



ICP DAS CO., LTD.

# Touch HMI Solutions

Product Brochure

Vol.TouchPAD 3.06.05-EN

# TouchPAD

2.8"

TPD-28x series



4.3"

TPD-43x series



3.5"

VPD-13x series



4.3"

VPD-14x series



I/O Expansion Board  
(XV Board)



7"

VPD-17x series



Website: <http://www.icpdas.com>

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# Touch HMI Solutions

*The Best Choice for Building/Factory/Machine/Home Automation*

## Introduction



ICP DAS provides two types of touch HMI devices, the TPD series and the VPD series. The TPD series is designed for home/building automation applications and the VPD series is designed for factory/machine automation applications. Both have many common features, such as a high-color high-resolution touch screen, RTC, and a variety of communication interfaces, including RS-232/RS-485 and Ethernet. However, each still has its own specific features for its respective target applications. For the TPD series, users can use an external wall box to help smoothly blend the TPD series device into decoration. For the VPD series, the rubber keypad, IP-65 waterproof front panel and DIN-Rail/panel mounting are designed for harsh environment, and are especially suitable for factories.



HMIWorks is a free development tool that can be used to design ladder diagrams for softPLC logic for TouchPAD. A single TouchPAD becomes a touch HMI device which runs ladder logics.

## Features

- Excellent C/P ratio (cost/performance)
- High-color high-resolution touch screen
- Power over Ethernet (PoE)
- RS-485 (including SelfTuner)/RS-232 (3 pins)
- RTC (Real Time Clock)
- Buzzer
- Rubber Keypad (Option for VPD Series)
- Graphical user interface designer
- Free development tool: HMIWorks
- Support the C language and Ladder Designer
- Support user-defined third party protocol(C language)
- Modbus protocol enables remote control of I/O modules and integration with SCADA software
- ESD Protection: 4 kV
- Waterproofed Front Panel (VPD: IP65, TPD: IP40)
- Operating temperature: -20~+50 °C (2.8": -20~+70 °C; 7": -10~+60 °C)

## • HMIWorks - Free Development Software

# HMIWorks *The development software for the TouchPAD series*



HMIWorks is a free development software for TouchPAD series products of ICP DAS. It features of many widgets, built-in extensible graphics library, intuitive design, C programming, Ladder Diagram supporting, fully I/O integration... etc. Using with TouchPAD series devices, HMIWorks can help users to short the development time and design the sophisticated, cost effective solutions for the complex systems.

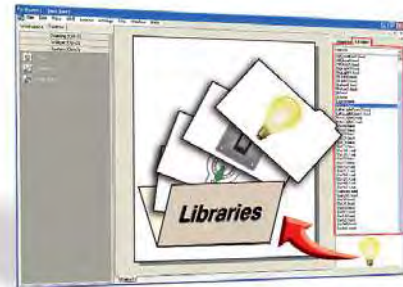
### 1. Support Many Widgets - Shorten Development Time

There are many widgets included in the HMIWorks development tool, including Rectangle, Ellipse, Text, Picture, Line, TextPushButton, Slider, BitButton, HotSpot, CheckBox, Label, Timer, PaintBox, ObjectList, providing the most commonly-used functions, such as drawings, event handlers, and timing control, which effectively shortens development time.



### 2. Built-in the Extensible Graphics Library

HMIWorks supports simple graphics functions and provides users with a variety of built-in graphics for common situations. Users can also add their own graphics to the library by the common painting or photo editing software.



### 3. 65536 Colors - Bright and Clear

Presently, LCD touch screens are available at 2.8", 3.5", 4.3" and the TouchPAD series includes different resolutions from 240 x 320 x 16 to 480 x 272 x 16. ICP DAS will expand this range in the future.



### 4. Intuitive Design

HMIWorks provides an intuitive graphical design interface that allows users to focus on what they want to do. By getting rid of the programming details and being more intuitive, everyone can easily finish their projects.



### 5. C and Ladder Diagram Programming



### 6. Drag-and-drop Design - fully integrate with I/O (support third party modules)

ICP DAS now supports many I/O devices, such as ET-7000/PET-7000 series Modbus TCP modules, M-7000 series Modbus RTU modules, I-7000 series DCON modules and user-defined third party Modbus TCP devices. Users can expect that additional I/O devices will be supported by HMIWorks for the TouchPAD series in the future.





## TPD Series Selection Guide

# TPD -



# XX





**LCD**  
28: 2.8"  
43: 4.3"  
70: 7.0"

# X(X)

**Communication Interface**  
0: 1 x RS-485  
2: 2 x COM ports  
3: Ethernet and COM port  
(U): with extra Flash  
(F): Flat Type

# XX

**EU: For European**  
86 x 86 mm Outlet Box  
H: High Speed Version  
Mx: Multi Panel  
64: 64 MB Extra Flash

Model Name	LCD	Extra Flash	Image Storage Capacity	Ethernet	COM port	RTC	Outlet Box	External Wall Box	Power Input	
TPD-280-H	2.8" TFT (Resolution 240 x 320)  	-	4	-	1x RS-485	-	OB120	EWB-T28	+12 ~ 48 Vdc	
TPD-283-H			4	Yes	-				PoE	
TPD-280U-H		16 MB	108	-	1x RS-485	Yes			+12 ~ 48 Vdc	
TPD-283U-H		16 MB	108	Yes	1x RS-485				+12 ~ 48 Vdc or PoE	
TPD-280-M1/M2/M3		-	4	-	1x RS-485	-			+12 ~ 48 Vdc	
TPD-283-M1/M2/M3			4	Yes	-				PoE	
TPD-283U-M1/M2/M3		16 MB	108	Yes	1x RS-485	Yes			+12 ~ 48 Vdc or PoE	
TPD-430-H	4.3" TFT (Resolution 480 x 272) 	16 MB	64	-	1x RS-485	Yes	OB120	EWB-T43	+12 ~ 48 Vdc	
TPD-433-H				Yes					+12 ~ 48 Vdc or PoE	
TPD-430-H-EU				-			European 86 x 86 mm		+12 ~ 48 Vdc	
TPD-433-H-EU				Yes					+12 ~ 48 Vdc or PoE	
TPD-432F		8 MB	32	-	2x RS-485		OB140F OB140FP	EWB-T43F	+10 ~ 30 Vdc	
TPD-433F-H		16 MB	64	Yes	1x RS-232 1x RS-485				+12 ~ 48 Vdc or PoE	
TPD-433-M2										
TPD-703	7" TFT (Resolution 800 x 272)	16 MB	18	Yes	1x RS-232 1x RS-485	Yes	OB170	EWB-T70	+12 ~ 48 Vdc or PoE	
TPD-703-64		64 MB	84							

**Note1:** Image Storage Capacity depends on the content of program and the size of images. The number is counted by how many images in full screen size can be stored on the device.

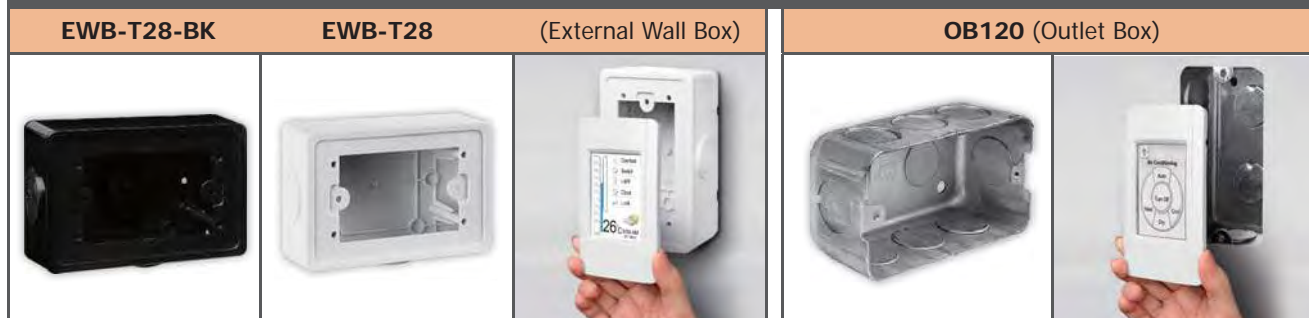
**Note2:** PoE (Power over Ethernet) specification: IEEE 802.3af, Class 1, 48 V



