VP-2117

ISaGRAF based ViewPAC with 3 I/O Slots

Features

- 80186, 80 MHz CPU
- Embedded ISaGRAF Ver.3 SoftLogic (IEC 61131-3)
- 3 I/O Slots
- IP65 Compliant Front Panel
- STN LCD with English and Chinese Fonts
- Rubber Keypad with 24 Keys
- Operating Temperature: -15 ~ +55°C

Introduction

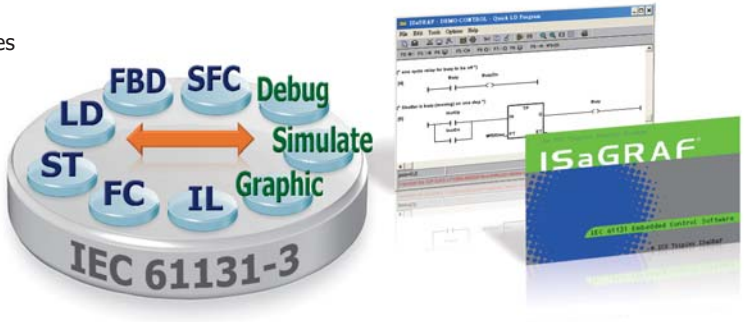
The ISaGRAF MiniOS7 ViewPAC Series (VP-2117) is the ISaGRAF PAC (Programmable Automation Controller) with graphic display and keypad. Each is equipped with an 80186 CPU (16-bit and 80 MHz) running a MiniOS7 operating system, a STN LCD, a rubber keypad, 3 or no I/O slots, and a variety of input/output ports (Ethernet, RS-232/485, etc.). Its operating system, MiniOS7, can boot up in a very short time (0.4 ~ 0.8 seconds). It has a built-in hardware diagnostic function, and supports the full range of functions required to access all high profile I-8K and I-87K series I/O modules, such as DI, DO, DI/DO, AI, AO, Counter/Frequency, motion control modules, etc.

Users can also choose RS-485 Remote I/O modules (I-7000 series) or expansion units (RU-87Pn or I-87Kn) plugged with high profile I-87K serial I/O modules. Compared with traditional HMI + PLC solutions, ViewPAC reduces overall system cost, space and gives you all the best features of HMIs and PLCs.

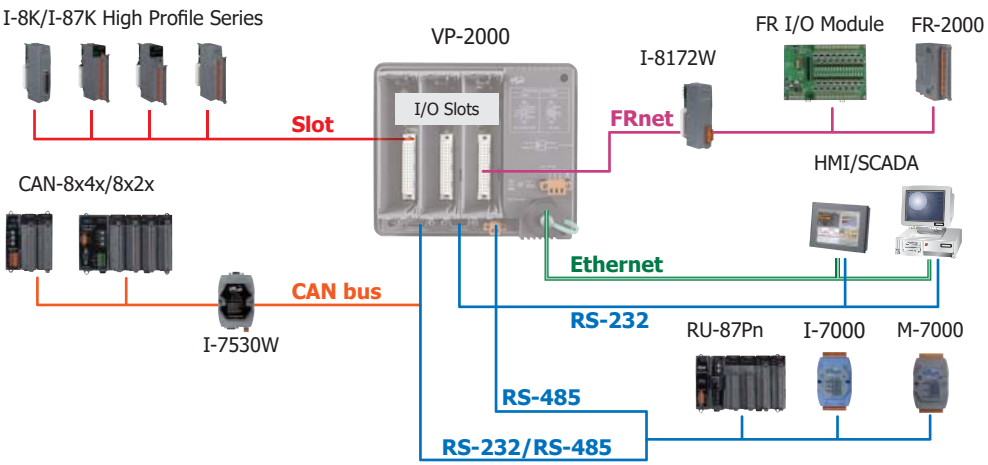
ISaGRAF Features

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



Applications



PAC Specifications

Models		VP-2117
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	2 ~ 25 ms for normal program 10 ~ 125 ms (or more) for complex or large program
CPU Module		
CPU		80186, 80 MHz
SRAM		768 KB
Flash		512 KB
Flash Disk		64 MB NAND Flash
Dual Battery Backup SRAM		512 KB; data valid up to 5 years (for retain variables)
EEPROM		16 KB
NVRAM		31 bytes (battery backup, data valid up to 5 years)
RTC (Real Time Clock)		Provides seconds, minutes, hours, date, day of the week, month, year
64-bit Hardware Serial Number		Yes, for Software Copy Protection
Watchdog Timers		Yes (0.8 second)
Communication Ports		
Ethernet		RJ-45 x 1, 10/100 Base-TX (Auto-negotiating, LED indicators)
COM 0		Internal communication with the I-87K High Profi le modules in slot 0 ~ 2
COM 1		RS-232 (RxD, TxD and GND) Program download port; Non-isolated
COM 2		RS-485 (Data+, Data-) with internal self-tuner ASIC; 2500 V_{DC} isolated
COM 3		RS-232/RS-485 (RxD, TxD, CTS, RTS and GND for RS-232, Data+ and Data- for RS-485); Non-isolated
MMI (Man Machine Interface)		
LCD		STN, 128 x 64 Dot Matrix LCD
Display Mode		Text + Graphics
Text Font		English + Simplified Chinese/Traditional Chinese
Rubber Keypad		24 keys
Buzzer		Yes
LED Indicators		3 Dual-Color LEDs (PWR, RUN, LAN1, L1,L2, L3; L1~L3 for User Programmable)
I/O Expansion Slots		
Slot Number		3
		Note: For High Profile I-8K and I-87K Modules only
Mechanical		
Dimensions (W x L x H)		182 mm x 158 mm x 125 mm
Installation		Panel Mounting
Ingress Protection		Front panel: IP65
Environmental		
Operating Temperature		-15 ~ +55°C
Storage Temperature		-30 ~ +80°C
Ambient Relative Humidity		10 ~ 90% RH (non-condensing)
Power		
Input Range		+10 ~ +30 V_{DC}
Isolation		1 kV
Capacity		15 W
Consumption		6 W

