VPD-130-H   VPD-130N-H

Features

- Excellent C/P ratio (cost/performance)
- High-resolution color touch screen
- RTC (Real Time Clock)
- Supports 1 Serial Port (RS-232/RS-485, including Self-Tuner)
- Rubber Keypad
- GUI design
- Free HMIWorks development tool
- Supports the popular C programming language and Ladder Designer
- Supports the custom communication protocol (C language)
- ESD Protection: 4 kV
- Operating temperature: -20 ~ 50°C
- Front Panel: IP65 Waterproof

Introduction

VPD industrial touch HMI device series features, 3.5" high resolution color touch screen LCD. With touchscreen capability, it is easy to deploy into all kinds of automation systems, and make them more intuitive and efficient. Either setup new system installations or complete system retrofits, VPD series stands out for its wide variety of communication methods. Its built-in communication ports include RS-232/RS-485, and USB interface, enable integration into the system allowing users to control, monitor I/O at the remote sides and update firmware directly from the central computer. Besides, the built-in non-volatile storage makes VPD series more reliable for rugged environments.

HMIWorks, the free development software for VPD series, provides an easy-to-use environment, and powerful and intuitive programming with graphic capabilities to let users create appealing graphical interface screens in minutes. For PLC users, HMIWorks provides Ladder Designer and C language environment for IT users. Especially, it only takes no more than 30 minutes to learn how to create an application program when using Ladder Designer. With all the features provided, VPD series touch HMI Devices must be the most cost effective HMI Device ever been in the market.

Applications

VPD-130-H/VPD-130N-H with DIN-Rail Mounting

VPD-130-H/VPD-130N-H Panel Mounting
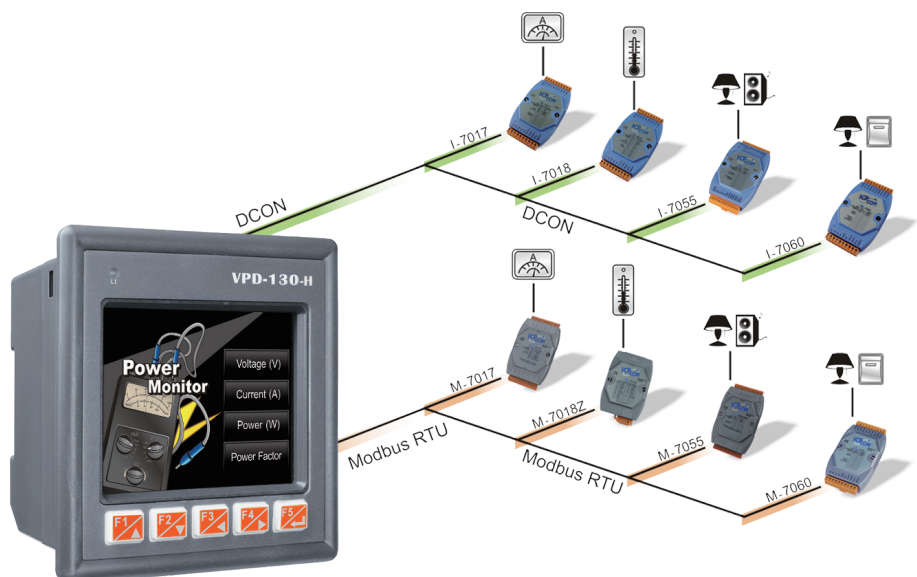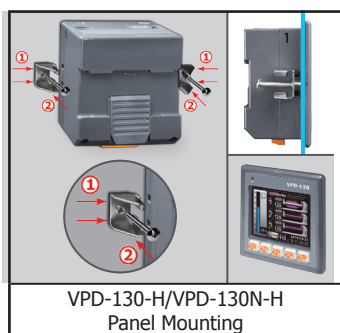
Applications

