

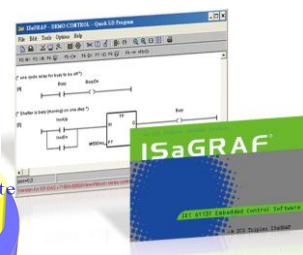
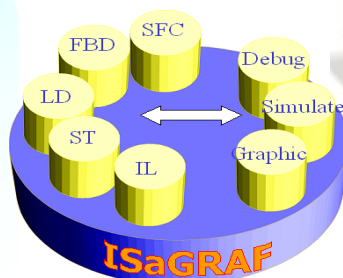


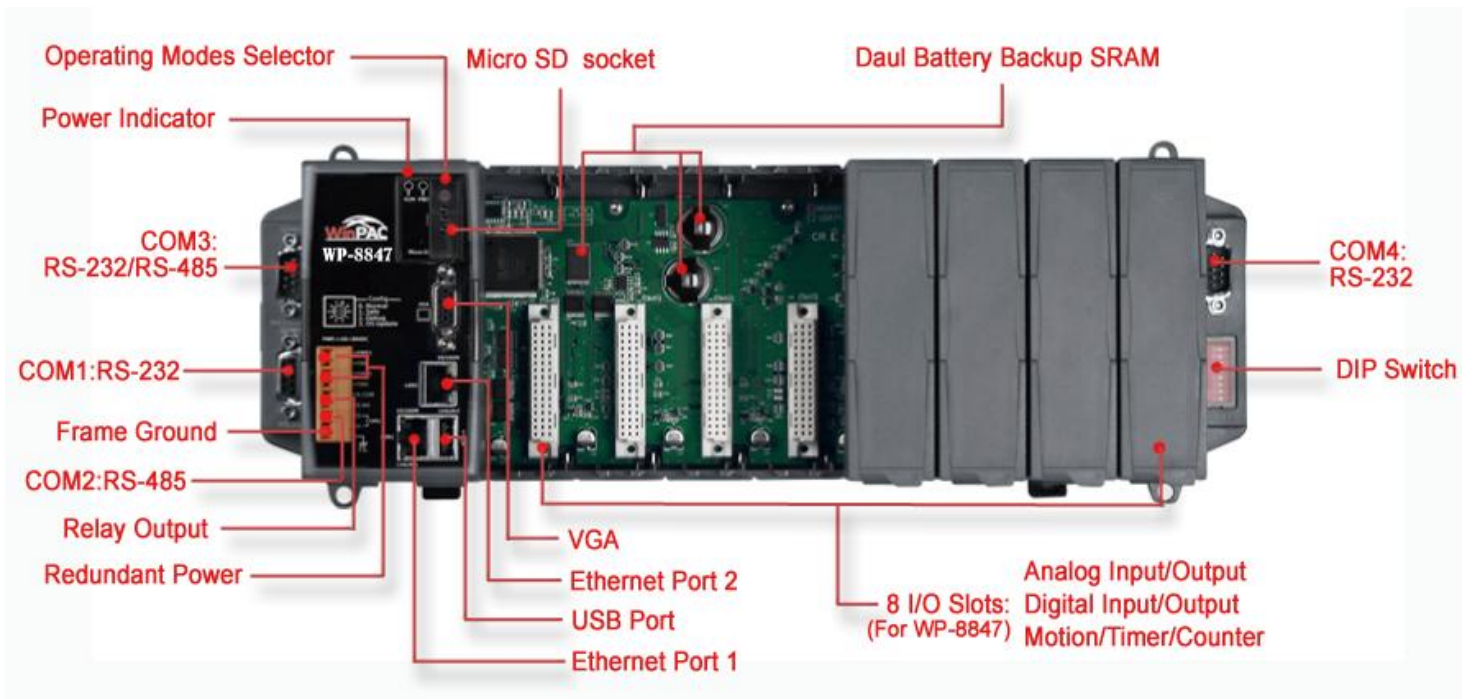
- ISaGRAF Ver.3 SoftLogic Inside
- Support IEC 61131-3 Standard
- Windows CE.NET 5.0 Inside .NET Compact Framework 2.0
- Support Microsoft Visual Basic.NET 2003/2005/2008, Visual C#.NET 2003/2005/2008, EVC++ 4.0
- Power PXA270 CPU: 32-bit & 520 MHz or Compatible
- 128 MB SRAM
- 14 MB Built-in Flash Disk
- WP-8147: 1 Slot
WP-8447: 4 Slots
WP-8847: 8 Slots
- Built-in 4 Serial Comm. Ports: RS-232 / RS-485
- Dual Ethernet Ports
One VGA & one USB Ports
- Dual Battery Backup SRAM
- Redundant Power Inputs

WinPAC-8x47 Series (WP-8147/8447/8847) is the new generation WinCE based ISaGRAF PAC (Programmable Automation Controller) of ICP DAS. It equips a PXA270 CPU (520MHz) running Windows CE.NET 5.0 Operating System, variant connectivity (VGA, USB, dual Ethernet, RS-232/485) and 1/4/8 slots for high performance Parallel-type I/O modules (High Profile I-8K series) and Serial-type I/O modules (High Profile I-87K I/O modules).

The ISaGRAF PAC supports ISaGRAF Ver.3 Workbench :

- IEC 61131-3 Standard Open PLC Programming Languages+ Flow Chart:
 1. Ladder
 2. SFC
 3. IL
 4. Function Block
 5. ST
 6. Flow Chart.
- Auto-Scan I/O
- Simulate program even without controller
- Debug on-line
- Control on-line
- Simple graphic HMI





Hardware Features:

- **Powerful CPU Module**
 - ☑ PXA270 CPU: 32-bit & 520 MHz or compatible
 - ☑ 128 Mbytes SRAM
 - ☑ 14 Mbytes built-in Flash Disk
- **Built-in VGA Port**
- **64-bit Hardware Serial Number**
 - ☑ Protecting software & applications
- **Rich I/O Expansion Ability**
 - ☑ RS-232/485/422
 - ☑ Ethernet
 - ☑ FRnet
 - ☑ CAN
- **I/O module Hot-Swap Ability**
 - ☑ Plug & play for I-87K High Profile I/O Card
- **Built-In Flash Disk (14 MB)**
 - ☑ Good in vibration environment, e.g. driving ship
- **Dual Watchdog timers increase reliability**
 - ☑ OS watchdog
 - ☑ AP watchdog
- **Dual battery-backup SRAM (512Kbytes)**
 - ☑ Retain the data for 5 years while power off
- **Dual Ethernet ports**
 - ☑ Redundant Ethernet communication
 - ☑ Global Internet / private Ethernet separate system
- **Redundant Power Inputs**
 - ☑ Prevent from failing by the power loss
- **Ventilated Housing Design Allows Operation Between -25°C ~ +75°C**

