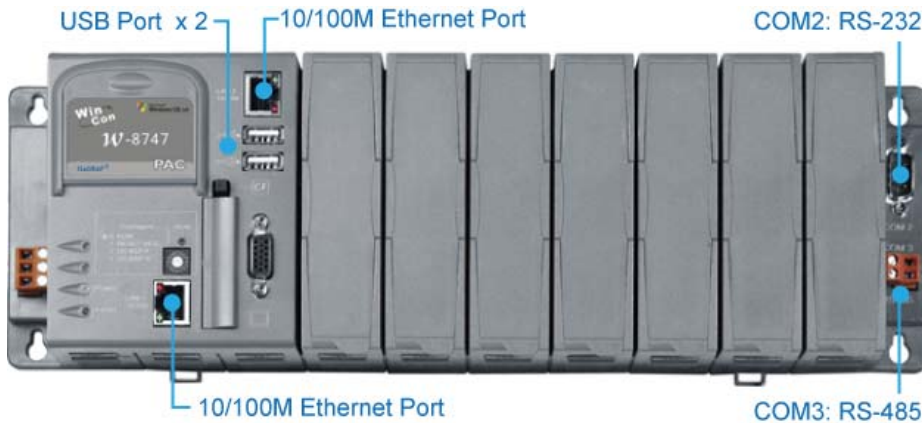


WinCon-8x47 Dual-LAN PAC



- **ISaGRAF Ver. 3
SoftLogic Inside**
- **Support IEC 61131-3 +
Flow Chart**
- **Windows CE.NET 4.1
Inside**
- **Intel Strong ARM CPU**
- **Support Microsoft
EVC++4.0 & VS.NET
2003**



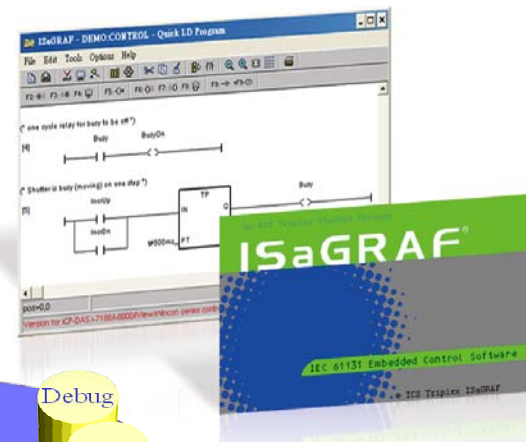
The WinCon-8347/8747 series is a Dual-LAN PAC and includes ISaGRAF SoftLogic. It has dual Ethernet 10/100M ports, dual USB host ports, one RS-232 port and one RS-485 port. The user can choose *Local I/O modules*: I-8K/ I-87K I/O modules and *RS-485 Remote I/O modules*: I-7000 or expansion units (I-87Kn or RU-87Pn) plugged with I-87K serial I/O modules.

The ISaGRAF PAC supports ISaGRAF Ver.3 Workbench :

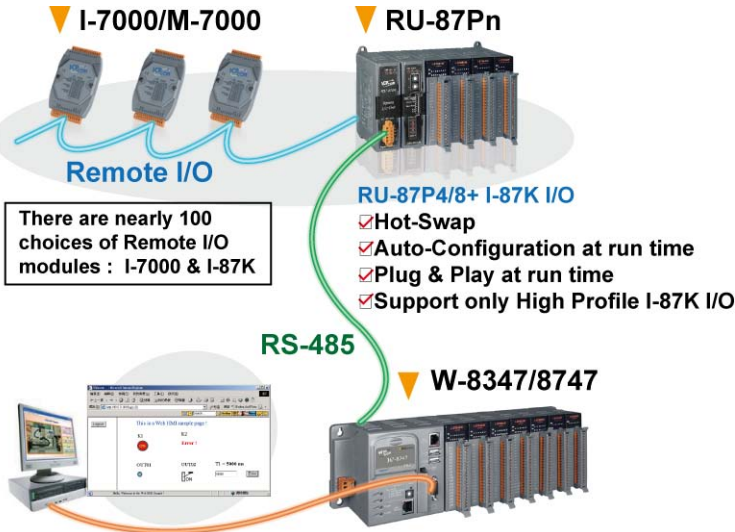
- **IEC 61131-3 Standard Open PLC Programming Languages+ Flow Chart:**

