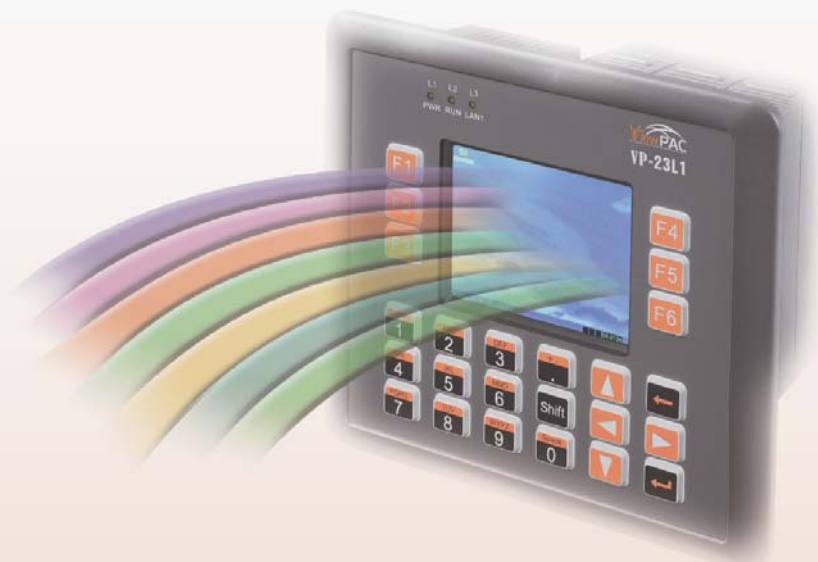


3.1	Overview	P3-1-1
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3.3	ViewPAC-2000 Series	P3-3-1



- VP-2111/VH-2110/VH-2111P/VH-2211/VH-2311 ----- P3-3-1
- VP-2117/VH-2117P/VH-2217/VH-2317 ----- P3-3-5
- VP-23W1/VP-25W1/VH-23W1/VH-25W1 ----- P3-3-11
- VP-23W7/VP-25W7/VH-23W7/VH-25W7 ----- P3-3-15
- VP-23W9/VP-25W9/VH-23W9/VH-25W9 ----- P3-3-21
- VP-23A1/VP-25A1/VH-23A1/VH-25A1 ----- P3-3-26



3.1. ViewPAC-2000 Series

• Overview

ViewPAC Family

Rich Development Tools

- ISaGRAF
- InduSoft
- Microsoft Visual Studio.net

All-in-one

Variant Communications

- Ethernet
- RS-232/485
- USB (Host)
- CAN bus
- FRnet
- GPS, GPRS
- ZigBee

I/O Slots

More than 60 types of I/O are supported

Colorful, IP65 Waterproof Touch Screen

ViewPAC is an innovation product of ICP DAS. It is a PAC which combines display, operation and control in one unit. ViewPAC provides perfect solutions to integrate HMI, data acquisition and control in one PAC. It subverts traditional image that HMIs and controllers are working separately and solves many communication problems between HMIs and controllers. In the PAC development history of ICP DAS, ViewPAC family sets a milestone.



ViewPAC family provides two CPU types (80186, PXA270), 3 OS solutions (WinCE 5.0, Linux, MiniOS7) and several software development toolkits (C, VS .NET, ISaGRAF, InduSoft) for chosen, and all of them are featured same stability and flexibility as ICP DAS's PAC family. This makes ViewPAC has a good potential to apply to factory automation, building automation, machine automation, manufacturing management, environment monitoring, etc. It subverts traditional architectures of "HMI + PLC" or "HMI + PAC", and let users has more and flexible options to configure their automation system.

• Features

1. Various CPU and OS for choosing



MiniOS7
80186 CPU
Vx-2x1x

- DOS-like
- Boot up in 0.4 ~ 0.8 second
- Built-in hardware diagnostic
- Standard version for C language programming
- ISaGRAF version for IEC 61131-3 programming



Android
PXA270 CPU
Vx-2xAx

- SDK for Linux and Windows environment
- Supports GNU C, JAVA, GUI programming
- Web server, FTP server, Telnet server, SSH server



WinCE
PXA270 CPU
Vx-2xWx

- Supports PC based software: eVC and VS .NET 2005/2008
- Web server, FTP server, Telnet server
- ISaGRAF version for IEC 61131-3 programming
- InduSoft version for SCADA solution

2. LCD Display & Rubber Keypad

1. 128 x 64 dot matrix STN LCD
2. 3.5" TFT LCD
3. 5.7" TFT LCD with touch panel

The rubber keypad has following benefits:

1. Easy to dial
2. Long operation life up to 500k cycles
3. Mark of function keys are customizable



3

ViewPAC



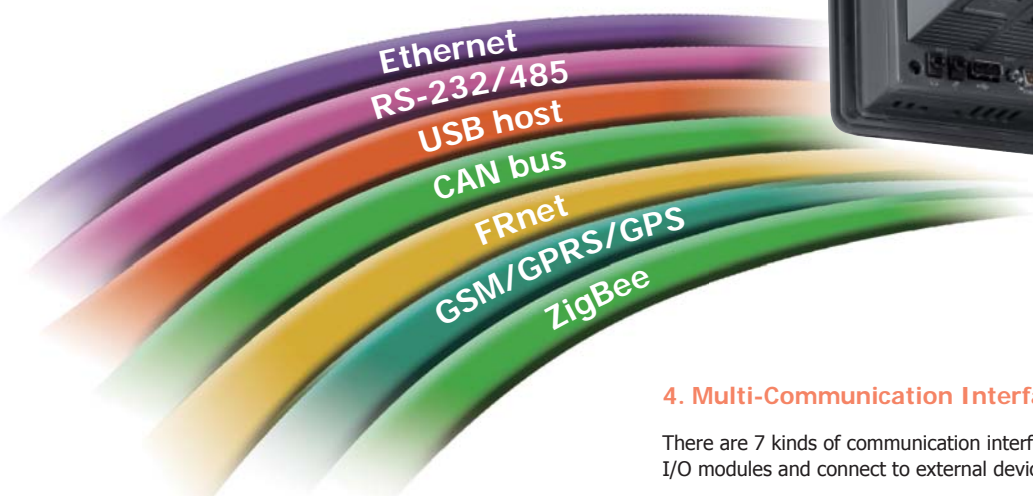
3. I/O Slots

The I/O slots support parallel bus type (high profile I-8K series) and serial bus type (high profile I-87K series) I/O modules. There are more than 60 kinds of module for AI, AO, DI, AO, counter input, frequency input, PWM output, motion control, memory, communication, etc.



1

Overview



4. Multi-Communication Interface

There are 7 kinds of communication interfaces to expand I/O modules and connect to external devices:

- | | |
|---------------|-----------------|
| 1. Ethernet | 5. FRnet |
| 2. RS-232/485 | 6. GSM/GPRS/GPS |
| 3. USB host | 7. ZigBee |
| 4. CAN bus | |

5. Easy installation



IP 66 Industrial Enclosure: I-3625-ENC



Panel Mounting-1



Panel Mounting-2

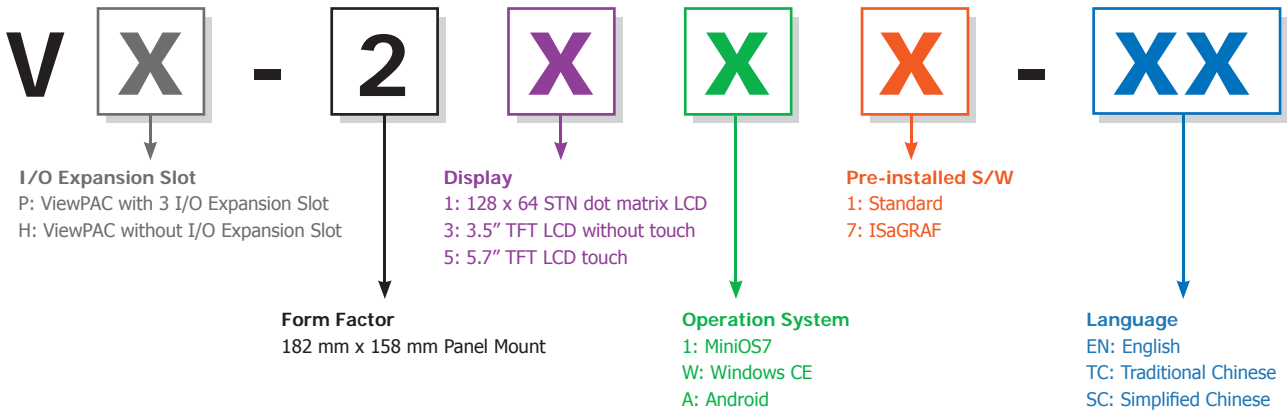


Panel Mounting-3

• Selection Guide

3

ViewPAC



MiniOS7 Inside

C Language Based ViewPAC

Model Name	Special Feature	OS	CPU	Flash	SRAM	Dual Battery Backup SRAM	Flash Disk	STN LCD Resolution	Ethernet Port	RS-232/RS-485	I/O Slot	Page
VP-2111	-	MiniOS7	80 MHz	512 KB	768 KB	512 KB	64 MB	128 x 64	1	3	3	3-3-1
VH-2110	-	MiniOS7	80 MHz	512 KB	768 KB	512 KB	64 MB	128 x 64	1	3	-	3-3-1
VH-2111P									2			
VH-2211	GPRS											
VH-2311	GPS & GPRS											

The ViewPAC, VP-211x and VH-211x series, has a 16-bit CPU, 128 x 64 resolution graphic display, silicon rubber keypad, communication ports of Ethernet, RS-232, RS-485 and 3 I/O expansion slot. It also equipped a DOS-like OS, MiniOS7. Users can use C compilers to create 16-bit executable files (*.exe) to develop a program then download it to the controller. The user can choose Turbo C 2.0 or Turbo C++ 1.0.1 to compile this application program and generate a execution file. This execution file can be download to VP-211X and VH-211x via RS-232 port or ethernet port. We recommend the user to use Turbo C++ 1.01.

There are many demo programs for reference. Beside that, for TCP/IP programming, we provide a TCP/IP server template that named XServer. It is very powerful, easy use and flexible tool that can save 90% developing time.

ISaGRAF Based ViewPAC

Model Name	Special Feature	OS	CPU	Flash	SRAM	Dual Battery Backup SRAM	Flash Disk	STN LCD Resolution	Ethernet Port	RS-232/RS-485	I/O Slot	Page
VP-2117	-	MiniOS7	80 MHz	512 KB	768 KB	512 KB	64 MB	128 x 64	1	3	3	3-3-5
VH-2117P	-	MiniOS7	80 MHz	512 KB	768 KB		64 MB	128 x 64	2	3	-	3-3-5
VH-2217	GPRS											
VH-2317	GPS & GPRS											

The controller fully supports all five of the IEC61131-3 standard PLC languages:

1. Ladder diagram
2. Function block diagram
3. Sequential function chart
4. Structured text
5. Instruction List plus flow chart

It supports Modbus protocol and can link to distributed I/O modules with Modbus or DCON protocol via the RS-232/485 or Ethernet.

2

Selection Guide

 Windows CE .NET 5.0 Inside

Standard ViewPAC												
Model Name	OS	Pre-Installed Software	CPU	Flash	SDRAM	Dual Battery Backup SRAM	TFT LCD (Resolution)	Ethernet Port	RS-232/RS-485	USB	I/O Slot	Page
VP-23W1	CE 5.0	None	PXA270 520 MHz	96 MB	128 MB	512 KB	3.5" (320 x 240)	1	2	1	3	3-3-11
VP-25W1							5.7" (640 x 480)					
VH-23W1	CE 5.0	None	PXA270 312 MHz	96 MB	128 MB	512 KB	3.5" (320 x 240)	2	3	2	-	3-3-11
VH-25W1							5.7" (640 x 480)					

The controller supports following software development tools:
 1. DLLs of I/O modules for eVC, VS.Net 2005/2008
 2. DLLs of Modbus/RTU and Modbus/TCP for eVC and VS.Net 2005/2008
 3. OPC server (Quicker)

3

ViewPAC

ISaGRAF Based ViewPAC												
Model Name	OS	Pre-Installed Software	CPU	Flash	SDRAM	Dual Battery Backup SRAM	TFT LCD (Resolution)	Ethernet Port	RS-232/RS-485	USB	I/O Slot	Page
VP-23W7	CE 5.0	ISaGRAF	PXA270 520 MHz	96 MB	128 MB	512 KB	3.5" (320 x 240)	1	2	1	3	3-3-15
VP-25W7							5.7" (640 x 480)					
VH-23W7	CE 5.0	ISaGRAF	PXA270 312 MHz	96 MB	128 MB	512 KB	3.5" (320 x 240)	2	3	2	-	3-3-15
VH-25W7							5.7" (640 x 480)					

The controller fully supports all five of the IEC61131-3 standard PLC languages:
 1. Ladder diagram
 2. Function block diagram
 3. Sequential function chart
 4. Structured text
 5. Instruction List plus flow chart
 It supports Modbus protocol and can link to distributed I/O modules with Modbus or DCON protocol via the RS-232/485 or Ethernet.

2

Selection Guide

InduSoft Based ViewPAC												
Model Name	OS	Pre-Installed Software	CPU	Flash	SDRAM	Dual Battery Backup SRAM	TFT LCD (Resolution)	Ethernet Port	RS-232/RS-485	USB	I/O Slot	Page
VP-23W9	CE 5.0	InduSoft	PXA270 520 MHz	96 MB	128 MB	512 KB	3.5" (320 x 240)	1	2	1	3	3-3-21
VP-25W9							5.7" (640 x 480)					
VH-23W9	CE 5.0	InduSoft	PXA270 312 MHz	96 MB	128 MB	512 KB	3.5" (320 x 240)	2	3	2	-	3-3-21
VH-25W9							5.7" (640 x 480)					

The controller can be used to develop following applications:
 1. Human Machine Interfaces (HMI)
 2. Supervisory Control and Data Acquisition System (SCADA)
 3. Web server

 Android 1.6 Inside

Standard ViewPAC												
Model Name	OS	Pre-Installed Software	CPU	Flash	SDRAM	Dual Battery Backup SRAM	TFT LCD (Resolution)	Ethernet Port	RS-232/RS-485	USB	I/O Slot	Page
VP-23A1	Android 1.6	None	PXA270 520 MHz	96 MB	128 MB	512 KB	3.5" (320 x 240)	1	2	1	3	3-3-26
VP-25A1							5.7" (640 x 480)					
VH-23A1	Android 1.6	None	PXA270 312 MHz	96 MB	128 MB	512 KB	3.5" (320 x 240)	2	3	2	-	3-3-26
VH-25A1							5.7" (640 x 480)					

The controller supports following software development tools:
 1. SDK for Linux environment
 2. SDK for Windows environment



Highlight Information

- 3 I/O Slots Option (for VP-2000 Only)
- 80186, 80 MHz CPU (16 bits)
- C Language Based and MiniOS7 Inside
- IP65 Compliant Front Panel
- STN LCD with with English and Chinese Fonts
- Rubber Keypad with 24 Keys
- GPS option
- GSM/GPRS option
- Operating Temperature: -15 ~ +55 °C



Introduction

ViewPAC combines iPAC, graphic display and keypad in one unit. It is equipped with an 80186 CPU (16-bit and 80 MHz) running a MiniOS7 operating system, several communication interface (Ethernet, RS-232/485), 3 I/O slots, STN LCD and a rubber keypad.

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.