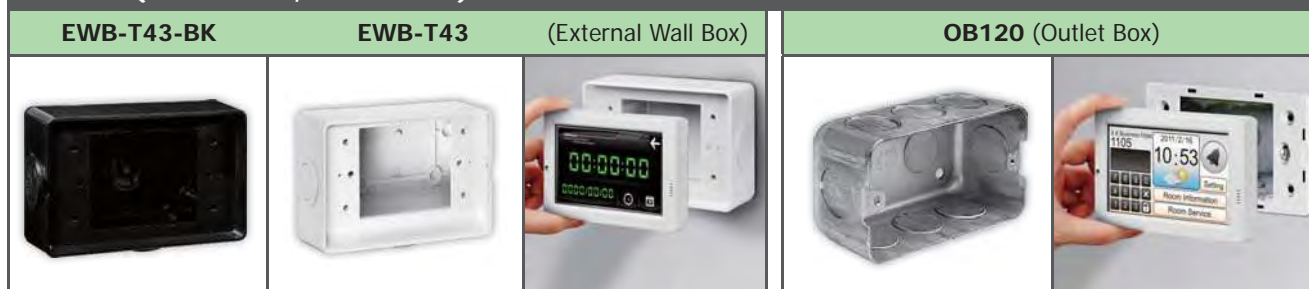


## External Wall Box and Outlet Box

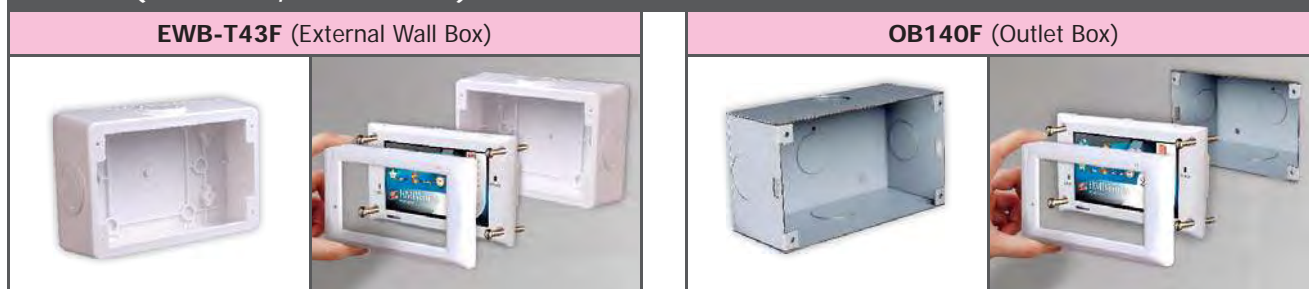
For 2.8" (TPD-280-H/TPD-280U-H/TPD-283-H/TPD-283U-H)



For 4.3" (TPD-430-H, TPD-433-H)



For 4.3" (TPD-432F, TPD-433F-H)



For 4.3" (TPD-430-H-EU, TPD-433-H-EU)

Mounted to European-standard 86 mm x 86 mm outlet box.



For 7" (TPD-703, TPD-703-64)





## VPD Series Selection Guide

# VPD - 1






**Touch Screen Size**  
3: 3.5 inch  
4: 4.3 inch  
7: 7 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



**H: High Speed Version**  
64: 64 MB Extra Flash

VPD Model	LCD	Extra Flash	Image Storage Capacity	Com Port	Ethernet	RTC	Expansion I/O Boards	Rubber Keypad	Ingress Protection	Power Input			
VPD-130-H	3.5" TFT (Resolution 320 x 240) 	16 MB	108	RS-232/RS-485	-	Yes	Yes	Yes	Front Panel: IP65	+12 ~ 48 Vdc			
VPD-130N-H				-									
VPD-132-H				Yes									
VPD-132N-H				-	+12 ~ 48 Vdc or PoE								
VPD-133-H				Yes									
VPD-133N-H				-									
VPD-142-H	4.3" TFT (Resolution 480 x 272) 	16 MB	64	COM1: RS-485 or RS-232	-	Yes	Yes	Yes	Front Panel: IP65	+12 ~ 48 Vdc			
VPD-142N-H				COM2: RS-485 or RS-232	Yes			-		+12 ~ 48 Vdc or PoE			
VPD-143-H								Yes					
VPD-143N-H								-					
VPD-173N	7" TFT (Resolution 800 x 480) 	16 MB	18	COM1: RS-485 or RS-232 COM2: RS-485 or RS-232	Yes	Yes	-	-	Front Panel: IP65	+12 ~ 48 Vdc or PoE			
VPD-173N-64		64 MB	84				Yes						
VPD-173X		16 MB	18										
VPD-173X-64		64 MB	84										


**Note1:** Image Storage Capacity depends on the content of program and the size of images. The number is counted by how many images in full screen size can be stored on the device.


**Note2:** PoE (Power over Ethernet) specification: IEEE 802.3af, Class 1, 48 V

### Optional XV-Board



## Expansion XV-Board Selection Guide

Model Name	Type	DI			DO		
		Channels	Sink/Source	Contact	Channels	Type	Sink/Source
XV107		8	Source	Wet	8	Open Collector	Sink/Source
XV107A		8	Sink		8	Open Emitter	Source
XV110		16	Sink/Source	Wet + Dry	-	-	-
XV111		-	-	-	16	Open Collector	Sink
XV111A		-	-	-	16	Open Emitter	Source
XV116		5	Sink/Source	Wet	6	Power Relay, Form A	-

Model Name	Type	AI		AO		DI		DO	
		Channels	Type	Channels	Type	Channels	Type	Channels	Type
XV306		4	Voltage/Current	-	-	4	Wet	4	Relay, FormA, 6A
XV307		-	-	2	Voltage/Current	4	Wet	4	Relay, FormA, 6A
XV308		8	Voltage/Current	-	-	DI+DO=8	Dry/Wet	DI+DO=8	Open Collector, Sink
XV310		4	Voltage/Current	2	Voltage/Current	4	Dry	4	Open Collector, Source

# TPD 2.8" Series



TPD-280-H



TPD-280U-H



TPD-283-H



TPD-283U-H

## Features

- High-color high-resolution touch screen
- PoE (Power over Ethernet)
- RS-485 (including Self-Tuner)
- RTC (Real Time Clock)
- Free HMIWorks development tool
- Support C language and Ladder Designer
- Support user-defined third party protocol (C language)
- Modbus TCP/RTU protocol
- Operating Temperature: -20 ~ 70 °C



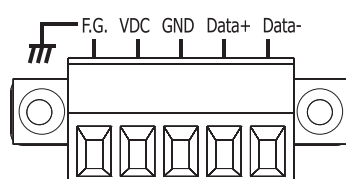
## Introduction

The **TouchPAD TPD 2.8" Series**, TPD-280-H/TPD-280U-H/TPD-283-H/TPD-283U-H, is a series of touch HMI and designed for building and home automation. The TPD 2.8" Series is equipped with high-color high-resolution TFT 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.

For PLC users, HMIWorks provides Ladder Designer, and for IT users, C language environment is provided. Especially, it only takes no more than 30 minutes to learn how to create an application program of TouchPAD series devices when using Ladder Designer. Moreover, by utilizing the Ethernet functionality of the TouchPAD, users can easily implement a redundant control solutions. With all the features provided, TouchPAD series touch HMI Devices must be the most cost effective HMI Device ever been in the market.

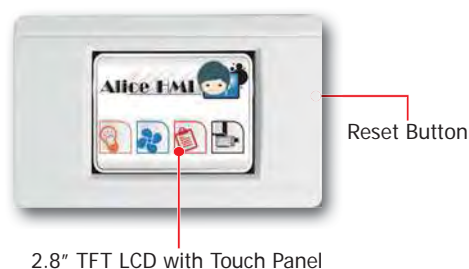
## Pin Assignments

TPD-280-H/280U-H/283U-H ▼

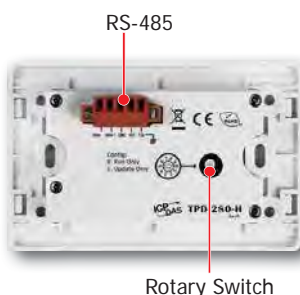


## Appearance

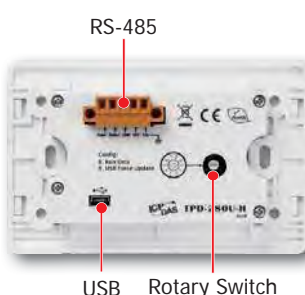
Front View ▼



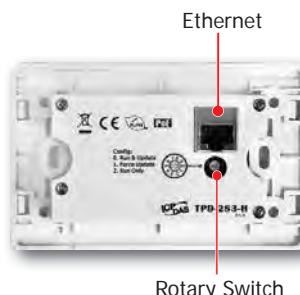
TPD-280-H Rear View ▼



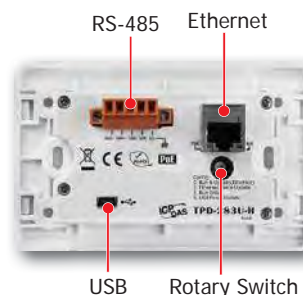
TPD-280U-H Rear View ▼



TPD-283-H Rear View ▼



TPD-283U-H Rear View ▼







## Specifications

Models	TPD-280-H	TPD-280U-H	TPD-283-H	TPD-283U-H
CPU Module				
CPU	32-bit RISC CPU			
Memory Expansion	-	16 MB SDRAM / 16 MB Flash	-	16 MB SDRAM / 16 MB Flash
Real Time Clock (RTC)	-	Yes	-	Yes
Buzzer	Yes			
Rotary Switch (0~9)	Yes			
Communication Interface				
Serial Port	RS-485 (including Self-Tuner)		-	RS-485 (including Self-Tuner)
USB Client 1.1	-	Firmware update only	-	Firmware update only
Ethernet	-		RJ-45 x 1, 10/100 Base-TX	
MMI (Main Machine Interface)				
LCD	2.8" TFT (Resolution 240 x 320 , 65535 colors), defective pixels <= 3			
Backlight Life	20,000 hours			
Brightness	160 cd/m2			
Touch Panel	Resistive Touch			
Reset Button	Yes			
Electrical				
Powered from Terminal Block	+12 ~ 48 Vdc		-	+12 ~ 48 Vdc
Powered from PoE	-		IEEE 802.3af, Class1 (48 V)	
Power Consumption	1.5 W			
Mechanical				
Dimensions (W x L x H)	119 mm x 76 mm x 33 mm	119 mm x 76 mm x 33 mm	119 mm x 76 mm x 32 mm	119 mm x 76 mm x 33 mm
Installation	Wall Mount			
Ingress Protection	Front Panel: IP40			
Environmental				
Operating Temperature	-20 ~ +70 °C			
Storage Temperature	-30 ~ +80 °C			
Ambient Relative Humidity	10 ~ 90% RH, non-condensing			