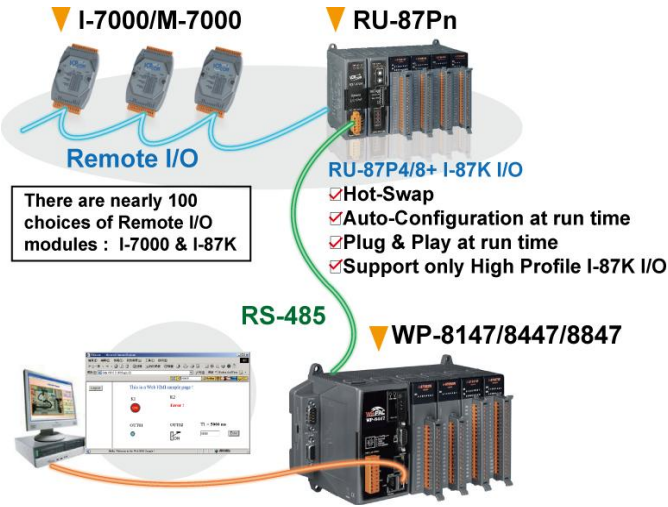
Plug & Play



Software Features:

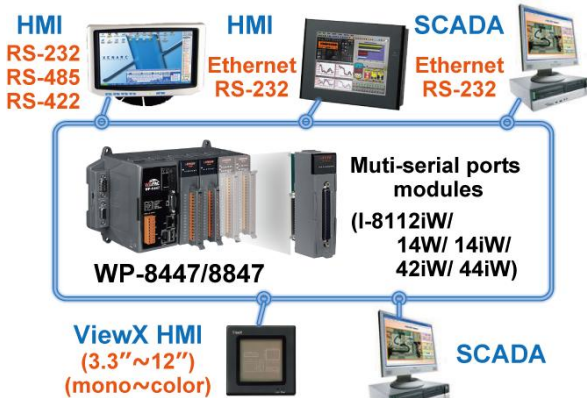
- **Development Software: ISaGRAF Ver.3**
 - ☑ ISaGRAF Version 3
 - ☑ Running on Windows 95/ 98/ NT/ 2000/ XP
 - ☑ Single design environment
 - ☑ Provide **6** PLC syntaxes (5 IEC 61131-3 Standard + 1 Flow Chart)
 - ☑ Max. **1 Mbytes** ISaGRAF code size
 - ☑ Support off-line simulation
 - ☑ On-line debugging, monitoring and control
 - ☑ Easy integrating to HMI / SCADA / MMI
- **Windows CE.NET 5.0**
- **Support Modbus Master**
 - ☑ RTU, ASCII, RS-232/485/422
- **Support Modbus RTU/TCP Slave**
 - ☑ Modbus RTU (RS-232/485/422) Slave
 - ☑ Modbus TCP/IP Slave (Max. **32** connections)
- **Support Data Exchange**
 - ☑ Ebus: Through Ethernet
 - ☑ PAC to PAC
- **Support CAN / CANopen (Via I-7530 or I-8120W)**
- **Support FRnet I/O**
- **Support Motion Control**
- **Support send email with one file**
- **Support SMS: Short Message Service**
 - ☑ GSM modem
- **Support Wireless Communication**
 - ☑ Radio Wireless
- **Support Data-Recorder & Data-Logger**
- **Support Auto-report acquisition / control data**

Remote I/O Application

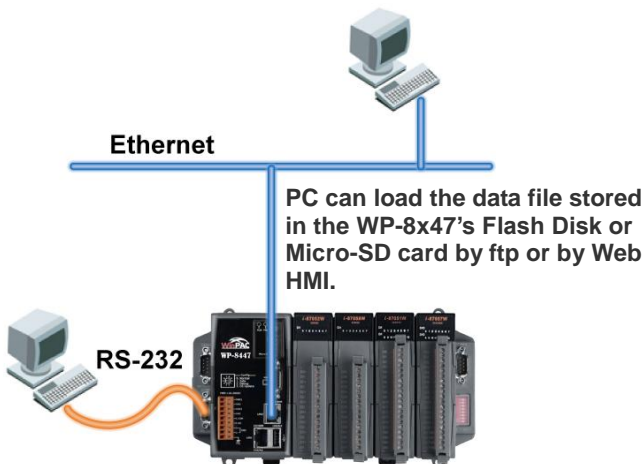


Modbus RTU/TCP Slave Ports

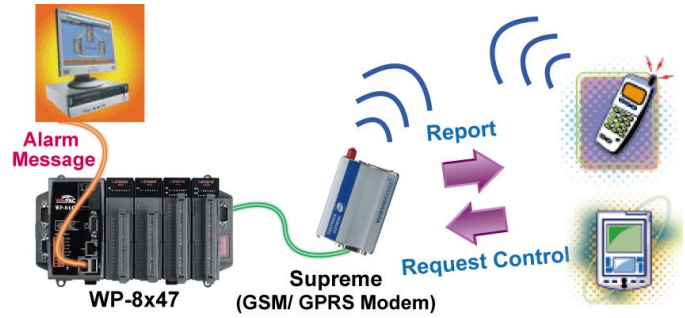
- Modbus RTU (RS-232/485/422): max. **5** PC/HMI/SCADA connection
- Modbus TCP/IP: max. **32** PC/HMI/SCADA connection



Data-Recorder & Data-Logger

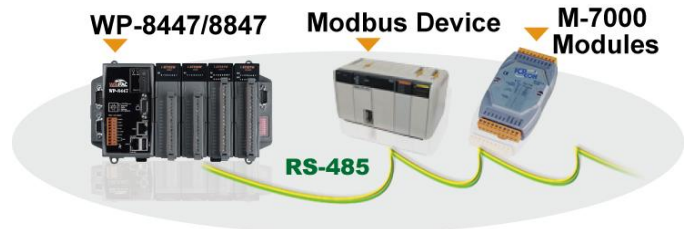


SMS: Short Message Service



Modbus Master: RTU, ASCII, RS-232/485/422

- COM1~COM4
- COM5~COM14: if I-8112iW/14W/14iW/42iW/44iW in Slot1~5
- Can link to Modbus PLC or M-7000 I/O or Modbus devices (Power meter, temperature controller, inverter etc.)



