



VPD-142/VPD-142N

VPD-143/VPD-143N

Features

- Excellent C/P ratio (cost/performance)
- High-resolution color touch screen
- RTC (Real Time Clock)
- Multiple serial communication interfaces
- Rubber Keypad (VPD-142/VPD-143)
- GUI design
- Free HMIWorks development tool
- Supports the C programming language and Ladder Designer
- ESD Protection: 4 kV
- Front Panel: IP65 Waterproof
- I/O Expansion Boards (XV-Boards)
- Supports the Modbus TCP/RTU communication protocol
- Supports the custom communication protocol



Introduction

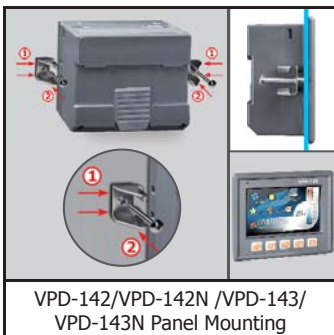
VPD industrial touch HMI device series features, 4.3" high resolution color touch screen LCD. With touchscreen capability, it is easy to deploy into all kinds of automation systems, and make them more intuitive and efficient. Either setup new system installations or complete system retrofits, VPD series stands out for its wide variety of communication methods. Its built-in communication ports include RS-232/RS-485, and Ethernet, 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.

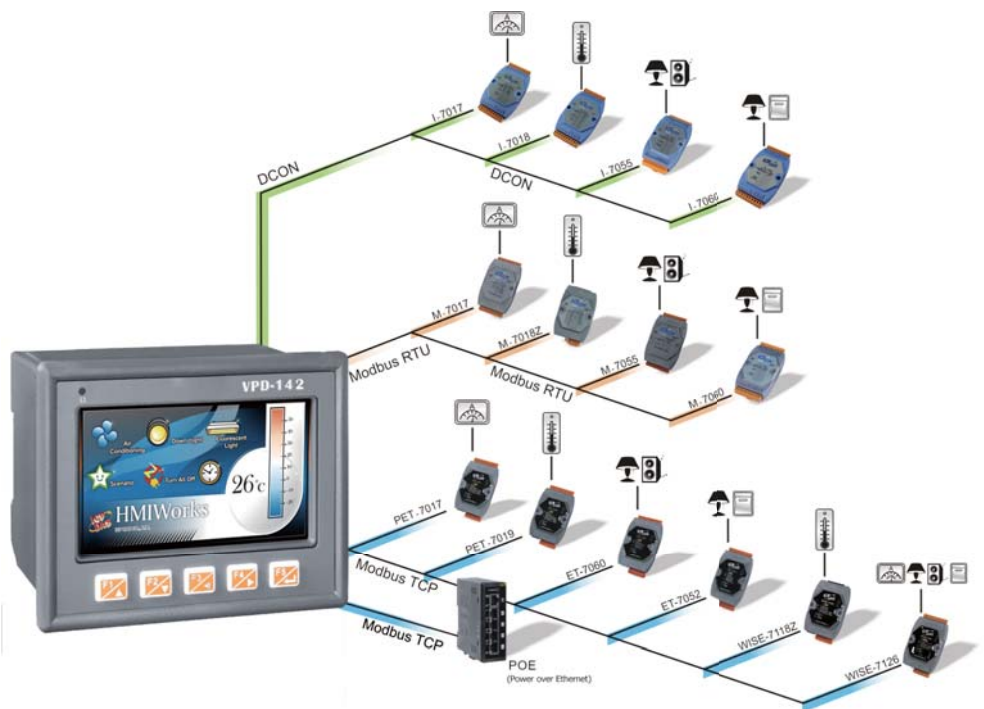
Applications



VPD-142/VPD-142N /VPD-143/ VPD-143N with DIN-Rail Mounting



VPD-142/VPD-142N /VPD-143/ VPD-143N 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

Multi-display

Multi-page Design

| | Time | Shutdown | Cumulative Time |
|---|------------------|----------|------------------------|
| 1 | 120 _m | Start | 120 _m Reset |
| 2 | 120 _m | Start | 120 _m Reset |
| 3 | 120 _m | Start | |

| | Remaining |
|---|------------------|
| 1 | 120 _m |
| 2 | 120 _m |
| 3 | 120 _m |