1. Ladder
2. Function Block
3. SFC
4. ST
5. IL
6. Flow Chart.

- Auto-Scan I/O
- Simulate program even without controller
- Debug on-line
- Control on-line
- Simple graphic HMI

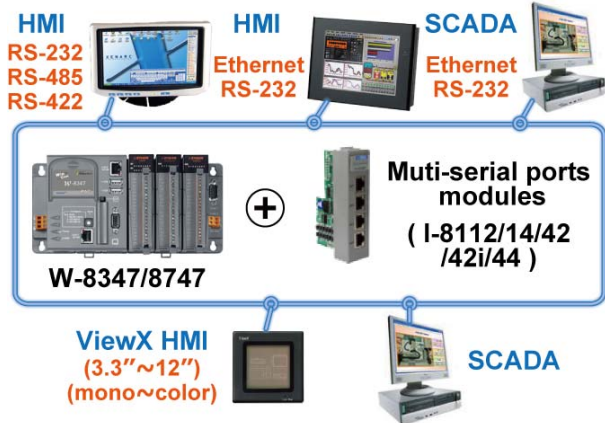


● Remote I/O Application

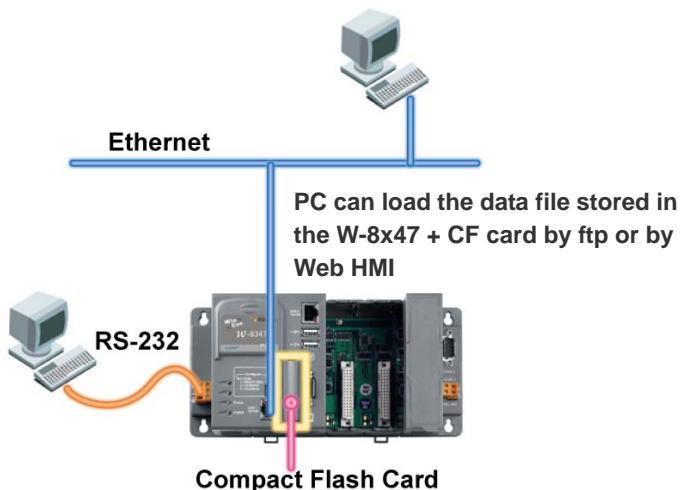


● Modbus RTU/TCP Slave Ports

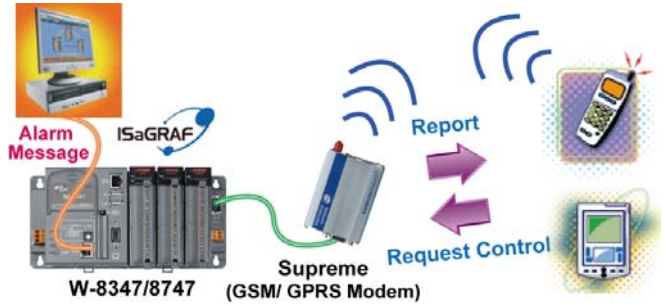
- **Modbus RTU (RS-232/485/422):** max. **5** PC/HMI/SCADA connection
 - **Modbus TCP/IP:** max. **32** PC/HMI/SCADA connection
- More at www.icpdas.com > FAQ > Software > ISaGRAF Ver.3 (English) - 095



● Data-Recorder & Data-Logger



● SMS: Short Message Service



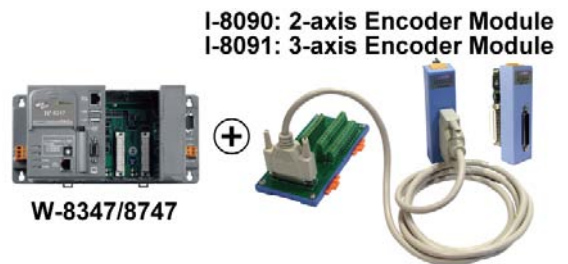
● Modbus Master (RTU, ASCII, RS-232/485/422)

- COM2:RS-232 or COM3:RS-485
- COM5~COM14: if I-8112/14/42/42i/44 in Slot 1~5
- Can Link to Modbus PLC or M-7000 I/O or Modbus devices (Power meter, temperature controller, inverter etc.)



