



Features

- 80186, 80 MHz CPU
- ISaGRAF Ver.3 SoftLogic Inside (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



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ViewPAC

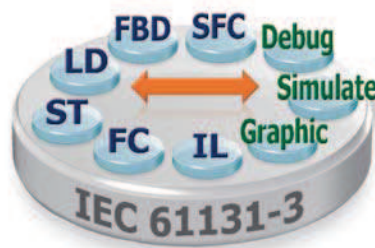
Introduction

VP-2117 is a ISaGRAF based PAC which integrates a graphic display and a keypad into a single unit. It is equipped with an 80186 CPU (16-bit, 80 MHz) running a MiniOS7 operating system, a STN LCD, a rubber keypad, three I/O slots, and a variety of connectivities including Ethernet and RS-232/485, etc. MiniOS7 operating system boots up within a very short time (0.4 ~ 0.8 seconds). VP-2117 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 to regular HMI + PLC solutions, VP-2117 reduces overall system cost and space, and provide all the best features of HMIs and PLCs.

ISaGRAF Features

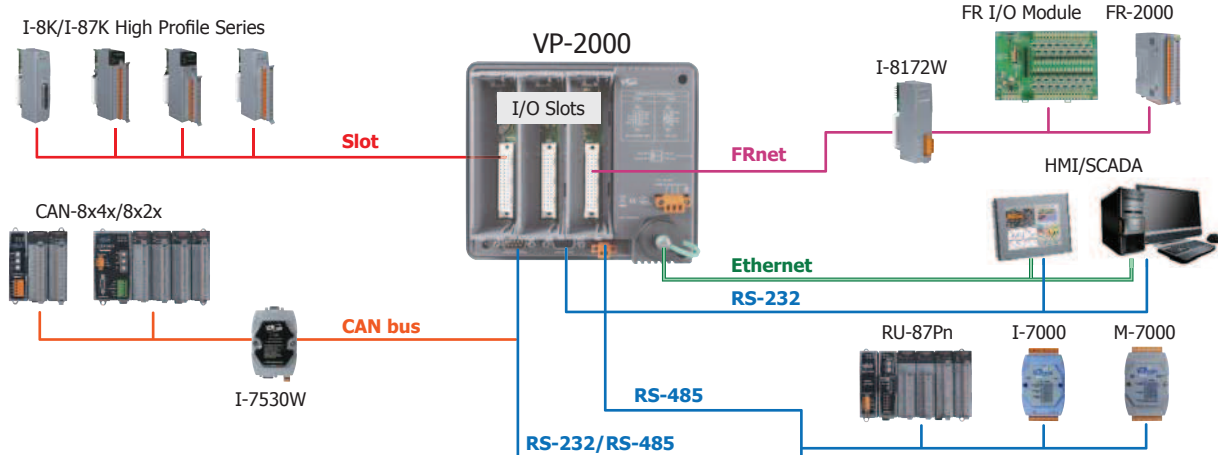
The ISaGRAF workbench Ver. 3.x features:

- IEC 61131-3 Standard Open PLC Programming Languages (LD, FBD, SFC, ST, IL, FC) + Flow Chart (FC)
- Auto-Scan I/O
- On-Line Debug/Control/Monitor, Off-Line Simulation
- Simple Graphic HMI