## Ordering Information

TPD-280-H CR	2.8" Touch HMI device with RS-485 (RoHS)
TPD-280U-H CR	2.8" Touch HMI device with RS-485, USB download, RTC (RoHS)
TPD-283-H CR	2.8" Touch HMI device with Ethernet, PoE (RoHS)
TPD-283U-H CR	2.8" Touch HMI device with RS-485, RTC, Ethernet, PoE (RoHS)

## Accessories

 CA-USB10	USB to 5P Mini-USB, 28AWG, 1.5 m	 DIN-KA52F CR	24 Vdc/1.04 A, 25 W Power Supply with DIN-Rail Mounting (RoHS)
 1C016	2.4 mm Screw driver	 EWB-T28	External Wall Box (White) for TPD 2.8 inch series
 NS-208PSE CR	Unmanaged Industrial PoE (Power over Ethernet) Ethernet Switch (RoHS)	 EWB-T28-BK	External Wall Box (Black) for TPD 2.8 inch series
 MDR-60-24 CR	24 Vdc/2.5 A, 60 W Power Supply with DIN-Rail Mounting (RoHS)	 OB120	Outlet Box for TPD 2.8 inch series and TPD-430-H/433-H Devices

## TPD 2.8" Series



M1 Models

M2 Models

M3 Models

### Features

- 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
- Operating temperature: -20 ~ 70 °C



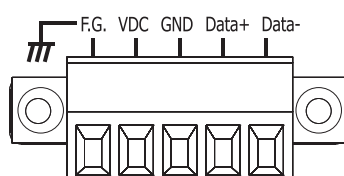
### Introduction

**TPD 2.8 inch Mx series** is a series of touch HMI and designed for building and home automation. TPD 2.8 inch Mx series 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.

For PLC users, HMIWorks provides Ladder Designer, and for IT users, C language environment is provided. Especially, it only takes no more than 30 minutes to learn how to create an application program of TPD-series devices when using Ladder Designer. Moreover, we provide redundant solutions in our PoE version, TPD-283/283U-Mx of TPD-series HMI devices. With all the features provided, TPD-series touch HMI Devices must be the most cost effective HMI Device ever been in the market.

### Pin Assignments

#### TPD-280-Mx/283U-Mx Series ▼

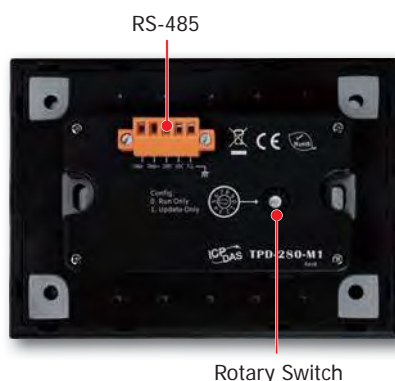


### Appearance

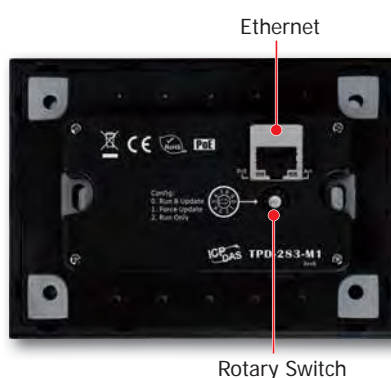
#### Front View ▼



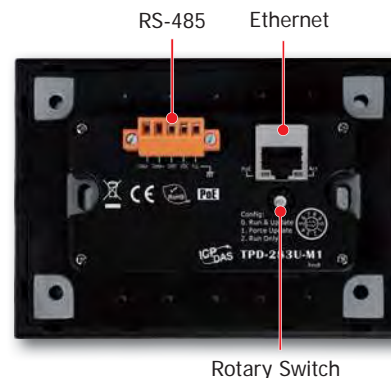
#### TPD-280-Mx Series Rear View ▼



#### TPD-283-Mx Series Rear View ▼



#### TPD-283U-Mx Series Rear View ▼











## Specifications

Models	TPD-280-Mx	TPD-283-Mx	TPD-283U-Mx
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	RS-485 (including Self-Tuner)	-	RS-485 (including Self-Tuner)
USB Client 1.1	-		Firmware update only
Ethernet	-	RJ-45 x 1, 10/100 Base-TX	
MMI (Main Machine Interface)			
LCD	2.8" TFT (Resolution 240 x 320 , 65535 colors), defective pixels <= 3		
Backlight Life	20,000 hours		
Brightness	160 cd/m2		
Touch Panel	Resistive Touch		
Reset Button	Yes		
Electrical			
Powered from Terminal Block	+12 ~ 48 Vdc	-	+12 ~ 48 Vdc
Powered from PoE	-	IEEE 802.3af, Class1 (48 V)	
Power Consumption	1.5 W		
Mechanical			
Dimensions (W x L x H)	127 mm x 92 mm x 31 mm	127 mm x 92 mm x 30 mm	127 mm x 92 mm x 31 mm
Installation	Wall Mount		
Ingress Protection	Front Panel: IP40		
Environmental			
Operating Temperature	-20 ~ +70 °C		
Storage Temperature	-30 ~ +80 °C		
Ambient Relative Humidity	10 ~ 90% RH, non-condensing		

## Ordering Information

TPD-280-M1 CR	2.8" Touch HMI device with RS-485 (Panel: white, RoHS)
TPD-280-M2 CR	2.8" Touch HMI device with RS-485 (Panel: gray, RoHS)
TPD-280-M3 CR	2.8" Touch HMI device with RS-485 (Panel: black, RoHS)
TPD-283-M1 CR	2.8" Touch HMI device with Ethernet, PoE (Panel: white, RoHS)
TPD-283-M2 CR	2.8" Touch HMI device with Ethernet, PoE (Panel: gray, RoHS)
TPD-283-M3 CR	2.8" Touch HMI device with Ethernet, PoE (Panel: black, RoHS)
TPD-283U-M1 CR	2.8" Touch HMI device with RS-485 (including Self-Tuner), RTC, Ethernet, PoE (Panel: white, RoHS)
TPD-283U-M2 CR	2.8" Touch HMI device with RS-485 (including Self-Tuner), RTC, Ethernet, PoE (Panel: gray, RoHS)
TPD-283U-M3 CR	2.8" Touch HMI device with RS-485 (including Self-Tuner), RTC, Ethernet, PoE (Panel: black, RoHS)

## Accessories

 1C016	2.4 mm Screw driver	 EWB-T28	External Wall Box (White) for TPD 2.8 inch series
 NS-208PSE CR	Unmanaged Industrial PoE (Power over Ethernet) Ethernet Switch (RoHS)	 EWB-T28-BK	External Wall Box (Black) for TPD 2.8 inch series
 MDR-60-24 CR	24 Vdc/2.5 A, 60 W Power Supply with DIN-Rail Mounting (RoHS)	 OB120	Outlet Box for TPD 2.8 inch series and TPD-430-H/433-H Devices



## TPD 4.3" Series



### Features

- PoE (Power over Ethernet) for TPD-433 Series
- High-color high-resolution touch screen
- RS-485 (including Self-Tuner)
- RTC (Real Time Clock)
- Buzzer
- Free HMIWorks development tool
- Support C language and Ladder Designer
- Modbus TCP/RTU & DCON protocols
- Support user-defined third party protocol (C language)
- Operating Temperature: -20 ~ 50 °C

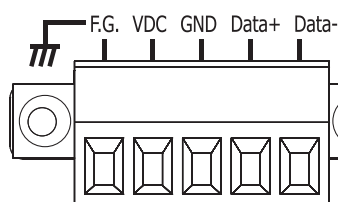


### Introduction

The **TouchPAD TPD 4.3" Series**, TPD-430-H/TPD-430-H-EU/TPD-433-H/TPD-433-H-EU, is a series of touch HMI and designed for building and home automation. The TPD 4.3" Series is equipped with high-color high-resolution TFT 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.

For PLC users, HMIWorks provides Ladder Designer, and for IT users, C language environment is provided. Especially, it only takes no more than 30 minutes to learn how to create an application program of TouchPAD series devices when using Ladder Designer. Moreover, by utilizing the Ethernet functionality of the TouchPAD, users can easily implement a redundant control solutions. With all the features provided, TouchPAD series touch HMI Devices must be the most cost effective HMI Device ever been in the market.

