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I-8417-G

I-8817-G

I-8437-80-G

I-8837-80-G

ISaGRAF based I-8000 Series

Features

- 80186, 40 MHz or 80186, 80 MHz CPU
- MiniOS7 Inside
- Embedded ISaGRAF Ver.3 SoftLogic (IEC 61131-3)
- SRAM: 512 KB
- Flash: 512 KB
- 4/8 Slots for I-87K High/Low Profile I/O Modules
- 10 M Ethernet Ports (for I-8x37-80)
- 3/4 Serial Ports (RS-232/485)
- Operating Temperature: -25 ~ +75 °C

Introduction

The ISaGRAF I-8000 Series (I-8437-80/8837-80, I-8417/8817) is an ISaGRAF PAC and includes ISaGRAF SoftLogic, ISaGRAF is a Windows programming tools and also provides powerful debugging tools including Online Monitor and Control and also Offline Simulation. There are more than 300 function blocks built-in the PAC for various Industrial Applications including PID, motion, remote IO, serial communication, SMS, retain variable, scaling, etc.

In hardware, I-8xx7 has 3 or 4 serial ports, support Modbus RTU slave protocol and it can easily communicate with PC/HMI/OPC Server and Touch panel. The I-8xx7 also supports up to 2 COM ports of Modbus RTU / ASCII master protocol to integrate with other Modbus devices. The I-8x37-80 has one 10M Ethernet port.

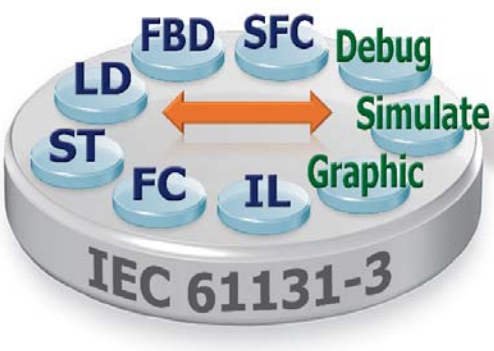
The I-8xx7 supports various High/Low profile I/O modules. The user can choose Local I/O modules : I-8K/I-87K I/O modules and RS-485 Remote I/O modules : I-7000 or expansion units (I-87Kn or RU-87Pn) plugged with I-87K serial I/O modules. Compared to I-8437/8837 (It has phased out), I-8x37-80 is 2 ~ 4 times faster!

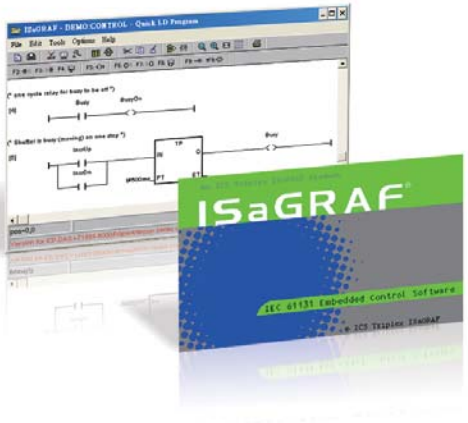
ISaGRAF Features

ISaGRAF is the most powerful SoftLogic package on the market, and is a PLC-like software suite application that supports IEC 61131-3 standard PLC programming languages (LD, FBD, SFC, ST, IL) and Flow Chart (FC). ISaGRAF can be used to execute applications generated by the ISaGRAF workbench on any ISaGRAF PAC.

The features of the ISaGRAF workbench Ver. 3.x include:

- IEC 61131-3 Standard Open PLC Programming Languages (LD, FBD, SFC, ST, IL) + Flow Chart (FC)
- Auto-scan I/O
- Online Debugging/Control/Monitoring, Offline Simulation
- Simple Graphic HMI
- Support eLogger HMI





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PAC Specifications

Models		I-8417	I-8817	I-8437-80	I-8837-80
System Software					
OS		MiniOS7 (DOS-like embedded operating system)			
Development Software					
ISaGRAF Software	ISaGRAF Ver. 3	IEC 61131-3 standard			
	Languages	LD, ST, FBD, SFC, IL & FC			
	Max. Code Size	64 KB			
	Scan Time	Normal program: 5 ~ 100 ms Complex or Large program: 25 ~ 500 ms (or more)		Normal program: 2 ~ 25 ms Complex or Large program: 10 ~ 125 ms (or more)	
CPU Module					
CPU		80188, 40 MHz		80186, 80 MHz	
SRAM		512 KB			
Flash		512 KB			
EEPROM		2 KB			
NVRAM		31 bytes (battery backup, data valid up to 10 years)			
RTC (Real Time Clock)		Provides seconds, minutes, hours, date, day of week, month, year			
Watchdog Timers		Yes (0.8 second)			
DIP Switch		Yes (8 bits)			
Communication Ports					
Ethernet		-		RJ-45 x 1, 10 Base-T	
COM1		RS-232 (TxD, RxD, GND)			
COM2		RS-485 (Data+, Data-) with internal self-tuner ASIC		-	
COM3		RS-232/RS-485 (RS-232: TxD, RxD, RTS, CTS, GND ; RS-485: Data+, Data-)			
COM4		RS-232: (Full modem signals) (TxD, RxD, RTS, CTS, DSR, DTR, CD, RI, GND)			
SMMI					
LED Display		Yes, 5-Digit			
Programmable LED Indicators		3			
Push Buttons		4			
I/O Expansion Slots					
Slot Number		4	8	4	8
		Note: For I-8K and I-87K Modules Only			
Mechanical					
Dimensions (W x L x H)		230 mm x 110 mm x 75.5 mm: I-8417, I-8437-80 354 mm x 110 mm x 75.5 mm: I-8817, I-8837-80			
Environmental					
Operating Temperature		-25 ~ +75°C			
Storage Temperature		-30 ~ +85 °C			
Ambient Relative Humidity		5 ~ 95% RH (non-condensing)			
Power					
Input Range		+10 ~ +30 VDC			
Protection		Power reverse polarity protection			
Capacity		20 W			
Consumption		3.9 W	5.1 W	3.9 W	5.1 W