Status Display

Presentations

Factory/Machine Automation

User-defined HMI

Power Monitor

| Voltage (V) |
| Current (A) |
| Power (W) |
| Power Factor |

Schedule Management with Built-in RTC

VPD-130-H

09:14:32
2010/12/06

Multi-display

VPD-130-H

Multi-page Design

Setting **HMIWorks**
Industrial Computer Product
Data Acquisition System

	Time	Shutdown	Cumulative Time	
1 L	120 m	Start	120 m	Reset
2 L	120 m	Start	120 m	Reset
3 L	120 m	Start		

HMIWorks Industrial Computer Product
Data Acquisition System

	Auto	Remaining
1 L		120 m
2 L		120 m
3 L		120 m

26 c

Setting   curr. val.   2010/03/23
110 V   11:25:25

Applications

Operator Interface

Alarm

Specifications

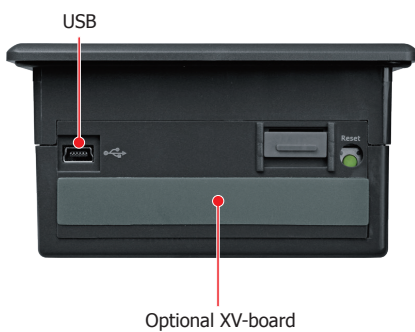| Models	VPD-130-H	VPD-130N-H
CPU Module		
CPU	32-bit RISC CPU	
Memory Expansion	16 MB SDRAM / 16 MB Flash	
Real Time Clock (RTC)	Yes	
Buzzer	Yes	
Rotary Switch (0~9)	Yes	
Communication Interface		
Serial Port	x 1 (RS-232/RS-485 including Self-Tuner)	
USB 1.1 Client	Firmware update only	
I/O Expansion		
I/O Expansion Bus	Yes	
MMI (Main Machine Interface)		
LCD	3.5" TFT (Resolution 240 x 320 x 16), defective pixels <= 3	
Backlight Life	20,000 hours	
Brightness	270 cd/m2	
LED Indicator	Yes	-
Touch Panel	Yes	
Reset Button	Yes	
Rubber Keypad	5 keys (Programmable)	-
Electrical		
Powered from Terminal Block	+12 ~ 48 V$_{DC}$	
Powered from PoE	-	
Power Consumption	2 W	
Mechanical		
Dimensions (W x L x H)	103 mm x103 mm x 53 mm	
Ingress Protection	Front Panel: IP65	
Installation	DIN-Rail Mounting and Panel Mounting	
Environmental		
Operating Temperature	-20 ~ +50°C	
Storage Temperature	-30 ~ +80°C	
Ambient Relative Humidity	10 ~ 90% RH, non-condensing	

Pin Assignments

VPD-130-H/VPD-130N-H

Pin	Signal		
11	F.G.		
10	VDC		
9	GND		
8	GND		
7	D1-	RS-485	
6	D1+		COM1
5	TxD	RS-232	
4	RxD		
3	GND		
2	N/A		
1	N/A		
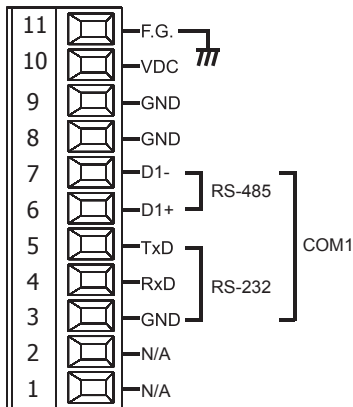
Appearance

VPD-130-H Front View

LED Indicators
3.5" TFT LCD with Touch Panel
VPD-130-H
Power Monitor
Voltage(V) :
Current(A) :
Power(W) :
Power Factor :
Rubber Keypad

