Vol. TPD_F.1.24.09_EN

# TouchPAD HMI Device

Supports I/O Expansion Boards

VPD Series

## Rapid Development of Field Control System

- Offers PoE Version
- Provides numerous communication interfaces for connecting I/O modules
- Comes with free development software HMIWorks
- Supports C & Ladder Logic programming languages
- Supports Modbus RTU, Modbus ASCII, Modbus TCP, DCON & MQTT protocols

- Buzzer
- Multiple Design Colors
- Surface/Flush-Mount Boxes


- Buzzer
- Shortcut keys
- Supports I/O expansion boards
- IP65 front panel, water & dust resistant

TPD Series 2.8" 4.3" 7"

VPD Series 3.5" 4.3" 7"

# TouchPAD HMI Device

## Operates like a Mini PC !

- Logical operations
- Color TFT display
- Touchscreen
- Communication functions
- Compact size
- Low power usage

Flexible | Fast | Easy to use

▶▶▶ Smart Home | Building Automation | Hospital

## TPD Series Application Fields

## TouchPAD Solution - Intuitive Device Visualization & Interaction

ICP DAS TouchPAD HMI Devices can be easily programmed through the free development software HMIWorks to swiftly create on-site control systems, cutting down on design complexity and costs. Additionally, the VPD series supports the XV-Board series expansion boards, which can flexibly increase the number of I/O points.

Supports I/O Expansion Boards


▶▶▶ Factory | Smart Farming | Warehouse

## VPD Series Application Fields

HMIWorks

## Design Your Custom HMI

HMIWorks is a free development software tailored for TPD and VPD series Touch HMI devices. It offers diverse graphic components, an expandable graphics library, and supports C and Ladder Logic programming languages, ensuring ease of use for IT and PLC engineers.

### Supports Multiple Languages

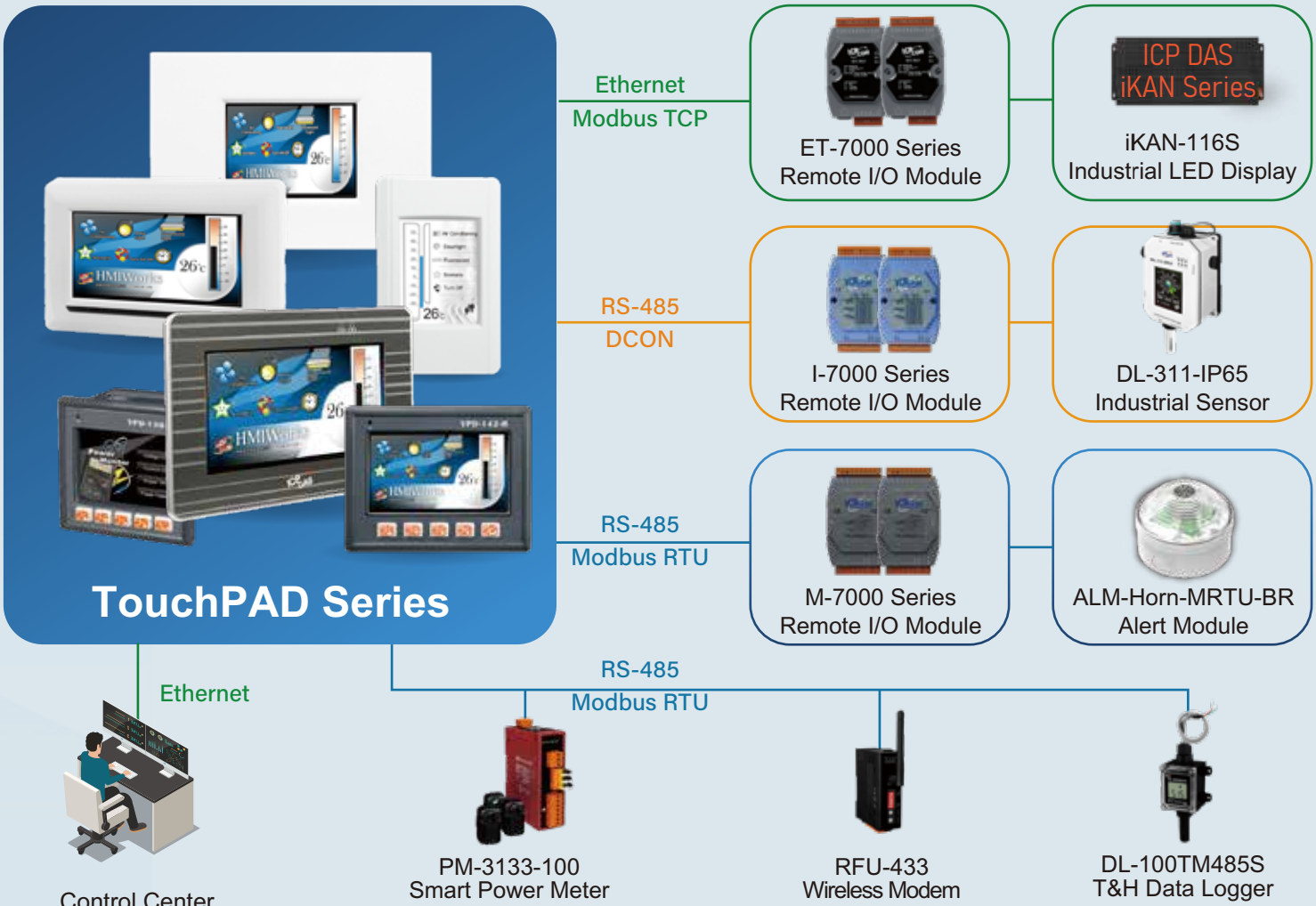
Users worldwide can create easy-to-use interfaces in their native languages.

