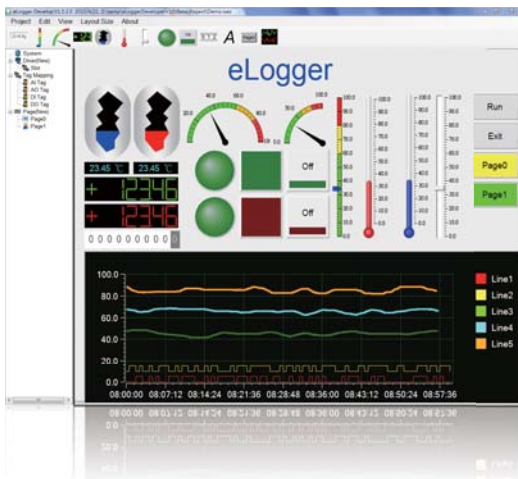
A14 30.434 %

A13 61.875

A12 0.000



## 5. eLogger



eLogger is an easy-to-use software to implement HMI and data logger on our Windows CE.NET 5.0/6.0 based PACs (XPAC, WinPAC and ViewPAC) for simple I/O monitoring and controlling systems. It can save your money and shorten time-to-market. eLogger can quickly and easily develop an application with flexible I/O configuration. The developing can be completed in just 5 simple steps:

- Step 1: configuring I/O modules
- Step 2: configuring data logger
- Step 3: designing HMI layout pages,
- Step 4: uploading the project to WinPAC/ViewPAC,
- Step 5: running it.

In the simple steps, there is no need of software programming knowledge. And if you want to add more powerful functions, eLogger also provides a flexible "shared memory" interface to allow your VS.NET and ISaGRAF programs co-work with it. eLogger currently supports I-87K series I/O modules on local slots. In the future, it will support I-8K series I/O modules on local slots and remote I/O modules over RS-485, Ethernet with DCON and Modbus protocols. With the various I/O module series, you can find I/O modules to suit various configurations.

### Features:

#### 1. PAC Support:

- Developer: Windows 2K, Windows XP, Windows Vista, Windows 7
- Run time target: Windows CE.NET 5.0/6.0 platform, such as XP-8x4x-CE6 series, WP-8x3x series, WP-8x4x series, VP-23W1, VP-25W1

#### 2. I/O Module Support:

- High speed local I/O (not available): I-8K series
- Low speed local I/O: I-87K series
- RS-485 remote I/O (not available): I-7000, M-7000, RU-87Pn, Modbus/RTU/ASCII devices
- Ethernet remote I/O (not available): ET-7000, ET-87Pn, Modbus/TCP devices

#### 3. Signal Type of I/O Modules:

- DI, DO, AI, AO, counter, frequency, DI with latch function.

#### 4. Communication (not available)

- RS-485: DCON master, Modbus/RTU master, Modbus/ASCII master
- Ethernet: DCON master, Modbus/TCP master

#### 5. HMI

- Elements: button, text box, linear gauge, angular gauge, LED numeral, LED indicator, tank, label, trend line.



#### 6. Real Time Data Trend

- Zoom in and zoom out
- Max. of 5 trend lines in one page.