### Pin Assignments

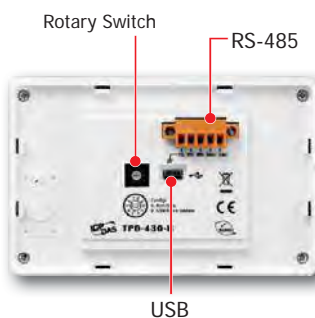


### Appearance

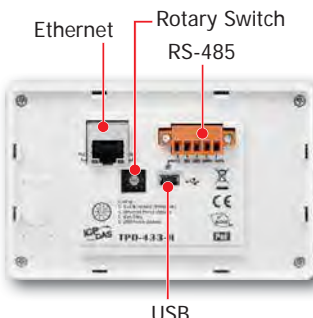
#### Front View ▼



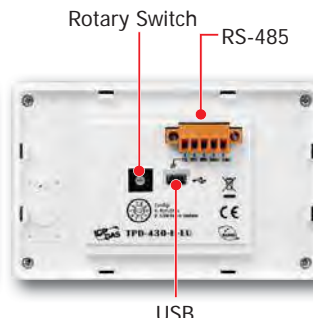
#### TPD-430-H Rear View ▼



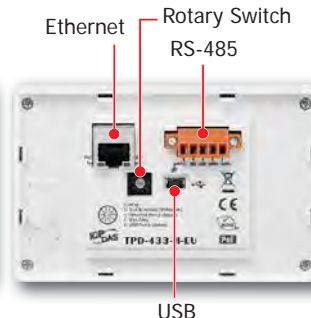
#### TPD-433-H Rear View ▼



#### TPD-430-H-EU Rear View ▼



#### TPD-433-H-EU Rear View ▼









## Specifications




Models	TPD-430-H	TPD-430-H-EU	TPD-433-H	TPD-433-H-EU
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	RS-485 (including Self-Tuner)			
USB 1.1 Client	Firmware update only			
Ethernet	-	Yes (RJ-45 x 1, 10/100 Base-TX)		
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			
Touch Panel	Yes			
LED Indicator	Yes			
Reset Button	Yes			
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)	126 mm x 82 mm x 24 mm	126 mm x 92 mm x 29 mm	126 mm x 82 mm x 24 mm	126 mm x 92 mm x 29 mm
Installation	Wall Mount (Suitable for the outlet box in United States )	Wall Mount (Suitable for the European 86mm x 86mm outlet box)	Wall Mount (Suitable for the outlet box in United States )	Wall Mount (Suitable for the European 86mm x 86mm outlet box)
Environmental				
Operating Temperature	-20 ~ +50 °C			
Storage Temperature	-30 ~ +80 °C			
Ambient Relative Humidity	10 ~ 90% RH, non-condensing			

## Ordering Information

TPD-430-H CR	4.3" Touch HMI device with RS-485, USB, RTC, Suitable for the Outlet Box in United States (RoHS)
TPD-430-H-EU CR	4.3" Touch HMI device with RS-485, USB, RTC, Suitable for the European 86 x 86 mm Outlet Box (RoHS)
TPD-433-H CR	4.3" Touch HMI device with Ethernet, RS-485, USB, RTC, Suitable for the Outlet Box in United States (RoHS)
TPD-433-H-EU CR	4.3" Touch HMI device with Ethernet, RS-485, USB, RTC, Suitable for the European 86 x 86 mm Outlet Box (RoHS)

## Accessories

	CA-USB10	USB to 5P Mini-USB, 28AWG, 1.5 m
	1C016	2.4 mm Screw driver
	MDR-60-24 CR	24 VDC/2.5 A, 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)

	EWB-T43	External Wall Box (White) for TPD-430-H/433-H
	EWB-T43-BK	External Wall Box (Black) for TPD-430-H/433-H
	OB120	Outlet Box for TPD-280-H/280U-H/283-H/430-H/433-H Devices

# TPD 4.3" Series



TPD-433-M2



TPD-432F



TPD-433F-H

## Features

- PoE (Power over Ethernet) for TPD-433 Series
- High-color high-resolution touch screen
- RS-485 (including Self-Tuner)
- RTC (Real Time Clock)
- Buzzer
- Free HMIWorks development tool
- Support C language and Ladder Designer
- Modbus TCP/RTU & DCON protocols
- Support user-defined third party protocol (C language)
- Operating Temperature: -20 ~ 50 °C



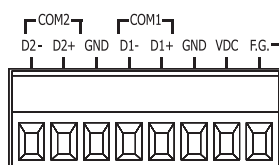
## Introduction

The **TouchPAD TPD 4.3" Series**, TPD-432F/TPD-433F-H/TPD-433-M2, is a series of touch HMI and designed for building and home automation. The TPD 4.3" Series is equipped with high-color high-resolution TFT 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.

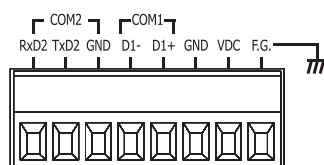
For PLC users, HMIWorks provides Ladder Designer, and for IT users, C language environment is provided. Especially, it only takes no more than 30 minutes to learn how to create an application program of TouchPAD series devices when using Ladder Designer. Moreover, by utilizing the Ethernet functionality of the TouchPAD, users can easily implement a redundant control solutions. With all the features provided, TouchPAD series touch HMI Devices must be the most cost effective HMI Device ever been in the market.

## Pin Assignments

TPD-432F ▼



TPD-433F-H/433-Mx Series ▼

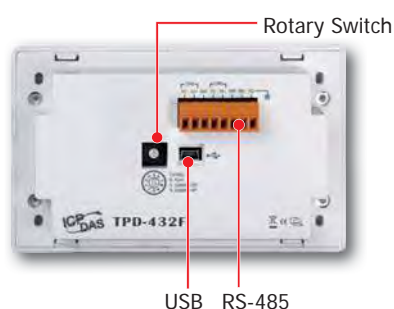


## Appearance

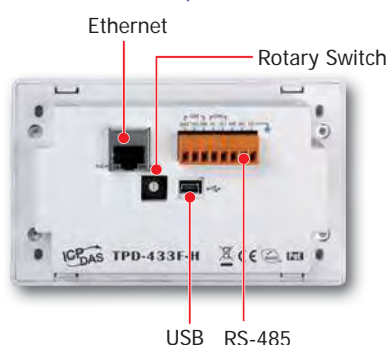
Front View ▼



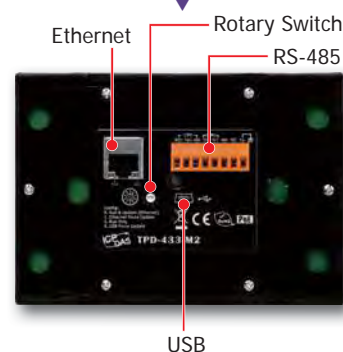
TPD-432F Rear View ▼



TPD-433F-H Rear View ▼



TPD-433-M2 Series Rear View ▼







## Specifications

Models	TPD-432F		TPD-433F-H	TPD-433-M2
CPU Module				
CPU	32-bit RISC CPU			
Memory Expansion	16 MB SDRAM / 8 MB Flash	16 MB SDRAM / 16 MB Flash		
Real Time Clock (RTC)	Yes			
Buzzer	Yes			
Rotary Switch (0~9)	Yes			
Communication Interface				
COM1	RS-485 (including Self-Tuner)	RS-485 (including Self-Tuner)		
COM2	RS-485 (including Self-Tuner)	RS-232 (3-pin)		
Ethernet	-	RJ-45 x 1, 10/100 Base-TX		
USB 1.1 Client	Firmware update only			
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			
Touch Panel	Yes			
LED Indicator	Yes			
Reset Button	Yes			
Electrical				
Powered from Terminal Block	+10 ~ 30 Vdc	+12 ~ 48 Vdc		
Powered from PoE	-	IEEE 802.3af, Class1 (48 V)		
Power Consumption	2.5 W			
Mechanical				
Dimensions (W x L x H)	140 mm x 87 mm x 42 mm			140 mm x 98 mm x 30 mm
Installation	Wall Mount			
Environmental				
Operating Temperature	-20 ~ +50 °C			
Storage Temperature	-30 ~ +80 °C			
Ambient Relative Humidity	10 ~ 90% RH, non-condensing			

## Ordering Information

TPD-432F CR	4.3" Touch HMI device with RS-485 x 2, USB, RTC (RoHS)
TPD-433F-H CR	4.3" Touch HMI device with RS-485, RS-232 (3 pin), USB, RTC, Ethernet (RoHS)
TPD-433-M2 CR	4.3" Touch HMI device with RS-485, RS-232 (3 pin), USB, RTC, Ethernet (Panel: gray, RoHS)

## Accessories

 CA-USB10	USB to 5P Mini-USB, 28AWG, 1.5 m	 DIN-KA52F CR	24 Vdc/1.04 A, 25 W Power Supply with DIN-Rail Mounting (RoHS)
 1C016	2.4 mm Screw driver	 EWB-T43F	External Wall Box for TPD-432F/433F-H/433-M2
 NS-208PSE CR	Unmanaged Industrial PoE (Power over Ethernet) Ethernet Switch (RoHS)	 OB140F	Outlet Box for TPD-432F/433F-H/433-M2
 MDR-60-24 CR	24 Vdc/2.5 A, 60 W Power Supply with DIN-Rail Mounting (RoHS)	 OB140FP	Plastic outlet Box for TPD-432F/433F-H/433-M2

## TPD 7" Series



TPD-703

TPD-703-64

### Features

- High-resolution color touch screen
- RTC (Real Time Clock)
- Buzzer
- PoE (Power over Ethernet)
- Free HMIWorks development tool
- Support C language and Ladder Designer
- Modbus TCP/RTU protocols
- Support the custom communication protocol (C language)
- Operating Temperature: -10 ~ 60 °C

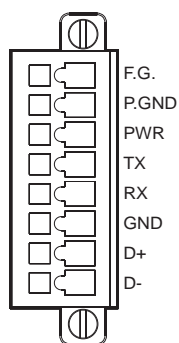


### Introduction

The **TouchPAD TPD 7" Series**, TPD-703/TPD-703-64, is a series of touch HMI and designed for building and home automation. TPD 7 inch series 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.