### High-Resolution Color TFT Touchscreen

Supports multi-page display and switching, and can group related content to create an intuitive interface.

## Supports Various Communication Protocols

The TouchPAD series features RS-232/485 or Ethernet interfaces, enabling direct connections to IIoT products like power meters, sensors, and wireless data modems. Alternatively, it can employ remote data acquisition I/O modules to gather data from a range of devices, enabling seamless integration with central SCADA control for data visualization and centralized management across different areas.

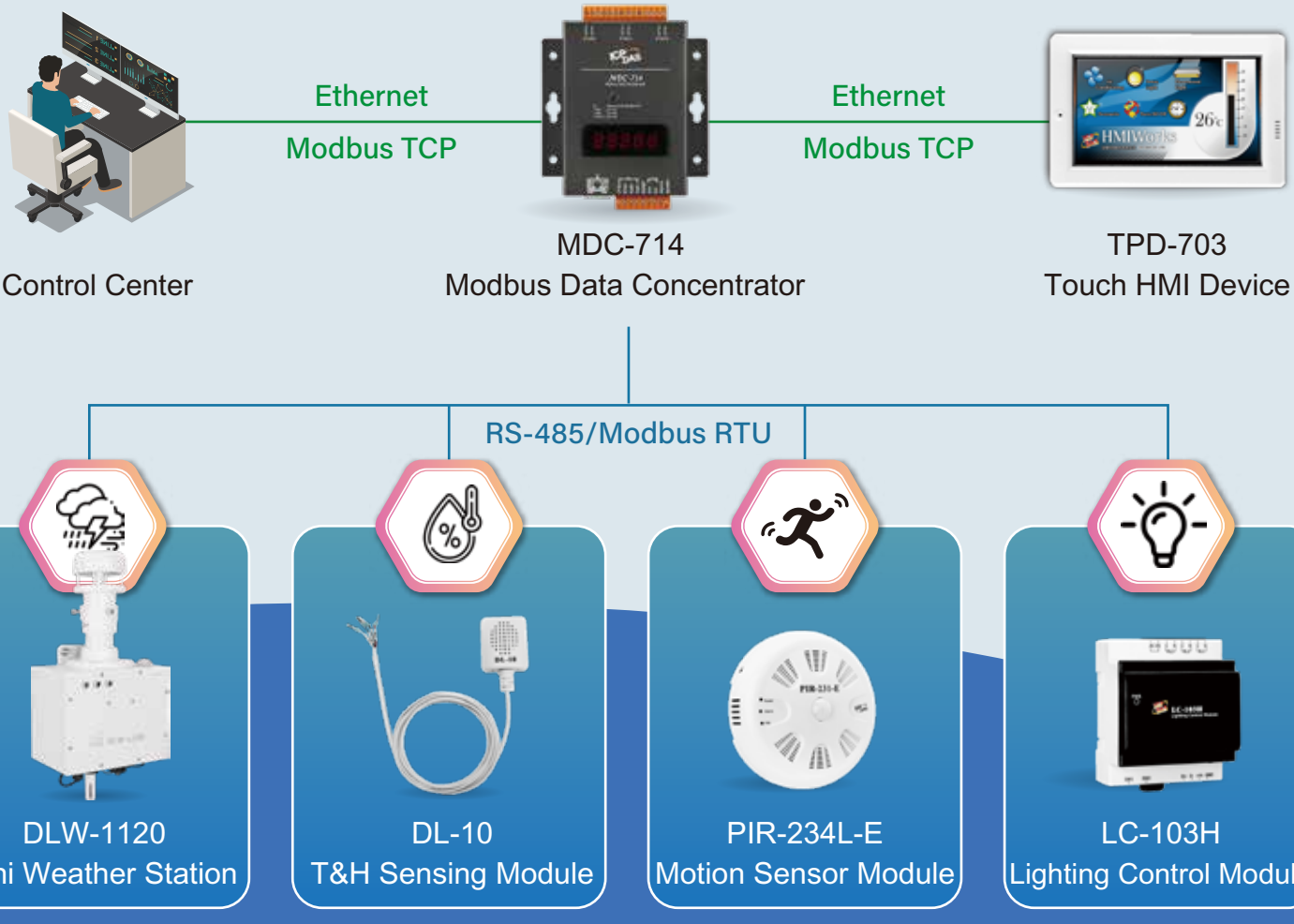


# Quickly Creating Smart & Energy-efficient Workspaces

## Centralized Lighting Control of Office Spaces

In office buildings, lighting equipment is scattered throughout various areas. Without a monitoring system, staff must manually conduct night patrols to ensure all lights are turned off, which is time-consuming. But with just one TPD-703 Touch HMI device, all lighting equipment on a floor can be centrally monitored and controlled, saving time and providing clear status updates.

MDC-714 Modbus Data Concentrator is collecting equipment data from each floor, enabling the control room host and TPD-703 Touch HMI device to read data from multiple end devices simultaneously, increasing data transfer rates. Additionally, staff can use SCADA to schedule lighting controls, thereby saving energy and labor costs.




Using the TPD-703 Touch HMI device and LC-103H Lighting Control Module, staff can manage lighting fixtures like fluorescent lights, wall lamps, LED lights, and ceiling lights across each floor. Adding the PIR-234L-E Motion Sensor Module automates light control, enhancing equipment efficiency.

Additionally, the TPD-703 can display data from the DL-10 T&H Sensing Module, enabling onsite staff to track the real-time temperature and humidity levels of different warehouses. Moreover, it can exhibit outdoor air quality and weather data collected by the DLW-1120 Mini Weather Station, fulfilling human-machine display needs.

