

VP-23W7



VP-25W7



VP-4137

ISaGRAF based ViewPAC-2000/4000

Features

- PXA270, 520 MHz CPU
- Windows CE 5.0
- Embedded ISaGRAF Ver.3 SoftLogic (IEC 61131-3)
- Hard Real-Time Capability
- 3 I/O Slots
- IP65 Compliant Front Panel
- 3.5"/5.7"/10.4" TFT LCD
- Modbus RTU/TCP (Master, Slave)
- Support eLogger HMI
- Audio with Microphone-In and Earphone-Out
- Operating Temperature: -20 ~ +70°C

Introduction

The ISaGRAF WinCE ViewPAC Series (VP-23W7/25W7/4137) is the new generation WinCE 5.0 based ISaGRAF PAC (Programmable Automation Controller) from ICP DAS. Each VP-2xW7/4xx7 is equipped with a PXA270 CPU (520 MHz) running a Windows CE 5.0 operating system, a variety of input/output ports (USB, Ethernet, RS-232/485), 3 I/O slots that can be used to integrate high performance parallel I/O modules (high profile I-8K Series) or serial I/O modules (high profile I-87K series), and a 3.5" TFT LCD with a rubber keypad or a 5.7"/10.4" TFT Touch LCD.

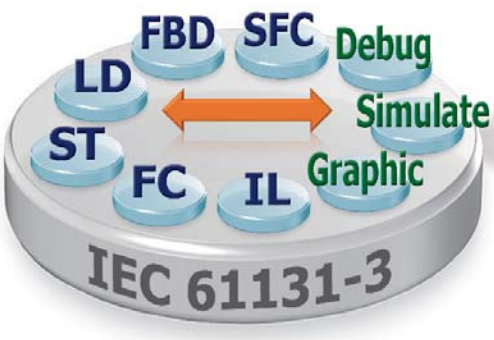
The benefits of running Windows CE 5.0 on a ViewPAC device include hard real-time capability, small core size, fast boot speed, interrupt handling at a deeper level and achievable deterministic control. ViewPAC devices are also capable of running ISaGRAF and PC-based control software, such as Visual Basic .NET, Visual C#, etc., providing all of the best features of both traditional PLCs and Windows capable PCs.

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). 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		VP-23W7	VP-25W7	VP-4137
System Software				
OS		Windows CE 5.0		
.Net Compact Framework		3.5		
Embedded Service		FTP server, Web server (supports VB script, JAVA script), Embedded SQL server		
SDK Provided		Dll for eVC, Dll for Visual Studio.Net 2005/2008		
Multilanguage Support		English, German, French, Spanish, Russian, Italian, Korean, Simplified Chinese, Traditional Chinese		
Development Software				
ISaGRAF Software	ISaGRAF Ver.3	IEC 61131-3 standard		
	Languages	LD, ST, FBD, SFC, IL & FC		
	Max. Code Size	1 MB		
	Scan Time	3 ~ 15 ms for normal program 15 ~ 50 ms (or more)for complex or large program		
Non-ISaGRAF		Options: MS eVC++ 4.0 or VS .NET 2005/2008 (VB.NET, C# .NET)		
Web Service				
Web HMI		PC running Internet Explorer can monitor/control PAC via Internet/modem		
Security		Support three-level username and password protection (high/middle/low)		
CPU Module				
CPU		PXA270, 520 MHz		
SDRAM		128 MB		
Flash		96 MB		128 MB
Expansion Flash Memory		microSD socket with a 4GB microSD card (support up to 32 GB)		SD socket with a 4 GB microSD card and a microSD adapter (support up to 32 GB)
Dual Battery Backup SRAM		512 KB; data valid up to 5 years (for retain variables)		
EEPROM		16 KB		
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		
Dual Watchdog Timers		Yes (0.8 second)		
Rotary Switch		Yes (0 ~ 9)		
Communication Interface				
Ethernet		RJ-45 x 1		
		10/100 Base-TX (Auto-negotiating, Auto MDI/MDI-X, LED indicators)		
USB 1.1 (host)		1		2
USB 1.1 (client)		-		1
COM 0		Internal communication with the high profile I-87K series modules in slots		
COM 1		-		
COM 2		RS-485 (Data+, Data-) with internal self-tuner ASIC; 2500 V_{DC} isolated		
COM 3		RS-232 (RxD, TxD, CTS, RTS, DSR, DTR, CD, RI and GND); Non-isolated		
MMI (Man Machine Interface)				
LCD		3.5" TFT (Resolution 320 x 240)	5.7" TFT (Resolution 640 x 480)	10.4" TFT (Resolution 800 x 600)
Touch Panel		-	Yes	
Rubber Keypad		24 keys	6 Keys	-
Audio		Microphone-In and Earphone-Out		Earphone-Out
LED Indicators		3 Dual-Color LEDs (PWR, RUN, LAN1, L1, L2, L3; L1 ~ L3 for User Programmable)		2 LEDs (PWR, RUN)
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		293 mm x 231 mm x 129 mm
Installation		Panel Mounting		
Ingress Protection		Front panel: IP65		
Environmental				
Operating Temperature		-20 ~ +70°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		12.5 W		
Consumption		7.2 W		8.5 W