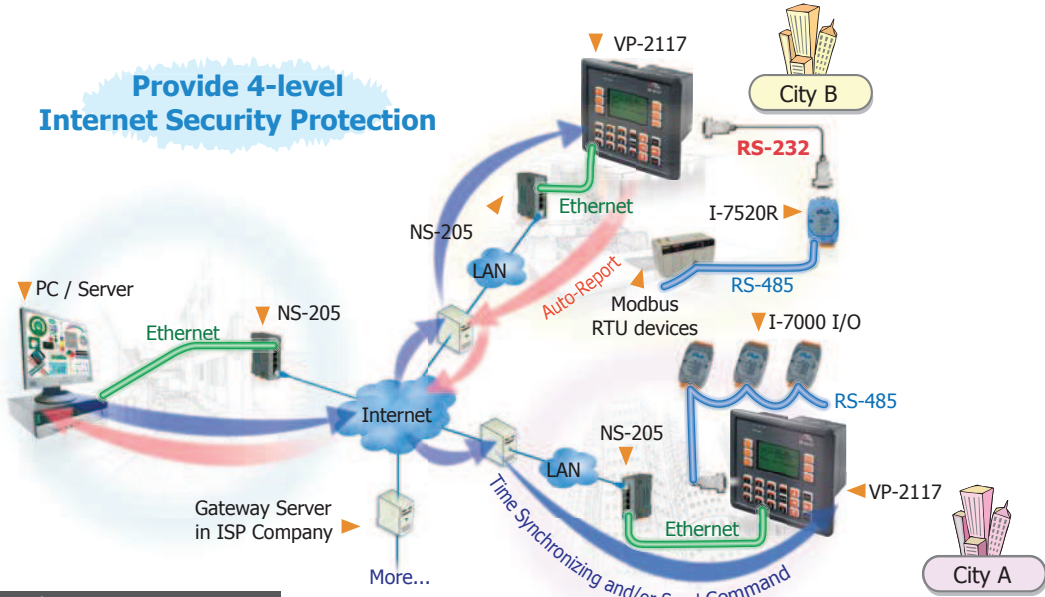
Applications

Rich I/O Expansion Ability

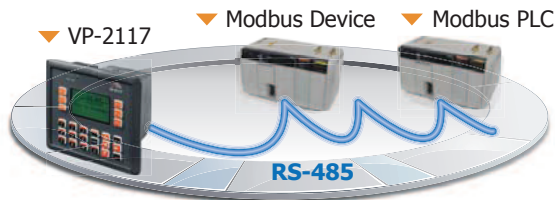


Cost-effective Auto-Report Data Acquisition/Control System

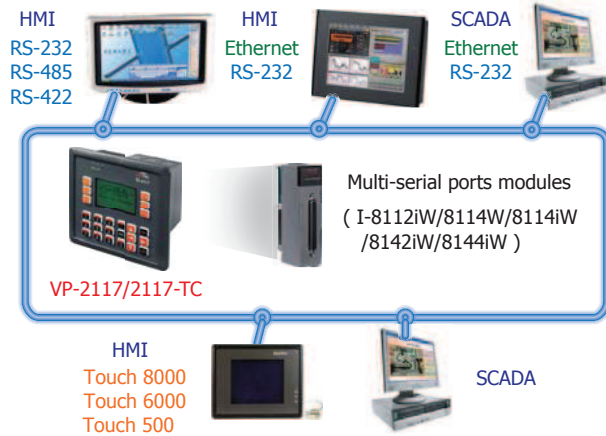
Provide 4-level Internet Security Protection