## Managing Multiple Groups of Office Devices

TPD-430-H Touch HMI device, paired with the IR-210 Universal IR Learning Module featuring six independent IR output channels, can replace remote controls and centrally manage multiple electronic devices' activation and deactivation, streamlining control.

Compatible with TPD series, LC-103H Lighting Control Module supports digital control and can connect physical switches, easily providing both physical and digital control of two switches. Additionally, installing two TPD units at the front and rear of a large conference room to control lighting equipment will help eliminate the inconvenience of moving back and forth.

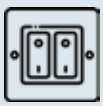
TPD Series Touch HMI Device

**Pre-set different environmental modes such as break, meeting, or client's visit to easily turn lights and devices on and off!**

RS-485
Modbus RTU

IR-210
Universal IR Learning Module

LC-103H
Lighting Control Module



Dual Control

DL-1022
Industrial Sensor


Projector

Air conditioner

Monitor

Electric curtain




Recessed light | Spotlight A | Fluorescent light

Podium lighting | Auditorium lighting


Meeting mode

Presentation mode


# Versatile Control for Various Industrial Ceiling Fans

TPD-283U-H Touch HMI Device

## Control of Large Industrial Energy-Efficient Ceiling Fans (HVLS System)

The 2.8” TPD-283U-H communicates via RS-485, sending Modbus RTU commands to the motor drive to control motor start/stop, acceleration/deceleration, and forward/reverse direction.

Various ceiling fan brands use different motor drives, resulting in diverse Modbus commands. The programmable TPD-283U-H supports multiple motor drive models, providing a flexible and efficient integration solution, boosting convenience and reliability.

The TPD series features a standard outlet box size, allowing seamless integration with existing sockets and light switches, saving space and maintaining aesthetics.

