

Introduction

ICP DAS Wincon-8037/8337/8737 are Windows based Programmable Automation Controller. It features with Windows CE Operating System and supports popular and flexible programming software – ISaGRAF and Microsoft EVC++ 4.0 and VS.NET 2003 (VB.NET & C#.NET).

The W-8037/8337/8737 has built-in one VGA port for monitor, one PS2 port for keyboard, one PS2 port for Mouse and one USB port for USB drive or USB Mouse. It is a PC-like Windows environment, easy and familiar with everyone.

W-8037/8337/8737 support ISaGRAF which is based on the IEC61131-3 standard, to fully support all five of the PLC languages : Ladder Diagram (LD), FBD, SFC, ST, and IL plus Flow Chart (FC). There are more than 300 function blocks built-in the W-8037/8337/8737 for various Industrial Applications including Web HMI, PID, motion, remote IO, SMS, serial communication, temperature, retain variable, scaling.

W-8037/8337/8737 supports I-8K & I-87K I/O boards. There are more than 50 I/O boards available including DI, DO, AI, AO, Relay, Counter, frequency, Thermo-couple, RTD, Thermister, Motion, ... Up to 224 local I/O channels can be used in slot 1 to slot 7. More I/O can be expanded by remote I-7000 (or I-87K) serial I/O modules or M-7000 series I/O via RS485 port.

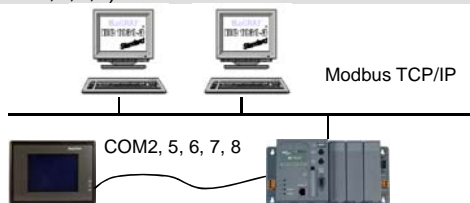
W-8037/8337/8737 default has one COM2:RS232 and one COM3:RS485 port. The serial communication port can be more by adding extra I-8112/8114/8142/8142i/8144 multi-serial boards (RS232 or RS485 or RS422).

The W-8037/8337/8737 has built-in one Compact Flash slot for one CF card. The default size is 128M bytes, it can be more. The user program can access to the CF card by the file operation functions provided by ISaGRAF or EVC++ or VS.NET. Besides, with an optional S-256 / S-512 battery backup SRAM plug in the back-plane, the W-8337 / 8337 can support up to 4096 retain variables and can use up to 192/448 K bytes retain memory for storing application data and parameter.



Features

- Supports Modbus TCP/IP network and Modbus RTU slave protocol. Up to 8 PC/HMI/OPC Server & Touch panel can connect to Ethernet port. HMI can connect to COM2:RS232 (or COM5,6,7,8) at the same time.



- Web HMI: PC running Microsoft IE (5.0 or later version) can access to the W-8037/8337/8737 via local or Internet.

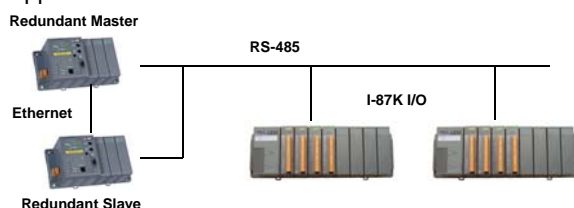
Web HMI = HMI running on Internet Explorer

- Supports remote download program via Modem
- I-8K & I-87K D/I/O boards have Leds to display I/O state.
- COM3 supports I-7000 remote IO & I-87K expansion IO

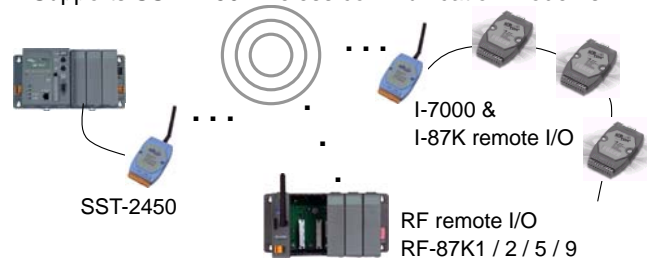
I-7000 and I-87K remote I/O



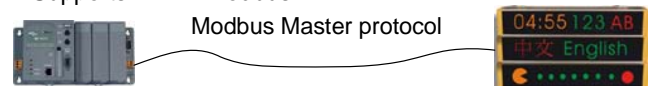
- Supports CPU Redundant Solutions.