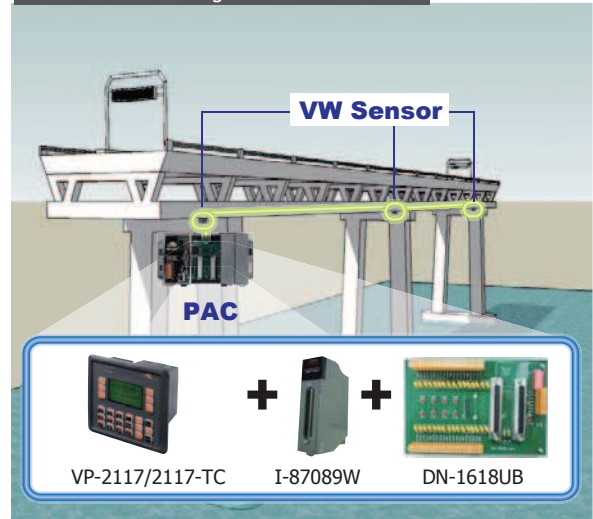
Modbus RTU/ASCII Master Ports



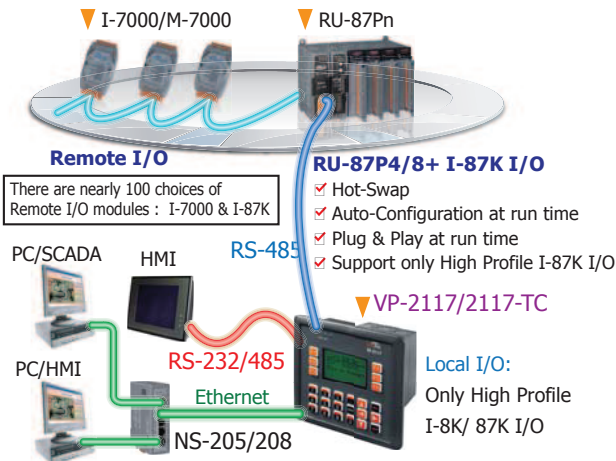
Modbus RTU/TCP Slave Ports



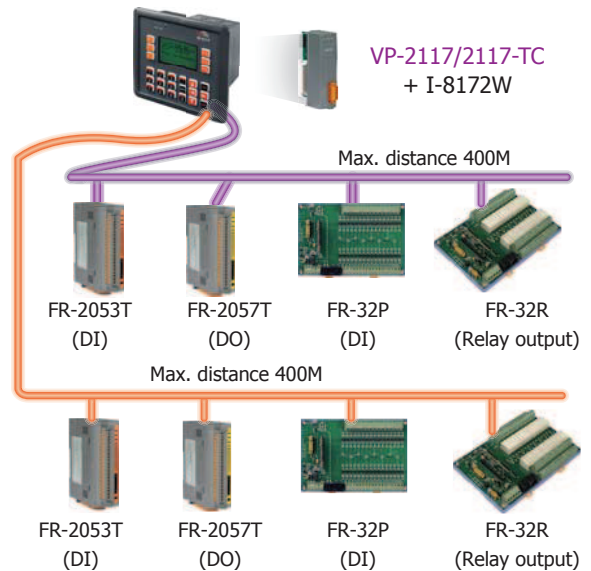
Stress Monitoring of Constructions



Local/Remote I/O Expansion & Multi-HMI



FRnet I/O Application



Specifications

Models		VP-2117
System Software		
OS	MiniOS7 (DOS-like embedded operating system)	
Development Software		
ISaGRAF Software	ISaGRAF Version 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)	Provide second, minute, hour, date, day of 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 Profile modules in slot 0 ~ 2	
COM 1	RS-232 (Rx/D, Tx/D 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 (Rx/D, Tx/D, 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 (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	

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ViewPAC

ISaGRAF Specifications

Protocols (some protocols need optional devices)		
NET ID	1 ~ 255, user-assigned by software	
Modbus RTU/ASCII Master	Max. 2 COM Ports: COM1 ~ COM3 and COM5. (To connect to other Modbus Slave devices.) (*) Max. Modbus_XXX Function Block amount for 2 ports: 128.	
Modbus RTU Slave	Max. 2 COM Ports, COM1 and one of COM2 or COM3. (For connecting ISaGRAF, PC/HMI/OPC Server & MMI panels.)	
Modbus TCP/IP Slave	Max. 6 connections. For connecting ISaGRAF & PC/HMI.	
Remote I/O	One of COM2 or 3 supports I-7000 I/O modules, and I-87Kn base or RU-87P1/2/4/8 + I-87K High Profile I/O boards as Remote I/O. Max. 64 Remote I/O module for one PAC.	
Fbus	Built-in COM3 Port to exchange data between ICP DAS's ISaGRAF PACs.	
Ebus	To exchange data between ICP DAS's ISaGRAF Ethernet PACs via Ethernet port.	
SMS:Short Message Service	One of COM3 or COM5 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/GPRS modem: GTM-201-RS232 (850/900/1800/1900 GSM/GPRS External Modem) or visit to the web site for recommended GSM/GPRS modem.	
User-Defined Protocol	COM1 ~ COM3, COM5 ~ COM16 by serial communication function blocks (*)	
CAN/CANopen	Max. 3 COM Ports: COM1, 3 or COM5 ~ COM12 (*) can connect one I-7530 (RS-232 to CAN converter) to support CAN/CANopen devices and sensors. One VP-2117 supports max. 3 RS-232 Ports to connect max. 3 I-7530. (FAQ-086)	
FRnet I/O	Support Max. 3 I-8172W FRnet Master cards to connect FRnet I/O modules (Max. 768-ch. DI + 768-ch. DO)	
Sending E-mail	Actively or passively sending E-mail via Ethernet port through internet. Max. 10 receivers for each sending and can send E-mail with an attached file. (Max. file size is about 488 KB)	
Optional I/O Functions (Refer to 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: 0.1 ~ 99.9%
	DO Module as PWM	8-ch. max. 500 Hz max. For Off=1 & On=1 ms. Output square wave: Off: 1 ~ 32766 ms, On: 1 ~ 32766 ms. 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)
Counters, Encoder, Frequency	Parallel DI Counter	8 ch. max. for 1 controller. Counter Val: 32-bit.; 500 Hz max. Min. ON & OFF width must > 1ms Optional DI boards: I-8040W, 8040PW, 8042W, 8046W, 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-8084W: 250 kHz max. 32-bit
	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)
Motion	Motion Control	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;
		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.
* Note: COM5 ~ COM16 are resided at the expansion boards if they are plugged on slot0~2 of VP-2117.		
* ISaGRAF FAQ: http://www.icpdas.com/faq/isagraf.htm		

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)

Accessories

ISaGRAF Development Software	
ISaGRAF-256-E	ISaGRAF Workbench Software Ver.3 (256 I/O Tags) with One Application Book (English version) and one USB Dongle
ISaGRAF-256-C	ISaGRAF Workbench Software Ver.3 (256 I/O Tags) with One Application Book (Chinese version) and one USB Dongle
ISaGRAF-32-E	ISaGRAF Workbench Software Ver.3 (32 I/O Tags) with One Application Book (English version)
ISaGRAF-32-C	ISaGRAF Workbench Software Ver.3 (32 I/O Tags) with One Application Book (Chinese version)
Note: No upgrade service from ISaGRAF-32 to ISaGRAF-256 (Using ISaGRAF-32 can control more than 32 I/O tags. Please refer to ISaGRAF User's Manual Ch. 3.4)	
Power Supply	
DP-660	24 V _{dc} /2.5 A, 60 W and 5 V _{dc} /0.5 A, 2.5 W Power Supply with DIN-Rail Mounting
MDR-60-24 CR	24 V _{dc} /2.5 A, 60 W Power Supply with DIN-Rail Mounting (RoHS)