



### Highlight Information

- 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
- 3 I/O Slots option
- 3 Serial Ports (RS-232, RS-485)
- 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.

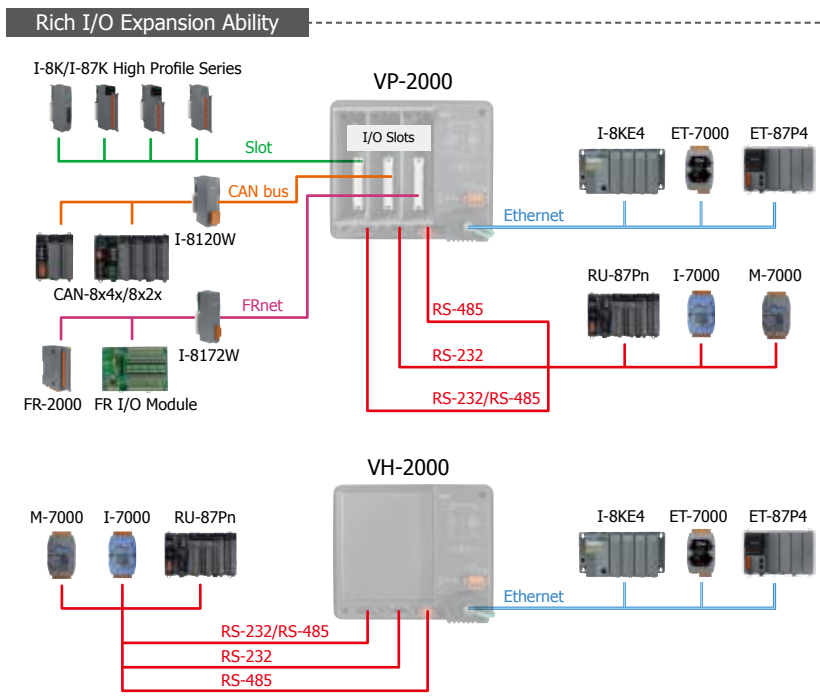
Compared with traditional HMI + PLC solutions, ViewPAC reduces overall system cost, space and gives you all the best features of HMIs and PLCs.

### 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

### Applications



#### 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 options
- 64-bit Hardware Serial Number for Software Protection
- 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

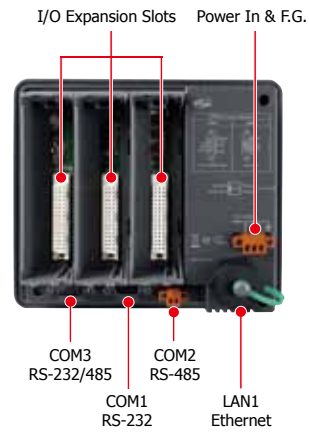
Models	VP-2111	VH-2110	VH-2111P	VH-2211	VH-2311
<b>System Software</b>					
OS	MiniOS7 (DOS-like embedded operating system)				
Program Download Interface	RS-232 (COM1) or Ethernet				
Programming Language	C language				
Compilers to create.exe Files	TC++ 1.01 (Freeware); TC 2.01 (Freeware); BC++ 3.1 ~ 5.2x; MSC 6.0; MSVC++ (before version 1.5.2)				
<b>CPU Module</b>					
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 retention)	-	512 KB (for 5 years data retention)		
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				
Watchdog Timers	Yes (0.8 second)				
<b>Communication Ports</b>					
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 V <sub>oc</sub>	-	2500 V <sub>oc</sub>	
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		
<b>MMI (Man Machine Interface)</b>					
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)				
<b>I/O Expansion Slots</b>					
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	-			
<b>GSM/GPRS</b>					
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	
<b>GPS</b>					
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	
<b>Mechanical</b>					
Dimensions (W x H x D)	182 mm x 158 mm x 125 mm				
Installation	Panel Mounting				
Ingress Protection	Front panel: IP65				
<b>Environmental</b>					
Operating Temperature	-15 ~ +55 °C				
Storage Temperature	-30 ~ +80 °C				
Ambient Relative Humidity	10 ~ 90% RH (non-condensing)				
<b>Power</b>					
Input Range	PoE	-	-	IEEE 802.3af, class 3	-
	Terminator Block	+10 ~ +30 V <sub>dc</sub>	+12 ~ +48 V <sub>dc</sub>	+18 ~ +55 V <sub>dc</sub>	+10 ~ +30 V <sub>dc</sub>
Isolation	1 kV	-	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