Compared with traditional HMI + PLC solutions, ViewPAC reduces overall system cost, space and gives you all the best features of HMIs and PLCs.

Features

Software

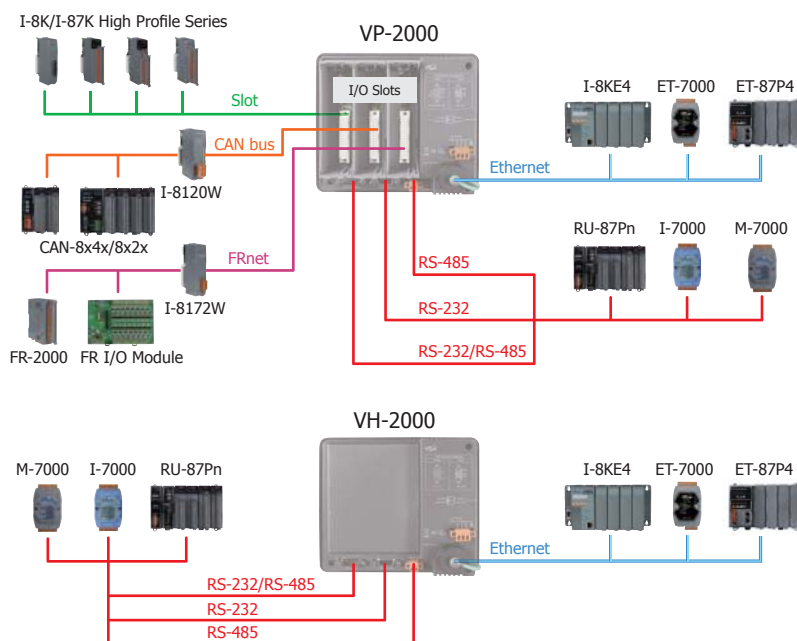
- MiniOS7 Embedded Operating System (DOS-like)
- C language Based Software Development Toolkit
- Modbus Library Provided
- Hardware Diagnostic Functions
- Load Files via RS-232 or Ethernet

Hardware

- 80186, 80 MHz CPU (16-bit)
- IP65 Compliant Front Panel
- STN LCD with English and Chinese Fonts
- Rubber Keypad with 24 Keys
- 3 I/O Slots Option (for VP-2000 Only)
- 64-bit Hardware Serial Number
- 64 MB NAND Flash for Data Storage
- Dual Battery Backup SRAM (512 KB)
- Rich I/O Expansion Ability
 - Ethernet
 - RS-232/422/485
 - FRnet
 - CAN bus
- GPS option
- GSM/GPRS option
- Operating Temperature: -15 ~ +55 °C

Applications

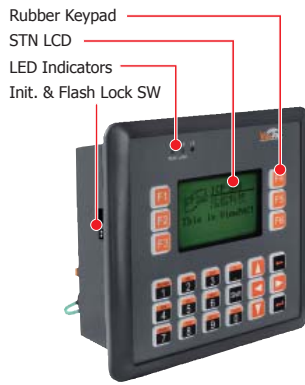
Rich I/O Expansion Ability



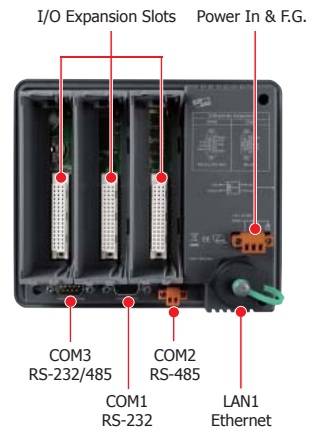
Models	VP-2111	VH-2110	VH-2111P	VH-2211	VH-2311
System Software					
OS	MiniOS7 (DOS-like embedded operating system)				
Program Download Interface	RS-232 (COM1) or Ethernet				
Programming Language	C language				
Compilers to create.exe Files	TC++ 1.01 (Freeware); TC 2.01 (Freeware); BC++ 3.1 ~ 5.2x; MSC 6.0; MSVC++ (before version 1.5.2)				
CPU Module					
CPU	80186 or compatible (16-bit and 80 MHz)				
SRAM	768 KB	512 KB	768 KB		
Dual Battery Backup SRAM	512 KB (for 5 years data retain while power off)	-	512 KB (for 5 years data retain while power off)		
Flash	512 KB (100,000 erase/write cycles)				
Flash Disk	64 MB NAND Flash (100,000 erase/write cycles)	-	64 MB NAND Flash (100,000 erase/write cycles)		
EEPROM	16 KB; Data Retention: 40 years; 1,000,000 erase/write cycles				
NVRAM	31 bytes (battery backup, data valid up to 5 year)				
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, Auto MDI/MDI-X, LED indicators)		RJ-45 x 2, 10/100 Base-TX (Auto-negotiating, Auto MDI/MDI-X, LED indicators)		
COM 0	Internal communication with the high profile I-87K series modules in slots				
COM 1	RS-232 (to update firmware) (Rx/D, Tx/D and GND); non-isolated				
COM 2	RS-485	D2+, D2-; self-tuner ASIC inside			
	Isolation	2500 Vdc	-	2500 Vdc	
COM 3	RRS-232/RS-485 (Rx/D, Tx/D, CTS, RTS and GND for RS-232, Data+ and Data- for RS-485); non-isolated	RS-232 (Rx/D, Tx/D, CTS, RTS and GND for RS-232); non-isolated	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)		2 Dual-Color LEDs (RUN, LAN1, L1, L2; L1~L2 for User Programmable)		
I/O Expansion Slots					
Slot Number	3 (For High Profile I-8K and I-87K Modules Only)		-		
Hot Swap * Will be available	For High Profile I-87K Modules Only		-		
Data Bus	8/16 bits		-		
Address Bus Range	2 K for each slot		-		
GSM/GPRS					
Band	-		850/900/1800/1900 MHz		
GPRS Multi-slot	-		Class 10/8		
GPRS Mobile Station	-		Class B		
GPRS Class 10	-		Max. 85.6 kbps		
CSD	-		Up to 14.4 kbps		
Compliant to GSM phase 2/2+	-		Class 4 (2 W @ 850/900 MHz); Class 1(1W @ 1800/1900 MHz)		
Coding Schemes	-		CS 1, CS 2, CS 3, CS 4		
SMS	-		Text and PDU mode		
GPS					
Channels	-		16 channels all-in-view tracking		
Sensitivity	-		-159 dBm		
Acquisition Rate	-		Cold start: 42 seconds; warm start: 35 seconds; reacquisition rate: 0.1 second		
Accuracy	-		Position: 25 m CEP (S/A off); Velocity: 0.1 second (S/A off); Time: ±1 ms		
Protocol	-		NMEA		
Mechanical					
Dimensions (W x H x D)	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	PoE	-	-	IEEE 802.3af, class 3	-
	Terminator Block	+10 ~ +30 Vdc	+12 ~ +48 Vdc	+18 ~ +55 Vdc	+10 ~ +30 Vdc
Isolation	1 kV		-		
Capacity	3 A, 5 V supply to I/O expansion slots		-		
Consumption	6 W (0.25 A @ 24 V)	3.6 W (0.15 A @ 24 V)	6 W (0.25 A @ 24 V)	9.6 W (0.4 A @ 24 V)	10.8 W (0.45 A @ 24 V)

Appearance

VP-2111/VH-2110/VH-2111P/VH-2211/VH-2311



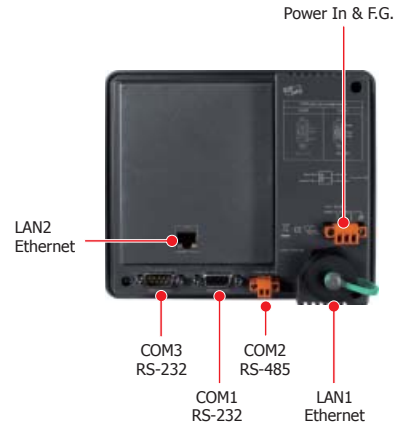
VP-2111



VH-2110

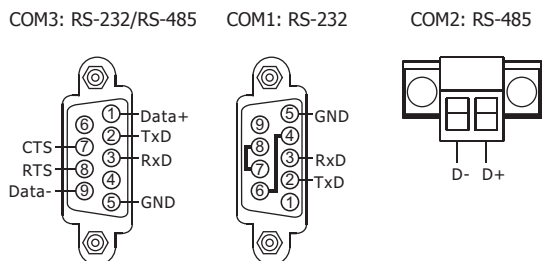


VH-2111P/VH-2211/VH-2311

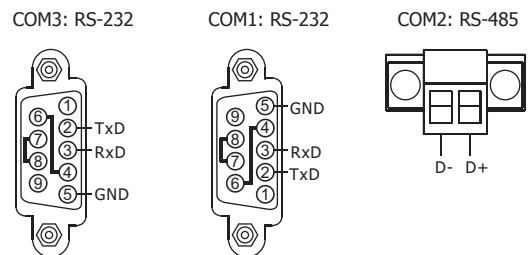


Pin Assignments

VP-2111/VH-2110/VH-2111P/VH-2211/VH-2311 COM Port

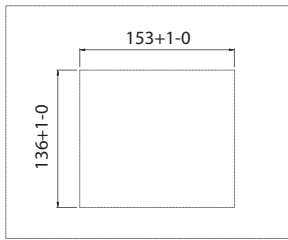


VH-2110 COM Port

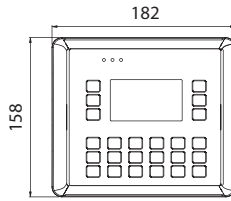


Dimensions (Units: mm)

VP/VH-2000 Series

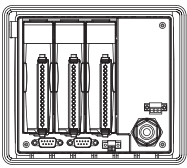


Recommended Panel Cut-Out

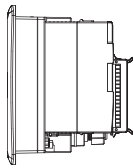


Front View

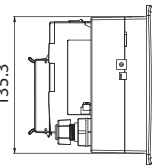
VP-2000



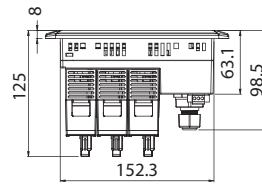
Rear View



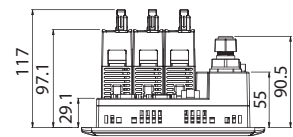
Left Side View



Right Side View

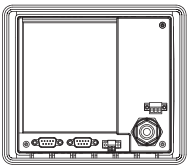


Top View

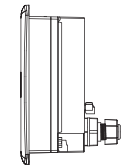


Bottom View

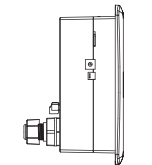
VH-2000



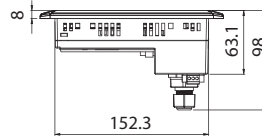
Rear View



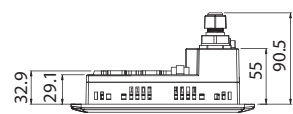
Left Side View



Right Side View



Top View



Bottom View

Ordering Information

VP-2111 CR	C Language Based ViewPAC with 3 I/O Slots (English + Simplified Chinese Font) (RoHS)
VP-2111-TC CR	C Language Based ViewPAC with 3 I/O Slots (English + Traditional Chinese Font) (RoHS)
VH-2110 CR	C Language Based ViewPAC without I/O Slot (English + Simplified Chinese Font) (RoHS)
VH-2110-TC CR	C Language Based ViewPAC without I/O Slot (English + Traditional Chinese Font) (RoHS)
VH-2111P CR	C Language Based ViewPAC without I/O Slot (English + Simplified Chinese Font) (RoHS)
VH-2111P-TC CR	C Language Based ViewPAC without I/O Slot (English + Traditional Chinese Font) (RoHS)
VH-2211 CR	C Language Based ViewPAC without I/O Slot (English + Simplified Chinese Font) (RoHS)
VH-2211-TC CR	C Language Based ViewPAC without I/O Slot (English + Traditional Chinese Font) (RoHS)
VH-2311 CR	C Language Based ViewPAC without I/O Slot (English + Simplified Chinese Font) (RoHS)
VH-2311-TC CR	C Language Based ViewPAC without I/O Slot (English + Traditional Chinese Font) (RoHS)

Accessories

DP-660	24 Vdc/2.5 A, 60 W and 5 Vdc/0.5 A, 2.5 W Power Supply with DIN-Rail Mounting
MDR-60-24 CR	24 Vdc/2.5 A, 60 W Power Supply with DIN-Rail Mounting (RoHS)



Highlight Information

- 3 I/O Slots Option (for VP-2000 Only)
- ISaGRAF Ver.3 SoftLogic Inside (IEC 61131-3)
- PLC Feel
- 80186, 80 MHz CPU (16 bits)
- IP65 Compliant Front Panel
- STN LCD with with English and Chinese Fonts
- Rubber Keypad with 24 Keys
- GPS option
- GSM/GPRS option
- Operating Temperature: -15 ~ +55 °C



Introduction

ViewPAC series is the ISaGRAF PAC with graphic display and keypad. It 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 various connectivity including Ethernet and RS-232/485, etc.

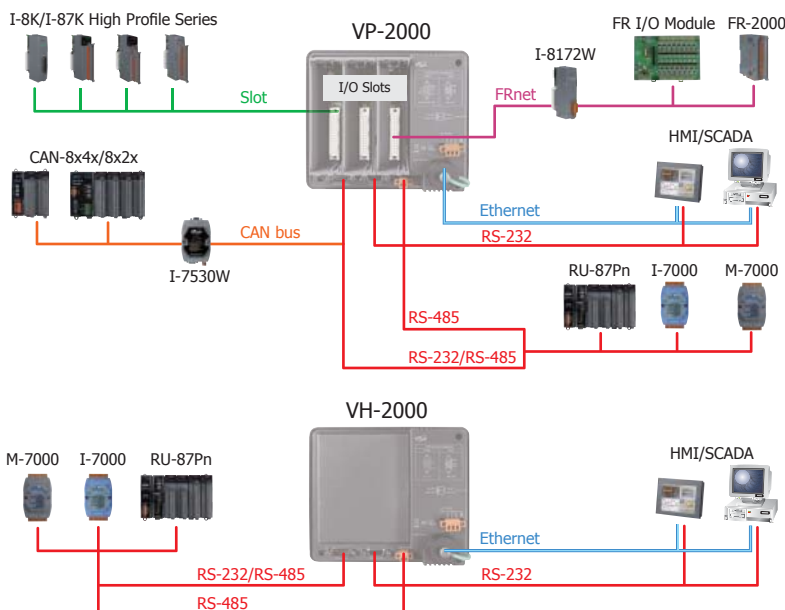
Its operating system, MiniOS7, can boot up in a very short time (0.4 ~ 0.8 seconds). It has a built-in hardware diagnostic function, and supports the full range of functions required to access all high profile I-8K and I-87K series I/O modules, such as DI, DO, DI/DO, AI, AO, Counter/Frequency, motion 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.