#### 7. Value Scaling

#### 8. Account Management

#### 9. Remote Maintenance (not available)

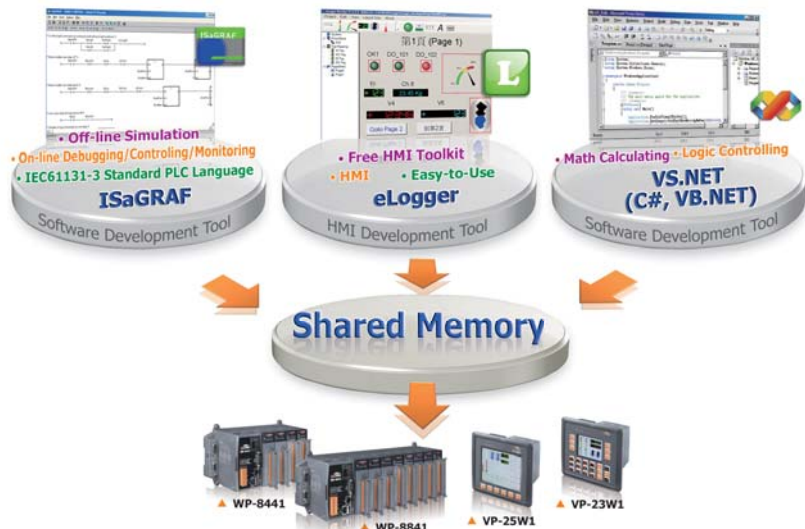
#### 10. Data Base

- Local data base: SQL embedded.
- Remote data base(not available): SQL 2005 on Windows platform.

#### 11. Logic Control Programming

Via the " shared memory ", you can choose ISaGRAF or VS.Net to develop a logic control program and co-work with the eLogger. Your programs can access the data of I/O module and exchange other temporary data through the "shared memory". You can focus on the logic control programming.

- ISaGRAF (IEC61131-3 standard PLC languages) (Refer to ISaGRAF FAQ-115)
- Visual Studio .NET (C#, VB.NET) for Window CE.NET 5.0/6.0





## 6. NAPOPC DA Server

**NAPOPC DA Server** is a **free** OPC DA Server (**The "OPC" stands for "OLE for Process Control" and the "DA" stands for "Data Access"**) provided by ICP DAS running on WinPAC, ViewPAC, XPAC, WinCon and PC with Windows 95/98/ME/2000/NT/XP operating systems. **NAPOPC DA Server** provides many benefits to users such as reduce time through lower system integration costs, integrate easily with plug-and-play SCADA/HMI/Database, connect and interoperate easily to custom applications, access to data by anyone in the automation hierarchy, reduce troubleshooting and maintenance cost, write to devices synchronously and asynchronously (not possible before OPC).

Using SCADA/HMI/Database software program, system contacts and obtains data from NAPOPC DA Server either on the same computer or on another computer. SCADA/HMI/Database makes a request and NAPOPC DA Server fulfills the request by gathering the data of ICP DAS modules and third-party devices to SCADA/HMI/Database.

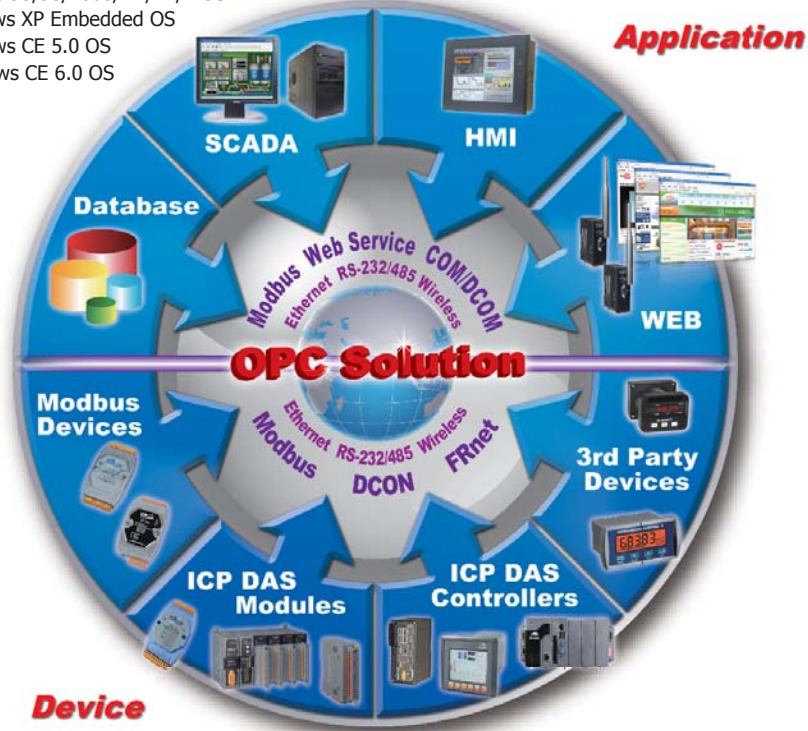
For different OS of PAC products, ICP DAS provides several professional DA Servers, such as:

NAPOPC\_ST DA Server : For Windows 95/98/2000/NT/XP/7 OS

NAPOPC\_XPE DA Server : For Windows XP Embedded OS

NAPOPC\_CE5 DA Server : For Windows CE 5.0 OS

NAPOPC\_CE6 DA Server : For Windows CE 6.0 OS



### Features:

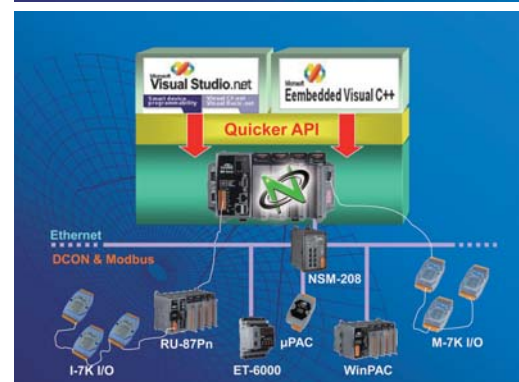
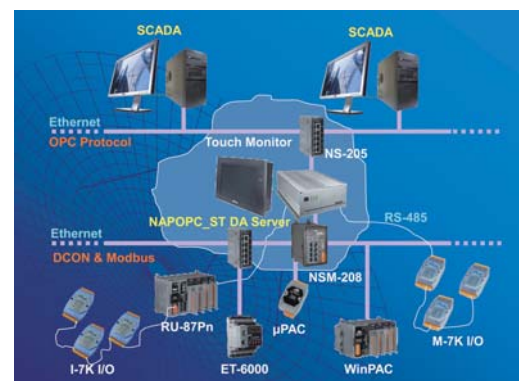
- Easy-to-use explorer-style user interface
- Multi-thread communication
- Auto search & Auto generate
- Support Modbus devices
- Provide "OPC to Modbus" service
- Support Host Watchdog
- Unique design:
  - Active data transmission mechanism
  - OPC Client can select the document in the DA Server during runtime
  - Open application programming interface

### Support :

- ICP DAS I-7K/I-8K/I-87K/M-7K/tM Series I/O modules
- ICP DAS ZigBee I/O
- ICP DAS Ethernet I/O
- ICP DAS FRnet Remote I/O
- Support third party Modbus devices
- ICP DAS PACs which support Modbus protocol
- Compatible with most development platforms (Visual C++, Visual Studio .Net)
- Compatible with all local and remote OPC Client (Remote Accessing using DCOM technique)
- Compliant with OPC specification V2.0