## ICP DAS TouchPAD Advantages ▸▸▸

| Other brands | ICP DAS |
|---|---|
| Single display size | Multiple display sizes |
| Dull appearance | Aesthetic appearance |
| Fixed HMI design | Customizable HMI design |
| Fixed software development | Flexible software development |
| Supports specific motor drives only | Supports various motor drives |


# Temperature Control for Multiple Rooms on Each Floor

TPD-432F-H HMI Device

## Centralized Air Conditioning Control for Multiple Spaces

Adding an RS-485 module to air conditioners from a major manufacturer allows users to read operational status, indoor temperature, and adjust settings via RS-485.

The TPD-432F-H links to multiple room air conditioners via RS-485, displaying their data on its aesthetic HMI display. It enables centralized management of the air conditioners' on/off, temperature settings, and operation modes to suit each room's needs.

This system suits homes and large spaces like factories, hospitals, and schools with multiple floors. Users can remotely monitor and control air conditioners on different floors with a TPD-432F-H unit, achieving energy savings and reducing carbon emissions.

## ICP DAS TouchPAD Applications ▸▸▸

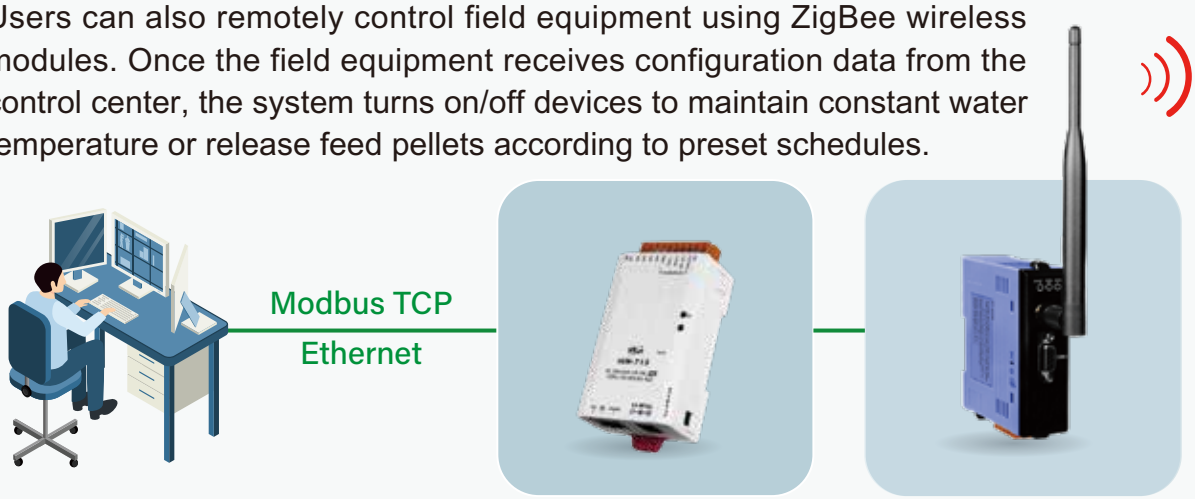
- Factory
- Hospital
- Library
- Preschool
- Nursing home
- Dormitory
- Campus

# Smart Aquaculture Monitoring System
# Simultaneous Remote & On-Site Integration

## Remote Data Monitoring and Equipment Control

InduSoft's control center offers users a web-based interface to monitor real-time information and historical trends across all fish ponds. It helps farmers analyze data on water usage, precision feeding and water temperature control. In addition, InduSoft promptly alerts personnel to any abnormalities to prevent major losses.

Users can also remotely control field equipment using ZigBee wireless modules. Once the field equipment receives configuration data from the control center, the system turns on/off devices to maintain constant water temperature or release feed pellets according to preset schedules.