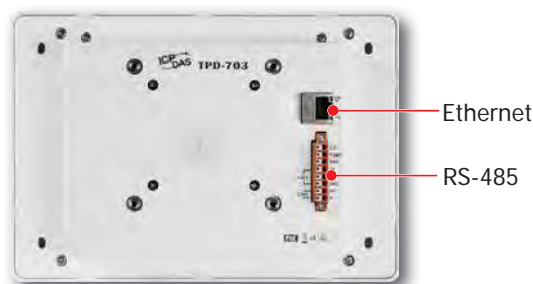
For PLC users, HMIWorks provides Ladder Designer, and for IT users, C language environment is provided. Especially, it only takes no more than 30 minutes to learn how to create an application program of TPD-series devices when using Ladder Designer.

### Pin Assignments



### Appearance

Rear View ▼



Front View ▼



7" TFT LCD with Touch Panel

Front View ▼



Reset Button Rotary Switch






## Specifications



Models		TPD-703	TPD-703-64
CPU Module			
CPU		32-bit RISC CPU	
Memory Expansion		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-485 (including Self-Tuner)	
	COM2	RS-232 (3-pin)	
Ethernet		RJ-45 x 1, 10/100 Base-TX	
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
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		3.6 W	
Mechanical			
Dimensions (W x L x H)		217 mm x 153 mm x 33 mm	
Installation		Wall Mounting	
Ingress Protection		Front Panel: IP40	
Environmental			
Operating Temperature		-10 ~ +60 °C	
Storage Temperature		-20 ~ +70 °C	
Ambient Relative Humidity		10 ~ 90% RH, non-condensing	

## Ordering Information

TPD-703 CR	7" Touch HMI device with RS-232, RS-485, RTC, Ethernet, PoE (16 MB Flash, RoHS)
TPD-703-64 CR	7" Touch HMI device with RS-232 , RS-485, RTC, Ethernet, PoE (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)

 EWB-T70	External Wall Box for TPD-703/703-64 Devices
 OB170	Outlet Box for TPD-703/703-64 Devices



## VPD 3.5" Series



VPD-130N-H



VPD-132N-H



VPD-133N-H



VPD-130-H



VPD-132-H



VPD-133-H

### Features

- High-color high-resolution touch screen
- RTC (Real Time Clock)
- Buzzer
- Communication Port: Serial, Ethernet
- Rubber keypad (VPD-130-H/132-H/133-H)
- Free HMIWorks development tool
- Support C language and Ladder Designer
- Modbus TCP/RTU & DCON protocols
- Support user-defined third party protocol (C language)
- Front Panel: IP65 Waterproof
- I/O Expansion Board: XV-board
- Operating Temperature: -20 ~ 50 °C



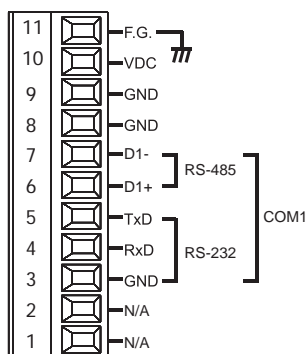
### Introduction

The **TouchPAD VPD 3.5" Series** is a series of industrial touch HMI devices that features 3.5" high-color high-resolution touch screen LCD. With touch screen 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(for VPD-133 series) interface, enable integration into the system allowing users to control, monitor I/O at the remote sides. Besides, front-panel IP65 waterproof as well as the rubber keypad make VPD series more reliable for rugged environments.

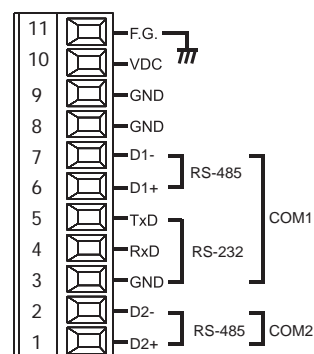
HMIWorks, the free development software for VPD series, provides an easy-to-use environment, and powerful and intuitive programming with graphic capabilities to let users create appealing graphical interface screens in minutes. For PLC users, HMIWorks provides Ladder Designer and C language environment 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.

### Pin Assignments

#### VPD-130(N)-H ▼



#### VPD-132(N)/133(N)-H ▼



### Appearance

#### VPD-130N-H/132N-H/133N-H Front View ▼



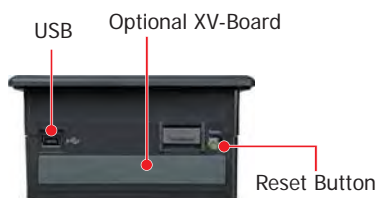
3.5" TFT LCD with Touch Panel

#### VPD-130-H/132-H/133-H Front View ▼

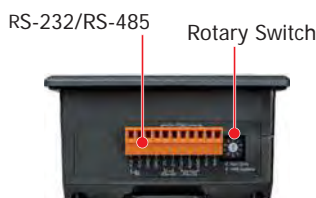


Rubber Keypad

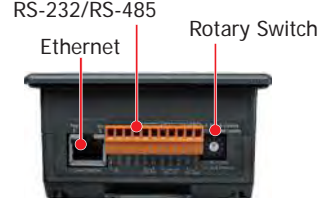
#### VPD-130(N)-H/132(N)-H/133(N)-H Top View



#### VPD-130(N)-H/132(N)-H Bottom View



#### VPD-133(N)-H Bottom View





## Specifications

Models	VPD-130-H	VPD-130N-H	VPD-132-H	VPD-132N-H	VPD-133-H	VPD-133N-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						
COM1	RS-232/ RS-485 including Self-Tuner		RS-485 (including Self-Tuner) and RS-232 (3-pin)			
COM2	-		RS-485 (including Self-Tuner)			
USB 1.1 Client	Firmware update only					
Ethernet	-		-		RJ-45 x 1, 10/100 Base-TX	
I/O Expansion						
I/O Expansion Bus	Yes, XV-board					
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	-	Yes	-	Yes	-
Touch Panel	Yes					
Reset Button	Yes					
Rubber Keypad	5 keys (Programmable)	-	5 keys (Programmable)	-	5 keys (Programmable)	-
Electrical						
Power Input Range	+12 ~ 48 Vdc				+12 ~ 48 Vdc or PoE	
Power Consumption	2 W				2 W or IEEE 802.3af, Class 1 (48 V)	
Mechanical						
Dimensions	103 mm x 103 mm x 53 mm (W x L x H)					
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					

## Ordering Information

VPD-130-H CR	3.5" Touch HMI device with RS-232/RS-485, RTC, USB, Rubber Keypad and support XV-board (RoHS)
VPD-130N-H CR	3.5" Touch HMI device with RS-232/RS-485, RTC, USB and support XV-board (RoHS)
VPD-132-H CR	3.5" Touch HMI device with RS-232/RS-485, RTC, USB, Rubber Keypad and support XV-board (RoHS)
VPD-132N-H CR	3.5" Touch HMI device with RS-232/RS-485, RTC, USB and support XV-board (RoHS)
VPD-133-H CR	3.5" Touch HMI device with Ethernet,RS-232/RS-485, RTC, USB, Rubber Keypad and support XV-board (RoHS)
VPD-133N-H CR	3.5" Touch HMI device with Ethernet,RS-232/RS-485, RTC, USB and support XV-board (RoHS)

## Accessories

<b>XV Board</b> 	The plug-in XV-Board lets VPD series have its own I/O to control! <b>Note:</b> Models is increasing to support all VPD series, please contact your sales representative for latest modules & supporting list.	
	DIO Board	XV107, XV107A, XV110, XV111, XV111A
	Relay Output Board	XV116
	Multifunction Board	XV306, XV307, XV308, XV310
 CA-USB10		USB to 5P Mini-USB, 28AWG, 1.5 m
 MDR-60-24 CR		24 Vdc/2.5 A, 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)

## VPD 4.3" Series



VPD-142N-H



VPD-143N-H



VPD-142-H



VPD-143-H

### Features

- High-color high-resolution touch screen
- RTC (Real Time Clock)
- Buzzer
- Communication Port: Serial, Ethernet
- Rubber keypad (VPD-142-H/VPD-143-H)
- Free HMIWorks development tool
- Support C language and Ladder Designer
- Modbus TCP/RTU & DCON protocols
- Support user-defined third party protocol (C language)
- Front Panel: IP65 Waterproof
- I/O Expansion Board: XV-board
- Operating Temperature: -20 ~ 50 °C

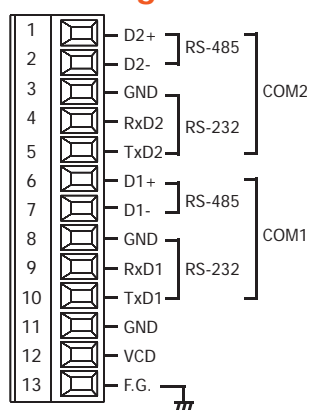


### Introduction

The **TouchPAD VPD 4.3" Series** is a series of industrial touch HMI devices that features 4.3" high-color high-resolution touch screen LCD. With touch screen 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(for VPD-143 series) interface, enable integration into the system allowing users to control, monitor I/O at the remote sides. Besides, front-panel IP65 waterproof as well as the rubber keypad make 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.