26c

curr. val. 2010/03/23 11:25:25

Specifications

| Models | VPD-142 | VPD-142N | VPD-143 | VPD-143N |
|-------------------------------------|--|----------|-----------------------------|----------|
| CPU Module | | | | |
| CPU | 32-bit RISC CPU | | | |
| Memory Expansion | 16 MB SDRAM / 8 MB Flash | | | |
| Real Time Clock (RTC) | Yes | | | |
| Buzzer | Yes | | | |
| Rotary Switch (0~9) | Yes | | | |
| Communication Interface | | | | |
| Serial Port 1 | One set of RS-232 (3-pin) / RS-485 (including Self-Tuner) | | | |
| Serial Port 2 | One set of RS-232 (3-pin) / RS-485 (including Self-Tuner) | | | |
| USB 1.1 Client | Firmware updates only | | | |
| 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 | 4.3" TFT(Resolution 480 X 272 X 16), defective pixels <= 3 | | | |
| Backlight Life | 20,000 hours | | | |
| Brightness | 400 cd/m2 | | | |
| LED Indicator | Yes | - | Yes | - |
| Touch Panel | Yes | | | |
| Reset Button | Yes | | | |
| Rubber Keypad | 5 keys (Programmable) | - | 5 keys (Programmable) | - |
| Electrical | | | | |
| Powered from Terminal Block | +12 ~ 48 Vdc | | | |
| Powered from PoE | - | | IEEE 802.3af, Class1 (48 V) | |
| Power Consumption | 2.5 W | | | |
| Mechanical | | | | |
| Dimensions (W x L x H) | 131 mm x 105 mm x 54 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 | | | |






Appearance


VPD-142/VPD-143 Front View




VPD-142N/VPD-143N Front View



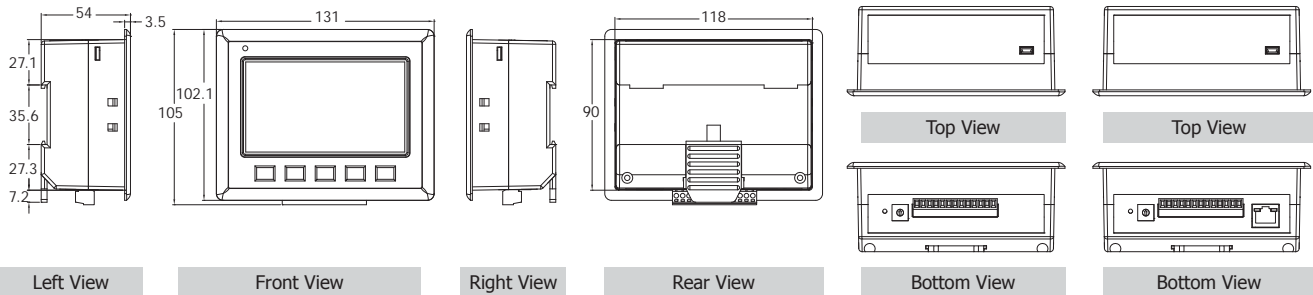
| DIO Board | | | | | |
|--|---|---|--|---|---|
| Model | XV107 | XV107A | XV110 | XV111 | XV111A |
| Image |  |  |  |  |  |
| Digital Input | | | | | |
| Channel | 8 | 8 | 16 | | |
| Contact | Wet | Wet | Dry+Wet | | |
| Sink/Source (NPN/PNP) | Source | Sink | Sink/Source | | |
| Wet Contact | On Voltage Level | +10 VDC ~ +50 VDC | | | |
| | Off Voltage Level | +4 VDC Max. | | | |
| Dry Contact | On Voltage Level | - | Close to GND | | |
| | Off Voltage Level | - | Open | | |
| Counters | Max. Count | 65535 (16-bit) | | | |
| | Max. Input Frequency | 100 Hz | | | |
| | Min. Pulse Width | 5 ms | | | |
| Input Impedance | 10 K Ω | | | | |
| Overvoltage Protection | 70 Vdc | | | | |
| Intra-module Isolation, Field to Logic | 3750 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 | | | 600 mA/channel | |
| Overload Protection | 1.4 A | | | 1.4 A | |
| Intra-module Isolation, Field to Logic | 3750 Vdc | | | 3750 Vdc | |
| Power Requirements | | | | | |
| Consumption | 0.2 W | | 0.6 W | 0.3 W | |

| Relay output Board | | |
|--|---|------------------|
| Model | XV116 | |
| Image |  | |
| Relay Output | | |
| Channel | 6 | |
| Type | Form A (SPST N.O.) | |
| Operating Voltage Range | 250 VAC or 30 Vdc | |
| Max. Load Current | Relay 0 ~ 1: 2 A Relay 2 ~ 5: 4 A | |
| Operating Time | Relay 0 ~ 1: 4 ms Max. Relay 2 ~ 5: 5 ms Max. | |
| Release Time | Relay 0 ~ 1: 6 ms Max. Relay 2 ~ 5: 1 ms Max. | |
| Mechanical Life | Relay 0 ~ 1: 100 x 10 ⁶ cycles Relay 2 ~ 5: 30 x 10 ⁶ cycles | |
| On-Resistance | - | |
| Off-State Leakage Current | - | |
| Intra-module Isolation, Field to Logic | 3750 Vdc | |
| Digital Input | | |
| Channel | 5 | |
| Contact | Wet | |
| Sink/Source (NPN/PNP) | Sink/Source | |
| Wet Contact | On Voltage Level | +10 Vdc ~ 50 Vdc |
| | Off Voltage Level | +4 Vdc Max. |
| Input Impedance | 10 K Ω | |
| Overvoltage Protection | 60 Vdc | |
| Intra-module Isolation, Field to Logic | 3750 Vdc | |
| Power Requirements | | |
| Consumption | 1W | |

