Touch HMI Devices

VPD-173N **VPD-173N-64**
VPD-173X **VPD-173X-64**

Features

- Excellent C/P ratio (cost/performance)
- High-resolution color touch screen
- PoE (Power over Ethernet)
- RTC (Real Time Clock)
- Free HMIWorks development tool
- Supports C programming language and Ladder Designer
- Supports the custom communication protocol (C language)
- Modbus TCP/RTU protocol
- I/O Expansion Board: XV-board (VPD-173X/VPD-173X-64)

Introduction

VPD-173 series HMI is designed for building, home and industrial automation. VPD-173 series HMI is equipped with high resolution TFT color touch screen and fits in with regular electrical wall-mount outlet. Besides, it is seamlessly integrated with rich I/O modules and presents beautiful, flexible and user-defined picture frame. In short, it is the best choice to upgrade the mechanical switch to intelligent control pads.

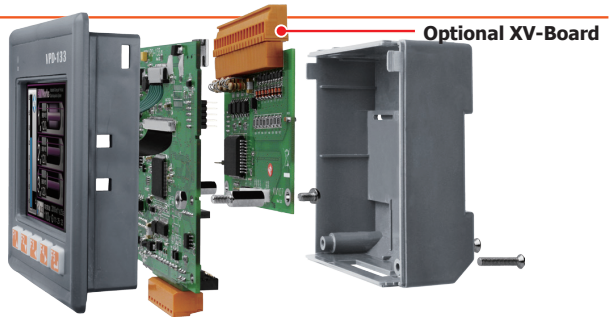
HMIWorks is a free development software for the VPD series HMI devices, which provides Ladder Designer for PLC users, and C language environment for IT users. Especially, it only takes no more than 30 minutes to learn how to create an application program of VPD-series devices when using Ladder Designer.

Specifications

Models		VPD-173N	VPD-173N-64	VPD-173X	VPD-173X-64
CPU Module					
CPU		32-bit RISC CPU			
Memory Expansion		16 MB SDRAM/16 MB Flash	64 MB SDRAM/64 MB Flash	16 MB SDRAM/16 MB Flash	64 MB SDRAM/64 MB Flash
Real Time Clock (RTC)		Yes			
Buzzer		Yes			
Rotary Switch (0 ~ 9)		Yes			
Communication Interface					
Serial Port	COM1	RS-232 (3-pin) or RS-485 (including Self-Tuner) ; 2500 VDC isolated			
	COM2				
Ethernet		RJ-45 x 1, 10/100 Base-TX			
I/O Expansion					
I/O Expansion Bus		-		Yes, One of XVboards	
MMI (Main Machine Interface)					
LCD		7" TFT (Resolution 800 x 480 , 65535 colors), defective pixels <= 3			
Backlight Life		20,000 hours			
Brightness		250 cd/m2	400 cd/m2	250 cd/m2	400 cd/m2
Touch Panel		4-wire, analog resistive; Light Transmission: 80%			
Reset Button		Yes			
Electrical					
Powered from Terminal Block		+12 ~ 48 VDC			
Powered from PoE		IEEE 802.3af, Class1 (48 V)			
Power Consumption		3.6W			
Mechanical					
Dimensions (W x L x H)		217 mm x 153 mm x 33 mm			
Installation		Wall Mounting			
Ingress Protection		Front Panel: NEMA 4 /IP65			
Environmental					
Operating Temperature		-10 ~ +60°C			
Storage Temperature		-20 ~ +70°C			
Ambient Relative Humidity		10 ~ 90% RH, non-condensing			

