VPD-173N

7" Touch HMI Device with 2 × RS-232/RS-485, Ethernet (PoE), 16 MB Flash

VPD-173X

7" Touch HMI Device with 2 × RS-232/RS-485, Ethernet (PoE), 16 MB Flash, Support XV-board

VPD-173N-64

7" Touch HMI Device with 2 × RS-232/RS-485 and Ethernet (PoE), 64 MB Flash

VPD-173X-64

7" Touch HMI Device with 2 × RS-232/RS-485, Ethernet (PoE), 64 MB Flash, Support XV-board

Features

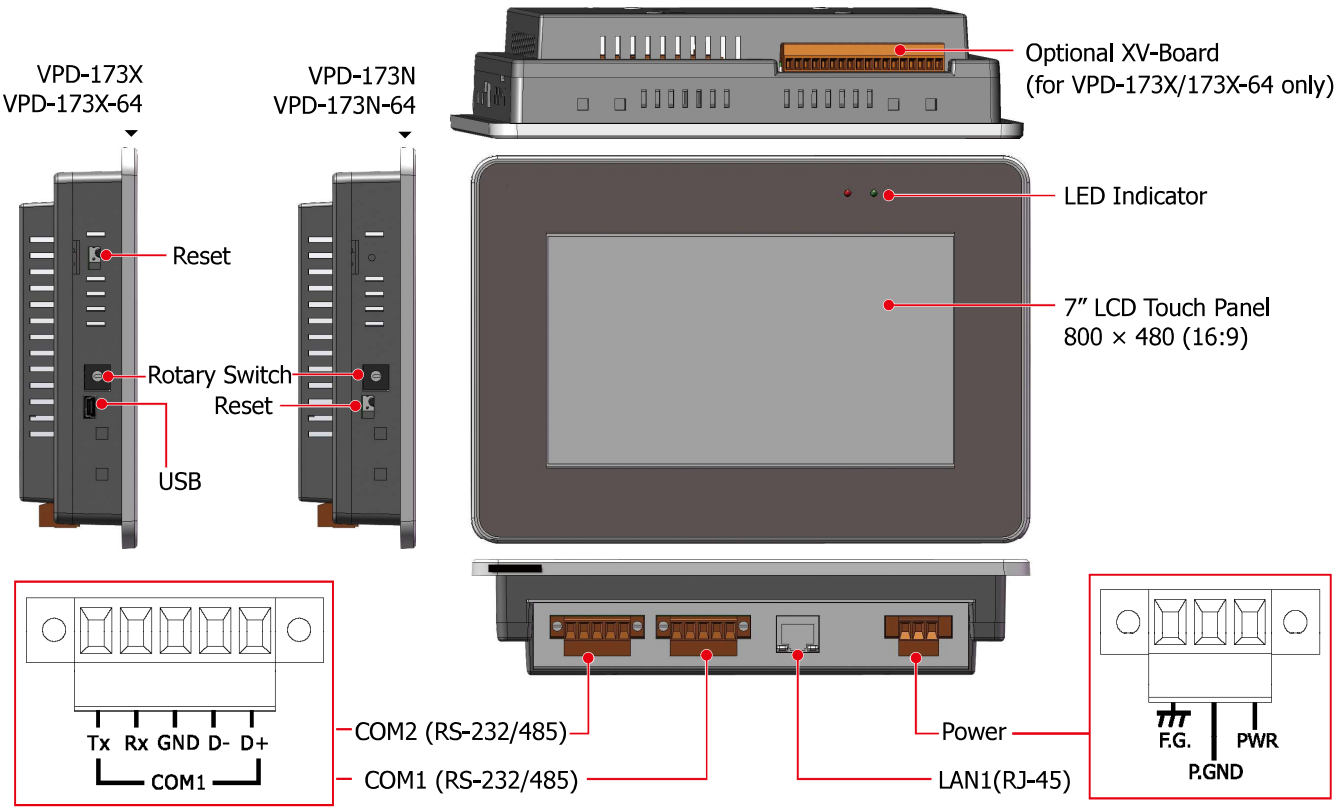
- PoE (Power over Ethernet)
- RTC (Real Time Clock)
- Buzzer
- Free HMIWorks development tool
- Supports C programming language and Ladder Designer
- Supports the custom communication protocol (C language)
- Modbus TCP/RTU protocol
- Front Panel: IP65 Waterproof
- I/O Expansion Board: XV-board (VPD-173X/VPD-173X-64)
- Extensive Sample Programs (e.g., Heat Hazard Monitoring)
- Operating Temperature: -10 ~ 60 °C

Introduction

The **TouchPAD VPD 7" Series** is a series of industrial touch HMI devices is designed for building, home and industrial automation. VPD-173 series HMI is equipped with high resolution TFT color touch screen and 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.