The ViewPAC VP-2117, VH-2117P series supports ISaGRAF Ver.3 Workbench:

- 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



Features

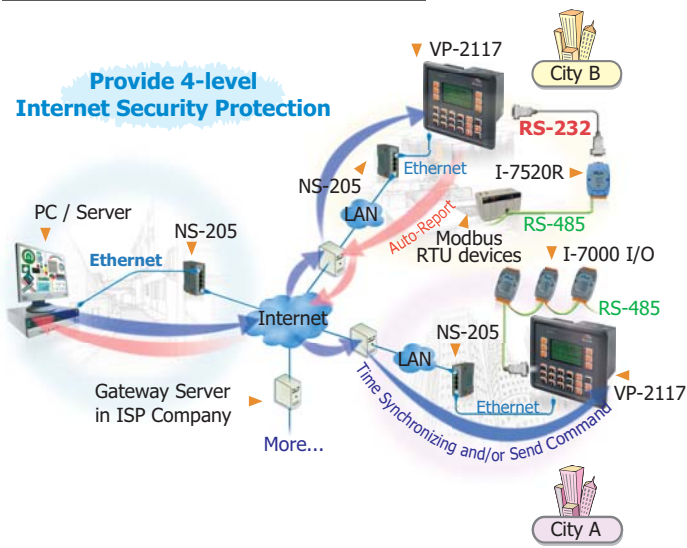
Software

- MiniOS7 Embedded Operating System (DOS-like)
- Development Software: ISaGRAF Ver.3
- Support Modbus RTU/ASCII Master & Modbus RTU/TCP Slave
- Support Data Exchange
- Support CAN/CANopen (Via I-7530W)
- Support FRnet I/O (Via I-8172W)
- Support Motion Control
- Support Send Email with One File
- Support GPS, ZigBee & Radio Wireless communication
- Support SMS : Short Message Service
- Support Data-Recorder & Data-Logger
- Support Auto-report Acquisition Data & Control
- Support Graphic and Keypad functions

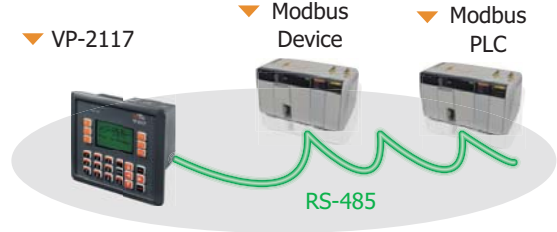
Hardware

- 80186, 80 MHz CPU (16-bit)
- IP65 Compliant Front Panel
- Large SRAM: 768 KB
- 512 KB FLASH Memory
- 16 KB EEPROM
- STN LCD with English and Chinese Fonts
- Rubber Keypad with 24 Keys
- 3 I/O Slots Option (for VP-2000 Only)
- 64-bit Hardware Serial Number
- 64 MB NAND Flash for Data Storage
- Dual Battery Backup SRAM (512 KB)
- Hot-Swap High Profile I-87K I/O Ability
- Watchdog Timer Increase Reliability
- Operating Temperature: -15 ~ +55 °C

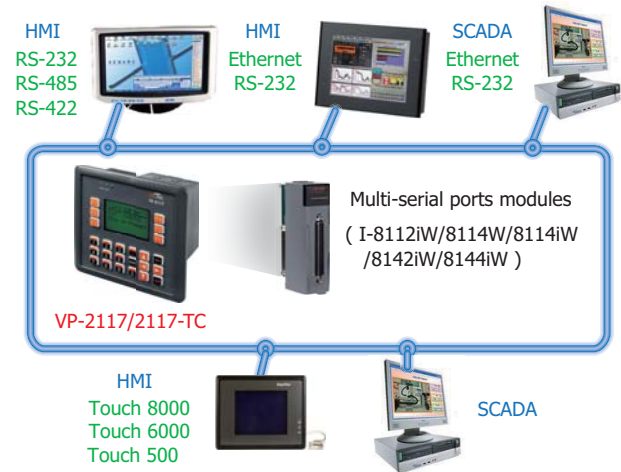
Cost-effective Auto-Report Data Acquisition/Control System



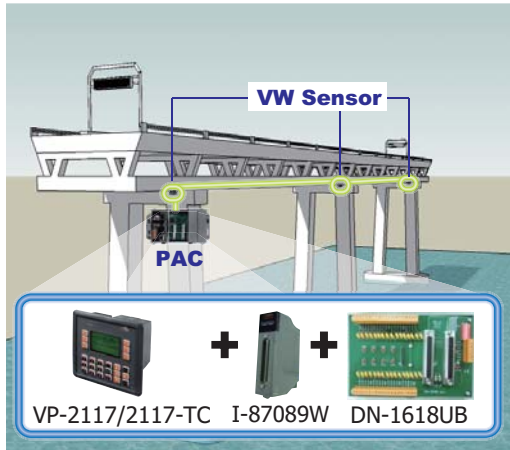
Modbus RTU/ASCII Master Ports



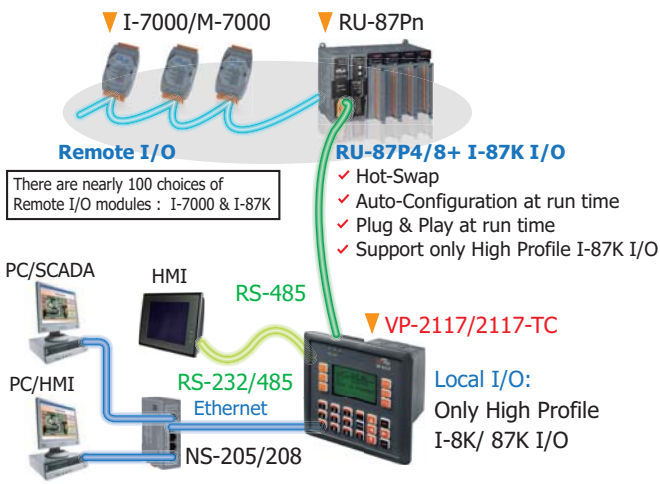
Modbus RTU/TCP Slave Ports



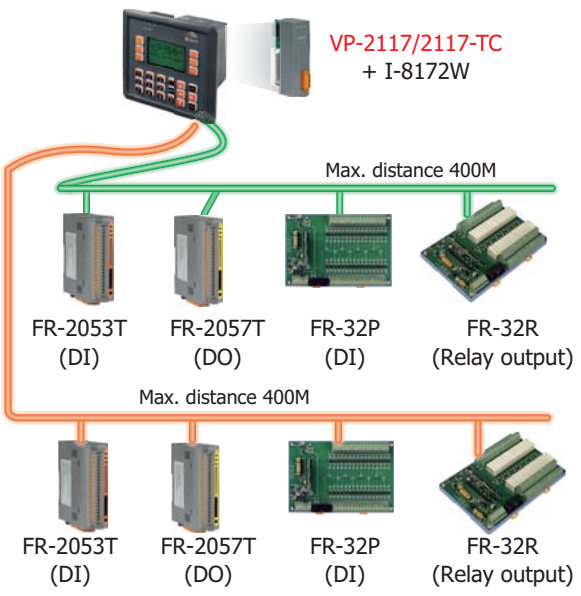
Stress Monitoring of Constructions



Local/Remote I/O Expansion & Multi-HMI



FRnet I/O Application



ViewPAC Specifications

3

ViewPAC

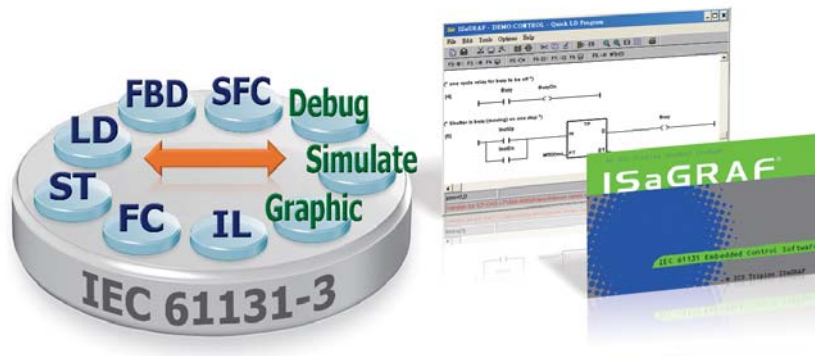
3

ViewPAC-2000 Series

VP-2117/VH-2117P/VH-2217/VH-2317

Models	VP-2117	VH-2117P	VH-2217	VH-2317
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 (16-bit) or compatible			
SRAM	768 KB			
Flash	512 KB (100,000 erase/write cycles)			
Flash Disk	64 MB NAND Flash (100,000 erase/write cycles)			
Dual Battery Backup SRAM	512 KB (for 5 years data retain while power off)			
EEPROM	16 KB (data retention: 40 years; 1,000,000 erase/write cycles)			
NVRAM	31 bytes (battery backup, data valid up to 5 year)			
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 1	RS-232 (to update firmware) (Rx/D, Tx/D and GND); Non-isolated			
COM 2	RS-485	D+, D- ; self-tuner ASIC inside		
	Isolation	2500 V _{DC}		
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)		2 Dual-Color LEDs (RUN, LAN1, L1, L2; L1~L2 for User Programmable)	
I/O Expansion Slots				
Slot Number	3 (For High Profile I-8K and I-87K Modules only)			
Hot Swap * Will be available	Yes (For High Profile I-87K Modules Only)			
GSM/GPRS				
Band	-	850/900/1800/1900 MHz		
GPRS Multi-slot	-	Class 10/8		
GPRS Mobile Station	-	Class B		
GPRS Class 10	-	Max. 85.6 kbps		
CSD	-	Up to 14.4 kbps		
Compliant to GSM phase 2/2+	-	Class 4 (2 W @ 850/900 MHz); Class 1(1W @ 1800/1900 MHz)		
Coding Schemes	-	CS 1, CS 2, CS 3, CS 4		
SMS	-	Text and PDU mode		
GPS				
Channels	-	16 channels all-in-view tracking		
Sensitivity	-	-159 dBm		
Acquisition Rate	-	Cold start: 42 seconds; warm start: 35 seconds; reacquisition rate: 0.1 second		
Accuracy	-	Position: 25 m CEP (S/A off); Velocity: 0.1 second (S/A off); Time: ±1 ms		
Protocol	-	NMEA		
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	PoE	-	IEEE 802.3af, class 3	-
	Terminator Block	+10 ~ +30 V _{DC}	+18 ~ +55 V _{DC}	+10 ~ +30 V _{DC}
Isolation	1 kV			
Capacity	3 A, 5 V supply to I/O expansion slots		-	
Consumption	6 W (0.25 A @ 24 V)	6 W (0.25 A @ 24 V)	9.6 W (0.4 A @ 24 V)	10.8 W (0.45 A @ 24 V)

ISaGRAF Specifications



3

ViewPAC

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 COM3 supports I-7000 I/O modules & [(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.	
User-Defined Protocol	COM1 ~ COM3, COM5 ~ COM16 by serial communication function blocks (*)	
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. (*)	
CAN/CANopen	COM1, 3 or COM5 ~ COM12 can connect one I-7530 (converter: RS-232 to CAN) to support CAN/CANopen devices and sensors. One VP-2117/2117-TC supports max. 3 RS-232 ports to connect max. 3 I-7530. (*)	
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. for one controller. 500 Hz max. For Off=1 & On=1 ms Output Square Curve: Off: 1 ~ 32767 ms, On: 1 ~ 32767 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 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. I-8084W: 250 kHz max. , 4-ch encoder, can be Dir/Pulse, or Up/Down or A/B phase (Quad. mode); Not support Encoder Z-index.
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.

3

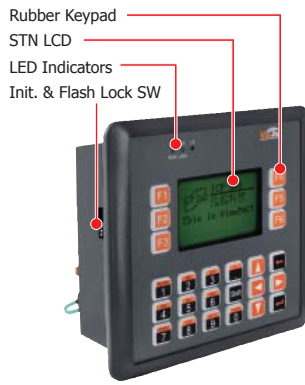
ViewPAC-2000 Series

VP-2117/WH-2117P/WH-2217/WH-2317

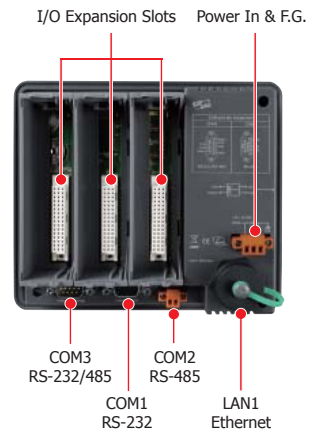
*Note: COM5 ~ COM16 are resided at the expansion boards if they are plugged on slot0 ~ 2 of VP-2117.

Appearance

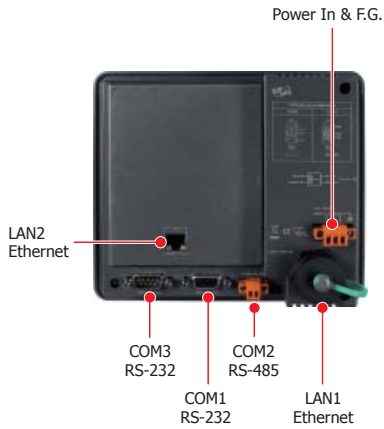
VH-2117P/VH-2217/VH-2317



VP-2117

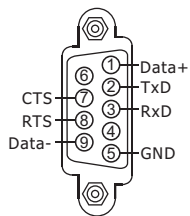


VH-2117P/VH-2217/VH-2317

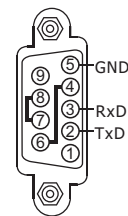


Pin Assignments

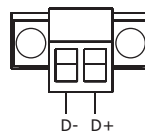
COM3: RS-232/RS-485



COM1: RS-232

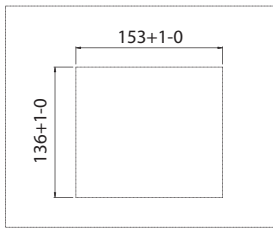


COM2: RS-485

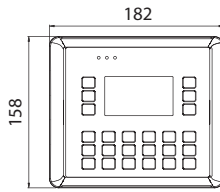


Dimensions (Units: mm)

VP/VH-2000 Series

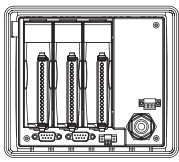


Recommended Panel Cut-Out

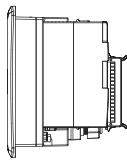


Front View

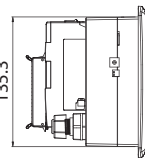
VP-2000



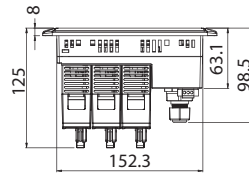
Rear View



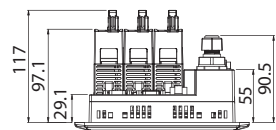
Left Side View



Right Side View

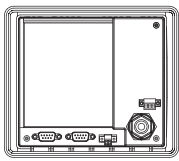


Top View

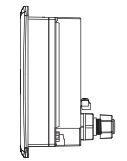


Bottom View

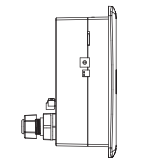
VH-2000



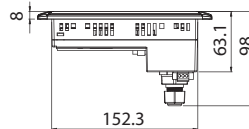
Rear View



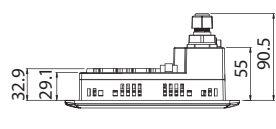
Left Side View



Right Side View



Top View



Bottom View

Ordering Information

VP-2117 CR	ISaGRAF based ViewPAC with with 3 I/O Slots (English + Simplified Chinese Font) (RoHS)
VP-2117-TC CR	ISaGRAF based ViewPAC with with 3 I/O Slots (English + Traditional Chinese Font) (RoHS)
VH-2117P CR	ISaGRAF based ViewPAC without I/O Slot (English + Simplified Chinese Font) (RoHS)
VH-2117P-TC CR	ISaGRAF based ViewPAC without I/O Slot (English + Traditional Chinese Font) (RoHS)
VH-2217 CR	ISaGRAF based ViewPAC without I/O Slot (English + Simplified Chinese Font) (RoHS)
VH-2217-TC CR	ISaGRAF based ViewPAC without I/O Slot (English + Traditional Chinese Font) (RoHS)
VH-2317-CR	ISaGRAF based ViewPAC without I/O Slot (English + Simplified Chinese Font) (RoHS)
VH-2317-TC CR	ISaGRAF based ViewPAC without I/O Slot (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 Vdc/2.5 A, 60 W and 5 Vdc/0.5 A, 2.5 W Power Supply with DIN-Rail Mounting
MDR-60-24 CR	24 Vdc/2.5 A, 60 W Power Supply with DIN-Rail Mounting (RoHS)



Highlight Information

- 3 I/O Slots Option (for VP-2000 Only)
- Windows CE 5.0
- Hard Real-Time Capability
- Fast Boot Speed
- PXA270 CPU (32-bit & 312/520 MHz)
- IP65 Compliant Front Panel
- 3.5"/5.7" TFT LCD and Rubber Keypad
- Support eLogger HMI
- Audio with Microphone-In and Earphone-Out
- Open System
- Operating Temperature: -20 ~ +70 °C



Introduction

VP-23W1/25W1 and VH-23W1/25W1 are the new generation Windows CE 5.0 based PACs of ICP DAS. ViewPAC integrates WinPAC, color graphic display and keypad into one unit. It is equipped with a PXA270 CPU (520 MHz), various connectivity (USB, Ethernet, RS-232/485), 3 I/O slots, 3.5"/5.7" TFT LCD and a rubber keypad. The benefits of running Windows CE 5.0 on ViewPAC include hard real-time capability, small core size, fast boot speed, interrupt handling at a deeper level and achievable deterministic control. ViewPAC is also capable of running PC-based control software such as Visual Basic .NET, Visual C#,.... etc.