Motion Control

- One I-8091W can control 2 axes: X-Y plane, or 2 axes independent
- Two I-8091W can control 4 axes: X-Y plane + 2 axes independent, or 4 axes independent

Encoder Modules:

I-8090W: 3-axis
I-8080W: 4-axis



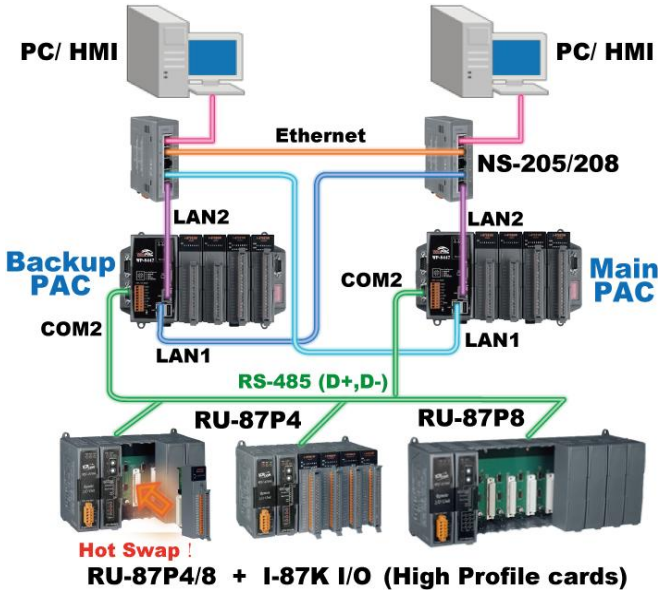
Communicate With Other TCP/IP Server Devices



● New Hot-Swap and Redundant System

- If one Ethernet cable of WP-8x47 is broken or damaged, the other one will still work.
- If one controller is dead, the other one will take over the control of the RS-485 I/O.
- PC/ HMI can connect to this redundant system by one or two active IP.
- More at www.icpdas.com > FAQ > Software > ISaGRAF Ver.3 (English) - 093

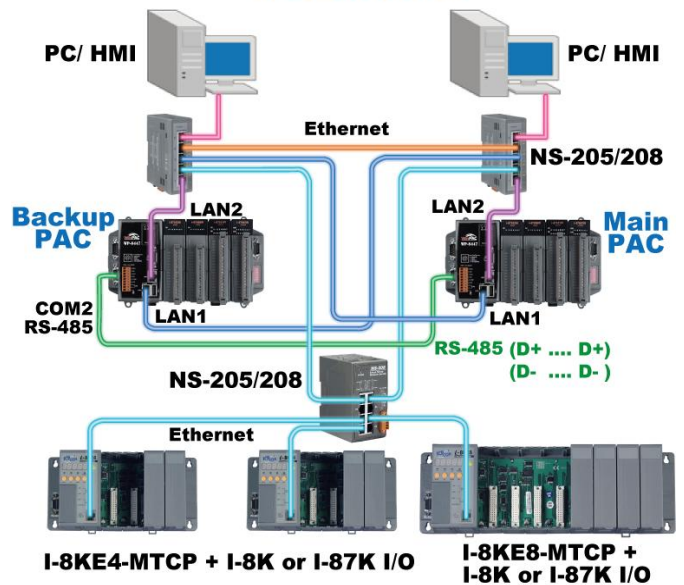
New WP-8x47 Hot-Swap Redundant System



● New Redundant System with Ethernet I/O

- If one Ethernet cable is broken or damaged, the other one will still handle the Ethernet I/O and exchange data with the other redundant controller.
- The scan of Ethernet I/O is much faster than that of RS-485 I-7000 or I-87K I/O.
- More at www.icpdas.com > FAQ > Software > ISaGRAF Ver.3 (English) - 093, 042

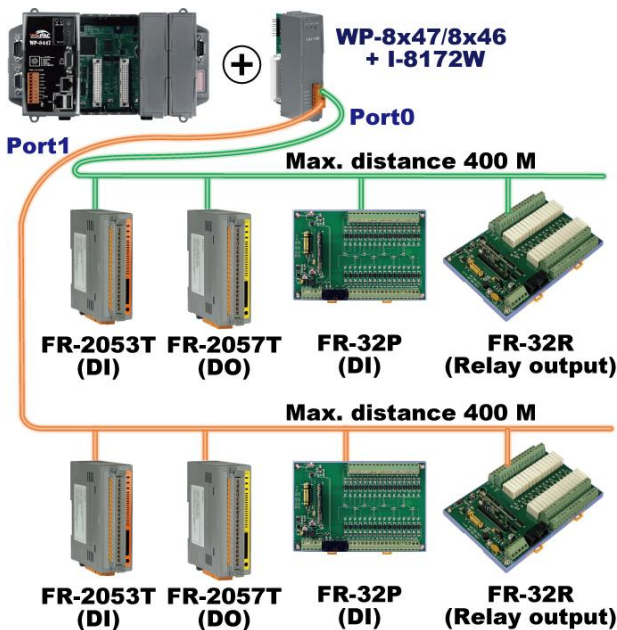
New WP-8x47 Redundant System with Ethernet I/O



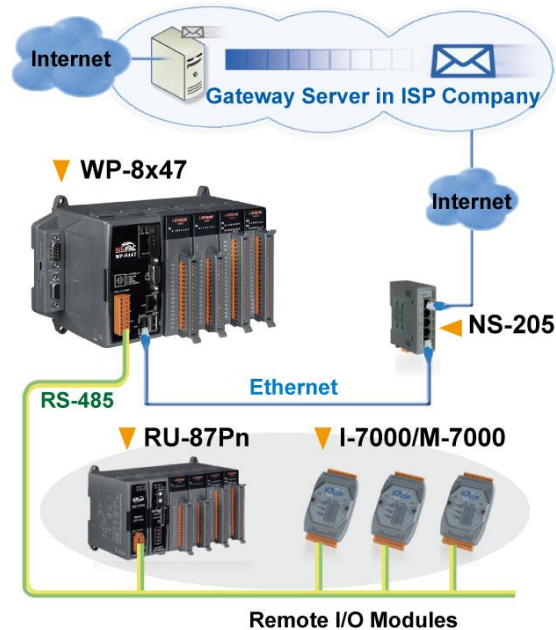
● Fast FRnet Remote I/O

Advantage of FRnet I/O:

- Fast I/O scan: About 3 ms/scan (This depends on your program PLC scan time.)
 (Ex. If the ISaGRAF PLC program scan Time is about 9 ms, then the scan time for all will be 9 ms, not 3 ms)



● Send Email with One Attached File



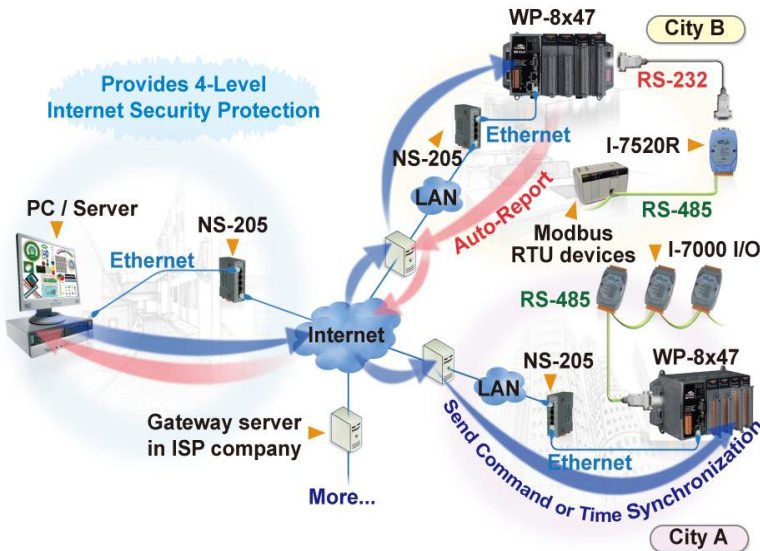
More at www.icpdas.com > FAQ > Software > ISaGRAF Ver.3 (English) - 067

● Auto-report Acquisition & Control Data

WP-8447/8847 can use UDP IP Client to auto-report acquisition data & control data to local or remote internet PC/Server.