Appearance & Pin Assignments

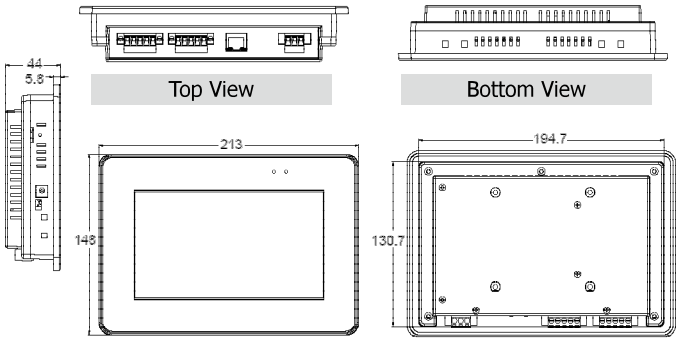


Specifications

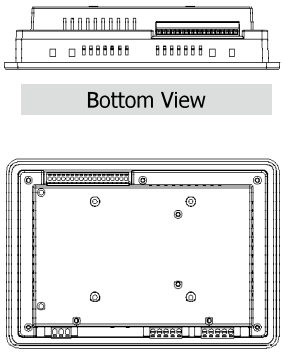
Model	VPD-173N	VPD-173N-64	VPD-173X	VPD-173X-64
Main Unit				
CPU	32-bit RISC CPU			
Storage	16 MB SDRAM/16 MB Flash	64 MB SDRAM/64 MB Flash	16 MB SDRAM/16 MB Flash	64 MB SDRAM/64 MB Flash
Real Time Clock	Yes			
Display				
Type	LCD 7" TFT (Resolution 800 x 480, 65535 colors), defective pixels <= 3			
Backlight Life	20,000 hours			
Brightness	250 cd/m2	400 cd/m2	250 cd/m2	400 cd/m2
Touch Panel	Yes			
LED Indicators				
Status	2 LED			
COM Ports				
Ports	2 × RS-232 (3-pin) or RS-485 (including Self-Tuner) ; 2500 VDC isolated			
HMI				
Buzzer	Yes			
Rotary Switch	Yes			
Reset Button	Yes			
Ethernet				
Ports	RJ-45 × 1, 10/100 Base-TX			
USB				
Connector	-		Firmware updates only	
Power				
Consumption	3.6 W			
Powered from PoE	IEEE 802.3af, Class1 (48 V)			
Powered from Terminal Block	+12 ~ 48 VDC			
Mechanical				
Dimensions (mm)	217 mm ×153 mm × 33 mm			
Installation	Wall Mounting			
Ingress Protection Rating	Front Panel: NEMA 4 /IP65			
Environmental				
Operating Temperature	-10 ~ +60 °C			
Storage Temperature	-20 ~ +70 °C			
Humidity	10 ~ 90% RH, non-condensing			

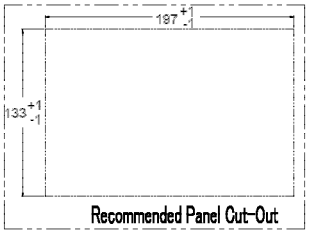
Dimensions (Units: mm)

TPD-173N/173N-64



TPD-173X/173X-64





Ordering Information

VPD-173N CR	7" Touch HMI Device with 2 x RS-232/RS-485, Ethernet (PoE), RTC, 16 MB Flash (RoHS)
VPD-173X CR	7" Touch HMI Device with 2 x RS-232/RS-485, Ethernet (PoE), RTC, 16 MB Flash, Support XV-board (RoHS)
VPD-173N-64 CR	7" Touch HMI Device with 2 x RS-232/RS-485, Ethernet (PoE), RTC, 64 MB Flash (RoHS)
VPD-173X-64 CR	7" Touch HMI Device with 2 x RS-232/RS-485, Ethernet (PoE), RTC, 64 MB Flash, Support XV-board (RoHS)

Accessories

	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)	

XV-Board Series

Model		DIO Board					Relay Output Board	
		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 (channel 0, 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		3750 VDC (Field to Logic)						
Power Requirements								
Consumption		0.15 W	0.45 W	0.25 W	0.2 W	0.8 W	1.2 W	

Multifunction Board						
Model		**XV303**	**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		4	-	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)		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		12-bit
Voltage Output Capability		10 V @ 20 mA		10 V @ 20 mA		10 V @ 20 mA
Current Load Resistance		500 Ω		500 Ω		500 Ω
Universal Digital Input/Output						
Channel		-			DI+DO=8 (by Wire)	-
Digital Input						
Channel		4	4		-	4
Sink/Source (NPN/PNP)		Sink/Source	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	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		2000 VDC				
Power Requirements						
Consumption		1.6 W			0.8 W	1.6 W