VPD-130N-H Front View

3.5" TFT LCD with Touch Panel
VPD-130N-H
Power Monitor
Voltage(V) :
Current(A) :
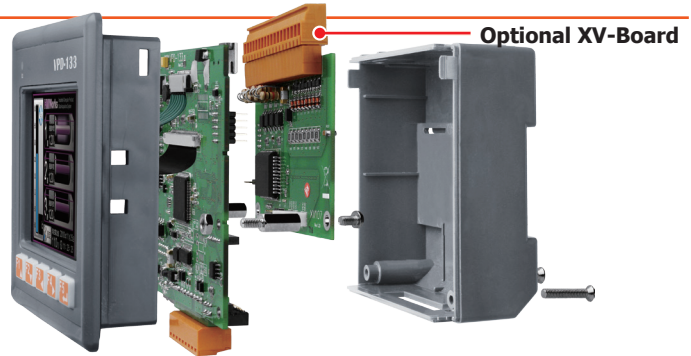Power(W) :
Power Factor :

VPD-130-H/VPD-130N-H Top View

USB
Reset
Optional XV-board

VPD-130-H/VPD-130N-H Bottom View

RS-232/RS-485   Rotary Switch
COM1
0. Run Only
9. USB Update
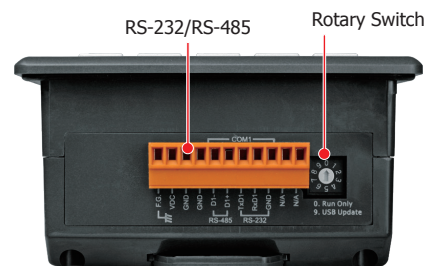
📁 XV-Board Assembly Drawing

Making VPD series
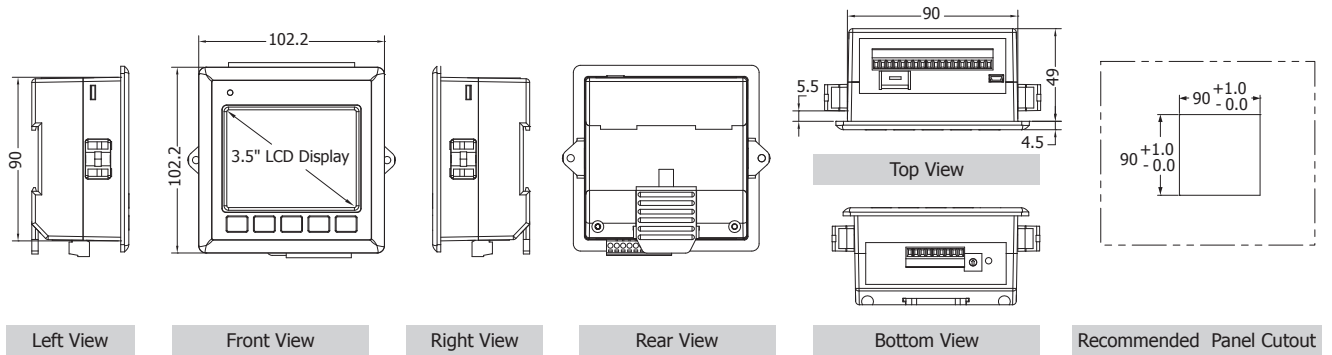### have its own I/O to control!