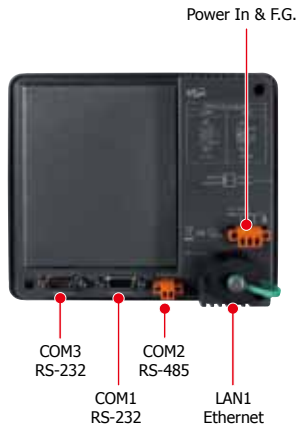
VP-2111/VH-2110/VH-2111P/VH-2211/VH-2311



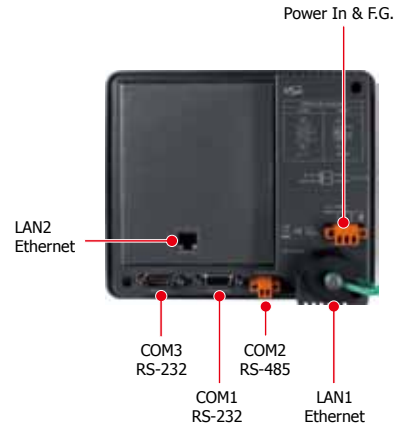
VP-2111



VH-2110



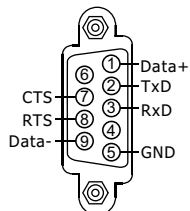
VH-2111P/VH-2211/VH-2311



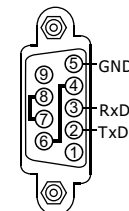
## Pin Assignments

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

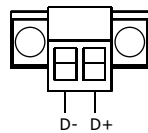
COM3: RS-232/RS-485



COM1: RS-232

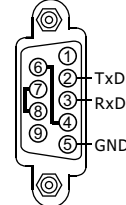


COM2: RS-485

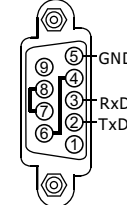


VH-2110 COM Port

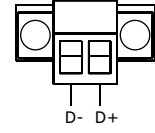
COM3: RS-232



COM1: RS-232

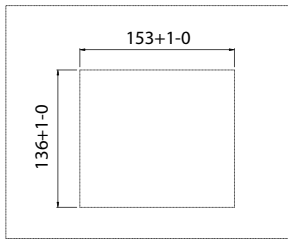


COM2: RS-485

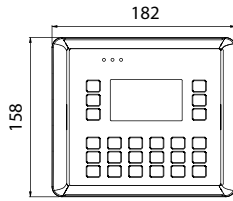


## Dimensions (Unit: mm)

### VP/VH-2000 Series

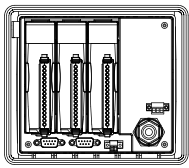


Recommended Panel Cut-Out

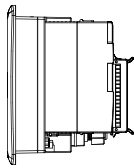


Front View

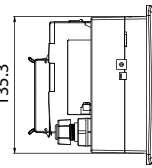
### VP-2000



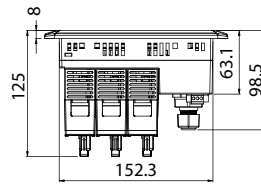
Back View



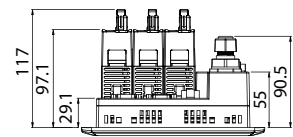
Left Side View



Right Side View

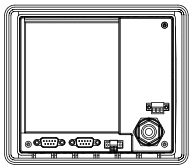


Top View

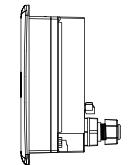


Bottom View

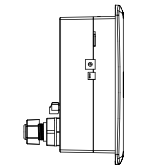
### VH-2000



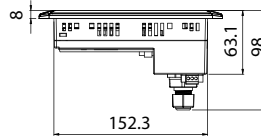
Back View



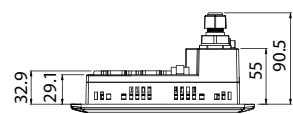
Left Side View



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-20-24	24 Vdc/1.0 A, 24 W Power Supply with DIN-Rail Mounting
MDR-60-24	24 Vdc/2.5 A, 60 W Power Supply with DIN-Rail Mounting