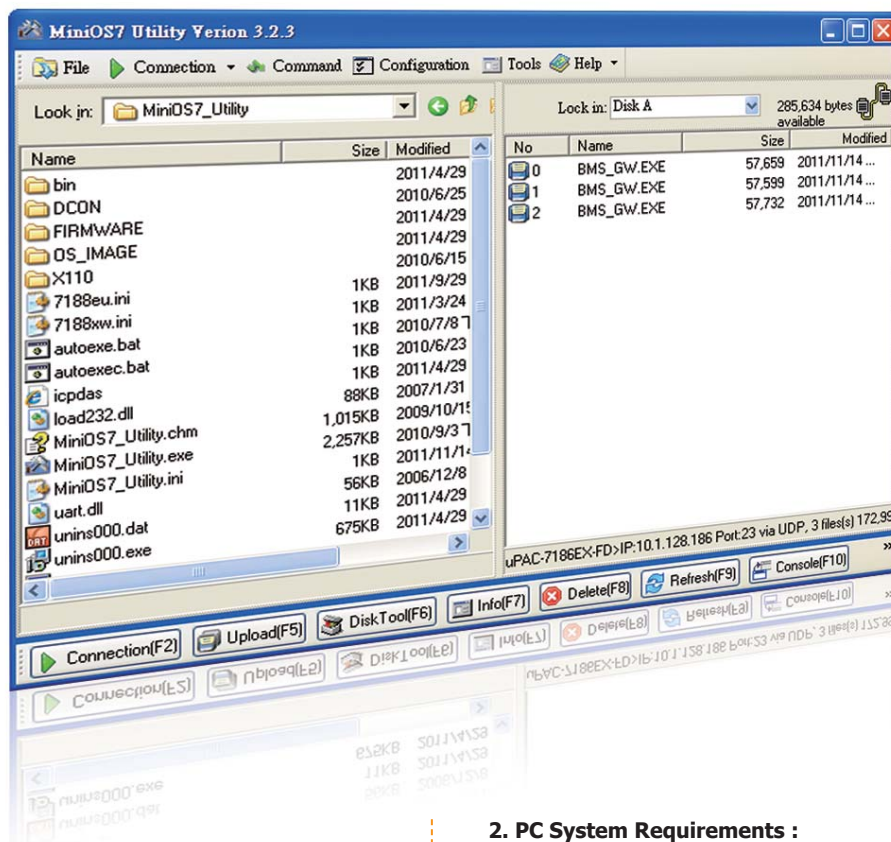
### Applications :

- Protocol Conversion Application
- VxComm Application
- Wireless I/O Application
- Active Server to Client Communication Application
- Direct Cross-Process I/O Access Application



## 7. MiniOS7 Utility

MiniOS7 Utility is a tool for configuring, uploading files to all products embedded with ICP DAS MiniOS7. It can allow users to remotely access the controllers (7188E,8000E, ...etc) through the RS-232 or Ethernet.



### 1. Features:

- ▶ Supported connection ways
  1. COM port connection (RS-232)
  2. Ethernet connection (TCP & UDP)
- ▶ Maintenance
  1. Upload file(s)
  2. Delete file(s)
  3. Update MiniOS7 image
- ▶ Configuration
  1. Date and Time
  2. IP address
  3. COM port
  4. Disk size (Disk A, Disk B)
- ▶ Check product information
  1. CPU type
  2. Flash Size
  3. SRAM Size
  4. COM port number
  - etc.
- ▶ Including frequently used tools
  - a. 7188XW (console mode utility in RS-232 connection)
  - b. 7188EU (console mode utility in Ethernet connection)
  - c. 7188E (console mode TCP/IP client)
  - d. SendTCP (to test TCP/IP connection)
  - e. Send232 (to test RS-232 connection)
  - f. VxComm Utility