Optional XV-Board

DIO Board						Relay Output Board
Model	**XV107**	**XV107A**	**XV110**	**XV111**	**XV111A**	**XV116**
Image						
Digital Input						
Channel	8	8	16			5
Contact	Wet	Wet	Dry+Wet			Wet
Sink/Source (NPN/PNP)	Source	Sink	Sink/Source			Sink/Source
Wet Contact — On Voltage Level	+3.5 V_{DC} ~ +50 V_{DC}					+3.5 V_{DC} ~ +50 V_{DC}
Wet Contact — Off Voltage Level	+1 V_{DC} Max.					+1 V_{DC} Max.
Dry Contact — On Voltage Level	-		Close to GND			-
Dry Contact — Off Voltage Level	-		Open			-
Counters — Channels	8		16			5
Counters — Max. Count	32-bit (0 ~ 4, 294, 967, 285)					32-bit (0 ~ 4, 294, 967, 285)
Counters — Max. Input Frequency	50 Hz					50 Hz
Counters — Min. Pulse Width	10 ms					10 ms
Input Impedance	10 KΩ, 0.5 W					10 KΩ, 0.5 W
Overvoltage Protection	70 V_{DC}					70 V_{DC}
Digital Output						
Channel	8			16		
Type	Open Collector	Open Emitter		Open Collector	Open Emitter	
Sink/Source (NPN/PNP)	Sink	Source		Sink	Source	
Load Voltage	+3.5 V_{DC} ~ 50 V_{DC}	+10 V_{DC} ~ 40 V_{DC}	-	+3.5 V_{DC} ~ 50 V_{DC}	+10 V_{DC} ~ 40 V_{DC}	-
Max. Load Current	700 mA/channel	650 mA/channel		600 mA/channel		
Overload Protection	1.4 A			1.4 A		
Relay Output						
Channel					2 (channel0, 1)	4 (channel 2~5)
Type					Signal Relay	Power Relay
Form A Relay — Contact Rating	-				2 A @ 30 V_{DC} 0.24 A @ 220 V_{DC} 0.25 A @ 250 V_{AC}	6 A @ 35 V_{DC} 6 A @ 240 V_{AC}
Form A Relay — Min. Contact Load					10 mA @ 20 mV	100 mA @ ≧ 12 V
Form A Relay — Contact Material					Silver Nickel, Gold-covered	Silver Cadmium Alloy
Form A Relay — Operate Time					3 ms (typical)	5 ms (typical)
Form A Relay — Release Time					4 ms (typical)	1 ms (typical)
Form A Relay — Mechanical Endurance					10^8 ops.	30×10^6 ops.
Form A Relay — Electrical Endurance					2×10^5 ops.	1×10^5 ops.
Isolation						
Intra-module Isolation, Field to Logic	3750 V_{DC}					
Power Requirements						
Consumption	0.15 W	0.45 W	0.25 W	0.2 W	0.8 W	1.2 W

Multifunction Board

Model	XV306	XV307	XV308	XV310
Image				

Analog Input

		XV306	XV307	XV308	XV310
Channel		4		8	4
Sensor Type		+/- 1 V, +/- 2.5 V, +/- 5 V, +/- 10 V, 0 ~ 20 mA, 4 ~ 20 mA, +/-20 mA (Jumper selectable)	-	+/- 1 V, +/- 2.5 V, +/- 5 V, +/- 10 V, 0 ~ 20 mA, 4 ~ 20 mA, +/-20 mA (Jumper selectable)	
Resolution		16-bit		16-bit	
Sampling Rate	Normal Mode	10 Hz		10 Hz	
	Fast Mode	200 Hz		200 Hz	
Input Impedance		20 MΩ		20 MΩ	
Overvoltage Protection		120 V_{DC}		120 V_{DC}	

Analog Output

	XV306	XV307	XV308	XV310
Channel		2		2
Range	-	0 V ~ +5 V, ±5 V, 0 V ~ +10 V, ±10 V, 0 mA ~ +20 mA, +4 mA ~ +20 mA (Jumper Selectable)	-	0 V ~ +5 V, ±5 V, 0 V ~ +10 V, ±10 V, 0 mA ~ +20 mA, +4 mA ~ +20 mA (Jumper Selectable)
Resolution		12-bit		12-bit
Voltage Output Capability		10 V @ 20 mA		10 V @ 20 mA
Current Load Resistance		500 Ω		500 Ω