Compared with traditional IPC + PLC solutions, ViewPAC reduces overall system cost, space and gives you all the best features of IPC and PLC.

For software copy protection, programmers can design software based on the 64-bit hardware serial number for making software copy protected.

Features

Software

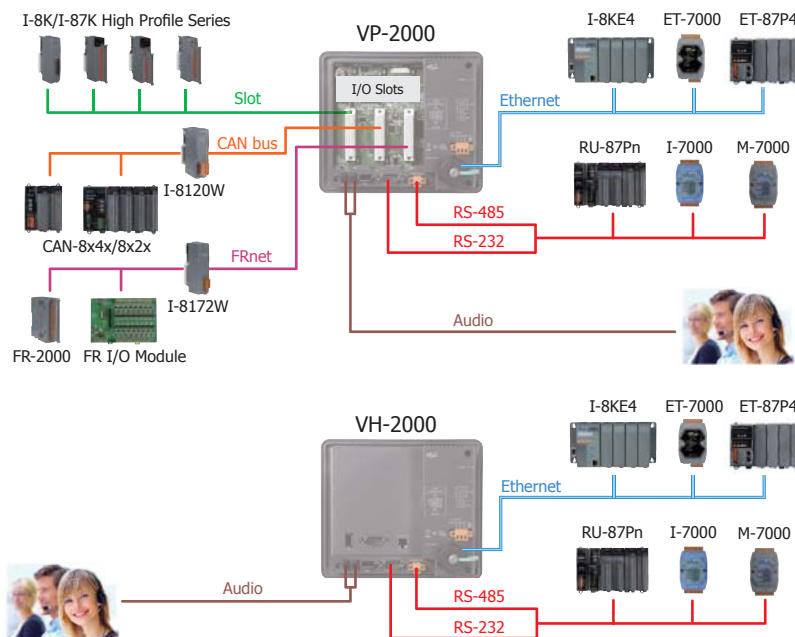
- Windows CE .NET 5.0 Inside
 - Easy Remote Maintenance Via Ethernet
 - FTP Server
 - VCEP Software
- Built-in OPC Server: Quicker
 - An OPC Server for SCADA Software
 - Integrates Local/Remote I/O Modules Via RS-232/485 or Ethernet
 - Provides Library for eVC, C# or VB .NET
 - Supports Modbus and DCON Protocols
- Development Software
 - Visual Studio .NET 2005/2008 and eVC
 - SDK/Demo Programs for C#, VB .NET & eVC

Hardware

- PXA270 CPU (32-bit & 520 MHz)
- IP65 Compliant Front Panel
- 3.5"/5.7" TFT LCD (5.7" LCD is with Touch Panel)
- Rubber Keypad with 24/6 Keys
- Audio with Microphone-In and Earphone-Out
- 3 I/O Slots Option (for VP-2000 Only)
- 64-bit Hardware Serial Number
- Built-in Flash Disk (31 MB)
- Dual Battery Backup SRAM (512 KB)
- Rich I/O Expansion Ability
 - Ethernet
 - RS-232/422/485
 - FRnet
 - CAN bus
- Operating Temperature: -20 ~ +70 °C

Applications

Rich I/O Expansion Ability

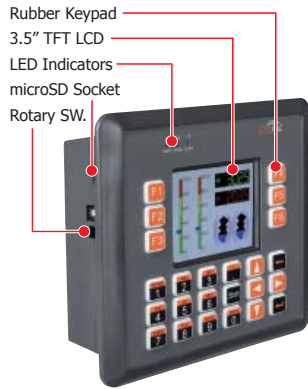


Specifications

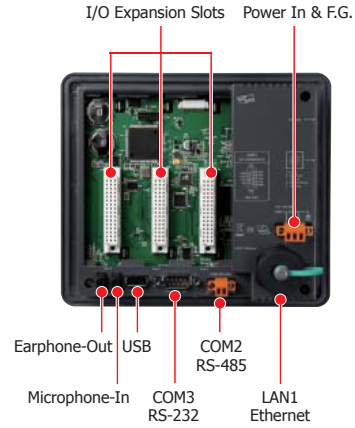
Models	VP-23W1	VP-25W1	VH-23W1	VH-25W1
System Software				
OS	Windows CE 5.0			
.Net Compact Framework	2.0			
Embedded Service	FTP server, Web server (supports VB script, JAVA script), Embedded SQL server			
SDK Provided	DLL for eVC, DLL for Visual Studio.Net 2005/2008			
Multilanguage Support	English, German, French, Spanish, Russian, Italian, Simplified Chinese, Traditional Chinese			
CPU Module				
CPU	PXA270 or compatible (32-bit and 520 MHz)		PXA270 or compatible (32-bit and 312 MHz)	
SDRAM	128 MB			
Dual Battery Backup SRAM	512 KB (for 5 years data retain while power off)			
Flash	96 MB (64 MB for OS image, 31 MB for built-in Flash disk, 1 MB for registry)			
EEPROM	16 KB Data Retention: 40 years; 1,000,000 erase/write cycles			
Expansion Flash Memory	microSD socket with one 2 GB microSD card (support up to 16 GB microSDHC card)			
RTC (Real Time Clock)	Provide second, minute, hour, date, day of 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)			
VGA & Communication Ports				
Ethernet	RJ-45 x 1, 10/100 Base-TX (Auto-negotiating, LED indicators)		RJ-45 x 2, 10/100 Base-TX (Auto-negotiating, 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	-		RS-232 (Rx/D, Tx/D, CTS, RTS, DSR, DTR, CD, RI and GND); Non-isolated	
COM 2	RS-485	D2+, D2-; self-tuner ASIC inside		
	Isolation	2500 V _{bc}		
COM 3	RS-232 (Rx/D, Tx/D, 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)	3.5" TFT (Resolution 320 x 240)	5.7" TFT (Resolution 640 x 480)
Touch Panel	-	Yes	-	Yes
Rubber Keypad	24 keys	6 Keys	24 keys	6 Keys
Audio	Microphone-In and Earphone-Out			
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)		-	
Hot Swap * Will be available	For High Profile I-87K Modules Only		-	
Mechanical				
Dimensions (W x H x D)	182 mm x 158 mm x 125 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 _{bc}			
Isolation	1 kV			
Capacity	2.5 A, 5 V supply to I/O expansion slots			
Consumption	7.2 W (0.3 A @ 24 V _{bc})			

Appearance

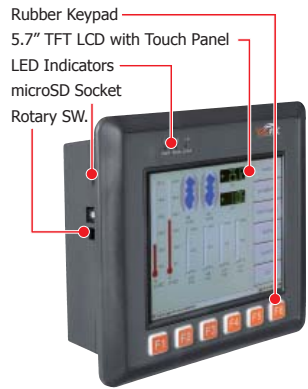
VP-23W1/VH-23W1



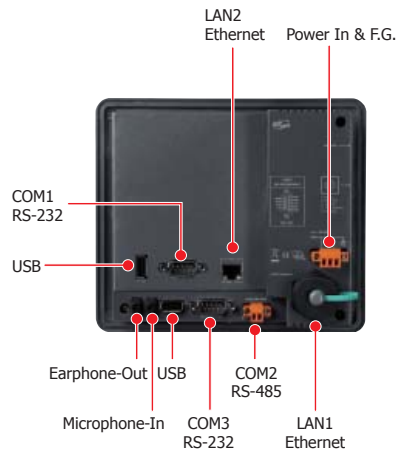
VP-23W1/25W1



VP-25W1/VH-25W1

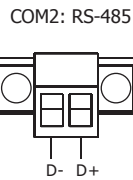
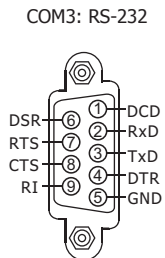


VH-23W1/25W1

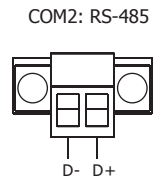
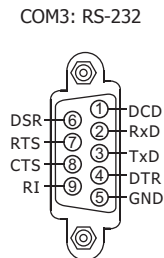
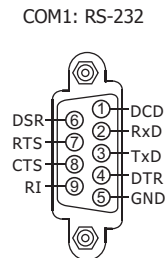


Pin Assignments

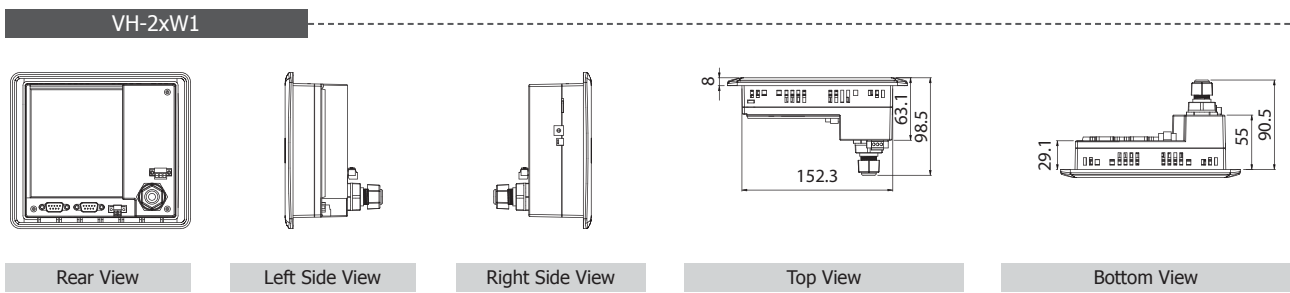
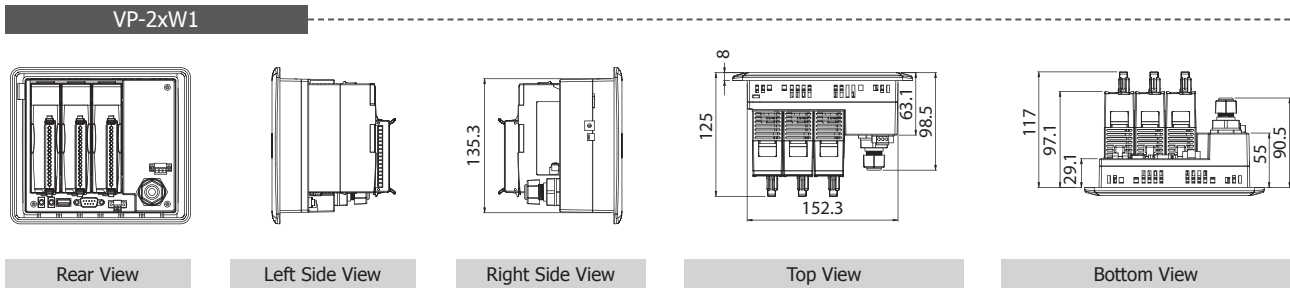
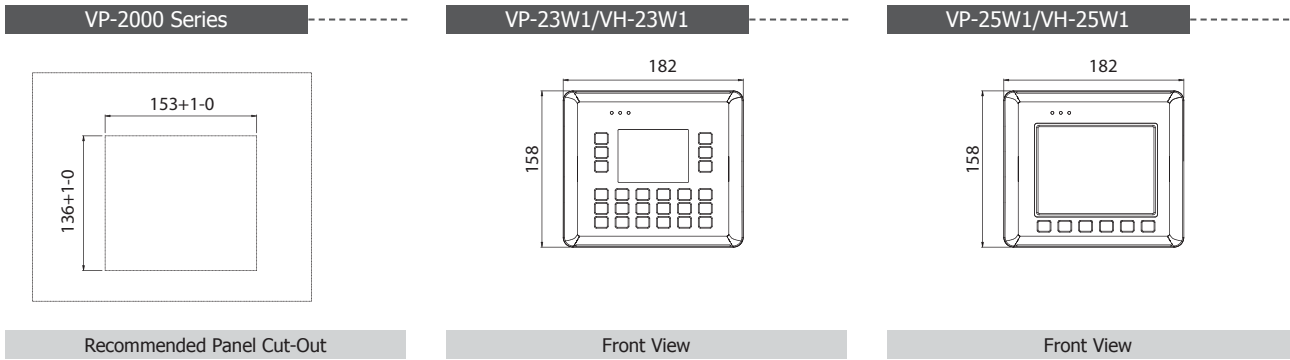
VP-23W1/25W1 COM Port



VH-23W1/25W1 COM Port



Dimensions (Units: mm)

