



ISaGRAF Based ViewPAC (Windows CE .NET 5.0 Inside)



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
- Modbus RTU/TCP (Master, Slave)
- Support Soft-GRAF HMI
- Audio with Microphone-In and Earphone-Out
- Open System
- Operating Temperature: -20 ~ +70 °C



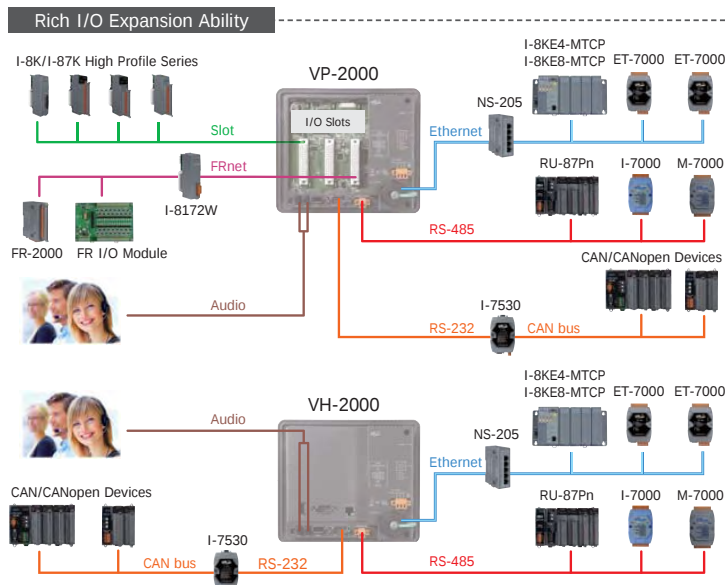
Introduction

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 Soft-GRAF 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 Soft-GRAF HMI
- Support Microsoft SQL Server communication

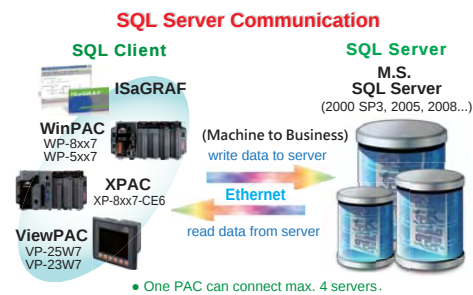
Hardware

- 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

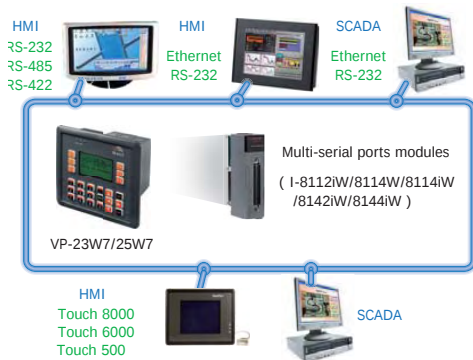
Soft-GRAPH: Create A Colorful HMI in the ISaGRAF PAC