Universal Digital Input/Output

	XV306	XV307	XV308	XV310
Channel	-		DI+DO=8 (by Wire)	-

Digital Input

		XV306	XV307	XV308	XV310
Channel		4		-	4
Sink/Source (NPN/PNP)		Sink/Source		Source	Source
Wet Contact	On Voltage Level	+3.5 ~ +50 V_{DC}		+1 V_{DC} Max.	-
	Off Voltage Level	+1 V_{DC} Max.		+4 ~ 30 V_{DC}	-
Dry Contact	On Voltage Level	-		Close to GND	Close to GND
	Off Voltage Level	-		Open	Open
Counters	Max. Count	32-bit (0~4,294,967,285)			
	Max. Input Frequency	50 Hz			
	Min. Pulse Width	10 ms			
Overload Protection		70 V_{DC}		60 V_{DC}	60 V_{DC}

Digital Output

	XV306	XV307	XV308	XV310
Channel	4		-	4
Type	Power Relay (Form A)		Sink	Source
Load Voltage	-		3.5 ~ 50 V_{DC}	+10 ~ +40 V_{DC}
Max. Load Current			700 mA	650 mA/channel
Overload Protection			60 V_{DC}	47 V_{DC}
Contact Rating	6 A @ 35 V_{DC} 6 A @ 240 V_{AC}		-	-
Min. Contact Load	100 mA @ ≥ 12 V			
Operate/Release Time	5 ms (typical)/1 ms (typical)			
Mechanical/Electrical Endurance	30×10^6 ops./1×10^5 ops.			

Isolation

	XV306	XV307	XV308	XV310
Intra-module Isolation, Field to Logic	2000 V_{DC}			

Power Requirements

	XV306	XV307	XV308	XV310
Consumption	1.6 W		0.8 W	1.6 W

📁 Dimensions (Units: mm)

VPD-130-H

| Left View | Front View | Right View | Rear View | Bottom View | Recommended Panel Cutout |

VPD-130N-H

| Left View | Front View | Right View | Rear View | Bottom View | Recommended Panel Cutout |
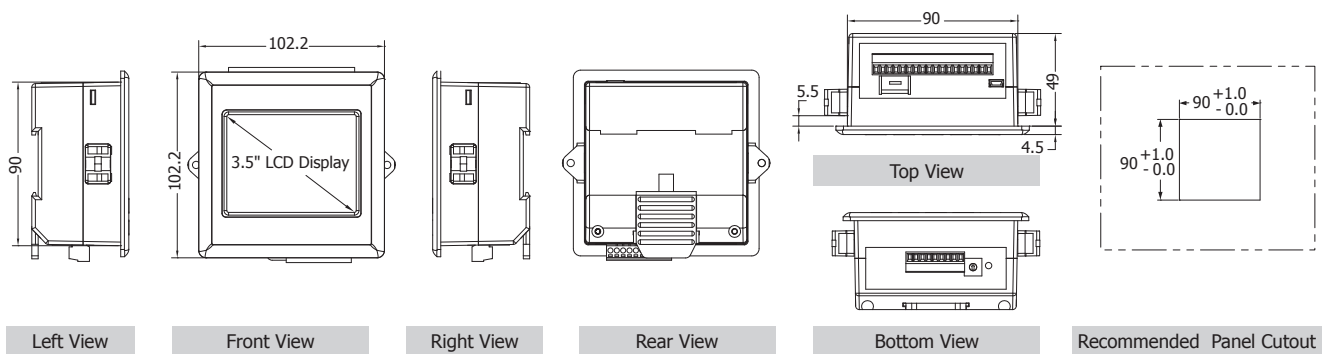
📁 Ordering Information

VPD-130-H CR	3.5" Touch HMI device with RS-232/RS-485, USB, RTC, Rubber Keypad (RoHS)
VPD-130N-H CR	3.5" Touch HMI device with RS-232/RS-485, USB, RTC (RoHS)

📁 Accessories

CA-USB10	USB to 5P Mini-USB, 28AWG, 1.5 m
MDR-60-24 CR	24 V_{DC}/2.5A, 60 W Power Supply with DIN-Rail Mounting (RoHS)
DIN-KA52F CR	24 V_{DC}/1.04 A, 25 W Power Supply with DIN-Rail Mounting (RoHS)