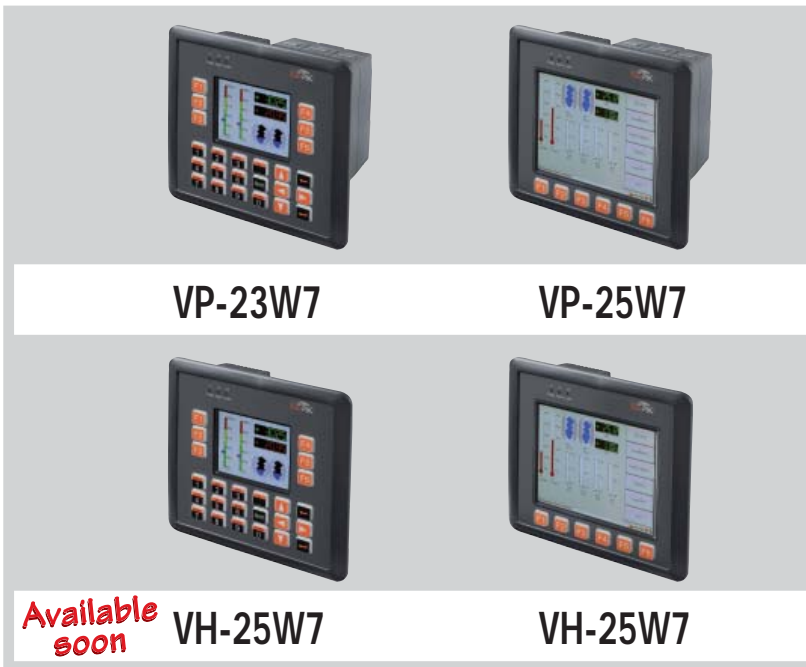


Ordering Information

VP-23W1-EN CR	Standard ViewPAC with 3.5" LCD and 3 I/O slots (Multilanguage Version of OS) (RoHS)
VP-25W1-EN CR	Standard ViewPAC with 5.7" LCD and 3 I/O slots (Multilanguage Version of OS) (RoHS)
VP-23W1-TC CR	Standard ViewPAC with 3.5" LCD and 3 I/O slots (Traditional Chinese of OS) (RoHS)
VP-25W1-TC CR	Standard ViewPAC with 5.7" LCD and 3 I/O slots (Traditional Chinese of OS) (RoHS)
VP-23W1-SC CR	Standard ViewPAC with 3.5" LCD and 3 I/O slots (Simplified Chinese of OS) (RoHS)
VP-25W1-SC CR	Standard ViewPAC with 5.7" LCD and 3 I/O slots (Simplified Chinese of OS) (RoHS)
VH-23W1 CR	Standard ViewPAC with 3.5" LCD (Multilanguage Version of OS) (RoHS)
VH-25W1 CR	Standard ViewPAC with 5.7" LCD (Multilanguage Version of OS) (RoHS)

Accessories

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)



Highlight Information

- 3 I/O Slots Option (for VP-2000 Only)
- Windows CE 5.0
- Hard Real-Time Capability
- Fast Boot Speed
- ISaGRAF Ver.3 SoftLogic Inside (IEC 61131-3)
- PLC Feel
- PXA270 CPU (32-bit & 312/520 MHz)
- IP65 Compliant Front Panel
- 3.5"/5.7" TFT LCD and Rubber Keypad
- Simple Graphic HMI
- Support eLogger HMI
- Audio with Microphone-In and Earphone-Out
- Open System
- Operating Temperature: -20 ~ +70 °C



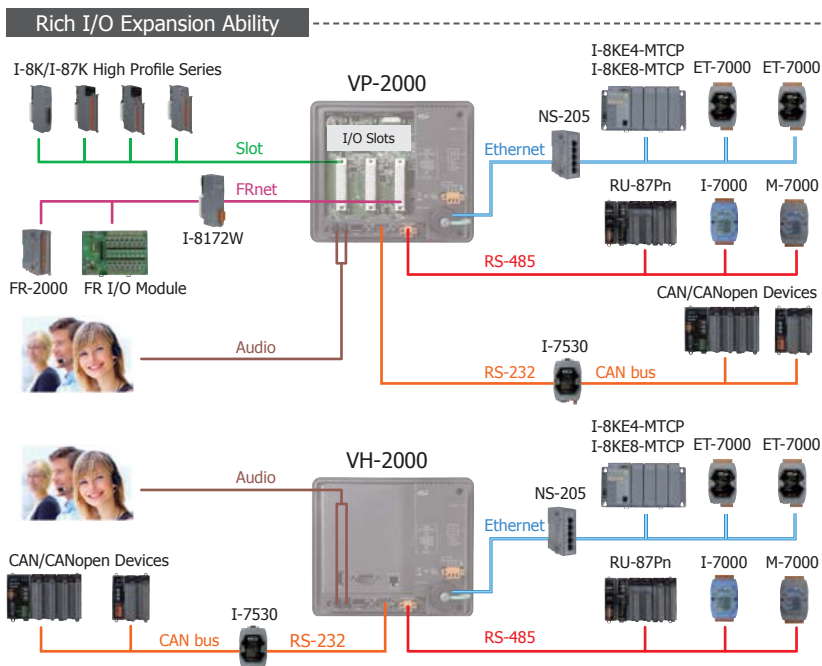
Introduction

VP-23W7/25W7 and VH-23W7/25W7 are the new generation ISaGRAF based PACs of ICP DAS. ViewPAC integrates WinPAC, color graphic display and keypad into one unit. It is equipped with a PXA270 CPU (520 MHz), various connectivity (USB, Ethernet, RS-232/485), 3 I/O slots, 3.5"/5.7" TFT LCD and a rubber keypad. The benefits of running Windows CE 5.0 on ViewPAC include hard real-time capability, small core size, fast boot speed, interrupt handling at a deeper level and achievable deterministic control. ViewPAC is also capable of running ISaGRAF and PC-based control software such as Visual Basic .NET, Visual C#, etc.

ISaGRAF is the most powerful SoftLogic package on the market. ISaGRAF is a PLC-like software and it supports IEC 61131-3 standard PLC programming languages (LD, FBD, SFC, ST, IL, FC), and can run the application generated by the workbench on any ISaGRAF PACs. 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
- Support eLogger HMI

Applications



Features

Software

- Windows CE .NET 5.0 Operating System
- Development Software: ISaGRAF Ver.3
 - Windows 95/98/NT/2000/XP/Vista/7
 - All-in-one design Environment
 - Easy to integrating with HMI/SCADA/MMI
- Support Modbus Master Protocol
 - TCP/IP : Max. 100 devices
 - RTU, ASCII, RS-232/485/422 : Max. 10 ports
- Support Modbus Slave Protocol
 - TCP/IP : Max. 32 connections
 - RTU (RS-232/485/422) : Max. 5 ports
- Support Wireless Communication & SMS
- Support Ebus/Fbus Data Exchange
- Support CAN/CANopen (Via I-7530W)
- Support FRnet I/O (Via I-8172W)
- Support Data-Recorder & Data-Logger
- Support VM Solution
- Support Motion Control
- Support eLogger HMI

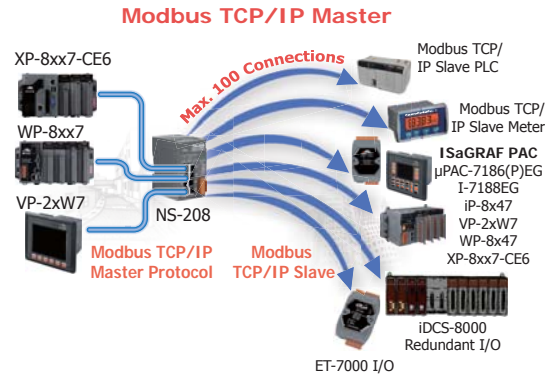
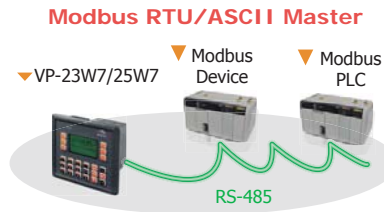
Hardware

- PXA270 CPU (32-bit & 520 MHz)
- IP65 Compliant Front Panel
- 3.5"/5.7" TFT LCD (5.7" LCD is with Touch Panel)
- Rubber Keypad with 24/6 Keys
- Audio with Microphone-In and Earphone-Out
- 3 Slots for High Profile I/O Modules (VP Series)
- 64-bit Hardware Serial Number
- Built-in Flash Disk (31 MB)
- Dual Battery Backup SRAM (512 KB)
- Rich I/O Expansion Ability
 - Ethernet
 - RS-232/422/485
 - FRnet
 - CAN bus
- Operating Temperature: -20 ~ +70 °C

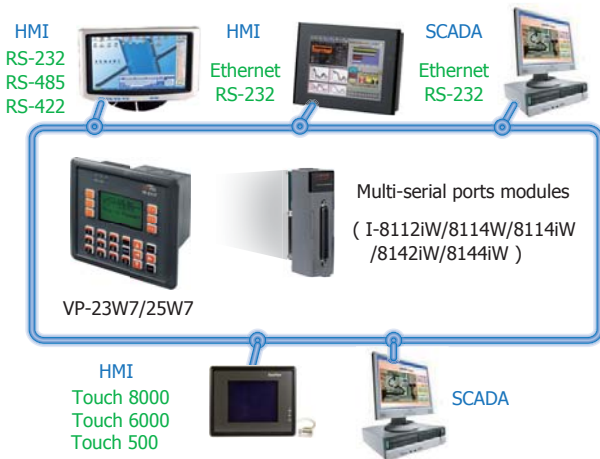
Soft-GRAF: Create A Colorful HMI in the ISaGRAF PAC



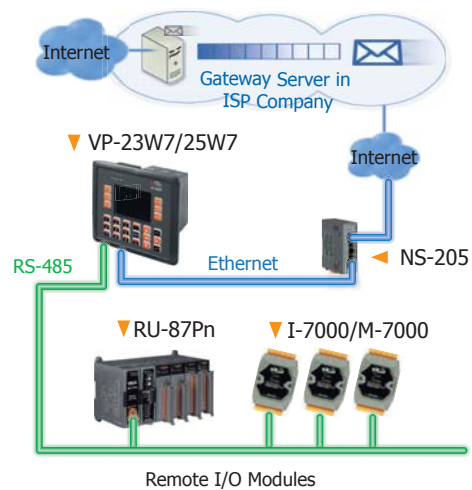
Modbus Master Ports



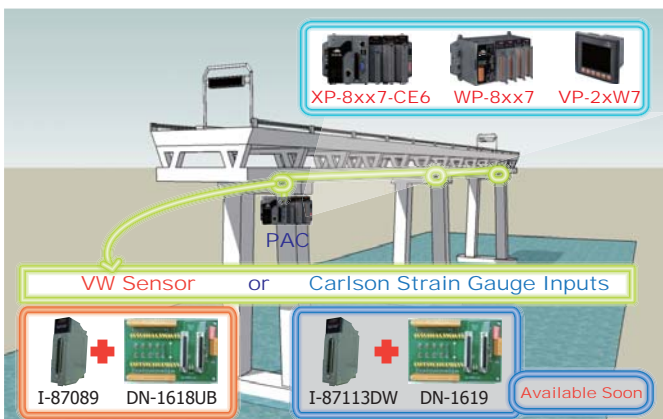
Modbus RTU/TCP Slave Ports



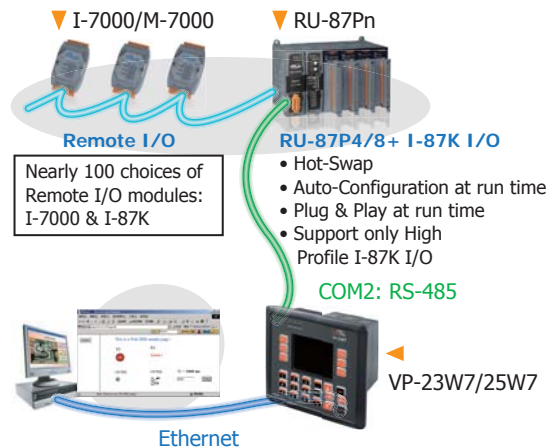
Send Email with one Attached File



Stress Monitoring of Constructions



Remote I/O Application



ViewPAC Specifications

3

ViewPAC

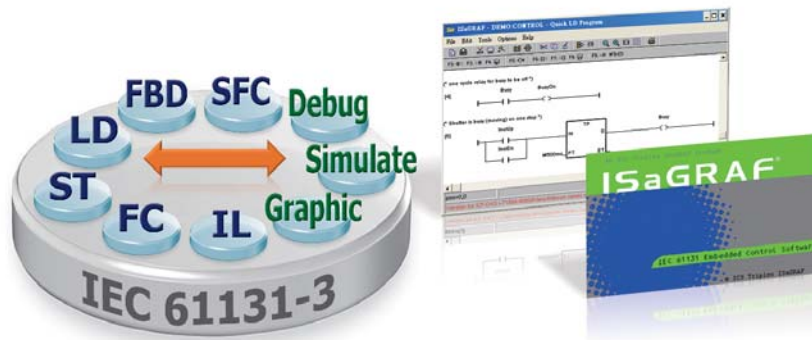
3

ViewPAC-2000 Series

VP-23W7/VP-25W7/VH-23W7/VH-25W7

Models	VP-23W7	VP-25W7	VH-23W7	VH-25W7
System Software				
OS	Windows CE 5.0			
.Net Compact Framework	2.0			
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, 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)			
System Software				
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 or compatible (32-bit and 520 MHz)		PXA270 or compatible (32-bit and 312 MHz)	
SDRAM	128 MB			
Flash	96 MB (64 MB for OS image, 31 MB for built-in Flash disk, 1 MB for registry)			
Expansion Flash Memory	microSD socket with one 2 GB microSD card (support up to 16 GB microSDHC card)			
Dual Battery Backup SRAM	512 KB (for 5 years data retain while power off)			
EEPROM	16 KB (data retention: 40 years; 1,000,000 erase/write cycles)			
RTC (Real Time Clock)	Provide second, minute, hour, date, day of 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, LED indicators)		RJ-45 x 2, 10/100 Base-TX (Auto-negotiating, 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	-		RS-232 (Rx/D, Tx/D, CTS, RTS, DSR, DTR, CD, RI and GND); Non-isolated	
COM 2	RS-485	D2+, D2-; self-tuner ASIC inside		
	Isolation	2500 V _{oc}		
COM 3	RS-232 (Rx/D, Tx/D, 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)	3.5" TFT (Resolution 320 x 240)	5.7" TFT (Resolution 640 x 480)
Touch Panel	-	Yes	-	Yes
Rubber Keypad	24 keys	6 Keys	24 keys	6 Keys
Audio	Microphone-In and Earphone-Out			
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)		-	
Hot Swap * Will be available	For High Profile 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	-20 ~ +70 °C			
Storage Temperature	-30 ~ +80 °C			
Ambient Relative Humidity	10 ~ 90% RH (non-condensing)			
Power				
Input Range	+10 ~ +30 V _{oc}			
Isolation	1 kV			
Capacity	2.5 A, 5 V supply to I/O expansion slots			
Consumption	7.2 W (0.3 A @ 24 V _{oc})			