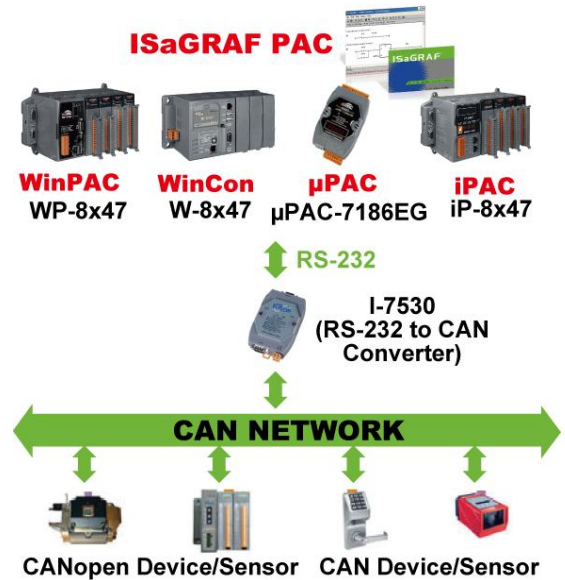
Advantage : Every WinCon in the different location doesn't need a fixed Internet IP

Stable and Cost-effective Data Acquisition Auto-Report System



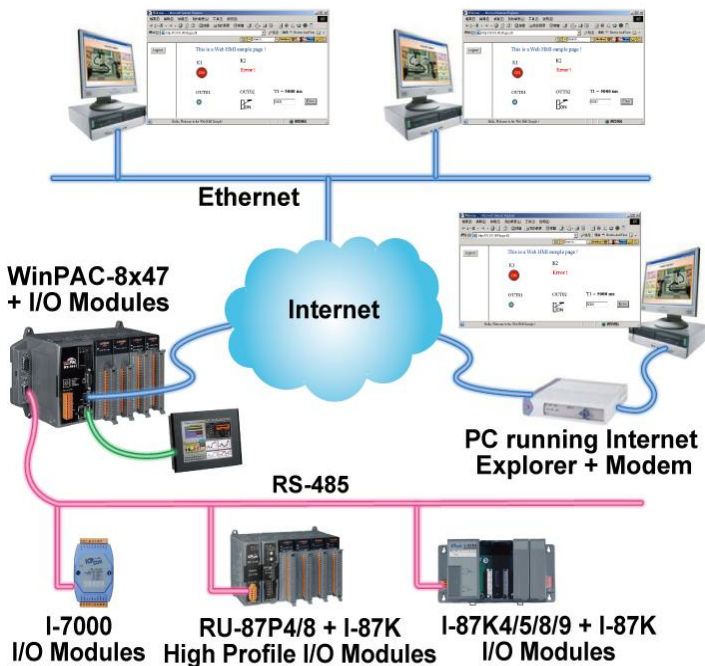
● Integrate with CAN / CANopen Devices & Sensors

- WP-8X47 supports max. 10 I-7530 (RS-232 to CAN Converter)
- Please refer to www.icpdas.com > FAQ > Software > ISaGRAF Ver.3 (English) > 086



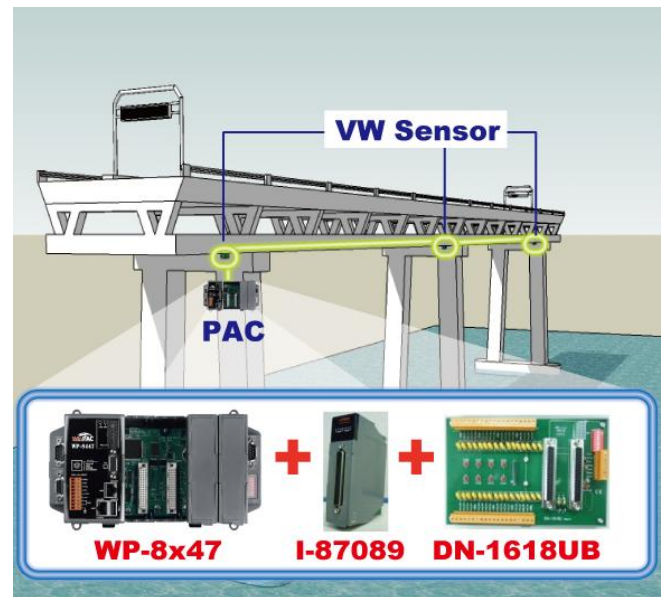
● Multiple Web HMI – Monitor & Control Everywhere!