ISaGRAF Specifications

Protocols (Note that certain protocols require optional devices)		
NET ID		1 ~ 255, user-assigned by software
Modbus RTU/ASCII Master		A max. of 2 ports: COM1~3 and COM5. (To connect to other Modbus Slave devices.) (*) A max. of Modbus_xxx Function Block amount for 2 ports: 128.
Modbus RTU Slave		A max. of 2 ports: COM1 and one of COM2~3. (For connecting ISaGRAF, PC/HMI/OPC Server and HMI panels.)
Modbus TCP/IP Slave		Ethernet port supports Modbus TCP/IP Slave Protocol for connecting ISaGRAF & PC/HMI up to 6 connections.
User-defined Protocol		Custom protocols can be applied at COM1~3 and COM5~16 using Serial communication function blocks. (*)
Remote I/O		One of COM2 or COM3 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.
Send Email		Provide functions to send email to a max. of 10 receivers with a single attached file via the Ethernet port through internet. The max. of file size is about 488 KB.
SMS: Short Message Service		One of COM3 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)
CAN/CANopen		A max. of 3 ports: COM1, COM3 or COM5~12 can connect to one I-7530 (converter: RS-232 to CAN) to support CAN/CANopen devices and sensors. One PAC supports a max. of 3 RS-232 ports to connect a max. of 3 I-7530. (*)(FAQ-086)
FRnet I/O		Enable a max. of 3 pcs. I-8172W boards to be used to connect to FRnet I/O modules, such as FR-2057, FR-32R. (Max. 768-ch. DI + 768-ch. DO)
Optional I/O Functions (Refer to the ISaGRAF PAC I/O Selection Guide for I/O Module list)		
PWM Output	High Speed PWM Module	I-8088W: 8-ch PWM outputs, software support 1 Hz~100 kHz (non-continuous), duty cycle: 0.1 ~ 99.9%
	DO Module as PWM	Optional DO Boards: I-8037W, 8041W, 8041AW, 8042W, 8050W, 8054W, 8055W, 8056W, 8057W, 8060W, 8063W, 8064W, 8068W, 8069W. (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: 1~32766 ms, ON: 1~32766 ms.
Counters, Encoder, Frequency	Parallel DI Counter	Optional I-8K DI boards: I-8040W, 8040PW, 8042W, 8046W, 8048W, 8050W, 8051W, 8052W, 8053W, 8053PW, 8054W, 8055W, 8058W, 8063W. 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-87040W, 87046W, 87051W, 87052W, 87053W, 87053W-A5, 87054W, 87055W, 87058W, 87059W, 87063W. 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-87082W: 32-bit, 100 kHz Max. count/frequency for I-8084W: 32-bit, 250 kHz
	Encoder	I-8093W: 3-axis Encoder Module, max. 1M Hz for quadrant input mode, max. 4M Hz for Pulse/Direction and CW/CCW input mode. (FAQ-112) I-8084W: 250 kHz max., 4-ch encoder, can be Pulse/Direction, or Up/Down or A/B Phase (Quad. mode); Not support Encoder Z-index. (FAQ-100)
	Frequency	I-87082W: 2-ch, 1 Hz ~ 100 kHz; I-87088W: 8-ch, 0.1 Hz ~ 500 kHz; I-8084W: 8-ch, 1 Hz ~ 250 kHz;
Motion	Motion Control	Can be integrated with one I-8091W (2-axis) or two I-8091W (4-axis). Ethernet communication is also available when doing motion control.
*** Note: The COM5 ~ COM16 are located in the expansion boards if they are installed in slots 0~2 of VP-2117.**		

Ordering Information

VP-2117 CR	ISaGRAF based ViewPAC with 3 I/O Slots (English + Simplified Chinese Font) (RoHS)
VP-2117-TC CR	ISaGRAF based ViewPAC with 3 I/O Slots (English + Traditional Chinese Font) (RoHS)

Related Products

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