● Motion Control

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



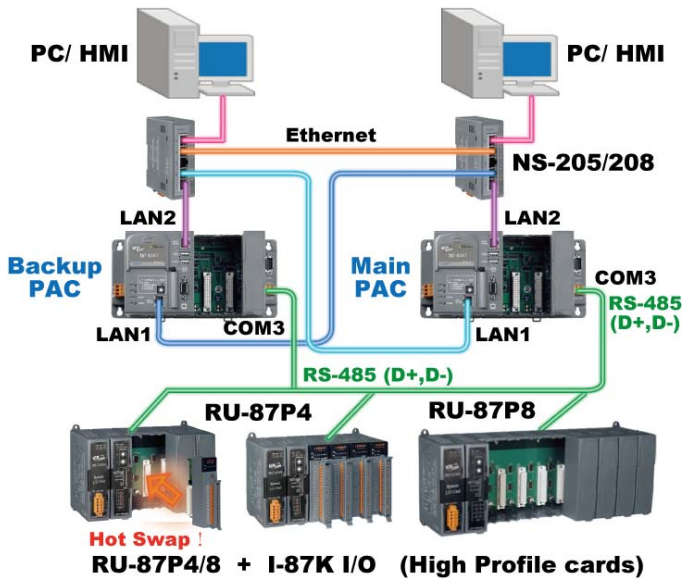
● Communicate With Other TCP/IP Server device



● New Hot-Swap and Redundant System

- If one Ethernet cable of W-8347/ 8747 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

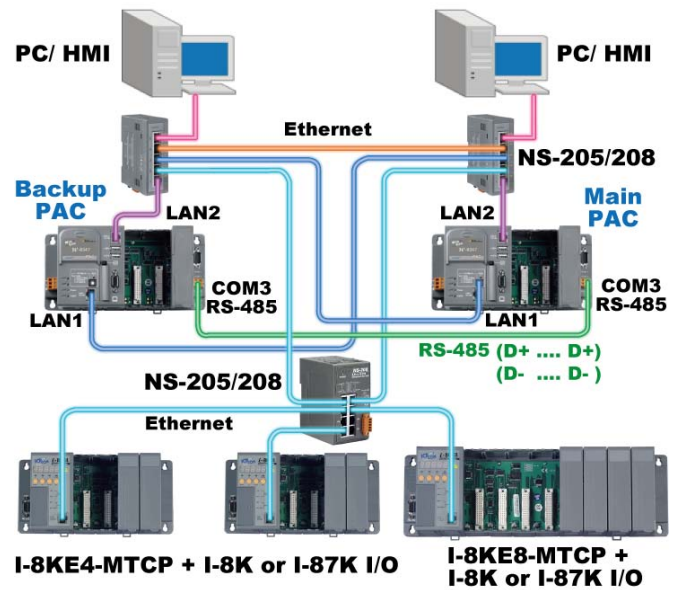
New Wincon-8347 / 8747 Redundant System



● 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

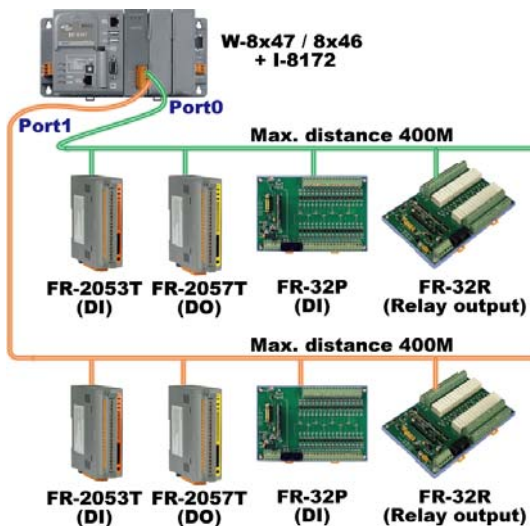
New Wincon-8347 / 8747 Redundant System with Ethernet I/O