PC Running the Internet Explorer



● Constructions Monitoring Application

More at www.icpdas.com > FAQ > Software > ISaGRAF Ver.3 (English) - 091





Specifications of WP-8147/8447/8847

| ■ System Software | |
|-----------------------------|---|
| OS | Windows CE 5.0 |
| .Net Compact Framework | 2.0 |
| Embedded Service | FTP server, Web server |
| ■ Development Software | |
| ISaGRAF Software | ISaGRAF Version 3 : IEC 61131-3 standard. Languages: LD, ST, FBD, SFC, IL & FC |
| Max. Code size | WP-8x47 accepts max. 1 Mbytes ISaGRAF code size (Appli.x8m must < 1M) |
| Non-ISaGRAF | Options: Microsoft EVC++ 4.0 or VS.NET 2003/2005/2008 (VB.NET2003/2005/2008, C#.NET2003/2005/2008) |
| ■ Web Service | |
| Web HMI | Support Web HMI function, PC running Internet Explorer can access to the WP-8x47 via local Ethernet, Internet or dial Modem to monitor and control. |
| Security | Web HMI supports three level username and password protection |
| ■ Power Supply | |
| Power Input | Redundant Power Inputs; Range: +10 ~ +30 V _{DC} (unregulated), |
| Isolation | 1 KV |
| Capacity | WP-8147: 1.0 A, 5 V supply to CPU and backplan; 0.6 A, 5 V supply to I/O expansion slots, total 8 W WP-8447: 1.1 A, 5 V supply to CPU and backplan; 4.9 A, 5 V supply to I/O expansion slots, total 30 W WP-8847: 1.2 A, 5 V supply to CPU and backplan; 4.8 A, 5 V supply to I/O expansion slots, total 30 W |
| Consumption | WP-8147: 7.3 W (0.3 A @ 24 V); WP-8447: 9.1 W (0.38 A @ 24 V); WP-8847: 9.6 W (0.4 A @ 24 V); |
| ■ General Environment | |
| Temperature | Operating Temperature: -25°C ~ +75°C (-13° F ~ +167° F) Storage Temperature: -30°C ~ +85°C (-40° F ~ +176° F) |
| Humidity: | Humidity: 5% ~ 95% RH (non-condensed) |
| ■ System | |
| CPU | CPU: PXA270, 32-bit and 520 MHz or compatible |
| Dual Watchdog Timer | Watchdog: Dual Watchdog Timer |
| RTC (Real Time Clock) | Gives hour, minute, sec, day of week, day of month, month & year, valid up from 1980 to 2079 |
| EEPROM | 16 Kbytes; Data retention: 40 years. 1,000,000 erase/write cycles |
| SRAM | 128 Mbytes |
| Dual Battery Backup SRAM | 512 Kbytes (for 5 years data retain while power off) |
| FLASH | 48 Mbytes (32 Mbytes for OS image, 14 Mbytes for built-in Flash disk, 2 Mbytes for registry) |
| Expansion Flash Memory | Micro SD socket with 1GB flash card |
| Serial Number | Yes, 64-bit hardware unique serial number |
| NET ID | 1 ~ 255, set by software |
| Rotary Switch | Yes (0~9) |
| DIP Switch | WP-8447 & WP-8847: Yes, 8 bits DIP Switch; WP-8147 : no DIP Switch |
| I/O Slots | WP-8147: 1 slot (slot0); WP-8447: 4 slots (slot0 ~ slot3); W-8747: 8 slots (slot0 ~ slot7); Accept High Profile I-8K Parallel & High Profile I-87K Serial I/O boards I/O Module Hot Swap Ability : for High Profile I-87K only (Will be available) |
| ■ VGA & Communication Ports | |
| VGA Port | 1 VGA port (800 x 600 resolution) |
| Dual Ethernet Ports | 2 Ethernet Ports: LAN1 & LAN2, 10/100 Base-TX Ethernet Controller (Auto-negotiating, Auto MDI/MDI-X, LED indicator) Please use NS-205 / NS-208 Industrial Ethernet Switch. |
| USB Port | 1 USB 1.1 Host ports for USB mouse, keyboard or USB drive |
| COM0 | Internal communication with the I-87K High Profile modules in slots |
| COM1 | RS-232 (RXD, TXD, and GND); Non-isolation; Speed: 115200 bps max. |
| COM2 | RS-485 (D2+, D2-; self-tuner ASIC inside); 3000 VDC isolation; Speed: 115200 bps max. |
| COM3 | RS-232/RS-485 (RXD, TXD, CTS, RTS and GND for RS-232, Data+ and Data- for RS-485); Non-isolation; Speed: 115200 bps max. (WP-8147 has no COM3 & COM4.) |
| COM4 | RS-232 (RXD, TXD, CTS, RTS, DSR, DTR, CD, RI and GND); Non-isolation; Speed: 115200 bps max. (WP-8147 has no COM3 & COM4.) |
| ■ Motion | |
| Motion Control | WP-8447/8847 integrate with one I-8091W (2-axis) or two I-8091W (4-axis) can do motion control |
| ■ PWM Output | |
| Pulse Width Modulation | 8 ch. max. 250 Hz max. For Off=2 & On=2 ms . Output square curve: Off: 2 ~ 32766 ms, On: 2 ~ 32766 ms. Optional DO Boards: I-8037W, 8041W, 8041AW, 8042W, 8050W, 8054W, 8055W, 8056W, 8057W, 8060W, 8063W, 8064W, 8068W, 8069W (Relay Output boards can not generate fast square curve) |



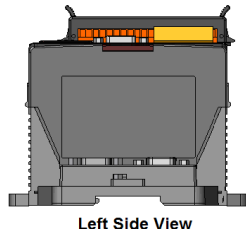
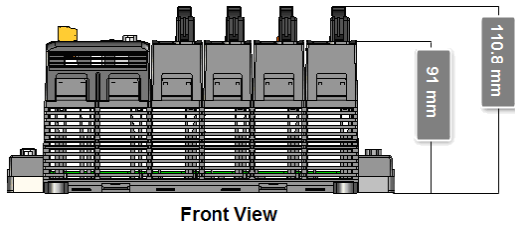
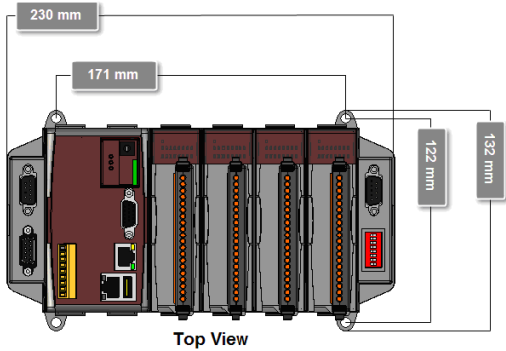
Specifications of WP-8147/8447/8847