InduSoft Software

tGW-715
Modbus Gateway

ZT-2550
ZigBee Converter

## On-site Data Monitoring and Equipment Control

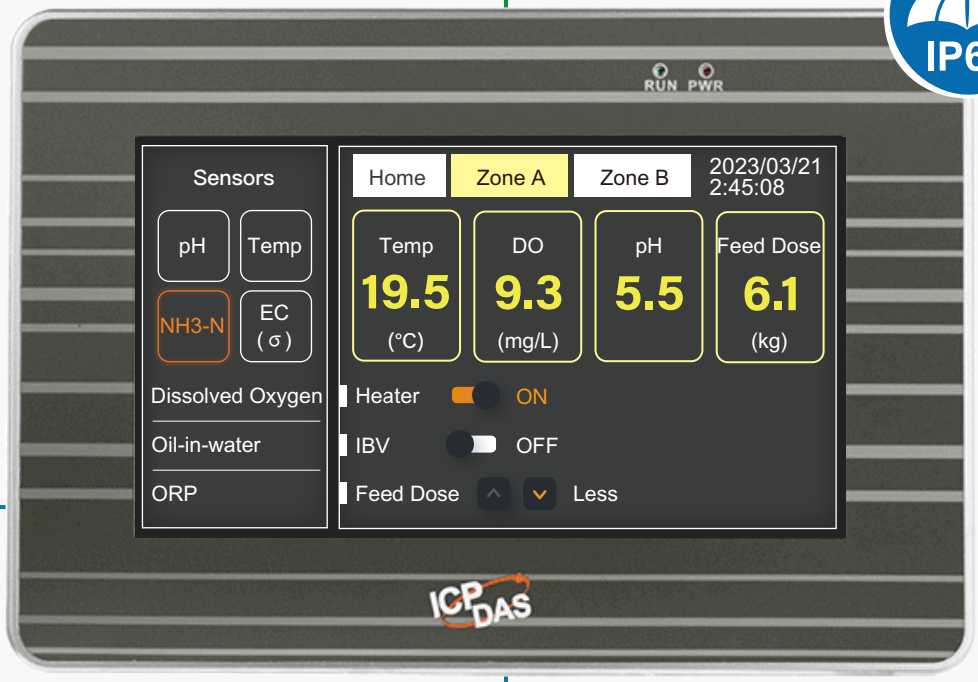
Water quality and temperature data from sensors in the fish ponds are sent to the control center via ZigBee wireless communication and stored in an SQL database.

VPD-173N Touch HMI at the fish ponds displays water quality and temperature data, allowing on-site control of heating devices, feeders, inlet valves, and other equipment for optimal aquaculture conditions. The iKAN-116S LED display disseminates messages across areas, improving on-site information readability and issue resolution by staff.


iKAN-116S LED Display

Ethernet
Modbus TCP

IP65




ZT-2550
ZigBee Converter

VPD-173N Touch HMI

RS-485
Modbus RTU

tM-P4C4

Water Condition Sensors

tM-P4C4

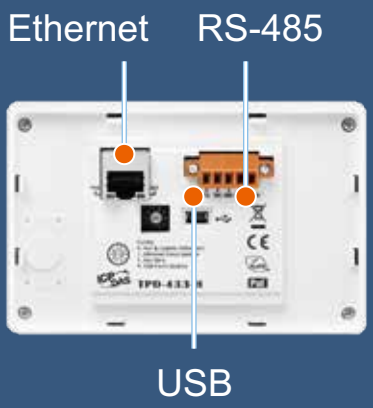
Feeders

tM-P4C4

Heaters

tM-P4C4

Inlet Butterfly Valve


## TPD Mechanical Features

Compact size / Mounting boxes / Low power usage

Selection Guide


▸ Flush-mounting box


▸ Surface-mounting box

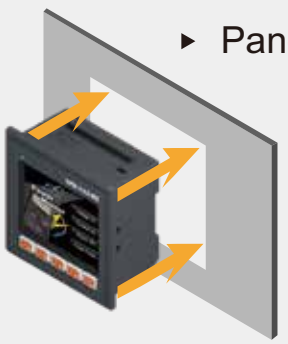

▸ Surface-mounting box


- Front panel: IP65 rated
- Real-time clock
- High-resolution color touchscreen
- Rubber keypad (Programmable)

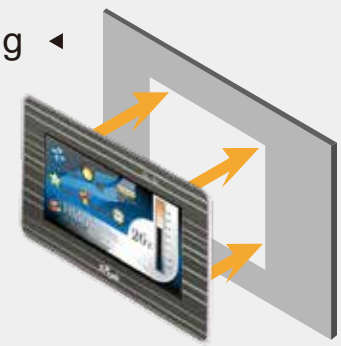
## VPD Mechanical Features

Water and dust resistant / Easy-to-integrate / Expandable I/O count

▸ Panel mounting ◂



3.5”
4.3”



7.0”

▸ DIN-rail mounting

3.5” / 4.3”

# Selection Guide

**TPD - XX X(X) - XX**

Touchscreen Size
28：2.8 inch
43：4.3 inch
70：7.0 inch

Communication Interface
0：1 x RS-485
2：2 x COM ports
3：Ethernet + COM port
(U)：Additional Flash memory
(F)：Flat panel