● Fast FRnet Remote I/O

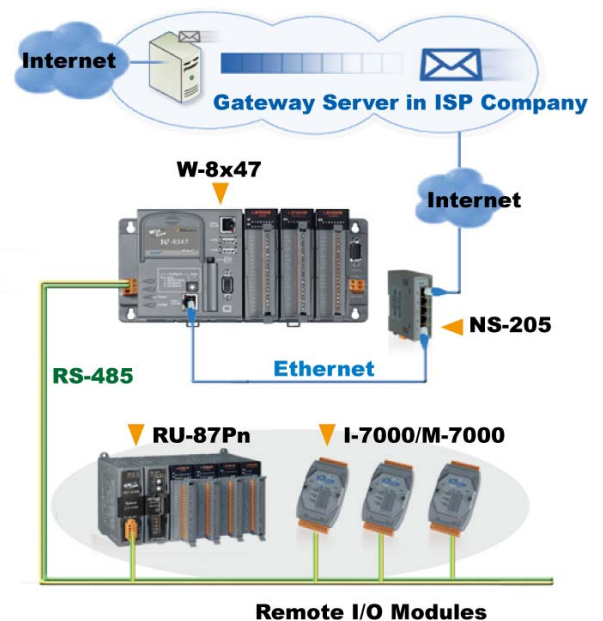
Advantage of FRnet I/O:

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



Note: FRNET I/O not supporting AI & AO

● Send Email with One Attached File



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

● Auto-report Acquisition Data & Control Data

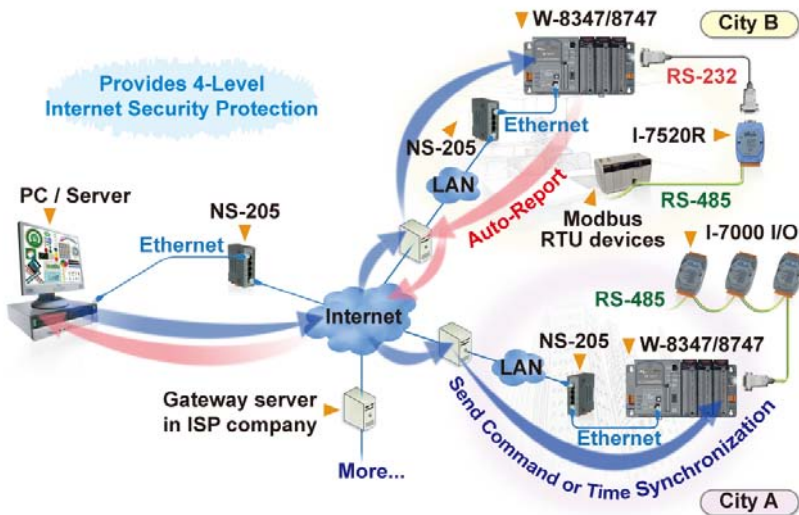
W-8347/8747 can use UDP IP Client to auto-report acquisition data & control data to local or remote internet PC/Server.

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

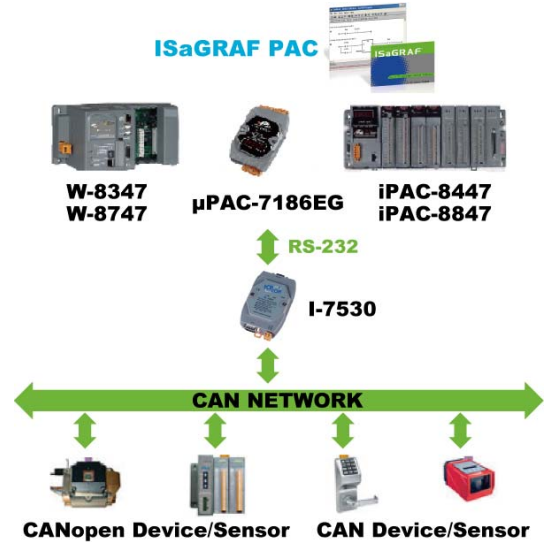
● Integrate with CAN / CANopen Devices and Sensors