| ■ Counter, Encoder, Frequency | |
|--|--|
| Parallel DI Counter | 8 ch. max. For 1 controller. Counter val: 32 bit. 250 Hz max. Min. ON & OFF width must > 2ms. Optional DI Boards: I-8040W, 8040PW, 8042W, 8048W, 8050W, 8051W, 8052W, 8053W, 8053PW, 8054W, 8055W, 8058W, 8063W. |
| 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, 87059W, 87063W. |
| Remote DI Counter | All remote I-7000 & I-87K DI modules support counters. 100 Hz max. value: 0 ~ 65535 |
| High Speed Counter | I-87082W: 100 kHz max. 32 bit; I-87088W: 500 kHz max. 32 bit; I-8080W: 450 kHz max. 32 bit |
| Encoder | I-8080W: 4-ch encoder, can be dir/pulse, or cw/ccw or A/D phase (Quard. mode) |
| Frequency | I-87082W: 2-ch, 1 Hz ~ 100 kHz; I-87088W: 8-ch, 0.1 Hz ~ 500 kHz; I-8080W: 8-ch, 1 Hz ~ 450 kHz; |
| ■ Protocols | |
| Modbus RTU / ASCII Master Protocol (Multi-Port) | Up to 10 COM Ports (COM1, 2, 3, 4 and <u>COM5~COM14 if multi-serial port boards are plugged in</u>) can support multi-ports of Modbus RTU / ASCII Master protocol to connect to other Modbus Slave devices. (WP-8147 has no COM3 & COM4.) |
| Modbus RTU Slave Protocol | Up to 5 COM Ports (COM1, one of COM2/3, COM4 and COM5 ~ COM8) can support Modbus RTU Slave protocol for connecting ISaGRAF, PC/ HMI/ OPC Server & HMI panels. (WP-8147 has no COM3 & COM4.) |
| Modbus TCP/IP Slave Protocol | 2 Ethernet Ports all support Modbus TCP/IP Slave protocol for connecting ISaGRAF & PC/HMI. LAN1 & LAN2 support total up to 32 connections. (If WP-8x47 uses 1 connection to connect each PC/HMI, it can connect up to 32 PC/HMI; If WP-8x47 uses 2 connections to connect each PC/HMI, it can connect up to 16 PC/HMI; ...) When one Ethernet ports 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 or COM4(For connecting to I-7000, COM4 must convert to RS-485 via I-7520) supports <u>I-7000 I/O modules, I-87K base + I-87K Serial I/O boards and RU-87P1/2/4/8 + I-87K High Profile I/O boards as Remote I/O.</u> Max. 255 I-7000/87K Remote I/O modules for one controller. (WP-8147 has no COM3 & COM4.) |
| M-7000 Series Modbus I/O | Max. 10 RS-485 ports (COM1~4 & <u>COM5~COM14 if multi-serial port boards are plugged in</u>) can support M-7000 series Modbus 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 listed at www.icpdas.com > FAQ > Software > ISaGRAF Ver.3 (English) FAQ-042. If LAN2 is broken, it will switch to LAN1 automatically to continuously work. (This need LAN1 & LAN2's IP are set in the same IP domain) |
| FRnet I/O | Support max 8 pcs. I-8172W boards in slot 0 to 7 to connect to FRnet I/O modules, like FR-2053, FR-2057 FR-32R, FR-32P, at www.icpdas.com > FAQ > Software > ISaGRAF Ver.3 (English) FAQ-048. Each I-8172w board can connect up to 256 D/I plus 256 D/O channels. |
| Send Email | Supports mail_snd and mail_set functions to send email with one attached file via Ethernet port. |
| Ebus | To exchange data between ICP DAS's ISaGRAF Ethernet PACs via Ethernet port. (LAN2 Port only) |
| SMS: Short Message Service | One of COM4 (or COM5 <u>if multi-serial port board is plugged in</u>) 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. Optional GSM Modems: Supreme (850/900/1800/1900 GSM/ GPRS External Modem) |
| User Defined Protocol | User can write his own protocol applied at <u>COM1~COM4 & COM5~COM14(if multi-serial port boards are plugged in)</u> by Serial communication function blocks. |
| Modem_Link | WP-8x47 series does not support Modem_Link. |
| MMICON / LCD | <u>COM4 or COM5(if I-8112W/8114W is found)</u> supports ICP DAS's MMICON. The MMICON is featured with a 240 x 64 dot LCD & a 4 x 4 Keyboard to display picture, string, integer, float, & input a char, string, integer & float. |
| UDP Server & UDP Client : Exchange Message & Auto-Report | LAN1 or LAN2 support UDP Server and UDP Client protocol to send / receive message to / from PC/HMI or other devices. For example, to automatically report data to InduSoft's RXTX driver. |
| TCP Client : Exchange Message & Auto-Report | LAN1 or LAN2 support TCP Client protocol to send / receive message to / from PC/HMI or other devices which support TCP server protocol. For example, to 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 WP-8x47's LAN1 and LAN2 ports always. One or two 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-8x47 is currently active. Moreover, the new redundant system can integrate with the RU-87P4 and RU-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. Please refer to www.icpdas.com > FAQ > Software > ISaGRAF Ver.3 (English) FAQ-093. |
| CAN / CANopen | WP-8x47 can use its COM1,3,4 or <u>COM5~COM14 resides at the I-8112iW/8114W/8114iW RS-232 expansion board</u> to connect one I-7530 : the RS-232 to CAN converter to support CAN and CANopen devices and sensors. One WP-8x47 supports max.10 RS-232 ports to connect max.10 I-7530. Please refer to www.icpdas.com > FAQ > Software > ISaGRAF Ver.3 (English) FAQ-086. |

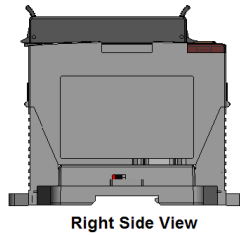
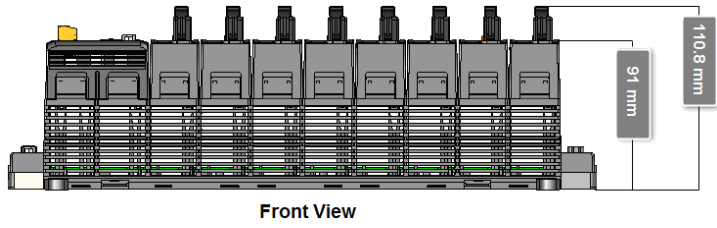
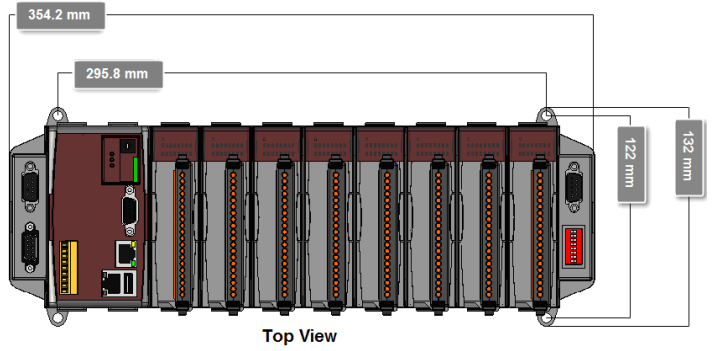