ISaGRAF Specifications

Protocols (Note that certain protocols require optional devices)	
Modbus RTU/ASCII Master	A max. of 2 ports: COM1 or COM3 or COM4 or COM5 (*). (To connect to other Modbus Slave devices.)
Modbus RTU Slave	A max. of 2 ports. (For connecting ISaGRAF, PC/HMI/OPC Server and HMI panels.)
	I-8x17: COM1/2 ; I-8x37-80: COM1/3
Modbus TCP/IP Slave	Max. 4 connection. (For connecting ISaGRAF & PC/HMI) (For I-8x37-80)
User-defined Protocol	Custom protocols can be applied at COM1, COM3, COM4 & COM5 ~ COM20 (*) by serial communication function blocks.
Remote I/O	One of COM3 or COM4 supports I-7000 I/O modules, I-87K base + I-87K Serial I/O boards, or RU-87Pn + I-87K High Profile I/O boards as remote I/O. A max. of 64 I-7000/87K remote I/O modules can connect to one PAC.
Fbus	Built-in COM3 Port to exchange data between ICP DAS's ISaGRAF PACs.
Ebus	Used to exchange data between ICP DAS ISaGRAF Ethernet PACs via the Ethernet port. (For I-8x37-80)
SMS: Short Message Service	One of COM4 or COM5 (*) can link to a GSM Modem to support SMS. The user can request data or control the controller via a cellular phone. The controller can also send data and alarms to the user's cellular phone. Optional GSM Modem: GTM-201-RS232 (850/900/1800/1900 GSM/GPRS External Modem)
Modem Link	Supports PC to remotely download & monitor the controller through a normal modem.
MMICON/LCD	One of COM3 or COM4 supports the ICP DAS MMICON. The is featured with a 240 x 64 dot LCD and a 4 x 4 Keyboard. User can use it to display picture, string, integer, float, and input a character, string, integer and float.
Redundant Bus7000	Two ISaGRAF PACs can link to remote I-7000 & I-87K I/O modules at the same time. Only one controller is active to control these Remote I/Os. If one is dead, the other one will take over the control of remote I/Os. (FAQ-084)
Optional I/O Functions (Refer to the ISaGRAF PAC I/O Selection Guide for I/O Module list)	
PWM Output	
Pulse Width Modulation Output	Optional DO boards: I-8037, 8041, 8042, 8054, 8055, 8056, 8057,8060, 8063, 8064, 8065, 8066, 8068, 8069. (Relay Output boards cannot generate fast square wave) Support max. 8-ch for one PAC ; Max. frequency: 500 Hz for OFF = 1 & ON = 1 ms Output square wave: OFF: 1~32767 ms, ON: 1~32767 ms
Counters	
Parallel DI Counter	Optional I-8K DI boards: I-8040, 8042, 8051, 8052, 8053, 8054, 8055, 8058, 8063, 8077 Support max. 8-ch for one PAC ; Max. count/frequency: 32-bit, 500 Hz ; Min. pulse width > 1 ms
Serial DI Counter	Optional I-87K DI boards: I-87040, 87051, 87052, 87053, 87054, 87055, 87058, 87063 Max. count/frequency: 16-bit (0~65535), 100 Hz
Remote DI Counter	All remote I-7000 & I-87K DI modules support counters. Max. count/frequency: 16-bit (0~65535), 100 Hz.
High Speed Counter	Max. count/frequency for I-87082: 32-bit, 100 kHz ; Max. count/frequency for I-8080: 32-bit, 450 kHz
Motion	
Motion Control	Can integrate with one I-8091W (2-axis) or two I-8091W (4-axis) to do motion control. Ethernet communication is also available when doing motion control.
SRAM Expansion	
Battery Backup SRAM	With a S256/S512 (plug in the socket of the back-plane), data can also be stored in the S256/S512. PC can load these data via COM1 (or COM2 of I-8417/8817, or Ethernet Port of I-8437-80/8837-80). PC can also download pre-defined data to the S256/S512. Optional: S256: 256 KB, S512: 512 KB.
*** Note: The COM5 ~ COM20 ports are located in the expansion boards if they are installed in slots 0 ~ 7 of I-8xx7-80.**	

Ordering Information

I-8437-80 CR	4 slots Faster CPU (80 MHz) Ethernet ISaGRAF PAC (RoHS)
I-8437-80-G CR	
I-8837-80 CR	8 slots Faster CPU (80 MHz) Ethernet ISaGRAF PAC (RoHS)
I-8837-80-G CR	
I-8417 CR	4 slots ISaGRAF PAC (RoHS)
I-841-G CR	
I-8817 CR	8 slots ISaGRAF PAC (RoHS)
I-8817-G CR	
-G : means "Gray" color	

Related Products

ISaGRAF Development Software	
ISaGRAF-256	ISaGRAF Workbench Software Ver.3 (256 I/O Tags) with one USB Dongle