- W-8XX7 Supports max. 10 I-7530 (RS-232 to CAN Converter)
- Please refer to www.icpdas.com > FAQ > Software > ISaGRAF Ver.3 (English) > 086

Stable and Cost-effective Data Acquisition Auto-Report System



ISaGRAF PAC

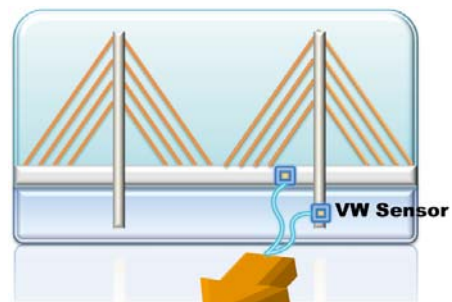
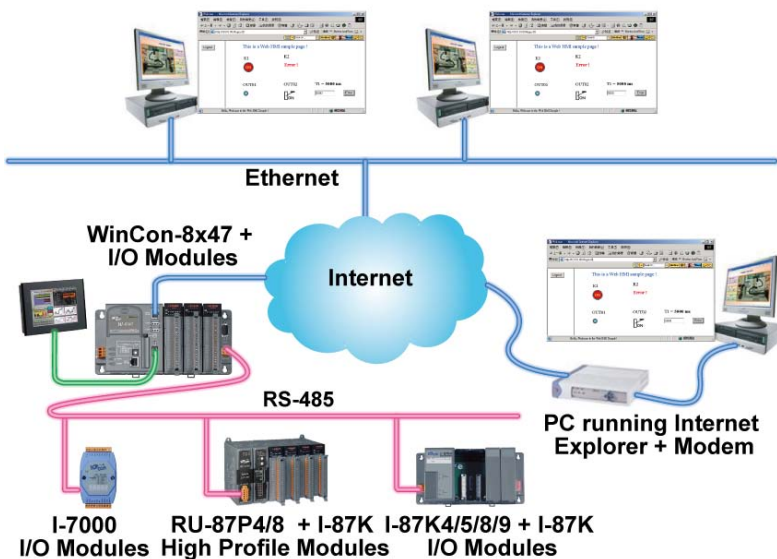


● Multiple Web HMI – Monitor & Control Everywhere!