EU：Fit into European standard 86x86 mm sockets
H：High-speed version
Mx：Design choices
64：Additional 64 MB Flash memory

| Model | Screen Size | Communication Interface | Power Supply | Dimensions (mm) |
|---|---|---|---|---|
| TPD-280-H | 2.8吋 | RS-485 | +12 ~ 48 VDC | 119x76x33 |
| TPD-280U-H | | | | |
| TPD-283-H | | Ethernet | PoE | |
| TPD-283U-H | | RS-485<br>Ethernet | +12 ~ 48 VDC<br>PoE | |
| TPD-280-M1 | | RS-485 | +12 ~ 48 VDC | 127x92x31 |
| TPD-280-M2 | | | | |
| TPD-280-M3 | | | | |
| TPD-283-M1 | | Ethernet | PoE | |
| TPD-283-M2 | | | | |
| TPD-283-M3 | | | | |
| TPD-283U-M1 | | RS-485<br>Ethernet | +12 ~ 48 VDC<br>PoE | |
| TPD-283U-M2 | | | | |
| TPD-283U-M3 | | | | |
| TPD-430-H | 4.3吋 | RS-485 | +12 ~ 48 VDC | 126x82x24 |
| TPD-430-H-EU | | | | 126x92x29 |
| TPD-433-H | | RS-485<br>Ethernet | +12 ~ 48 VDC<br>PoE | 126x82x24 |
| TPD-433-H-EU | | | | 126x92x29 |
| TPD-432F-H | | RS-485 | +12 ~ 48 VDC | 140x87x41 |
| TPD-433F-H | | RS-485<br>RS-232<br>Ethernet | +12 ~ 48 VDC<br>PoE | |
| TPD-433-M2 | | | | 140x98x30 |
| TPD-703 | 7.0吋 | RS-485<br>RS-232<br>Ethernet | +12 ~ 48 VDC<br>PoE | 217x153x33 |
| TPD-703-64 | | | | |

# Selection Guide

**VPD - X X(X) - X**


Touchscreen Size
3：3.5 inch
4：4.3 inch
7：7.0 inch

Communication Interface
0：RS-485
2：RS-232/RS-485+RS-485
3：RS-232/RS-485+RS-485 +Ethernet
(N)：No rubber keypad
(X)：Supports I/O expansion boards

H：High-speed version
64：Additional 64 MB Flash memory

| Model | Screen Size | Communication Interface | Power Supply | I/O Expansion Board | Dimensions (mm) |
|---|---|---|---|---|---|
| VPD-130-H2 | 3.5 inch | RS-232 RS-485 | +12 ~ 48 VDC | Support | 103x103x53 |
| VPD-130N-H2 | | | | | |
| VPD-133-H2 | | RS-232 RS-485 Ethernet | +12 ~ 48 VDC PoE | | |
| VPD-133N-H2 | | | | | |
| VPD-142-H | 4.3 inch | RS-232 RS-485 | +12 ~ 48 VDC | | 131x105x54 |
| VPD-142N-H | | | | | |
| VPD-143-H | | RS-232 RS-485 Ethernet | +12 ~ 48 VDC PoE | | |
| VPD-143N-H | | | | | |
| VPD-173N | 7.0 inch | RS-232 RS-485 Ethernet | +12 ~ 48 VDC PoE | - | 217x153x33 |
| VPD-173X | | | | Support | |
| VPD-173N-64 | | | | - | |
| VPD-173X-64 | | | | Support | |

I/O Expansion Board
XV-Board Series

| Model | DI | DO |
|---|---|---|
| XV107(A) | 8 | 8 |
| XV110 | 16 | - |
| XV111(A) | - | 16 |
| XV116 | 5 | 6 (Relay) |
| XV119 | - | 9 (Relay) |

| Model | DI | DO | DI | DO |
|---|---|---|---|---|
| XV303 | - | 4 (V, mA) | 4 | 4 (Relay) |
| XV305 | 4 (V, mA, TC) | - | 4 | 4 (Relay) |
| XV306 | 4 (V, mA) | - | 4 | 4 (Relay) |
| XV307 | - | 2 (V, mA) | 4 | 4 (Relay) |
| XV308 | 8 (V, mA) | - | DI + DO = 8 | |
| XV310 | 4 (V, mA) | 2 (V, mA) | 4 | 4 |
| XV315 | 3 (RTD) | 3 (V) | 4 | - |

泓格科技股份有限公司 Industrial Computer Products and Data Acquisition Systems
+886-3-5973366 info@icpdas.com / sales@icpdas.com www.icpdas.com