- Compared to the I-8437/8837, the CPU speed is 10 times faster and allowable ISaGRAF code size is 16 times larger.
- Supports SST-2450 wireless communication Modems



- Supports retain variables & battery backup memory
- Supports multi-port of Modbus RTU / ASCII master communication ports. For example to connect to M-7000 I/O modules at multi-RS485 ports.
- Support serial port Read/Write function blocks to communicate to various serial devices
- Supports floating point calculation & String format
- SMS: supports Short Message Service when integrated with a M1206 or GM29 GSM Modem to send / receive Short Message to / from cellular phone
- Supports EKAN Modbus LED



- Supports file Read / Write operation in CF card and RAM.
- Supports auto-scan I/O in slot 1 to 7
- Software: IEC61131-3: ISaGRAF Version 3
- Supports ISaGRAF variable array, for ex , Ain[0..15] , ...
- Supports i-8172 & FRNET I/O modules

Ordering Information

W-8037	0-slot ISaGRAF Wincon PAC (W-8037 doesn't support S-256 / S-512)	W-8737	7-slot ISaGRAF Wincon PAC
W-8337	3-slot ISaGRAF Wincon PAC	W-8037-G	W-8037 gray color version (W-8037-G doesn't support S-256 / S-512)
W-8337-G	W-8337 gray color version	W-8737-G	W-8737 gray color version
S-256	256K bytes battery backup SRAM	S-512	512K bytes battery backup SRAM
ISaGRAF-256-E	ISaGRAF Ver.3 + one English book	ISaGRAF-256-C	ISaGRAF Ver.3 + one Chinese book
EKAN-ME122M	16x96 pixel, 64x384mm, 48W@24VDC	EKAN-ME124M	16x192 pixel, 64x768mm, 90W@24VDC
LED Display	char size: 8x6 or 16x8 pixel	LED Display	char size: 8x6 or 16x8 pixel

Specifications of Wincon-8037/8337/8737

Development software	
ISaGRAF Version 3	IEC61131-3 standard. Languages: LD, ST, FBD, SFC, IL & FC
Max. code size	W-8037/8337/8737 accepts max. 1M bytes ISaGRAF code size (Appli.x8m must < 1M)
Non-ISaGRAF	Options: Microsoft EVC++4.0 or VS.NET 2003 (VB.NET, C#.NET)
Web HMI	
Security	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 , Storage : -30°C to +85°C, Humidity: 5 to 95 % (non-condensed)
System	
CPU	Intel Strong ARM CPU, 206MHz, or compatible
Watchdog timer	Yes
Real time clock	Gives hour, minute, sec, date of week, date of month, month & year
SDRAM & FLASH	SDRAM: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-8037: 0 , W-8337: 3 , W-8737: 7, accept I-8K parallel & I-87K serial I/O boards
VGA Port	1 VGA port: resolution: 320x240x16 to 1024x768x16, default is 640x480x16
PS/2 Port & USB Port	Two PS/2 ports: keyboard and mouse, one USB port: 1.1 Host port for USB drive or mouse
Reset Button, Led, NET ID	1 reset button & 1 power Led. NET ID: Form 1 to 255, set by software
Unique Serial Number	64-bit hardware unique serial number
Serial ports	
COM1	Internal use for I-87K serial IO boards of W-8337 & W-8737. W-8037 has no COM1
COM2	RS232: full modem signals, Speed: 115200 bps max.
COM3	RS-485, Speed: 115200 bps max. D+, D-
Ethernet	10M bps, NE2000 compatible, 10 BaseT, Program download port.
Motion	W-8337/8737 integrate with one I-8091(2-axes) or two I-8091(4-axes) can do motion control.
PWM	8 channels max. for one controller. 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 Output 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-87040,87051,87052,87053,87054,87055,87058,87063
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 serial protocol (RTU Slave)	Up to 5 COM ports (COM2, 3, 5, 6, 7 or 8) can support Modbus RTU slave protocol for connecting ISaGRAF, PC/HMI/OPC Server & HMI panels.
Modbus TCP/IP slave 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) as remote I/O. Max. 255 I-7000/87K remote I/O modules for one controller
M-7000 series Modbus I/O	Max. 10 R-485 ports – COM3 & (COM5 to COM14 if I-8142/8142i/8144 are found) can support M-7000 series Modbus I/O. Each port can connect up to 32 M-7000 Modules.
Modbus master protocol (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-8112/8114/8142/8142i/8144 are found)
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 http://www.icpdas.com/faq/isagraf.htm FAQ-048 Each i-8172 board can connect up to 256 D/I plus 256 D/O channels.
Ebus	to exchange data between ICP DAS's ISaGRAF Ethernet controllers via Ethernet port.
SMS: Short Message Service	One of COM2 (or COM5 if I-8112/8114 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 cellular phone. Optional GSM modems: M1206 or GM29 (GSM 900/1800)
User defined protocol	User can write his own protocol applied at COM2, COM3, (& COM5 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)	Ethernet port supports 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)	Ethernet port supports 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.
Battery Backup SRAM	
	W-8337/8737 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: 256kbytes, S512: 512kbytes Note: W-8037 doesn't support S-256 / S-512
File Access	The Compact Flash card can be used for storing run time data & any controller setting with file operation (by f_XXX function block). The CF card size default is 128Mbytes, can be more.