● Constructions Monitoring Application

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

PC Running the Internet Explorer



Specifications of WinCon-8347/ 8747 ISaGRAF® PAC

Development software	ISaGRAF Version 3 : IEC 61131-3 standard. Languages: LD, ST, FBD, SFC, IL & FC
Max. code size	W-8347/8747 accepts max. 1M bytes ISaGRAF code size (Appli.x8m must < 1M)
Non-ISaGRAF	Options: Microsoft EVC++4.0 or VS.NET 2003 (VB.NET2003, C#.NET2003)
Web HMI	Supports Web HMI function, PC running Internet Explorer can access to the WinCon-8347/8747 via local Ethernet or Internet or dial Modem, monitoring and control.
Security	Web HMI supports three level username and password protection
Power supply	10 to 30VDC (unregulated), 20W (when I/O slots are empty)
Protection	Built-in power protection & network protection circuit
General environment	Operating: -25°C to +75°C (-13° F to +167° F) , Storage : -30°C to +85°C (-40° F to +176° F) Humidity: 5 % to 95 % (non-condensed)
System	
CPU & Watchdog timer	Intel Strong ARM CPU, 206MHz, or compatible. Watchdog: Yes
Real time clock	Gives hour, minute, sec, date of week, date of month, month & year
SRAM & FLASH Memory	SRAM: 64M bytes, FLASH Memory: 32M bytes for OS image
Compact Flash Card	One Compact Flash slot: CF memory card is 128M bytes or more
EEPROM	16K bytes, retention > 100 years. 1,000,000 erase/write cycles
I/O slots	I/O slots: W-8347: 3 , W-8747: 7, accept I-8K parallel & I-87K serial I/O boards
VGA port	1 VGA port: resolution: 320x240x16 to 1024x768x16, default is 640x480x16
Two USB port	Two USB 1.1 Host ports for USB mouse, keyboard or USB drive
Reset Button, LED, NET ID	1 reset button & 1 power LED. NET ID: From 1 to 255, set by software
Unique Serial Number	64-bit hardware unique serial number
Serial ports	
COM1	Internal use for I-87K serial I/O boards of W-8347 & W-8747.
COM2	RS-232: full modem signals, Speed: 115200 bps max.
COM3	RS-485, Speed: 115200 bps max. D+, D-
Two Ethernet ports	LAN1 & LAN2, 10/100M bps, NE2000 compatible, 10 BaseT, Program download port. Please use NS-205 / NS-208 Industrial Ethernet Switch.
Motion	W-8347/8747 integrate with one I-8091(2-axes) or two I-8091(4-axes) can do motion control
PWM output	8 ch. max. 250Hz max. For Off=2 & On=2 ms . Output square curve: Off: 2 to 32766 ms, On: 2 to 32766 ms. Optional D/O boards: I-8037, 8041, 8042, 8054, 8055, 8056, 8057, 8060, 8063, 8064, 8065, 8066,8068, 8069 (Relay boards can not generate fast square curve)
Counters	
Parallel D/I counter	8 ch. max. For 1 controller. Counter val: 32 bit. 250Hz max. Min. ON & OFF width must > 2ms. Optional D/I boards: I-8040, 8042, 8051, 8052, 8053, 8054, 8055, 8058, 8063, 8077
Serial D/I counter	Counter input: 100Hz max. Counter value: 0 to 65535 (16 bit) Optional serial I-87K D/I boards: I-87051, 87052, 87053, 87054, 87055, 87058, 87063
Remote D/I counter	All remote I-7000 & I-87K D/I modules support counters. 100Hz max. value: 0 to 65535
High speed counter	I-87082: 100KHz max. 32 bit, I-8080: 450KHz max. 32 bit
Protocols	
Modbus RTU / ASCII Master (multi-port)	Supports multi-ports of Modbus RTU / ASCII Master protocol to connect to other Modbus Slave devices. COM2, COM3, (or COM4 to COM14 if I-8112/8114/8142/8144 is found) Max. 10 ports
Modbus RTU Slave protocol	Up to 5 COM Ports (one of COM2, 3 and 5, 6, 7, 8) can support Modbus RTU Slave protocol for connecting ISaGRAF, PC/ HMI/ OPC Server & HMI panels.
Modbus TCP/IP protocol	Ethernet port supports Modbus TCP/IP Slave protocol for connecting ISaGRAF & PC/HMI.
Web HMI protocol	Ethernet port for connecting PC running Internet Explorer
I-7000 & I-87K Remote I/O	COM3 supports I-7000 I/O modules & (I-87K base + I-87K serial I/O boards or RU-87P1/2/4/8 + I-87K High Profile I/O cards) as Remote I/O. Max. 255 I-7000/87K Remote I/O modules for one controller
M-7000 series Modbus I/O	Max. 10 RS-485 ports – COM3 & (COM5 to COM14 if I-8142/ 8142i/ 8144 is found) 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 break, 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	W-8xx7 can support max 7 pcs. I-8172 boards in slot 1 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-8172 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.