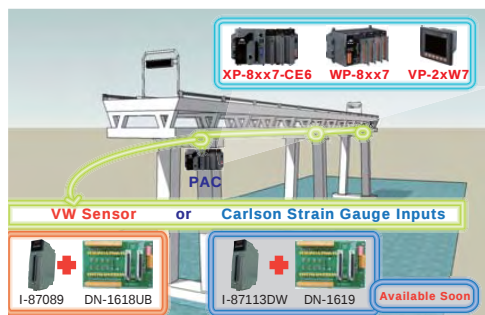
Database Application



Modbus RTU/TCP Slave Ports

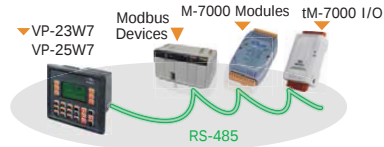


Stress Monitoring of Constructions

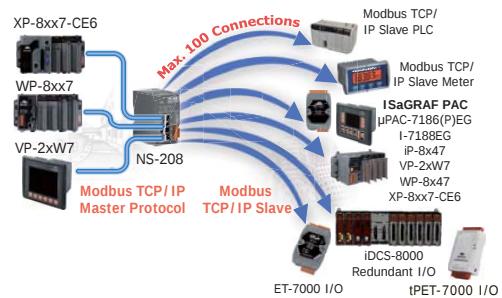


Modbus Master Ports

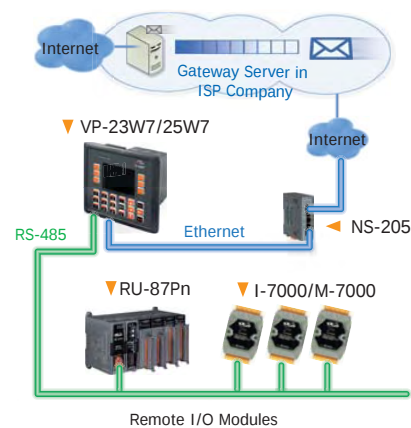
Modbus RTU / ASCII Master



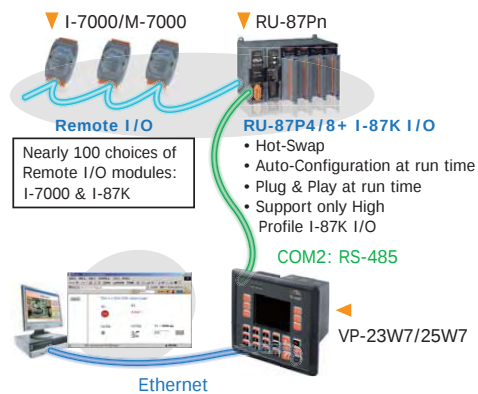
Modbus TCP / IP Master



Send Email with one Attached File



Remote I/O Application



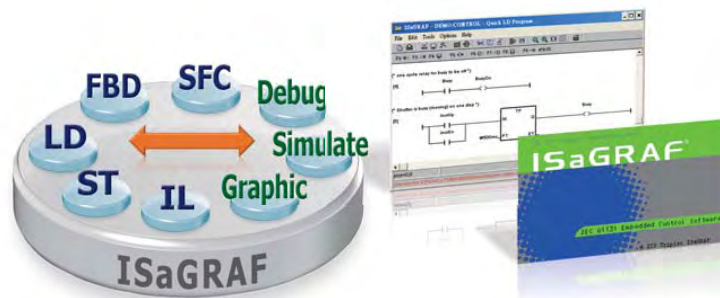


ISaGRAF Based ViewPAC (Windows CE .NET 5.0 Inside)

ViewPAC Specifications

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	DII for eVC, DII 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; Support Soft-GRAF HMI: XP-8xx7-CE6, WP-8xx7 and VP-2xxW7		
	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 _{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 _{oc})			

ISaGRAF Specifications



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) can 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.
SQL Server	Support SQL Client function to write data to (or read data from) Microsoft SQL Server (2000 SP3, 2005, 2008).
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. (*)
HART Solutions	Support I-87H17W modules in slot 0 to 2 to communicate with other HART devices.
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 % 8-ch. max. 250 Hz max. For Off=2 & On=2 ms. Output square wave: Off: 2 ~ 32766 ms, On: 2 ~ 32766 ms. Optional DO Boards: I-8037W, 8041W, 8041AW, 8042W, 8050W, 8054W, 8055W, 8056W, 8057W, 8060W, 8063W, 8064W, 8068W, 8069W. (Relay Output boards cannot generate fast square wave)
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/PW, 8042W, 8046W, 8048W, 8050W, 8051W, 8052W, 8053W/PW, 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/W-A5, 87054W, 87055W, 87058W...
	Remote DI Counter
	All I-7K/I-87K DI modules support counters. 100 Hz max. Value: 0 ~ 65535
Motion	High Speed Counter
	I-87082W: 100 kHz max. 32 bit; I-8084W: 250 kHz max. 32 bit
	Encoder
Port	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
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;
	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.
Second Ethernet	VP-2xW7 / VP-2xW6 can add one optional I-8135W card in its slot 0 ~ 2 to expand the second Ethernet port.

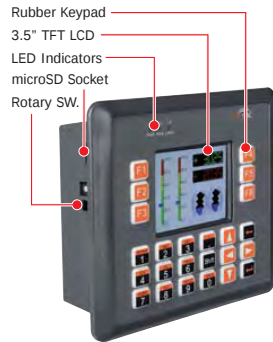
*Note: COM5 ~ COM14 are resided at the expansion boards if they are plugged on slot0 ~ 2 of VP-2xW7. Ex: I-8112W/8112iW/8114W/8114iW modules.



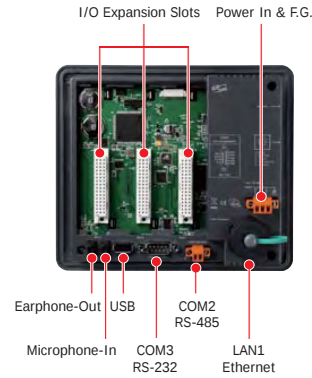
ISaGRAF Based ViewPAC (Windows CE .NET 5.0 Inside)