### Pin Assignments



### Appearance

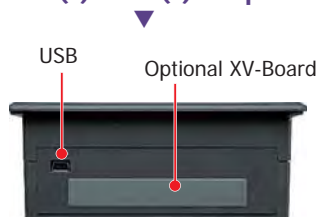
VPD-142N-H/143N-H Front View



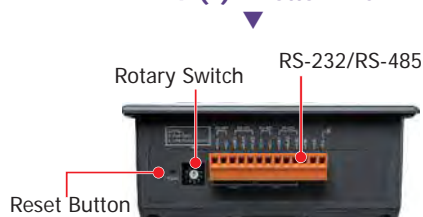
VPD-142-H/143-H Front View



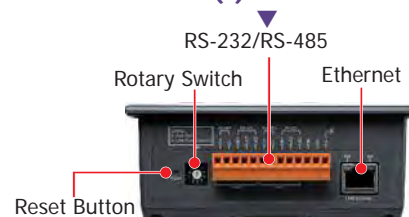
VPD-142(N)-H/143(N)-H Top View



VPD-142(N)-H Bottom View



VPD-143(N)-H Bottom View







## Specifications

Models	VPD-142-H	VPD-142N-H	VPD-143-H	VPD-143N-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				
COM1	RS-232 (3-pin) / RS-485 (including Self-Tuner)			
COM2	RS-232 (3-pin) / RS-485 (including Self-Tuner)			
USB 1.1 Client	Firmware update only			
Ethernet	-		RJ-45 x 1, 10/100 Base-TX	
I/O Expansion				
I/O Expansion Bus	Yes, XV-board			
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				
Power Input Range	+12 ~ 48 Vdc			
PoE (Power over Ethernet)	-		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			

## Ordering Information

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

## Accessories

<div>XV Board</div> <div></div>	<div>The plug-in XV-Board lets VPD series have its own I/O to control!</div> <div><b>Note:</b> Models is increasing to support all VPD series, please contact your sales representative for latest modules &amp; supporting list.</div>	
	DIO Board	XV107, XV107A, XV110, XV111, XV111A
	Relay Output Board	XV116
	Multifunction Board	XV306, XV307, XV308, XV310

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

## VPD 7" Series



VPD-173N  
VPD-173X

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

### 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)
- Operating Temperature: -10 ~ 60 °C

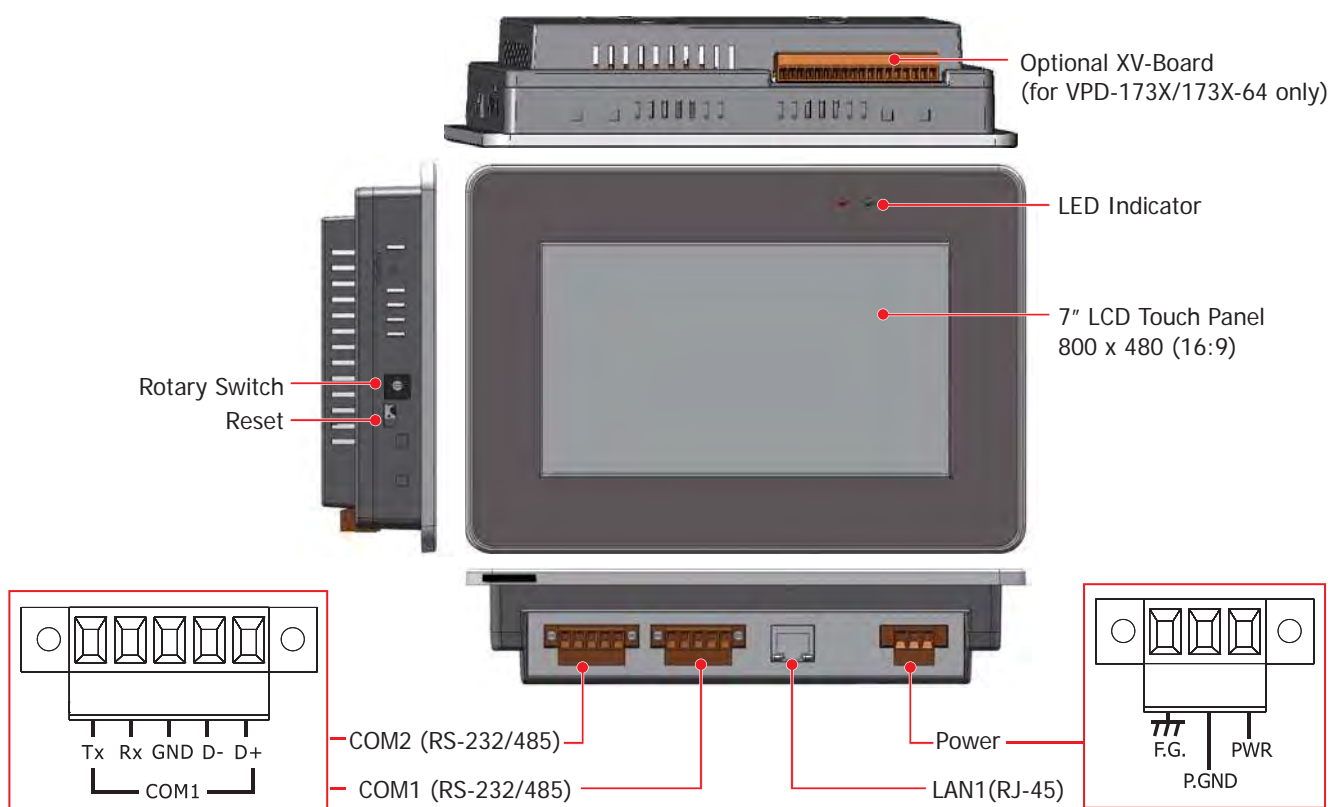


### Introduction

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




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, XV-board	
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			

## 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)

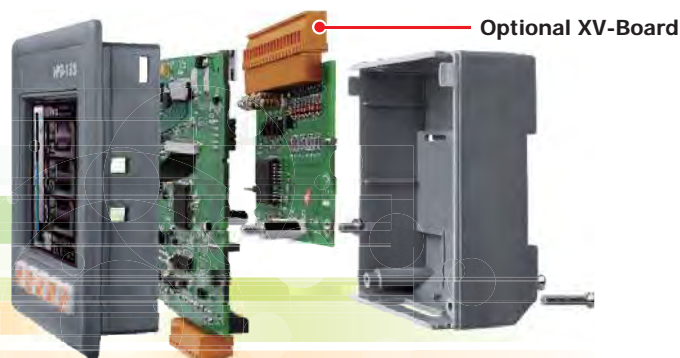
## Accessories







 XV Board	The plug-in XV-Board lets VPD series have its own I/O to control! <b>Note:</b> Models is increasing to support all VPD series, please contact your sales representative for latest modules & supporting list.	
	DIO Board	XV107, XV107A, XV110, XV111, XV111A
	Relay Output Board	XV116
	Multifunction Board	XV306, XV307, XV308, XV310

 CA-USB10	2.4 mm Screw driver
 MDR-60-24 CR	24 Vdc/2.5 A, 60 W Power Supply with DIN-Rail Mounting (RoHS)
 NS-208PSE CR	Unmanaged Industrial PoE (Power over Ethernet) Ethernet Switch (RoHS)

# XV-Board Series





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 <sup>8</sup> ops.	30 X 10 <sup>6</sup> ops.					
	Electrical Endurance						2 X 10 <sup>5</sup> ops.	1 X 10 <sup>5</sup> 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	

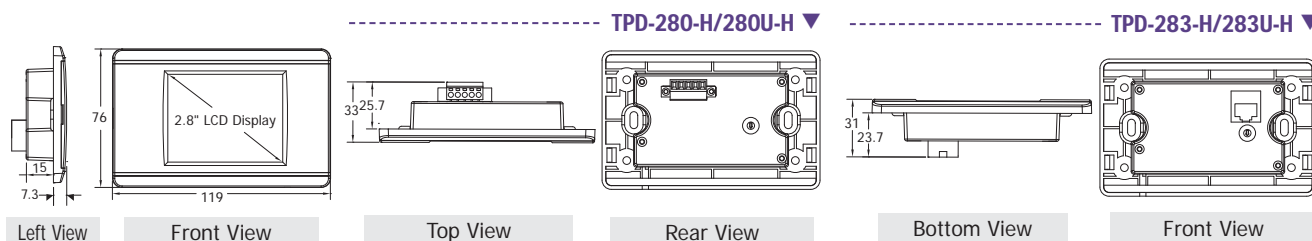




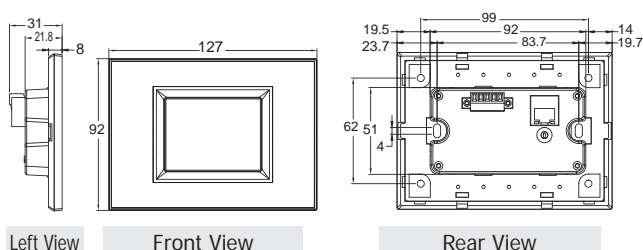
		Multifunction Board			
Model		XV306	XV307	XV308	XV310
Image					
Analog Input					
Channel		4	-	8	4
Sensor Type		+/- 1 V, +/- 2.5 V, +/- 5 V, +/- 10 V, 0 ~ 20 mA, 4 ~ 20 mA, +/-20 mA ( Jumper selectable )		+/- 1 V, +/- 2.5 V, +/- 5 V, +/- 10 V, 0 ~ 20 mA, 4 ~ 20 mA, +/-20 mA ( Jumper selectable )	
Resolution		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 <sup>6</sup> ops./1 x 10 <sup>5</sup> ops.			
Isolation					
Intra-module Isolation, Field to Logic		2000 Vdc			
Power Requirements					
Consumption		1.6 W		0.8 W	1.6 W