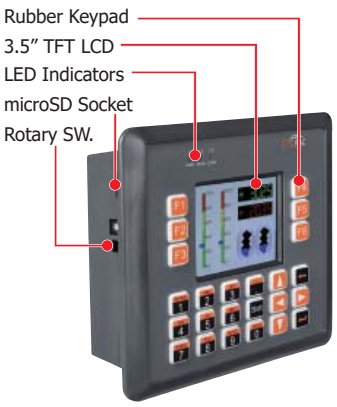
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ISaGRAF Specifications

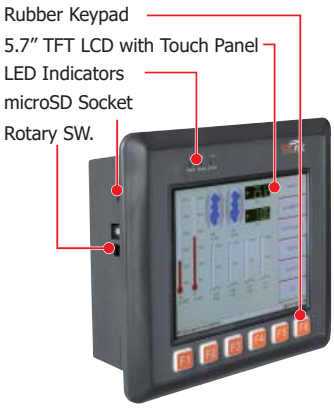
Protocols (Note that certain protocols require optional devices)		
NET ID		1 ~ 255, user-assigned by software
Modbus TCP/IP Master		Link to a max. of 100 devices that support the Standard Modbus TCP/IP Slave protocol (FAQ-113)
Modbus RTU/ASCII Master		A max. of 10 ports: COM2, 3 and COM5 ~ 14. (To connect to other Modbus Slave devices.) Support Multi-port. (*)
Modbus RTU Slave		A max. of 5 ports: one of COM2/3, COM5 ~ 8. (For connecting ISaGRAF, PC/HMI/OPC Server and HMI panels.) (*)
Modbus TCP/IP Slave		LAN1 and optional 2nd Ethernet Port in I-8135W support total up to 32 connections for connecting ISaGRAF and PC/HMI. If one of the Ethernet port malfunctions, the other one can still be used to connect to the PC/HMI.
Web HMI Protocol		Ethernet ports for connecting a PC running Internet Explorer.
User-defined Protocol		Custom protocols can be applied at COM2~3 and COM5~14 using Serial communication function blocks. (*)
I-7000 & I-87K RS-485 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 255 I-7000/87K remote I/O modules can connect to one PAC.
M-7000 Series Modbus I/O		A max. of 10 RS-485 ports: COM2, 3, 5 ~ 14. Each port can connect to up to 32 M-7000 modules. (With optional I-7510 repeater connected can connect to up to more than 32 M-7000 Modules) (*)
Modbus TCP/IP I/O		Supports ICP DAS Ethernet I/O : I-8KE4-MTCP and I-8KE8-MTCP. If LAN1 malfunctions, it will automatically switch to the 2nd Ethernet port (in optional I-8135W card) to continuously work. (The IP address for LAN1 and the 2nd Ethernet's IP should be set in the same IP domain) (FAQ-042)
FRnet I/O		Enable a max. of 3 pcs. I-8172W boards in slot 0~2 to be used to connect to FRnet I/O modules, such as FR-2057, FR-32R. Each I-8172W board can link to a max. of 256 DI plus 256 DO channels. (FAQ-082, 154)
Send Email		Provide functions to send email with a single attached file via the Ethernet port.
Ebus		Used to exchange data between ICP DAS ISaGRAF Ethernet PACs via the Ethernet port. (LAN1 Port only)
SMS: Short Message Service		Either 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)
MMICON/LCD		COM3 or COM5 supports the ICP DAS 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 the 2nd Ethernet (in optional I-8135W card) supports the UDP Server and UDP Client protocols allowing messages to be sent/received to/from a PC/HMI or other device. For example, data can be automatically reported to the InduSoft's RXTX driver.
TCP Client : Exchange Message & Auto-report		LAN1 or the 2nd Ethernet (in optional I-8135W card) supports the TCP Client protocol allowing messages to be sent/received to/from a PC/HMI or other device that supports the TCP server protocol. For example, data can be automatically reported to the InduSoft's RXTX driver, or to connect a location camera.
GPRS/SMS		Enable the I-8212W (2G/3G) card allowing short messages to be sent/received to/from or to access a dial up connection to link to the Internet and using a GPRS connection to send an email or communicate with remote stations using the FTP Client (FAQ-151) or the TCP Client / UDP Server / UDP Client (FAQ-143) protocols.
SQL Client		Support for the SQL Client function that allows data to be written (or read from) a Microsoft SQL Server (2000 SP3, 2005, 2008).
Hot-Swap and Redundant System		Must enable the 2nd Ethernet port in the optional I-8135W card. This redundant system has setup two "Active IP" address point to the active VP-2xW7/2xW6 's LAN1 and 2nd Ethernet 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 VP-2xW7/2xW6 is currently active. Moreover, the new redundant system can integrate 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 card is damaged, the maintenance person just takes one good-card with same model number to hot-swap the damaged one without stopping this redundant system. (FAQ-093)
CAN/CANopen		COM3 or COM5~14 can connect to one I-7530 (converter: RS-232 to CAN) to support CAN/CANopen devices and sensors. One PAC supports a max. of 10 RS-232 ports to connect a max. of 10 I-7530. (*) (FAQ-086)
CANopen Master		Enable the I-8123W CANopen Master card to connect to other CANopen Slave devices. (FAQ-145)
HART Solutions		Enable I-87H17W modules in slots 0 to 2 to communicate with other HART devices.
FTP Client		Enable the FTP Client to upload files from the PAC to a remote FTP server on a PC. (FAQ-151)
eLogger HMI		Provide support for the eLogger HMI. The user can design the HMI screen using the eLogger on the PC and then download it to the PAC to display the HMI on the PAC. (FAQ-115)
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-7088, I-8088W, I-87088W: 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: 250 Hz for OFF=2 & ON=2 ms. Output square wave: OFF: 2~32766 ms, ON: 2~32766 ms.
Counter, 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, 250 Hz; Min. pulse width > 2 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. 4 MHz for Pulse/Direction and CW/CCW input mode. (FAQ-112) I-8084W: 250 kHz max., 4-ch encoder, 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	one I-8091W (2-axis) or two I-8091W (4-axis) can do motion control. only one I-8091W can do X-Y dependent motion.
Port	Second Ethernet	VP-2xW7/2xW6/4137 can add one optional I-8135W card in its slot 0 ~ 2 to expand the second Ethernet port.
*** Note: The COM5 ~ COM14 ports are located in the expansion boards if they are installed in slots 0 ~ 2 of VP-2xW7/4xx7.**		