Appearance

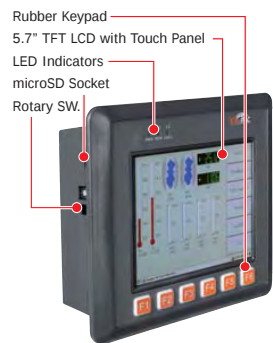
VP-23W7/VH-23W7



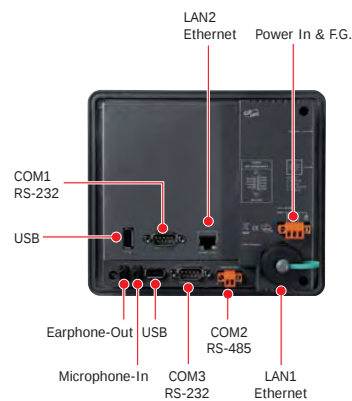
VP-23W7/25W7



VP-25W7/VH-25W7



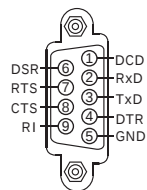
VH-23W7/25W7



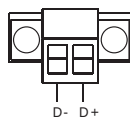
Pin Assignments

VP-23W7/25W7 COM Port

COM3: RS-232

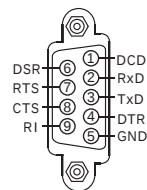


COM2: RS-485

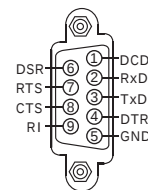


VH-23W7/25W7 COM Port

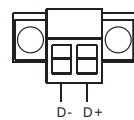
COM1: RS-232



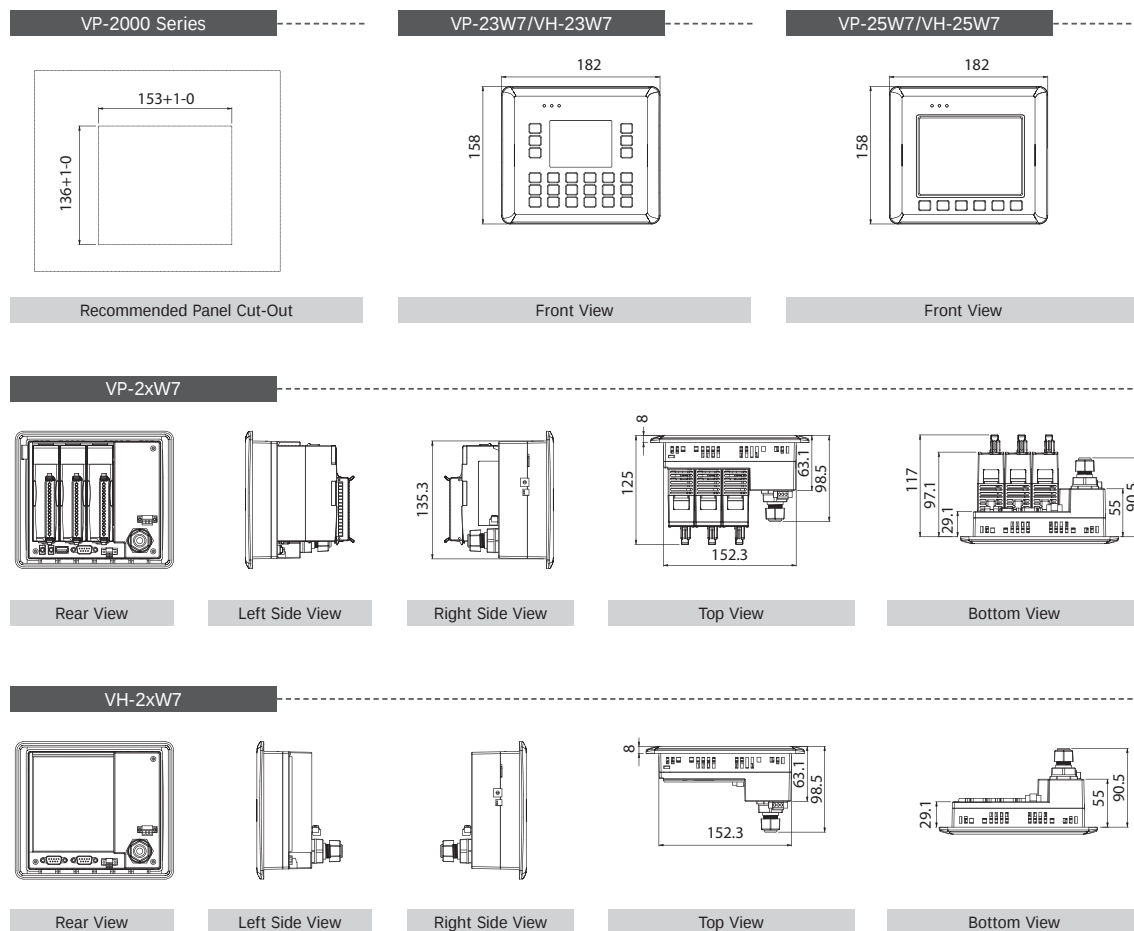
COM3: RS-232



COM2: RS-485



Dimensions (Unit: 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)
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)