| Multifunction Board | | |
|------------------------|---|--------------|
| Model | XV308 | |
| Image |  | |
| Analog Input | | |
| Channel | 8 | |
| Wiring | Single-Ended | |
| Sensor Type | +/- 1 V, +/- 2.5 V, +/- 5 V, +/- 10 V, 0 ~ 20 mA, 4 ~ 20 mA, +/-20 mA (Jumper selectable) | |
| Resolution | Normal Mode | 14-bit |
| | Fast Mode | 12-bit |
| Sampling Rate | Normal Mode | 10 Hz |
| | Fast Mode | 200 Hz |
| Input Impedance | 10 M Ω | |
| Overvoltage Protection | 120 Vdc | |
| Overcurrent Protection | 1000 mA | |
| Isolation | 2500 Vdc | |
| Digital Input | | |
| Channel | 4 | |
| Contact | Dry | |
| Sink/Source (NPN/PNP) | Source | |
| Wet Contact | On Voltage Level | Close to GND |
| | Off Voltage Level | Open |
| Overload Protection | 30 Vdc | |
| Digital Output | | |
| Channel | 4 | |
| Type | Open Collector | |
| Sink/Source (NPN/PNP) | Sink | |
| Load Voltage | +10 Vdc ~ +50 Vdc | |
| Max. Load Current | 700 mA/Channel | |
| Overload Protection | 1.4 A | |
| Power Requirements | | |
| Consumption | 1 W | |

■ Dimensions (Units: mm)

VPD-142/VPD-143



Left View

Front View

Right View

Rear View

VPD-142

VPD-143

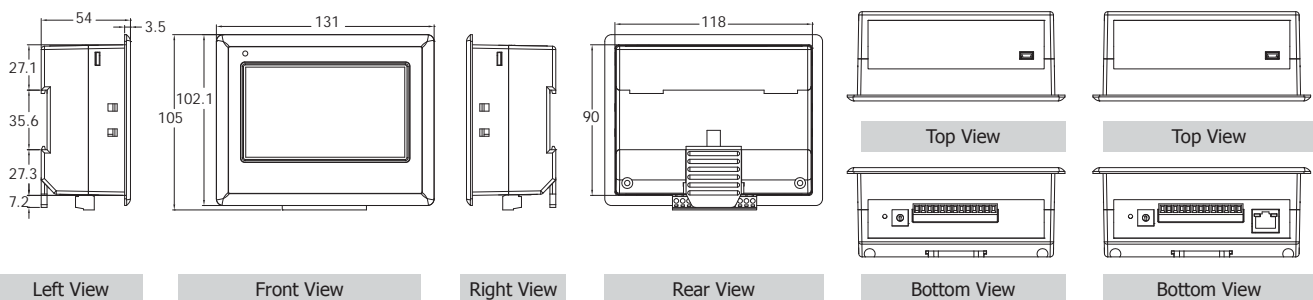
Top View

Top View

Bottom View

Bottom View

VPD-142N/VPD-143N



Left View

Front View

Right View

Rear View

VPD-142N

VPD-143N

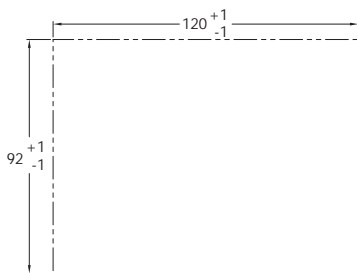
Top View

Top View

Bottom View

Bottom View

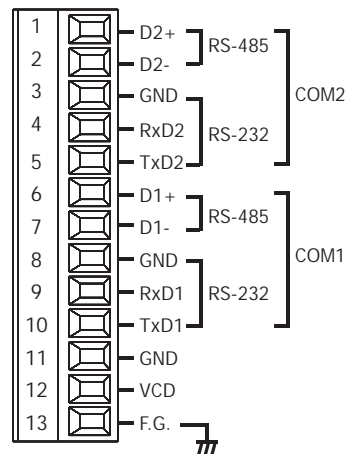
VPD-142/VPD-142N/VPD-143/VPD-143N



Recommended Panel Cutout

■ Pin Assignments




VPD-142/VPD-142N/VPD-143/VPD-143N



■ Ordering Information

| | |
|-------------|--|
| VPD-142 CR | 4.3" Touch HMI device with RS-232/RS-485, USB, RTC, Rubber Keypad, support XV-board (RoHS) |
| VPD-142N CR | 4.3" Touch HMI device with RS-232/RS-485, USB, RTC, support XV-board (RoHS) |
| VPD-143 CR | 4.3" Touch HMI device with Ethernet, RS-232/RS-485, USB, RTC, Rubber Keypad, support XV-board (RoHS) |
| VPD-143N CR | 4.3" Touch HMI device with Ethernet, RS-232/RS-485, USB, RTC, support XV-board (RoHS) |

■ Accessories

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