ISaGRAF Specifications



3

ViewPAC

Protocols (some protocols need optional devices)		
NET ID	1 ~ 255, user-assigned by software	
Modbus TCP/IP Master	Link to max. 100 devices that support Standard Modbus TCP/IP Slave protocol (FAQ-113)	
Modbus RTU/ASCII Master	Max. 10 ports: COM2, 3 and COM5 ~ 14. (To connect to other Modbus Slave devices). Support Multi-port. (*)	
Modbus RTU Slave	Max. 5 Ports: one of COM2/3, COM5 ~ 8. (For connecting ISaGRAF, PC/ HMI/ OPC Server & HMI panels.) (*)	
Modbus TCP/IP Slave	Yes, up to 32 connections. (for connecting ISaGRAF & PC / HMI)	
Web HMI Protocol	Ethernet Ports for connecting PC running Internet Explorer	
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 and RU-87Pn + I-87K High Profile I/O boards as Remote I/O. Max. 255 modules for one controller.	
M-7000 Series Modbus I/O	Max. 10 RS-485 ports: COM2, 3, 5 ~ 14. Each port can connect up to 32 M-7000 Modules. (with optional I-7510 repeater connected can connect up to more than 32 M-7000 Modules) (*)	
Modbus TCP/IP I/O	Support ICP DAS Ethernet I/O: I-8KE4-MTCP and I-8KE8-MTCP.	
FRnet I/O	Max. 3 pcs. I-8172W boards in slot 0 to 2 to connect to FRnet I/O modules. Each I-8172W board can connect up to 256 DI plus 256 DO channels.	
Send Email	Support functions to send email with one attached file via Ethernet port.	
Ebus	To exchange data between ISaGRAF Ethernet PAC via Ethernet port. (LAN1 Port only)	
SMS: Short Message Service	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.	
User-Defined Protocol	COM2, 3 and COM5 ~ COM14 by Serial communication function blocks (*)	
MMICON/LCD	COM3 or COM5 supports ICP DAS's MMICON. (*)	
UDP Server & UDP Client : Exchange Message & Auto-Report	LAN1 or the 2nd Ethernet (in optional I-8135W card) support UDP Server and UDP Client protocol to send/receive message to/from PC/HMI or other devices. Ex: to automatically report data to InduSoft's RXTX driver.	
TCP Client : Exchange Message & Auto-Report	LAN1 or the 2nd Ethernet (in optional I-8135W card) ca send/receive message to/from PC/HMI or other devices which support TCP server protocol. Ex: automatically report data to InduSoft's RXTX driver, or to connect a location camera.	
New 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 ~ COM14 can connect one I-7530 (Converter: RS-232 to CAN) to support CAN/CANopen devices and sensors. One PAC supports max.10 RS-232 ports to connect max.10 I-7530. (*)	
Optional I/O Functions (Refer to 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: 0.1~99.9%
	DO Module as PWM	8-ch. max. 250 Hz max. For Off=2 & On=2 ms. Output square curve: Off: 2 ~ 32766 ms, On: 2 ~ 32766 ms. Optional DO Boards: I-8037W, 8041W, 8041AW, 8042W, 8050W... (Relay Output boards can not generate fast square wave)
Counter, Encoder, Frequency	Parallel DI Counter	8 ch. max. for 1 controller. Counter val: 32 bit. 250 Hz max. Min. ON & OFF width must > 2 ms. Optional DI Boards: I-8040W, 8040PW, 8042W, 8046W, 8048W, 8050W, 8051W, 8052W, 8053W, 8053PW, 8054W, 8055W...
	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...
	Remote DI Counter	All I-7K/I-87K DI modules support counters. 100 Hz max. Value: 0 ~ 65535
	High Speed Counter	I-8084W: 250 kHz max. 32 bit; I-87082W: 100 kHz max. 32 bit; I-87088W: 500 kHz max. 32 bit
	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. I-8084W: 250 kHz max., 4-ch encoder, pulse/direction or up/down or A/B phase (Quad. mode). Not support Encoder Z-index.
	Frequency	I-8084W: 8-ch, 1 Hz ~ 250 kHz; I-87082W: 2-ch, 1 Hz ~ 100 kHz; I-87088W: 8-ch, 0.1 Hz ~ 500 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 / VP-2xW6 can add one optional I-8135W card in its slot 0 ~ 2 to expand the second Ethernet port.

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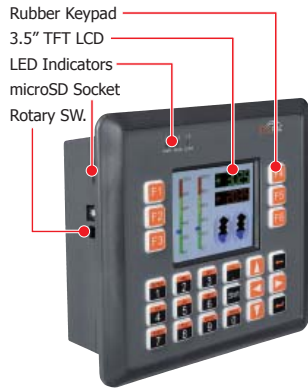
ViewPAC-2000 Series

VP-23W7/NP-25W7/NH-23W7/NH-25W7

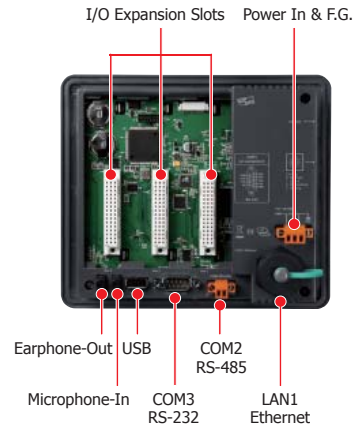
*Note: COM5 ~ COM14 are resided at the expansion boards if they are plugged on slot0~2 of VP-2xW7.

Appearance

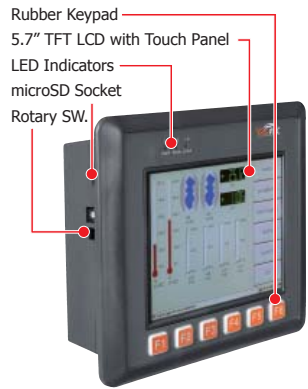
VP-23W7/VH-23W7



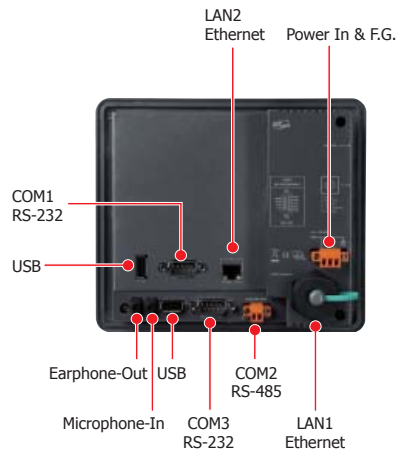
VP-23W7/25W7



VP-25W7/VH-25W7

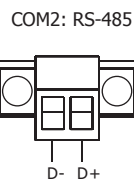
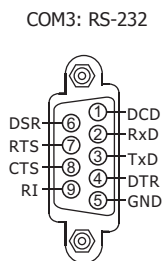


VH-23W7/25W7

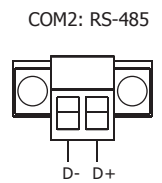
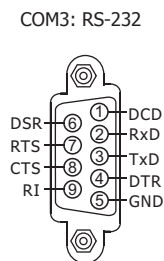
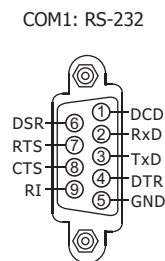


Pin Assignments

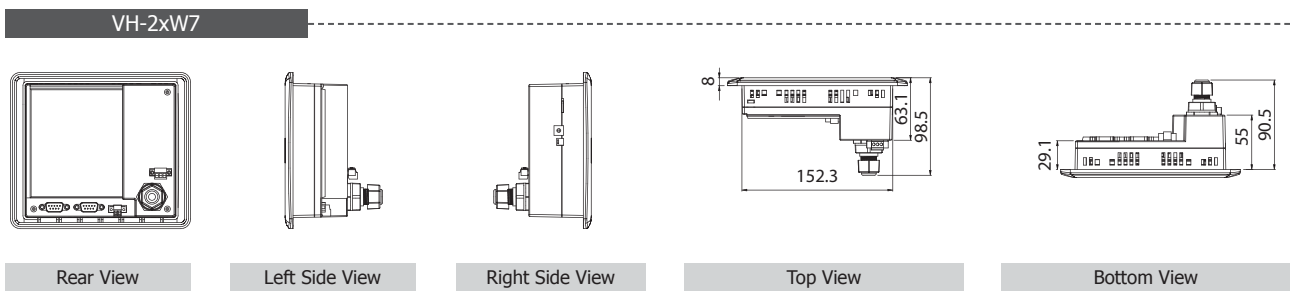
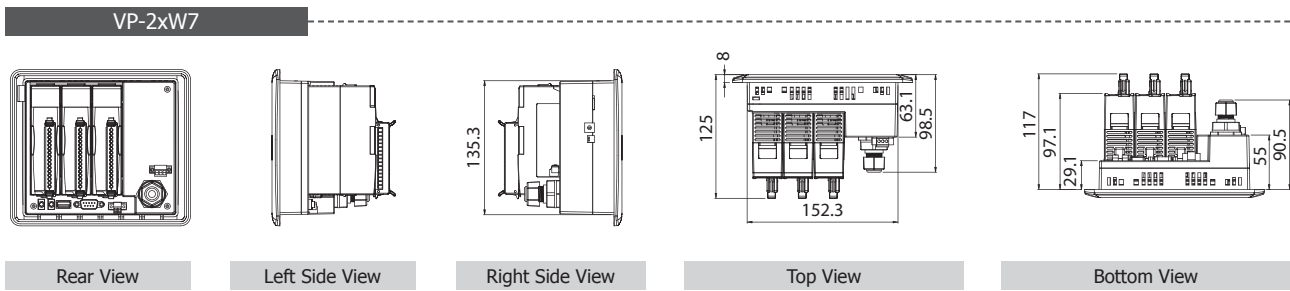
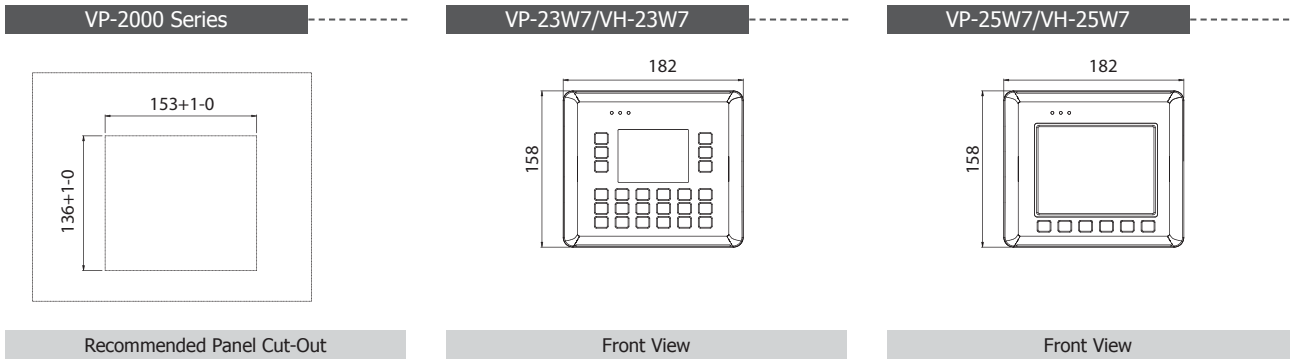
VP-23W7/25W7 COM Port



VH-23W7/25W7 COM Port



Dimensions (Units: mm)



Ordering Information

VP-23W7-EN CR	ISaGRAF based ViewPAC with 3.5" LCD and 3 I/O slots (Multilanguage Version of OS) (RoHS)
VP-25W7-EN CR	ISaGRAF based ViewPAC with 5.7" 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-25W7-TC CR	ISaGRAF based ViewPAC with 5.7" 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-SC CR	ISaGRAF based ViewPAC with 5.7" LCD and 3 I/O slots (Simplified Chinese of OS) (RoHS)
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VH-23W7 CR	ISaGRAF based ViewPAC with 3.5" LCD (Multilanguage Version of OS) (RoHS)
VH-25W7 CR	ISaGRAF based ViewPAC with 5.7" LCD (Multilanguage Version of OS) (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) 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)
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 Vdc/2.5 A, 60 W and 5 Vdc/0.5 A, 2.5 W Power Supply with DIN-Rail Mounting
MDR-60-24 CR	24 Vdc/2.5 A, 60 W Power Supply with DIN-Rail Mounting (RoHS)



Highlight Information

- 3 I/O Slots Option (for VP-2000 Only)
- Windows CE 5.0
- Hard Real-Time Capability
- Fast Boot Speed
- InduSoft Web Studio v6.1
- PXA270 CPU (32-bit & 312/520 MHz)
- IP65 Compliant Front Panel
- 3.5"/5.7" TFT LCD and Rubber Keypad
- Audio with Microphone-In and Earphone-Out
- Open System
- Operating Temperature: -20 ~ +70 °C



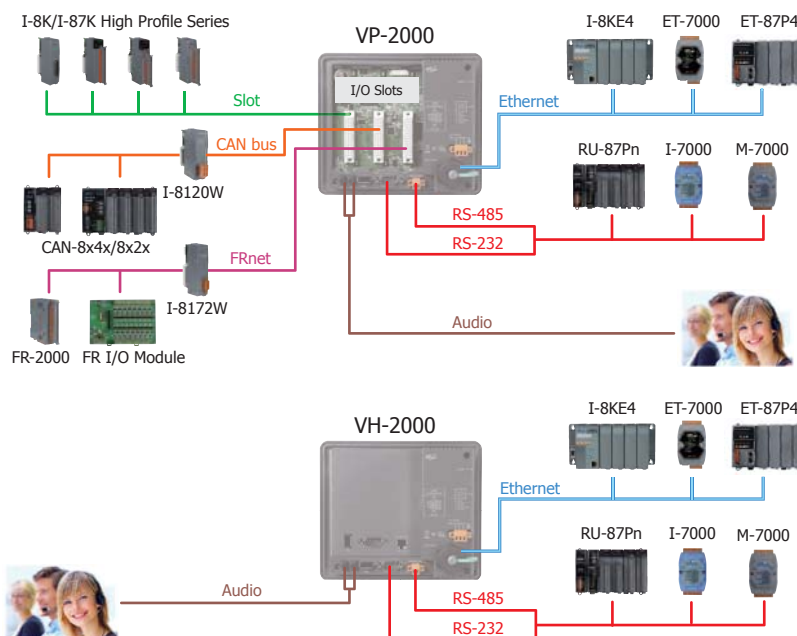
Introduction

VP-23W9/25W9 and VH-23W9/25W9 are the new generation InduSoft based PACs of ICP DAS. ViewPAC integrates WinPAC, color graphic display and keypad into one unit. It is equipped with a PXA270 CPU (520 MHz), various connectivity (USB, Ethernet, RS-232/485), 3 I/O slots, 3.5"/5.7" TFT LCD and a rubber keypad. The benefits of running Windows CE 5.0 on ViewPAC include hard real-time capability, small core size, fast boot speed, interrupt handling at a deeper level and achievable deterministic control. ViewPAC is also capable of running InduSoft and PC-based control software such as Visual Basic .NET, Visual C#, etc.

InduSoft Web Studio is a powerful, integrated collection of automation tools that includes all the building blocks needed to develop modern Human Machine Interfaces (HMI), Supervisory Control and Data Acquisition (SCADA) systems, and ViewPAC applications. InduSoft Web Studio's application runs in native Windows NT, 2000, XP, CE and CE .NET environments and conforms to industry standards such as Microsoft .NET, OPC, DDE, ODBC, XML, and ActiveX.