# TPD Series Dimensions (Units: mm)

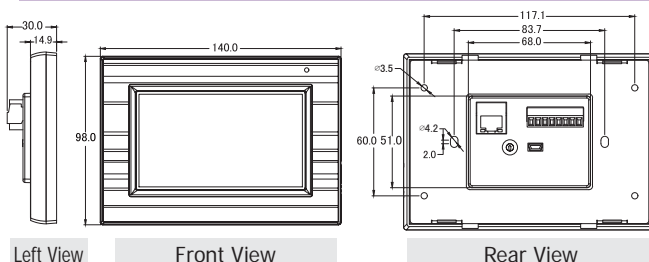
## TPD-280-H/280U-H/283-H/283U-H



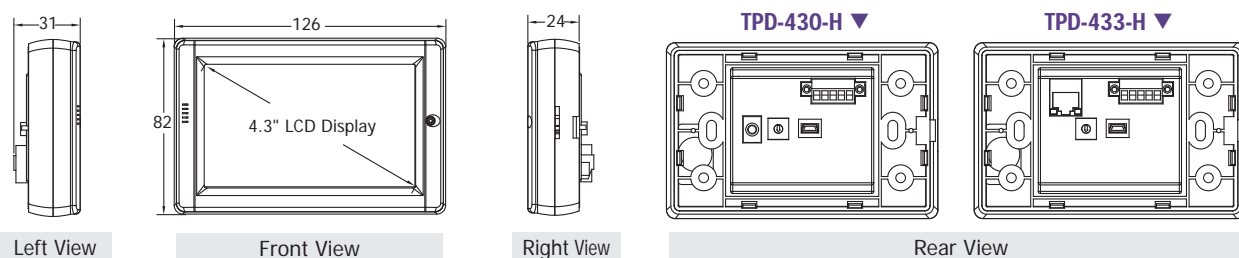
## TPD-280-Mx/283-Mx/283U-Mx Series



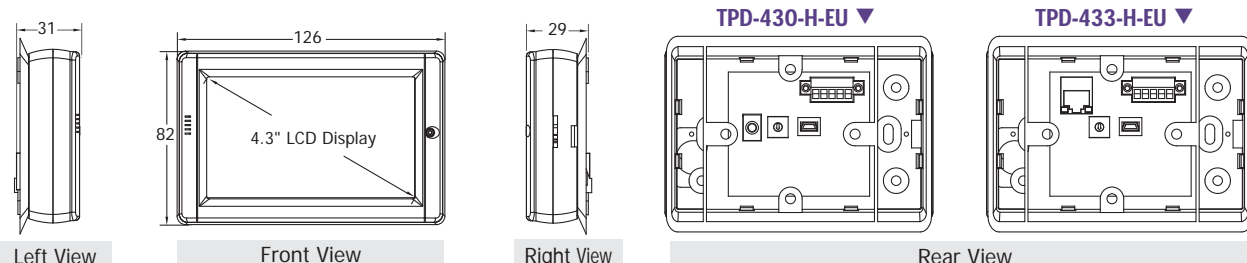
## TPD-433-M2 Series



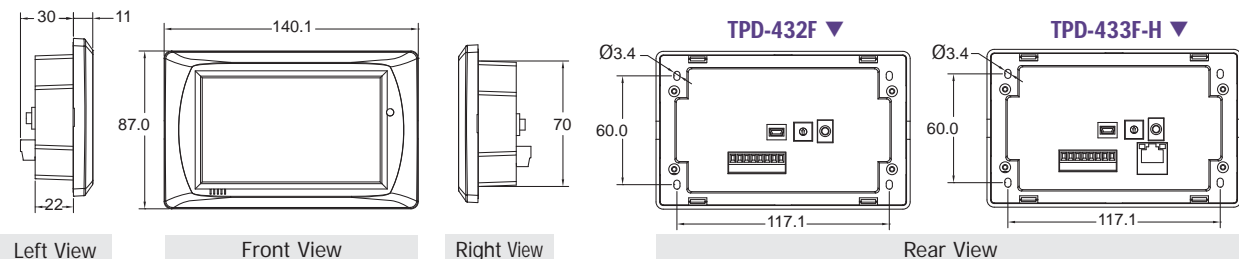
## TPD-430-H/433-H



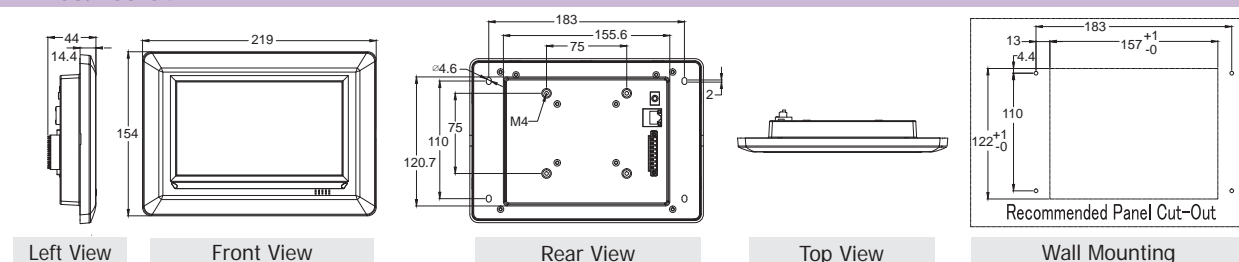
## TPD-430-H-EU/433-H-EU



## TPD-432F/433F-H



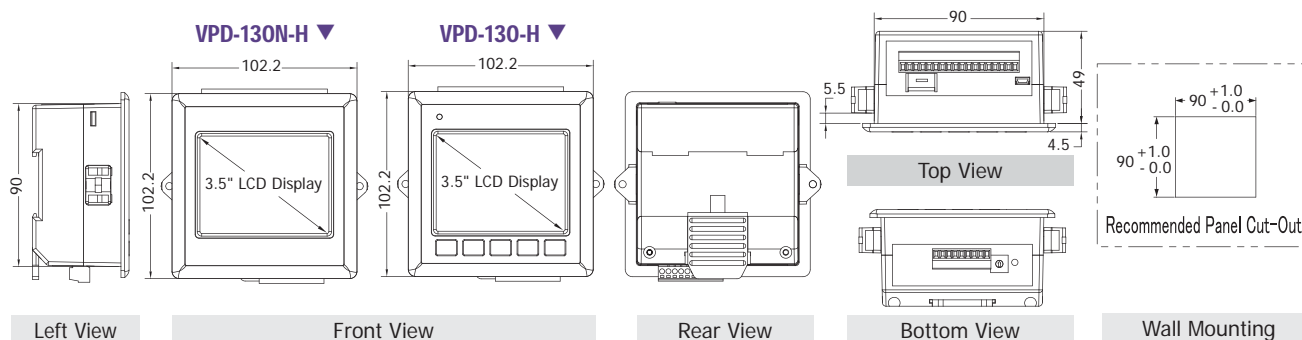
## TPD-703/703-64



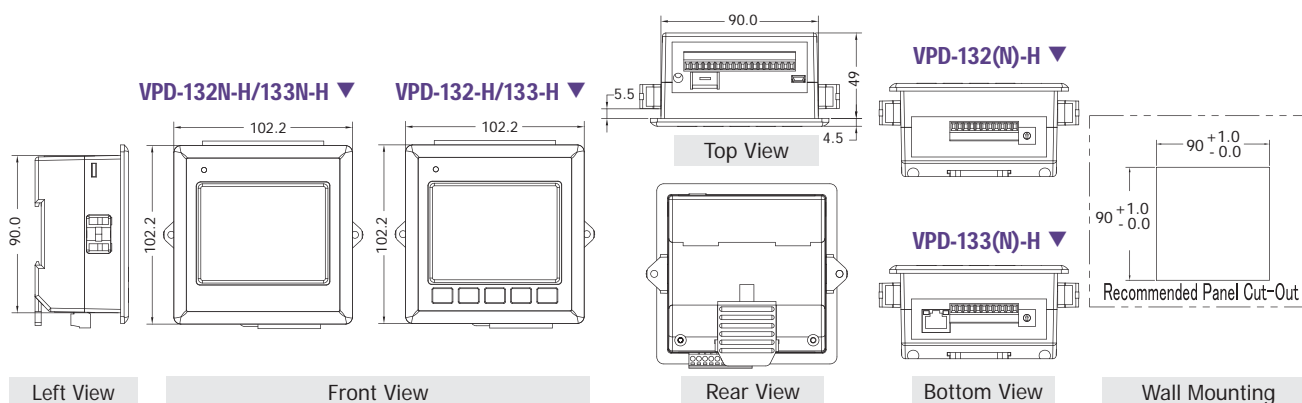


# VPD Series Dimensions (Units: mm)

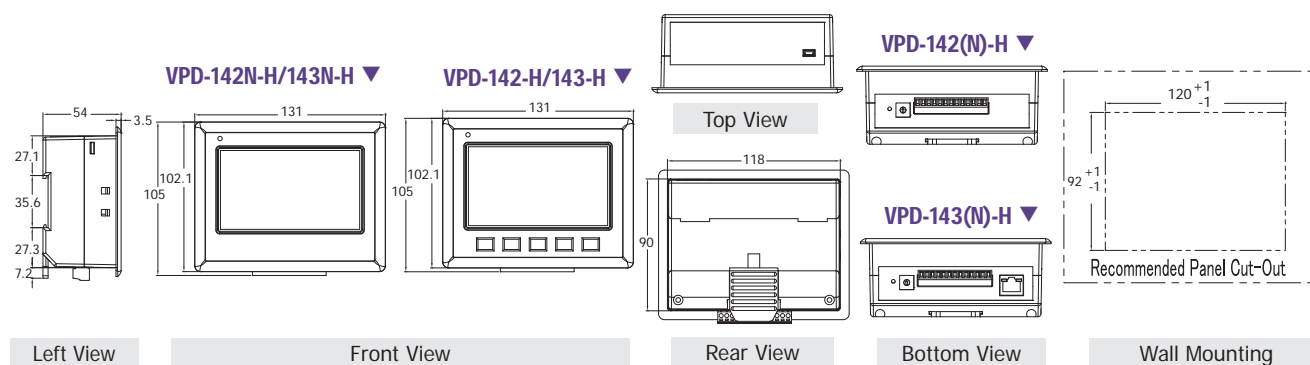
## VPD-130-H/130N-H



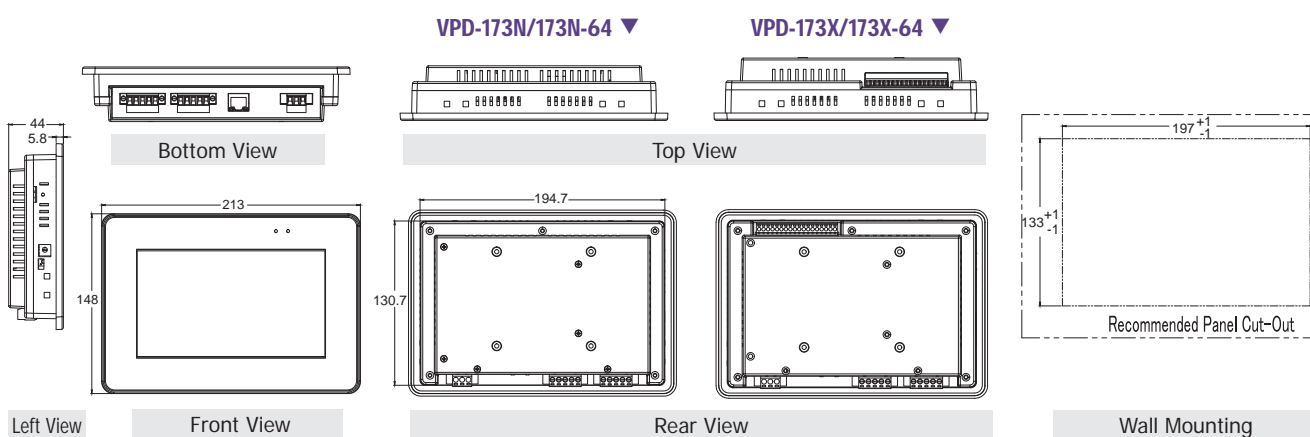
## VPD-132-H/132N-H/133-H/133N-H



## VPD-142-H/142N-H/143-H/143N-H



## VPD-173N/173N-64/173X/173X-64



# Video Intercom & Access Control Series

This series, mainly for the smart community & building systems, include HA series (Intercom host), SI series (Intercom door station) and ACS series (access control card reader).

**HA Series** is an intercom host that supports security situation control, integrating functions related to the message notifications, security alarms, community bulletins, interior environment control, visitor intercom, and push advertising.

**SI Series** is video intercom door station that supports VoIP technology and SIP communication protocol. With HA-401 product, households can see visitor's images and have a video conversation.

**ACS Series** is an access control reader that supports keypad and RFID induction of access control. It integrates three functions of door access control, voice guidance and floor control all in one.



## Selection Guide

Video Intercom & Access Control Series	
<b>HA-401</b>	Security Situation Control Intercom Host
<b>HA-5231M</b>	IP PBX
<b>SI-002</b>	Video Intercom Door Station
<b>ACS-10V-MF-TC</b>	Access Control Reader with Proximity Card (Chinese version of voice)
<b>ACS-10VP-MF-TC</b>	PoE Access Control Reader with Proximity Card (Chinese version of voice)
<b>ACS-10V-MF</b>	Access Control Reader with Proximity Card (English version of voice)
<b>ACS-10VP-MF</b>	PoE Access Control Reader with Proximity Card (English version of voice)
<b>ACS-11-MF-TC</b>	Access Control Reader with Proximity Card and Keypad (Chinese version of voice)
<b>ACS-11P-MF-TC</b>	PoE Access Control Reader with Proximity Card and Keypad (Chinese version of voice)
<b>ACS-11-MF</b>	Access Control Reader with Proximity Card and Keypad (English version of voice)
<b>ACS-11P-MF</b>	PoE Access Control Reader with Proximity Card and Keypad (English version of voice)





# HA Series: Security Situation Control Intercom Host



## HA-401

### Introduction

**HA-401 is an intercom host that supports security situation control**, integrating functions related to message notifications, security alarms, community bulletins, interior environment control, visitor intercom, and publish advertising. The HA-401 uses advanced automatic control, database software, computer network communication technology, and building message management, combined with a Smart Home system, to achieve intelligent indoor control.



### Features



- Full-duplex voice and video intercom (Support SIP)
- 10.1" WXGA color TFT-LCD touch screen
- Full HD Front-facing camera (1080p)
- Display for the date, time, T&H, PM2.5, noise levels...
- Smart home control (lighting, TV, air conditioning...)
- Energy monitoring and management capabilities