XV-Board Assembly Drawing

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

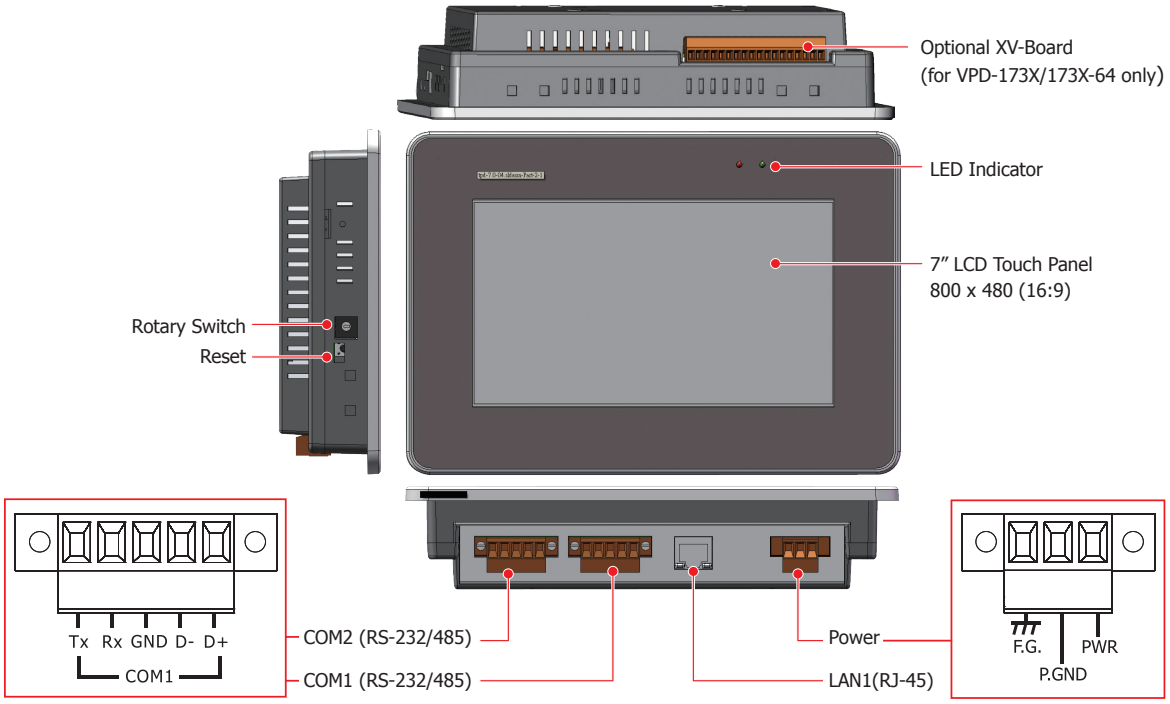


DIO Board							Relay Output Board	
Model		**XV107**	**XV107A**	**XV110**	**XV111**	**XV111A**	**XV116**	
Image								
Digital Input								
Channel		8	8	16	-	-	5	
Contact		Wet	Wet	Dry+Wet			Wet	
Sink/Source (NPN/PNP)		Source	Sink	Sink/Source			Sink/Source	
Wet Contact	On Voltage Level	+3.5 VDC ~ +50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

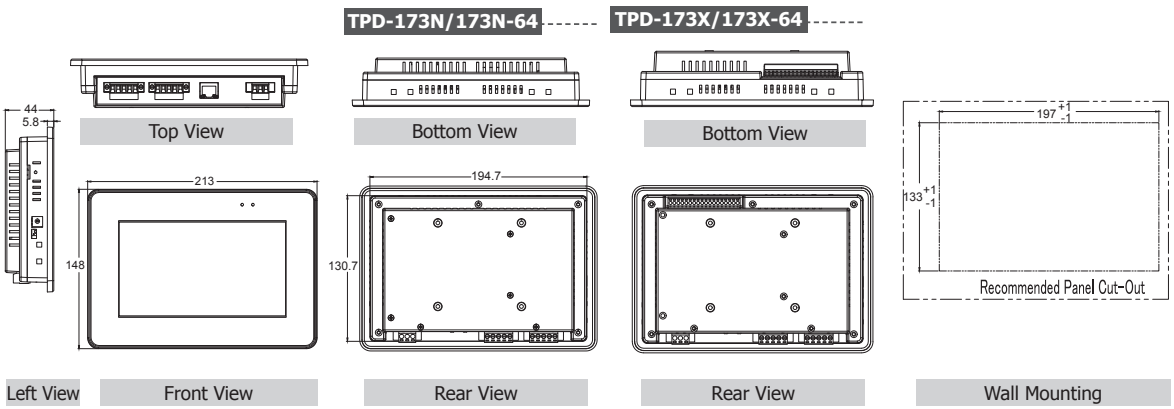
Touch HMI Devices

Multifunction Board					
Model		**XV306**	**XV307**	**XV308**	**XV310**
Image					
Analog Input					
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 VDC		120 VDC	
Analog Output					
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					
Channel		-		DI+DO=8 (by Wire)	-
Digital Input					
Channel		4		-	4
Sink/Source (NPN/PNP)		Sink/Source		Source	Source
Wet Contact	On Voltage Level	+3.5 ~ +50 VDC		+1 VDC Max.	-
	Off Voltage Level	+1 VDC Max.		+4 ~ 30 VDC	-
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 VDC		60 VDC	60 VDC
Digital Output					
Channel		4		-	4
Type		Power Relay (Form A)		Sink	Source
Load Voltage		-		3.5 ~ 50 VDC	+10 ~ +40 VDC
Max. Load Current				700 mA	650 mA/channel
Overload Protection				60 VDC	47 VDC
Contact Rating		6 A @ 35 VDC 6 A @ 240 VAC		-	-
Min. Contact Load		100 mA @ ≧ 12 V			
Operate/Release Time		5 ms (typical)/1 ms (typical)			
Mechanical/Electrical Endurance		30 x 10^6 ops./1 x 10^5 ops.			
Isolation					
Intra-module Isolation, Field to Logic		2000 VDC			
Power Requirements					
Consumption		1.6 W		0.8 W	1.6 W

Appearance & Pin Assignments



Dimensions (Units: mm)



Ordering Information

VPD-173N CR	7" Touch HMI device with two serial ports, RTC, Ethernet, PoE (16 MB Flash, RoHS)
VPD-173N-64 CR	7" Touch HMI device with two serial ports, RTC, Ethernet, PoE (64 MB Flash, RoHS)
VPD-173X CR	7" Touch HMI device with two serial ports, RTC, Ethernet, PoE and support XV-board (16 MB Flash, RoHS)
VPD-173X-64 CR	7" Touch HMI device with two serial ports, RTC, Ethernet, PoE and support XV-board (64 MB Flash, RoHS)

Accessories

 1C016	2.4 mm Screw driver
 NS-208PSE CR	Unmanaged Industrial PoE (Power over Ethernet) Ethernet Switch (RoHS)
 MDR-60-24 CR	24 VDC/2.5 A, 60 W Power Supply with DIN-Rail Mounting (RoHS)