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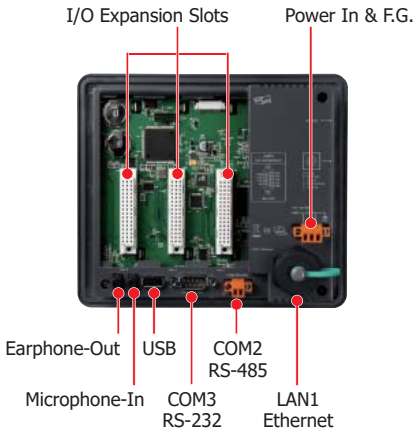
Appearance



VP-23W7



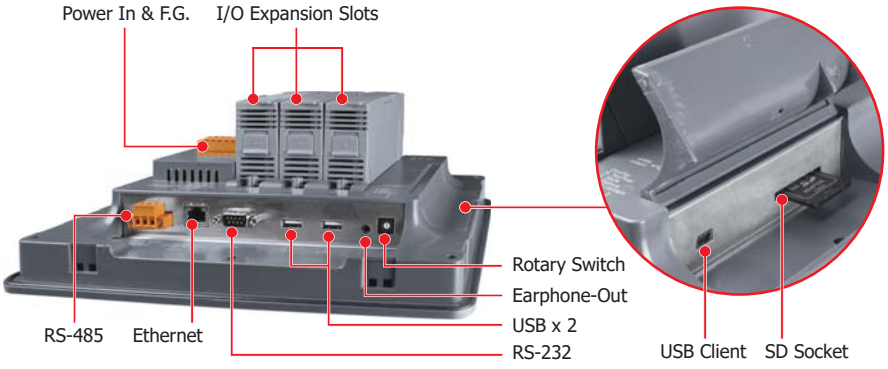
VP-25W7



VP-23W7/25W7



VP-4137



VP-4137

Ordering Information

VP-23W7-EN CR	ISaGRAF based ViewPAC with 3.5" LCD and 3 I/O slots (Multilanguage Version of OS) (RoHS)
VP-23W7-TC CR	ISaGRAF based ViewPAC with 3.5" LCD and 3 I/O slots (Traditional Chinese of OS) (RoHS)
VP-23W7-SC CR	ISaGRAF based ViewPAC with 3.5" LCD and 3 I/O slots (Simplified Chinese of OS) (RoHS)
VP-25W7-EN CR	ISaGRAF based ViewPAC with 5.7" Touch LCD and 3 I/O slots (Multilanguage Version of OS) (RoHS)
VP-25W7-TC CR	ISaGRAF based ViewPAC with 5.7" Touch LCD and 3 I/O slots (Traditional Chinese of OS) (RoHS)
VP-25W7-SC CR	ISaGRAF based ViewPAC with 5.7" Touch LCD and 3 I/O slots (Simplified Chinese of OS) (RoHS)
VP-4137-EN CR	ISaGRAF based ViewPAC with 10.4" Touch LCD and 3 I/O slots (Multilanguage Version of OS) (RoHS)
VP-4137-TC CR	ISaGRAF based ViewPAC with 10.4" Touch LCD and 3 I/O slots (Traditional Chinese of OS) (RoHS)
VP-4137-SC CR	ISaGRAF based ViewPAC with 10.4" Touch LCD and 3 I/O slots (Simplifi ed Chinese of OS) (RoHS)
VP-GUP-17000	Upgrade the VP-2xW1 to become VP-2xW7 (or Upgrade the VP-2xW9 to become VP-2xW6)

Related Products

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

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