### 2. PC System Requirements :

Windows 95 /98/NT/2000/XP/Vista/7

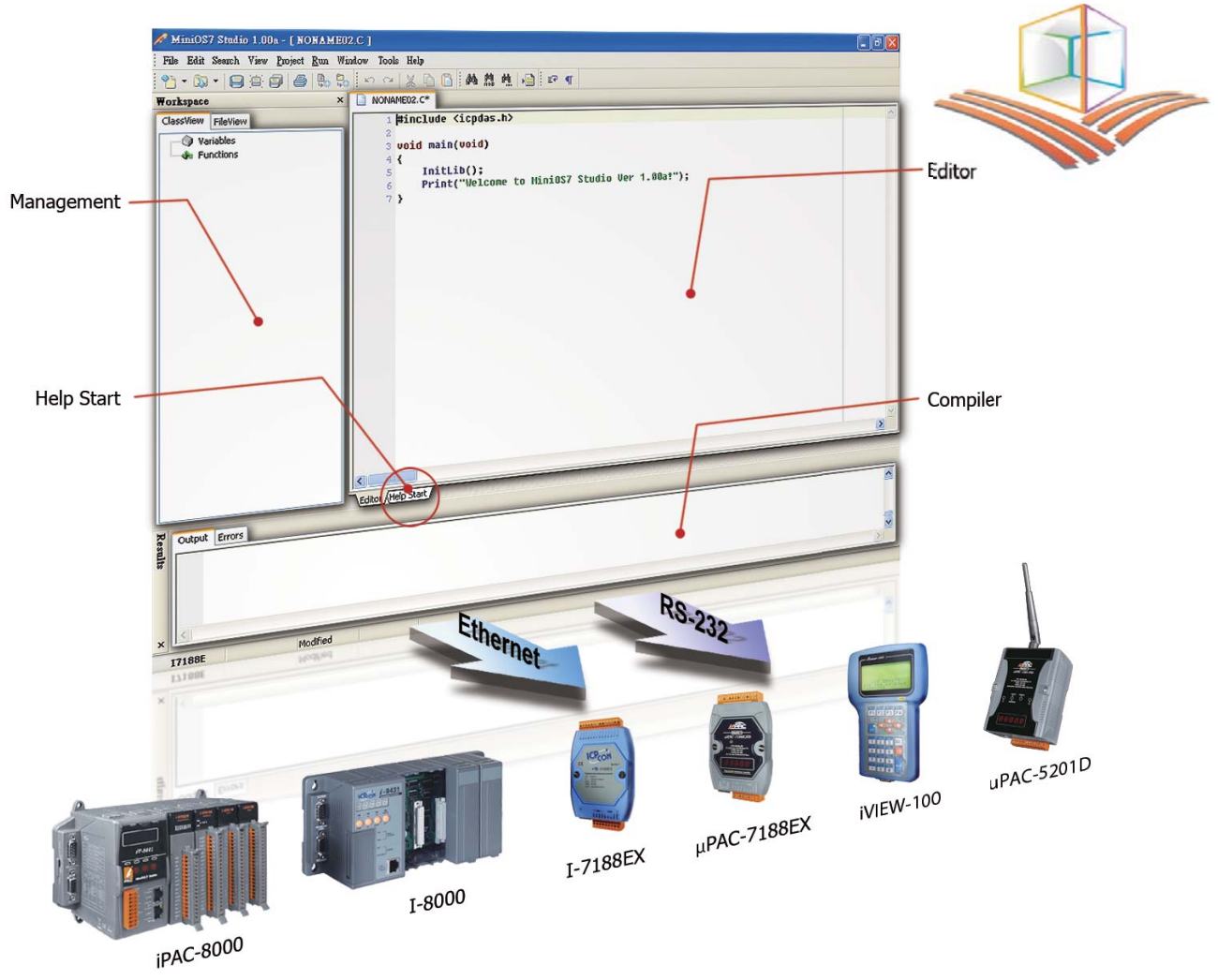
### 3. Supported Products:

1. 7188XA
2. 7188XB
3. 7188XC
4. 7188EX/7186EX series
5. All I-8000 series
6. iView100
7. ET-7000 series

## 8. MiniOS7 Studio (C language Solution)

MiniOS7 is an operating system specially designed for our PACs (Programmable Automation Controller). It has won worldwide praise and recognition for its stability, compactness, efficiency and cost-effectiveness. Now a latest cool MiniOS7 IDE tool is released to quickly and easily develop various projects for different purposes.

MiniOS7 Studio, the Integrated Development Environment (IDE) for MiniOS7, provides comprehensive set of features, such as customizable editor, integral debugging guide, online demo programs support, full source code analyzer, projects manager...etc. These features enable easy coding and execution of programs that will enhance your productivity and programming experience. You could create numerous innovative customized applications to help clients solve difficult problems and implement their new ideas.



### Features:

1. Integrated platform for development.
2. Flexible and customizable plug-ins for rich and easy operating.
3. Full integration with MiniOS7 Utility, makes function coding, compiling, uploading and executing simultaneously.
4. Multi languages compatible.
5. Support several C compilers.
6. Support syntax highlighting for easily programming by C, C++ languages.
7. File view and class view supported for easy maintenance.
8. Web browser embedded to offer most practical solution of enterprise connectivity via the Internet.
9. Offer projects manager to easily manage huge projects.
10. Provide full libraries and support various controllers.