Applications

Rich I/O Expansion Ability



Features

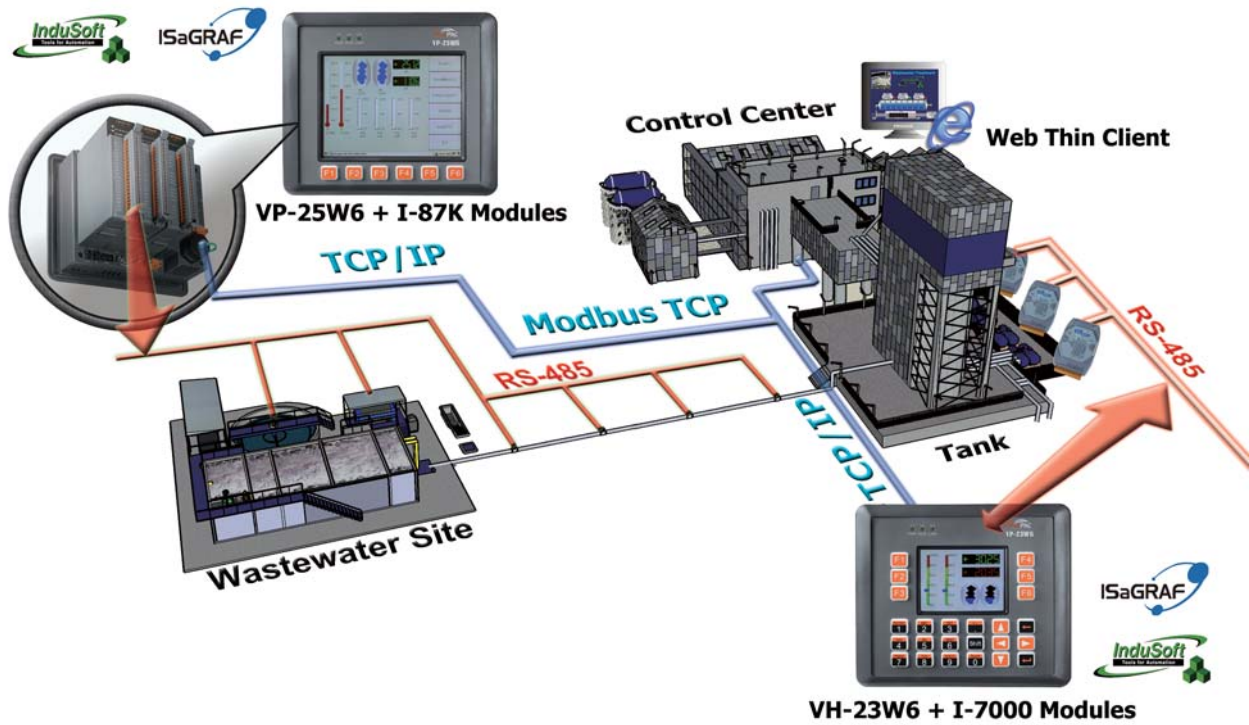
Software

- Windows CE .NET 5.0 Operating System
 - FTP Server
 - VCEP Software
 - Built-in OPC Server: Quicker
 - Provides Library for eVC, C# or VB .NET
- InduSoft Web Studio v6.1 Inside
 - Simple Steps to Create sophisticated interfaces
 - Full-Featured WinCE-based run-time environment
 - DCON Bundle Driver is Provided
 - Conform to Industry Standards: Modbus, OPC, DDE, SNMP.
 - Supports third-party SQL relational databases
 - Full-Featured Web Thin Client solution
 - GSM ActiveX object is provided
 - Multi-level security for applications
- Development Software
 - InduSoft Web Studio
 - Visual Studio .NET 2005/2008 and eVC

Hardware

- PXA270 CPU (32-bit & 520 MHz)
- IP65 Compliant Front Panel
- 3.5"/2.7" TFT LCD (5.7" LCD is with Touch Panel)
- Rubber Keypad with 24/6 Keys
- Audio with Microphone-In and Earphone-Out
- 3 Slots for High Profile I/O Modules (VP Series)
- 64-bit Hardware Serial Number
- Built-in Flash Disk (31 MB)
- Dual Battery Backup SRAM (512 KB)
- Rich I/O Expansion Ability
 - Ethernet
 - RS-232/422/485
 - FRnet
 - CAN Bus
- Operating Temperature: -20 ~ +70 °C

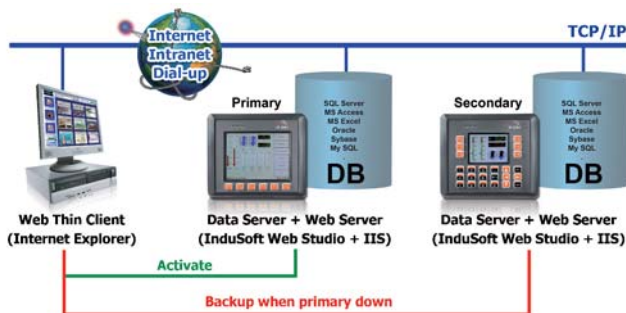
ViewPAC-2xW9 Total Solution



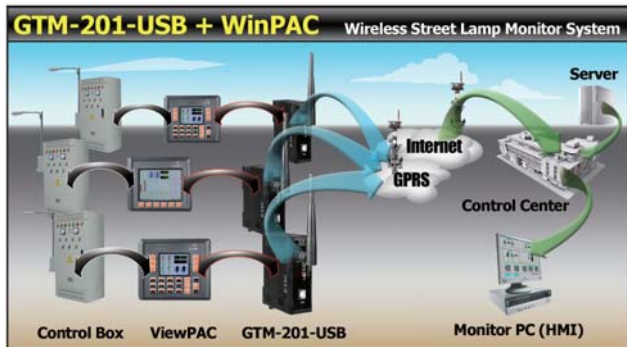
3

ViewPAC

Redundant system



Street lamp monitor & control system



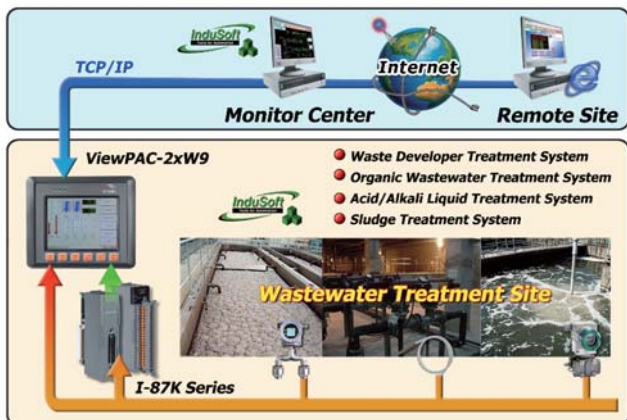
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ViewPAC-2000 Series

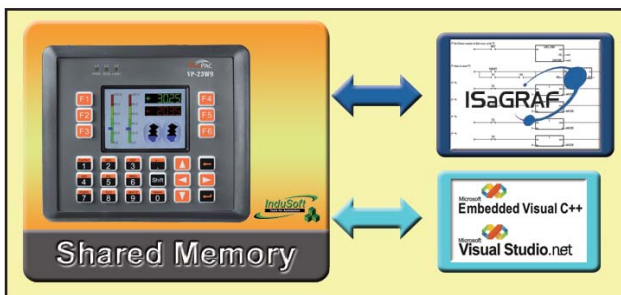
Database accessible



Wastewater treatment system



Share data with 3rd. party application



VP-23W9/NP-25W9/NH-23W9/NH-25W9

Specifications

3

ViewPAC

3

ViewPAC-2000 Series

VP-23W9/VP-25W9/VH-23W9/VH-25W9

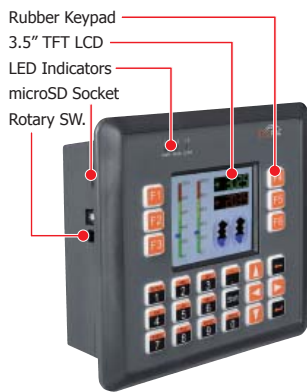
Models	VP-23W9	VP-25W9	VH-23W9	VH-25W9
System Software				
OS	Windows CE 5.0			
.Net Compact Framework	2.0			
Embedded Service	FTP server, Web server (supports VB script, JAVA script), Embedded SQL server			
SDK Provided	DII for eVC, DII for Visual Studio.Net 2005/2008			
Multilanguage Support	English, German, French, Spanish, Russian, Italian, Simplified Chinese, Traditional Chinese			
Development Software				
InduSoft Software	InduSoft Web Studio v6.1 Service Pack 6			
Others	Options: Microsoft EVC++4.0 or VS .NET 2005/2008 (VB .NET 2005/2008, C# .NET 2005/2008)			
Web Service				
Web HMI	Support Web HMI function, PC running Internet Explorer can access to the VP-2XW9 via Local Ethernet or Internet or dial Modem, monitoring and control.			
Security	Web HMI supports three levels user name and password protection			
CPU Module				
CPU	PXA270 or compatible (32-bit and 520 MHz)		PXA270 or compatible (32-bit and 312 MHz)	
SDRAM	128 MB			
Dual Battery Backup SRAM	512 KB (for 5 years data retain while power off)			
Flash	96 MB (64 MB for OS image, 31 MB for built-in Flash disk, 1 MB for registry)			
EEPROM	16 KB Data Retention: 40 years; 1,000,000 erase/write cycles			
Expansion Flash Memory	microSD socket with one 2 GB microSD card (support up to 16 GB microSDHC card)			
RTC (Real Time Clock)	Provide second, minute, hour, date, day of 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)			
VGA & Communication Ports				
Ethernet	RJ-45 x 1, 10/100 Base-TX (Auto-negotiating, LED indicators)		RJ-45 x 2, 10/100 Base-TX (Auto-negotiating, 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	-		RS-232 (Rx/D, Tx/D, CTS, RTS, DSR, DTR, CD, RI and GND); Non-isolated	
COM 2	RS-485	D2+, D2-; self-tuner ASIC inside		
	Isolation	2500 V _{oc}		
COM 3	RS-232 (Rx/D, Tx/D, 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)	3.5" TFT (Resolution 320 x 240)	5.7" TFT (Resolution 640 x 480)
Touch Panel	-	Yes	-	Yes
Rubber Keypad	24 keys	6 Keys	24 keys	6 Keys
Audio	Microphone-In and Earphone-Out			
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)		-	
Hot Swap * Will be available	For High Profile I-87K Modules Only		-	
Mechanical				
Dimensions (W x H x D)	182 mm x 158 mm x 125 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	2.5 A, 5 V supply to I/O expansion slots			
Consumption	7.2 W (0.3 A @ 24 V _{DC})			

InduSoft Features

- Elegant Graphics
- Multi-Language
- Database (Access, Excel, SQL, Oracle...)
- Recipes and Reports
- Online and History Alarm / Event / Trend
- Various Communication Driver (DCON, Modbus, OPC, DDE, TCP/IP...)
- Remote Web Client Control & Security
- ActiveX (GSM / SHM / COM /WEB provided by ICP DAS)
- System Redundancy
- Online Configuration and debugging
- Others (VBScript, E-mail, FTP, SNMP...)

Appearance

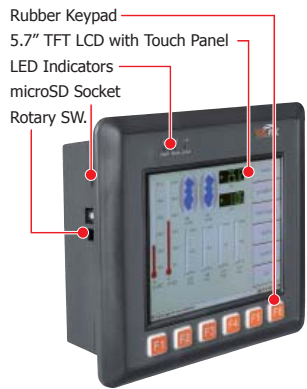
VP-23W9/VH-23W9



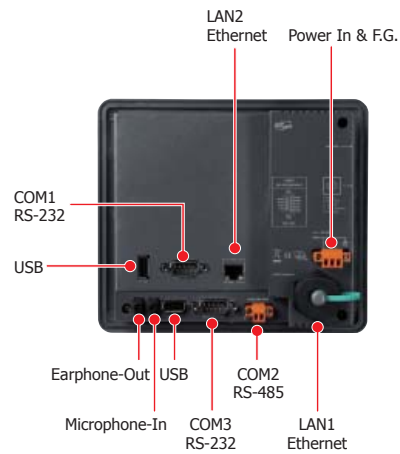
VP-23W9/25W9



VP-25W9/VH-25W9

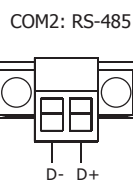
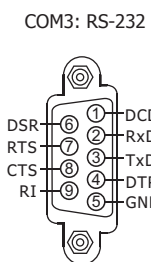


VH-23W9/25W9

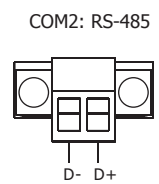
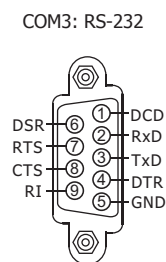
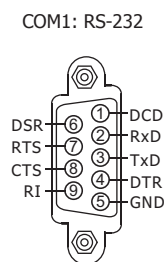


Pin Assignments

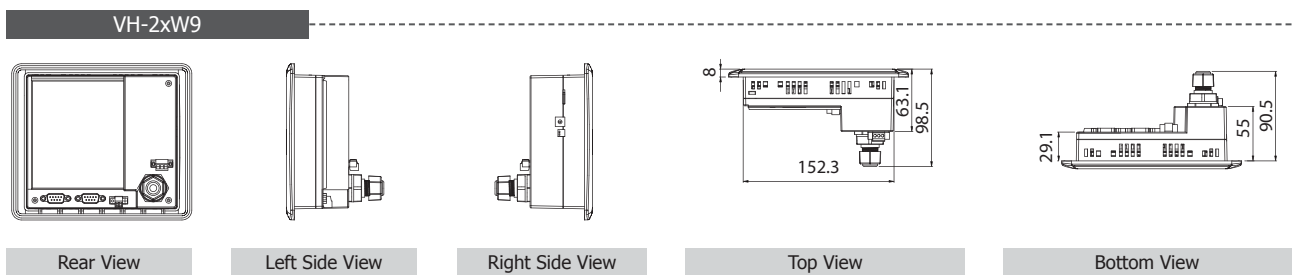
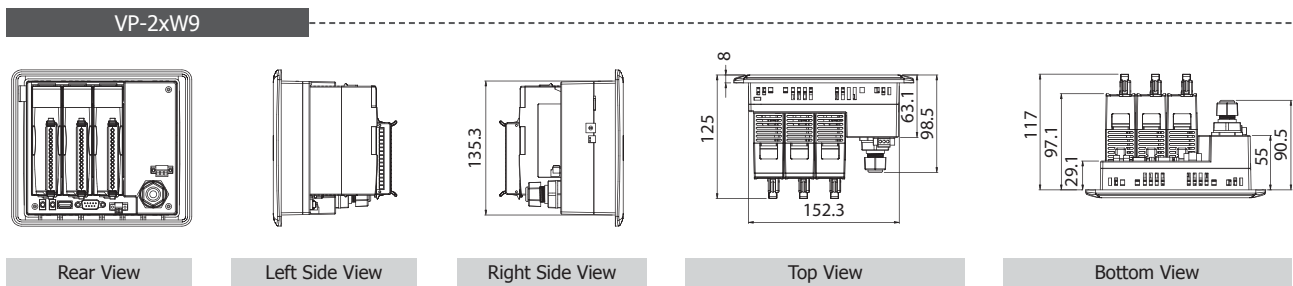
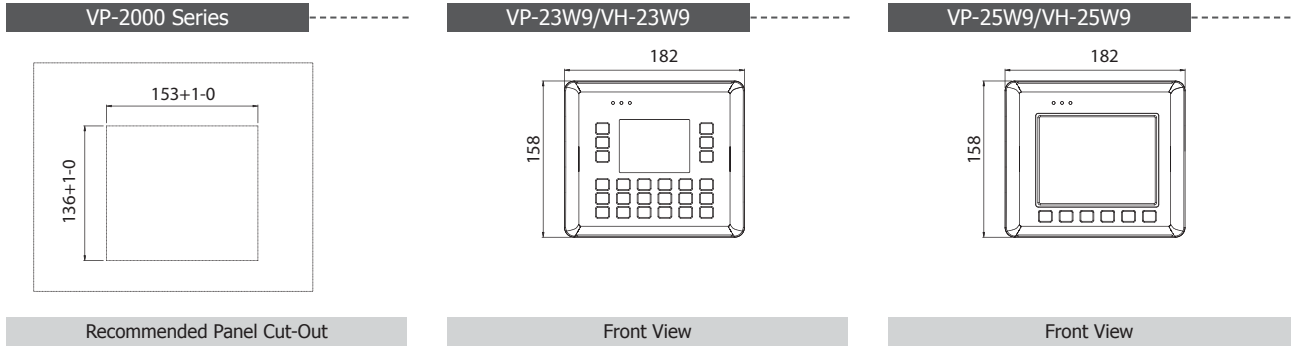
VP-23W9/25W9 COM Port



VH-23W9/25W9 COM Port



Dimensions (Units: mm)



Ordering Information

VP-23W9-EN CR	InduSoft based ViewPAC with 3.5" LCD and 3 I/O slots (Multilanguage Version of OS) (RoHS)
VP-25W9-EN CR	InduSoft based ViewPAC with 5.7" LCD and 3 I/O slots (Multilanguage Version of OS) (RoHS)
VP-23W9-TC CR	InduSoft based ViewPAC with 3.5" LCD and 3 I/O slots (Traditional Chinese of OS) (RoHS)
VP-25W9-TC CR	InduSoft based ViewPAC with 5.7" LCD and 3 I/O slots (Traditional Chinese of OS) (RoHS)
VP-23W9-SC CR	InduSoft based ViewPAC with 3.5" LCD and 3 I/O slots (Simplified Chinese of OS) (RoHS)
VP-25W9-SC CR	InduSoft based ViewPAC with 5.7" LCD and 3 I/O slots (Simplified Chinese of OS) (RoHS)
<hr/>	
VH-23W9 CR	InduSoft based ViewPAC with 3.5" LCD (Multilanguage Version of OS) (RoHS)
VH-25W9 CR	InduSoft based ViewPAC with 5.7" LCD (Multilanguage Version of OS) (RoHS)
Note: The default runtime license (CEView Lite Plus - 300 tags and 3 driver) is installed.	