► Mechanical Drawing

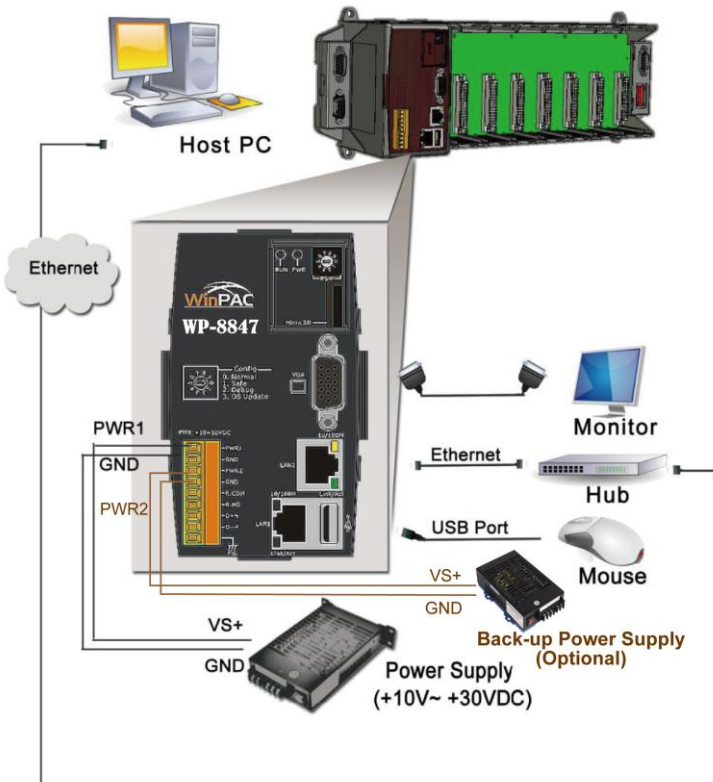
WP-8447



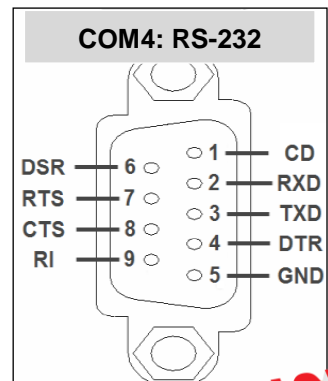
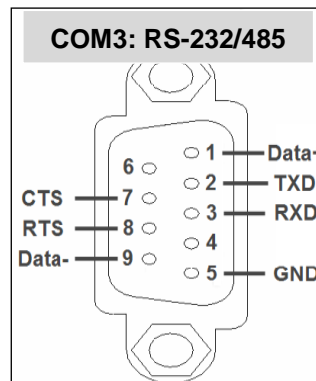
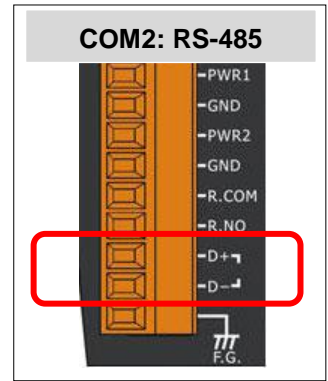
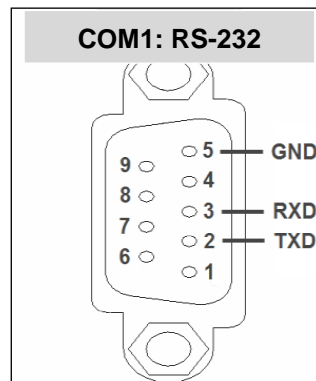
WP-8847



► Wiring



► Pin assignment





I/O Modules Selection Guide For WP-8x47 Series

High Speed Local I/O Modules: Parallel Bus

I-8K High Profile modules: More at www.icpdas.com > Products > PAC - 8K & 87K I/O Modules

| I-8K Analog I/O Modules | |
|---------------------------------|--|
| I-8017HW | 8-ch. Diff. or 16-ch. Single-ended, 14-bit, High Speed Analog Input Module(current input require external 125 Ω resistor) just like I-8017HS. |
| I-8024W | 4-ch. Isolated Analog Output Module (+/-10 V, 0 ~ +20 mA) |
| I-8K Digital I/O Modules | |
| I-8037W | 16-ch. Isolated Open Collector Output Module |
| I-8040W | 32-ch. Isolated Digital Input Module |
| I-8040PW | 32-ch. Isolated Digital Input with Low Pass Filter Module |
| I-8041W | 32-ch. Isolated Open Collector Digital Output Module (Sink) |
| I-8041AW | 32-ch. Isolated Open Collector Digital Output Module (Source) |
| I-8042W | 16-ch. Isolated Digital Input & 16-ch. Isolated Open Collector Digital Output Module |
| I-8048W | 8-ch. Digital Input with Interrupt Module |
| I-8050W | 16-ch. Universal Digital I/O Module |
| I-8051W | 16-ch. Non-isolated Digital Input Module |
| I-8052W | 8-ch. Differential Isolated Digital Input Module |
| I-8053W | 16-ch. Isolated Digital Input Module |
| I-8053PW | 16-ch. Isolated Digital Input with Low Pass Filter Module |
| I-8054W | 8-ch. Isolated Digital Input Module & 8-ch. Isolated Open Collector Digital Output Module |
| I-8055W | Non-isolated 8-ch. Digital Logic Input Module & 8-ch. Open Collector Digital Output Module |
| I-8056W | 16-ch. Non-isolated Open Collector Output Module |
| I-8057W | 16-ch. Isolated Open Collector Output Module |
| I-8058W | 8-ch. Differential Isolated Digital Input Module, Max. AC/DC Input : 250V |
| I-8060W | 6-ch. Relay Output Module, AC: 0.6 A @ 125 V , 0.3 A @ 250 V; DC: 2 A @ 30 V |
| I-8063W | 4-ch. Diff. Isolated digital input & 4-ch. Relay output module, AC : 0.6 A @ 125 V ; 0.3 A @ 250 V |
| I-8064W | 8-ch. Power Relay Output Module, AC: 5 A @ 250 V, DC: 5 A @ 30 V |
| I-8068W | 4-ch. Form-A, 5 A @ 250 V _{AC} /28 V _{DC} & 4-ch. Form-C, 5 A (NO) /3 A (NC) @ 277 V _{AC} /30 V _{DC} Relay Output Module |
| I-8069W | 8-ch. PhotoMOS Relay Output Module, Max. AC/DC: 1 A @ 60 V |
| I-8K Counter/ Frequency Modules | |
| I-8080W | 4/8-ch. Counter/Frequency Module, Isolated or TTL level |
| I-8K Communication Modules | |
| I-8112iW | 2-ch. isolated RS-232 expansion module |
| I-8114W | 4-ch. non-isolated RS-232 expansion module |
| I-8114iW | 4-ch. isolated RS-232 expansion module |
| I-8142iW | 2-ch. isolated RS-485 expansion module |
| I-8144iW | 4-ch. isolated RS-485 expansion module |
| I-8172W | 2-port FRnet module |