SMS: Short Message Service	One of COM2 (or COM5 if I-8112 is found) 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 COM2, COM3, (& COM4 to COM14 if multi-serial port boards are plugged) by serial communication function blocks.
Modem_Link	COM2 supports PC remotely download & monitor the controller through a normal modem.
MMICON / LCD	COM2 (or COM5 if I-8112/8114 is found) 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 W-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 W-8x47 is currently active. Moreover, the new redundant system can intergarte 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 cards is damaged, the maintenance person just take one good-card with same model name 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	W-8xx7 can use its COM2 or COM5 to COM14 (resides at the I-8112 / 8114 RS-232 expansion board) to connect one I-7530 : the RS-232 to CAN converter to support CAN and CANopen devices and sensors. One W-8xx7 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.
Battery Backup SRAM	W-8347/8747 supports up to 4096 retain variables with a S256/ S512 plug in the socket of the new back-plane (ver. 3-slot:2.6 , 7-slot:2.8). Optional: S256: 256K bytes, S512: 512K bytes

I/O Modules Selection Guide ISaGRAF PAC

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

Parallel I/O Modules : I-8K (Low Profile) (I-8xxx-G : "G" means gray cover)

I-8K Analog I/O Modules	
I-8017HS	8-ch. Diff. or 16-ch. Single-ended, 14-bit, High Speed Analog Input Module (current input require external 125 Ohm resistor)
I-8024	4-ch. Isolated Analog Output Module (+/- 10V, 0 ~ +20mA)
I-8K Digital I/O Modules	
I-8037	16-ch. Isolated Open Collector Output Module
I-8040	32-ch. Isolated Digital Input Module
I-8041	32-ch. Isolated Open Collector Digital Output Module
I-8042	16-ch. Isolated Digital Input & 16-ch. Isolated Open Collector Digital Output Module
I-8051	16-ch. Non-isolated Digital Input Module
I-8052	8-ch. Differential Isolated Digital Input Module
I-8053	16-ch. Isolated Digital Input Module
I-8054	8-ch. Isolated Digital Input Module & 8-ch. Isolated Open Collector Digital Output Module
I-8055	Non-isolated 8-ch. Digital Logic Input Module & 8-ch. Open Collector Digital Output Module
I-8056	16-ch. Non-isolated Open Collector Output Module
I-8057	16-ch. Isolated Open Collector Output Module
I-8058	8-ch. Differential Isolated Digital Input Module, Max. AC/DC Input : 250V
I-8060	6-ch. Relay Output Module, AC: 125V @ 0.6A ; 250V @ 0.3A, DC: 30V @ 2A
I-8063	4-ch. Diff. Isolated digital input & 4-ch. Relay output module, AC : 125V @ 0.6A ; 250V @ 0.3A
I-8064	8-ch. Power Relay Output Module, AC: 250V @ 0.3A, DC: 30V @ 2A
I-8065	8-ch. SSR-AC Output Module, AC: 24 to 265Vrms @ 1.0Arms
I-8066	8-ch. SSR-DC Output Module, DC: 3 to 30VDC @ 1.0Arms
I-8068	8-ch. Relay Output Module, AC: 120V @ 0.5A, DC:30V @ 1A
I-8069	8-ch. PhotoMOS Relay Output Module, Max. AC/DC: 350V @ 0.13A
I-8077	8-ch. DI (Toggle switch) & 8-ch. (Programmable) DO Simulator Module
I-8K Counter/ Frequency Modules	
I-8080	4/8-ch. Counter/Frequency Module, Isolated or TTL level

I-8K Communication Modules	
I-8112	2-port RS-232 Module, 10-Pin RJ-45
I-8114	4-port RS-232 Module, 10-Pin RJ-45
I-8142	2-port RS-422/485 Module (The RS-422/485 couldn't be used simultaneously), 8-Pin RJ-45
I-8144	4-port RS-422/485 Module (The RS-422/485 couldn't be used simultaneously), 10-Pin RJ-45
I-8142i	2-port Isolated RS-422/485 Module (The RS-422/485 couldn't be used simultaneously), Isolation:3000V, 10-Pin RJ-45

RS-485 Remote I-87K I/O Modules : More at www.icpdas.com > Products > PAC - 8K & 87K I/O Modules

Serial I/O Modules : I-87K (High Profile)