Accessories

InduSoft Development Software	
InduSoft-NT512000D	Advanced Server for Windows NT/2000/XP (512,000 Tags, unlimited drivers)
InduSoft-NT64000D	Control Room for Windows NT/2000/XP (64,000 Tags, 8 drivers)
InduSoft-NT4000D	Operator Workstation for Windows NT/2000/XP (4,000 Tags, 5 drivers)
InduSoft-NT1500D	Local Interface for Windows NT/2000/XP (1500 Tags, 3 drivers)
InduSoft-NT300D	NTView PRO for Windows NT/2000/XP (300 Tags, 3 drivers)
InduSoft Development Software	
InduSoft-CE1500R	CEView standard for Windows CE Run-time (CE View)(1500 Tags, 3 drivers)
InduSoft-CE300R	CEView Lite Plus for Windows CE Run-time (300 Tags, 3 drivers)
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)



Highlight Information

- 3 I/O Slots Option (for VP-2000 Only)
- Android 1.6 Inside
- PXA270 CPU (32-bit & 312/520 MHz)
- 128 MB SDRAM & 96 MB Flash
- IP65 Compliant Front Panel
- 3.5"/5.7" TFT LCD and Rubber Keypad
- Audio with Microphone-In and Earphone-Out
- Operating Temperature: -20 ~ +70 °C

CE FC RoHS

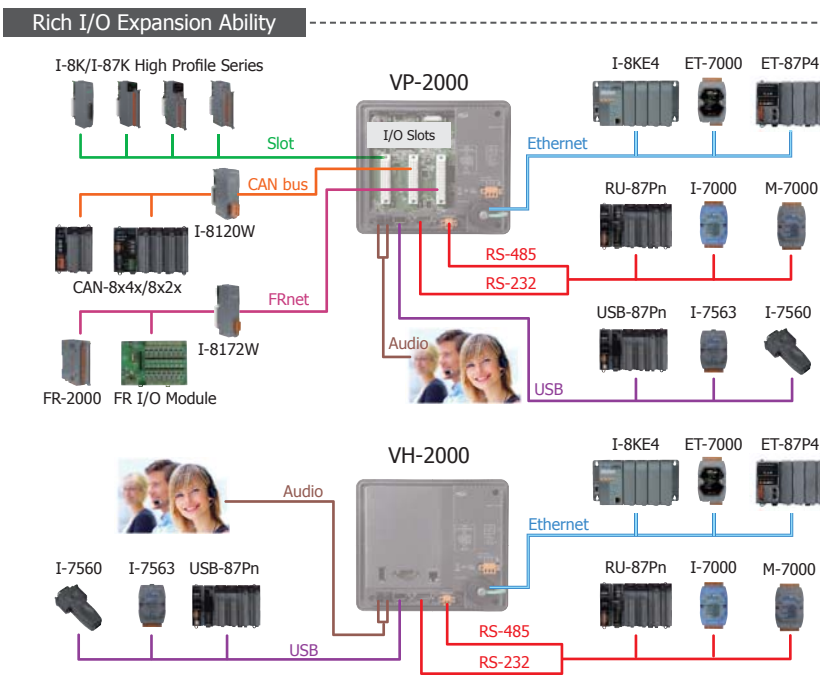
Introduction

The ViewPAC combines LinPAC, a color graphic display and a keypad in one unit. It is equipped with a PXA270 CPU running the Android 1.6 operating system, multiple communication interfaces (USB, Ethernet, RS-232/485 and audio ports), 3 I/O slots, a 3.5"/5.7" TFT LCD and a rubber keypad.

The Android 1.6 operating system has many advantages, including stability, hard real-time capabilities, small core size, and multiple development environments (ViewPAC SDK for Linux and Windows environments using the GNU C language, Android I/O driver and GUI software), etc.

The ViewPAC is designed to provide convenient, flexible and simplified solutions for industrial and embedded applications. Compared with traditional IPC + PLC solutions, ViewPAC reduces overall system cost and space, and gives you all the best features of both IPC and PLC.

Applications



Features

- Software**
- Android 1.6 Inside
 - Development Environment
 - Provide ViewPAC SDK for Windows and Linux Environment
 - Support for GNU C Language
 - Support for Android I/O Driver (Java I/O Driver)
 - Support for GUI: Using GTK + Library
 - Supported Communication
 - Wireless LAN, PPP over Modem, GPRS, Ethernet, Dual LAN
 - Expansion Serial Ports
 - USB to Serial Converter
 - DCON and Modbus Protocols
 - Security
 - Unique Serial Number, VPN

- Hardware**
- PXA270 CPU (32-bit & 312 MHz) for VH-23/25A1
 - PXA270 CPU (32-bit & 520 MHz) for VP-23/25A1
 - IP65 Compliant Front Panel
 - 3.5"/5.7" TFT LCD (5.7" LCD is with Touch Panel)
 - Rubber Keypad with 24/6 Keys
 - Audio with Microphone-In and Earphone-Out
 - 3 Slots for High Profile I/O Modules
 - 64-bit Hardware Serial Number
 - Dual Battery Backup SRAM (512 KB)
 - One or two 10/100M Ethernet Ports
 - Rich I/O Expansion Ability
 - Operating Temperature: -20 ~ +70 °C

Specifications

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ViewPAC

Models	VP-23A1	VP-25A1	VH-23A1	VH-25A1
System Software				
OS	Android 1.6			
SDK Provided	Standard ViewPAC SDK for Windows and Linux operating systems			
CPU Module				
CPU	PXA270 or compatible (32-bit and 520 MHz)		PXA270 or compatible (32-bit and 312 MHz)	
SDRAM	128 MB			
Flash	96 MB			
Expansion Flash Memory	microSD socket with one 2 GB microSD card (support up to 16 GB microSDHC card)			
Dual Battery Backup SRAM	512 KB (for 5 years data retain while power off)			
EEPROM	16 KB (data retention: 40 years; 1,000,000 erase/write cycles)			
RTC (Real Time Clock)	Provide second, minute, hour, date, day of 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, LED indicators)		RJ-45 x 2, 10/100 Base-TX (Auto-negotiating, LED indicators)	
USB 1.1 (host)	1		2	
COM 0	Internal communication with the high profile I-87K series modules in slots		-	
COM 1	-		RS-232 (Rx/D, Tx/D, CTS, RTS, DSR, DTR, CD, RI and GND); Non-isolated	
COM 2	RS-485	D2+, D2-; self-tuner ASIC inside		
	Isolation	2500 V _{oc}		
COM 3	RS-232 (Rx/D, Tx/D, 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)	3.5" TFT (Resolution 320 x 240)	5.7" TFT (Resolution 640 x 480)
Touch Panel	-	Yes	-	Yes
Rubber Keypad	24 keys	6 Keys	24 keys	6 Keys
Audio	Microphone-In and Earphone-Out			
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)		-	
Hot Swap * Will be available	For High Profile 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	-20 ~ +70 °C			
Storage Temperature	-30 ~ +80 °C			
Ambient Relative Humidity	10 ~ 90% RH (non-condensing)			
Power				
Input Range	+10 ~ +30 V _{oc}			
Isolation	1 kV			
Capacity	2.5 A, 5 V supply to I/O expansion slots		-	
Consumption	7.2 W (0.3 A @ 24 V _{oc})			

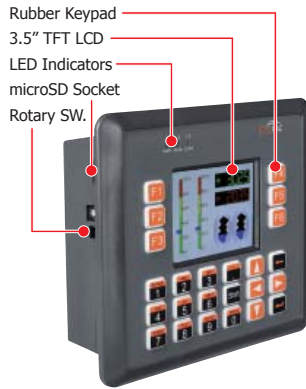
3

ViewPAC-2000 Series

VP-23A1/VP-25A1/VH-23A1/VH-25A1

Appearance

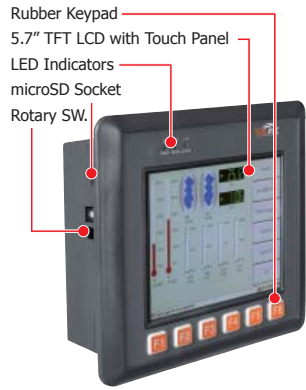
VP-23A1/VH-23A1



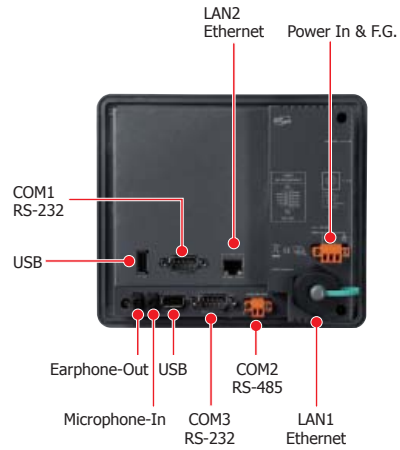
VP-23A1/25A1



VP-25A1/VH-25A1



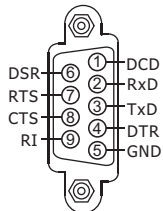
VH-23A1/25A1



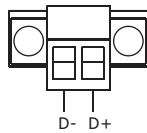
Pin Assignments

VP-23A1/25A1 COM Port

COM3: RS-232

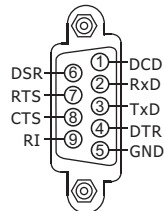


COM2: RS-485

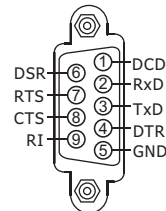


VH-23A1/25A1 COM Port

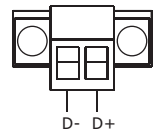
COM1: RS-232



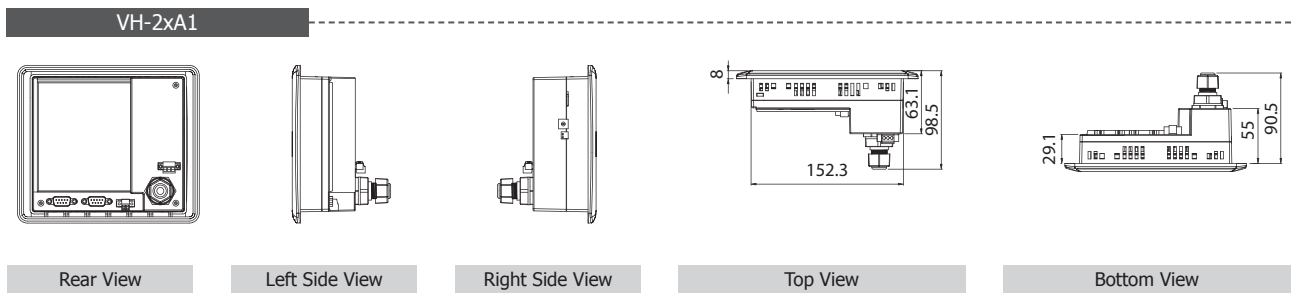
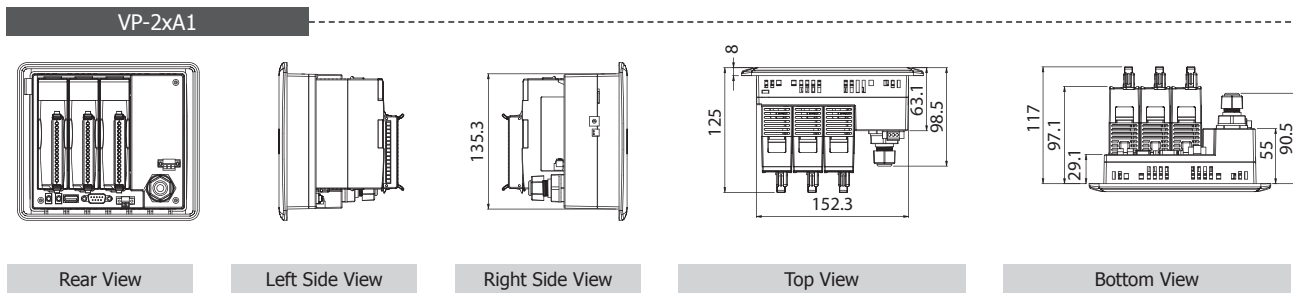
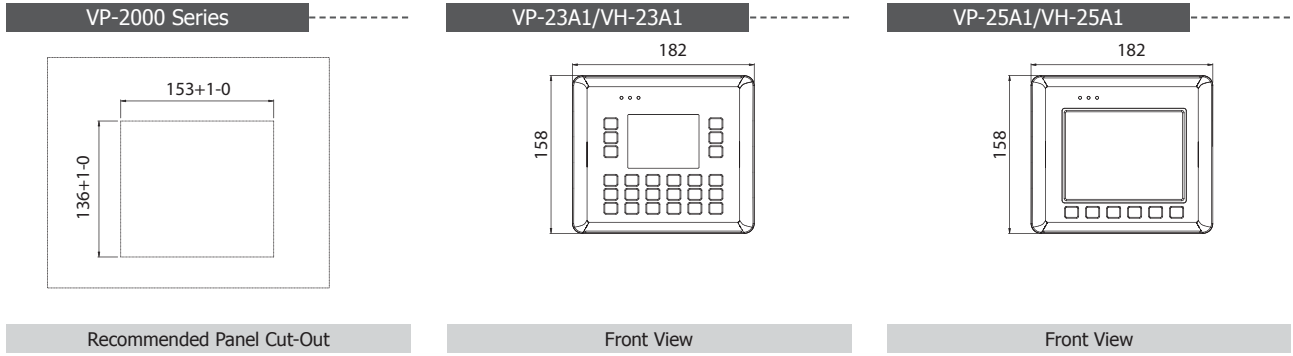
COM3: RS-232



COM2: RS-485



Dimensions (Units: mm)



Ordering Information

VP-23A1-EN CR	Standard ViewPAC with 3.5" LCD and 3 I/O slots (English Version of OS) (RoHS)
VP-25A1-EN CR	Standard ViewPAC with 5.7" LCD and 3 I/O slots (English Version of OS) (RoHS)
VH-23A1-EN CR	Standard ViewPAC with 3.5" LCD (English Version of OS) (RoHS)
VH-25A1-EN CR	Standard ViewPAC with 5.7" LCD (English Version of OS) (RoHS)

Accessories

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)