RS-485 Remote I/O Modules: Serial Interface; HOT-SWAP

I-87K High Profile Modules: More at www.icpdas.com > Products > PAC - 8K & 87K I/O Modules

| I-87K Analog I/O Modules | |
|--------------------------|---|
| I-87005W | 8-ch. thermistor Input, 16-bit, 8 Hz (Total) and 8-ch. digital output module with Open Wire Detection |
| I-87013W | 4-ch. , 16-bit, 10 Hz (Total), 2/3/4 Wire RTD Input Module with Open Wire Detection |
| I-87015 | 7-ch. , 16-bit, 12 Hz (Total), RTD Input Module with Open Wire Detection (for short sensor distance) |
| I-87015P | 7-ch. RTD Input Module with 3-wire RTD lead resistance elimination and with Open Wire Detection (for long sensor distance) |
| I-87017R | 8-ch. Diff. , 16/12-bit, 10/60 Hz (Total) Analog Input Module with 240 Vrms Over Voltage Protection, Range of -20 ~ +20 mA Requires Optional External 125 Ω Resistor |
| I-87017RC | 8-ch. Diff. , 16/12-bit, 10/60 Hz(Total) Current Input Module |
| I-87018Z | 10-ch. Diff. , 16-bit, 10 Hz (Total), Thermocouple Input Module with 240 Vrms Over Voltage Protection, Open Wire Detection, Range of +/-20 mA, 0~20 mA, 4~20 mA requires Optional External 125 Ω Resistor |
| I-87019R | 8-ch. Diff. , 16-bit, 8 Hz (Total), Universal Analog Input Module with 240 Vrms Over Voltage Protection, Open Wire Detection (V, mA, Thermocouple; Range of -20 ~ +20 mA need to set Jumper on board) |
| I-87024W | 4-ch. 14-bit analog output module (0 ~ +5 V, +/-5 V, 0 ~ +10 V, +/-10 V, 0 ~ +20 mA, +4 ~ +20 mA) |
| I-87028C | 8-ch. 12-bit current output module |



RS-485 Remote I/O Modules: Serial Interface; HOT-SWAP (Continual)

I-87K High Profile Modules: More at www.icpdas.com > Products > PAC - 8K & 87K I/O Modules

| I-87K Digital I/O Modules | |
|----------------------------------|---|
| I-87040W | 32-ch. Isolated Digital Input Module |
| I-87041W | 32-ch. Sink Type Open Collector Isolated Digital Output Module |
| I-87046W | 16-ch. Non-Isolated Digital Input Module for Long Distance Measurement |
| I-87051W | 16-ch. Non-Isolated Digital Input Module |
| I-87052W | 8-ch. Diff. , Isolated Digital Input Module |
| I-87053W | 16-ch. Isolated Digital Input Module |
| I-87053W-A5 | 16-ch. 68 ~ 150 V _{DC} Isolated Digital Input Module |
| I-87054W | Isolated 8-ch. DI and 8-ch. Open Collector DO Module |
| I-87055W | Non-Isolated 8-ch. DI and 8-ch. Open Collector DO Module |
| I-87057W | 16-ch. Open Collector Isolated Digital Output Module |
| I-87058W | 8-ch. 80~250 V _{AC} Isolated Digital Input Module |
| I-87059W | 8-ch. Differential 10-80 V _{AC} Isolated Digital Input Module |
| I-87063W | 4-ch. Diff. Isolated Digital Input and 4-ch. Relay Output Module. 5 A (NO) / 3 A(NC) @ 5 ~ 24 V _{DC} ; 5 A(NO) / 3 A(NC) @ 0 ~ 250 V _{AC} |
| I-87064W | 8-ch. Relay Output Module, 5 A (47~63 Hz) @ 0~ 250 V _{AC} ; 5 A @ 0~ 30 V _{DC} |
| I-87065W | 8-ch. AC SSR Output Module, AC: 1.0 Arms @ 24 ~ 265 Vrms |
| I-87066W | 8-ch. DC SSR Output Module , DC: 1.0 Arms @ 3 ~ 30 V _{DC} |
| I-87068W | 4-ch. Form A Relay Output and 4-ch. Form C Relay Output Module Form A: 8 A @ 250 V _{AC} ; 8 A @ 28 V _{DC} Form C: 5 A (NO) / 3 A (NC) @ 277 V _{AC} ; 5 A(NO) / 3 A(NC) @ 30 V _{AC} |
| I-87069W | 8-ch. Photo-Mos Relay Output Module, Max. AC/DC: 0.13 A @ 350 V |
| I-87K Counter/ Frequency Modules | |
| I-87082W | 2-ch. Counter/Frequency Module, Isolated or Non-isolated Inputs |

More RS-485 Remote I/O Modules at :

I-7000 : www.icpdas.com > Products > Remote I/O Modules/Units > I-7000 Modules > Selection Guide

M-7000 : www.icpdas.com > Products > Remote I/O Modules/Units > M-7000 Modules > Selection Guide

More FRnet Remote I/O Modules at :

FRnet I/O: www.icpdas.com > Products > Remote I/O Modules/Units > FRnet Remote I/O Modules > Selection Guide

More RS-485 Remote Hot-Swap Expansion Unit at :

RU-87P1/2/4/8 : www.icpdas.com > Products > Remote I/O Modules/Units > RS-485 Remote I/O Unit > Selection Guide

More RS-485 Remote Expansion Unit at :

I-87K1/4/5/8/9: www.icpdas.com > Products > Remote I/O Modules/Units > RS-485 Remote I/O Unit > Selection Guide

▶ Ordering Information

| | | |
|-------------|----------------|---|
| ISaGRAF PAC | WP-8147 | 1-slot Ethernet WinCE 5.0 Based ISaGRAF PAC (Dual-LAN: 10/100 Mbps) |
| | WP-8447 | 4-slot Ethernet WinCE 5.0 Based ISaGRAF PAC (Dual-LAN: 10/100 Mbps) |
| | WP-8847 | 8-slot Ethernet WinCE 5.0 Based ISaGRAF PAC (Dual-LAN: 10/100 Mbps) |

▶ Optional Accessories

| | | |
|----------------------|--------------------------------|---|
| Application Software | ISaGRAF-256-E ISaGRAF-256-C | ISaGRAF Workbench Software Ver.3 (256 I/O Tags) + one English/ Chinese application book |
| | ISaGRAF-32-E ISaGRAF-32-C | ISaGRAF Workbench Software Ver.3 (32 I/O Tags) + one English/ Chinese application book Note: ISaGRAF-32-E, ISaGRAF-32-C can't upgrade to 256 I/O tags anymore! |
| Application Book | ISaGRAF Book-E | ISaGRAF application book (English) |
| | ISaGRAF Book-C | ISaGRAF application book (Traditional Chinese) |
| Ethernet Switch | NS-205 / NS-208 | Unmanaged 5-port/8-port Industrial 10/100 Base-T Ethernet Switch with Plastic Case (RoHS) |
| LED Display | EKAN-ME122M | 16x96 pixel, 64x384 mm, 48 W @ 24 V _{DC} , char size: 8x6 or 16x8 pixel |
| | EKAN-ME124M | 16x192 pixel, 64x768 mm, 90 W @ 24 V _{DC} , char size: 8x6 or 16x8 pixel |