I-87K Analog I/O Modules	
I-87005W	8-ch. thermistor input, 16-bit, 8Hz (Total) and 8-ch. digital output module with Open Wire Detection
I-87013W	4-ch. , 16-bit, 10Hz (Total), 2/3/4 Wire RTD Input Module with Open Wire Detection
I-87015	7-ch. , 16-bit, 12Hz (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, 10/60Hz (Total) Analog Input Module with 240VRMS Over Voltage Protection, Range of -20mA ~ +20mA Requires Optional External 125 Ohm Resistor
I-87017RC	8-ch. Diff. , 16/12-bit, 10/60Hz(Total) Current Input Module
I-87018Z	10-ch. Diff. , 16-bit, 10Hz (Total), Thermocouple Input Module with 240VRMS Over Voltage Protection, Open Wire Detection, Range of +/-20mA, 0~20mA, 4~20mA requires Optional External 125 Ohm Resistor
I-87019R	8-ch. Diff. , 16-bit, 8Hz (Total), Universal Analog Input Module with 240VRMS Over Voltage Protection, Open Wire Detection (V, mA, Thermocouple; Range of -20mA ~ +20mA need to set Jumper on board)
I-87024W	4-ch. 14-bit analog output module (0 ~ +5V, +/- 5V, 0 ~ +10V, +/- 10V, 0 ~ +20mA, +4 ~ +20mA)
I-87028C	8-ch. 12-bit current output module
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 to150VDC 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. 80-250VAC Isolated Digital Input Module
I-87059W	8-ch. Differential 10-80VAC Isolated Digital Input Module
I-87063W	4-ch. Diff. Isolated Digital Input and 4-ch. Relay Output Module. 5 ~ 24VDC @ 5A (NO) / 3A(NC) ; 0 ~ 250VAC @ 5A(NO) / 3A(NC)
I-87064W	8-ch. Relay Output Module, 0~ 250VAC @ 5A (47~63Hz); 0~ 30VDC @ 5A
I-87065W	8-ch. AC SSR Output Module, AC: 24 to 265Vrms @1.0Arms
I-87066W	8-ch. DC SSR Output Module , DC: 3 to 30VDC @1.0Arms
I-87068W	4-ch. Form A Relay Output and 4-ch. Form C Relay Output Module Form A: 250VAC @ 8A ; 28VDC @ 8A Form C: 277VAC @ 5A(NO) / 3A(NC) ; 30VAC @ 5A(NO) / 3A(NC)
I-87069W	8-ch. Photo-Mos Relay Output Module, Max. AC/DC: 350V @ 0.13A
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

<i>ISaGRAF PAC</i>	W-8347 (blue) W-8347-G (gray)	3-slot Ethernet ISaGRAF PAC (Dual-LAN: 10/100M bps)
	W-8747 (blue) W-8747-G (gray)	7-slot Ethernet ISaGRAF PAC (Dual-LAN: 10/100M bps)

Optional Accessories

<i>SRAM</i>	S256 / S512	256K / 512K bytes battery backup SRAM
<i>Application Software</i>	ISaGRAF-256-E ISaGRAF-256-C	ISaGRAF Workbench Software Ver.3 + one English/ Chinese application book (256 I/O Tags)
	ISaGRAF-32-E ISaGRAF-32-C	ISaGRAF Workbench Software Ver.3 + one English/ Chinese application book (32 I/O Tags)
<i>Application Book</i>	ISaGRAF Book-E	ISaGRAF application book (English)
	ISaGRAF Book-C	ISaGRAF application book (Traditional Chinese)
<i>Ethernet Switch</i>	NS-205 / NS-208	Unmanaged 5-port / 8-port Industrial 10/100 Base-T Ethernet Switch with Plastic Case (RoHS)
<i>LED Display</i>	EKAN-ME122M	16x96 pixel, 64x384mm, 48W@24VDC char size: 8x6 or 16x8 pixel
	EKAN-ME124M	16x192 pixel, 64x768mm, 90W@24VDC char size: 8x6 or 16x8 pixel

Note: ISaGRAF-32-E, ISaGRAF-32-C can't upgrade to 256 I/O tags anymore!