- Community announcements and publish advertising
- Interactive M2M transmission technology: MQTT

### ■ Video Conversation



### ■ Environmental Monitoring



### ■ Security Alarm



### ■ Information Notice



### Specifications

Controller		
CPU	32-bit, 1000 MHz	
DDR3 SDRAM	512 MB	
NAND Flash	4 Gb	
EEPROM	128 KB; Data Retention: 40 years; 1,000,000 erase/write cycles	
RTC	Provide second, minute, hour, date, day of week, month, year	
Communication Interface		
Ethernet	RJ-45 x 1, 10/100 Base-T (Auto-negotiating, Auto MDI/MDI-X, LED indicators)	
USB 1.1	1 (Client/Mini-USB)	
COM Port	COM1: RS-485 x1 (TB and RJ-11) COM2: RS-232/485 x1 (TB)	
Digital Input		
Channels	2	
Input Type	Dry contact (Source)	
Dry Contact Level	Off Voltage Level: Open	On Voltage Level: Close to GND
Relay Output		
Channels	2	
Output Type	1 Form A	1 Form C
Contact Capacity	5 A @ 250 VAC; 5 A @ 30 V <sub>DC</sub>	0.6 A @ 125 VAC; 2 A @ 30 V <sub>DC</sub>
Endurance	Mechanical: 2 × 10 <sup>7</sup> ops. Electrical: 1 × 10 <sup>5</sup> ops.	Mechanical: 1 × 10 <sup>8</sup> ops. Electrical: 5 × 10 <sup>5</sup> ops.

HMI	
LCD	10.1" TFT (Resolution 1280 x 800)
Backlight Life	20,000 hours
Brightness	350 cd/m2
Camera	1080P (1920 x 1080), CMOS Sensor
Touch Screen	5-wire, analog resistive; Light Transmission: 80%
Audio	AMP 2.5 W; Digital microphone
Power Supply	
Input Range	12 V ~ 48 VDC
Consumption	4.0W
Protection	Reverse Polarity Protection
Power Switch	Yes
Mechanical	
Installation	Wall Mounting (Suitable for the European 86 mm x 86 mm outlet box)
Dimensions	311 mm x 36 mm x 181 mm (W x L x H)
Environment	
Operating Temperature	-10 ~ +60 °C
Storage Temperature	-20 ~ +70 °C
Humidity	10% ~ 90% RH, non-condensing

# HA Series: IP PBX



## HA-5231M



## Features



- VoIP Protocol : SIP (Session Initiation Protocol)
- Audio Codec: PCMU, PCMA, GSM, G.722
- Video Codec: H.263p, VP8, H.264
- Support pass through video call
- Up to 256 extensions
- Up to 8 SIP trunk
- Call Detail Records
- Flexible Extension manager
- Provide network firewall functionality
- Operating Temperature: -25 ~ +75°C



## Introduction

**HA-5231M** is a IP PBX that is built over IP-based architecture for delivering and managing voice and video communication services. It allows the phones to talk to each other by voice and video. These phones can be a SIP phone, Software Phone, the ICP DAS HA-401, SI-002 and so forth. In addition, we also provide the utility software for users to configure the HA-5231M. By using this module, users can manage their SIP phone easier and more flexible.

### VoIP Phone System



### Free International Calling



## Specifications

System Software	
OS	Linux Kernel 3.2.14
Embedded Service	SIP, SSH
CPU Module	
CPU	AM3354, 1 GHz
DDR3 SDRAM	512 MB
Flash	512 MB
EEPROM	64 KB
Expansion Flash Memory	microSD socket with one 4 GB microSD card (support up to 32 GB microSDHC card)
RTC (Real Time Clock)	Provide second, minute, hour, date, day of week, month, year
64-bit Hardware Serial Number	Yes, for Software Copy Protection
LED Indicator	4 LED (PWR, RUN, L1, L2)
Rotary Switch	Yes (0 ~ 9)

Communication Ports	
Ethernet	RJ-45 x 1, 10/100 Base-T (Auto-negotiating, Auto MDI/MDI-X, LED Indicators)
USB 2.0 (Host)	1
Console Port	RS-232 (Rx/D, Tx/D and GND); Non-isolated
ttyO2	RS-485 (Data+, Data-); Non-isolated
ttyO4	RS-232 (Rx/D, Tx/D and GND); Non-isolated
ttyO5	RS-485 (Data+, Data-); 2500 VDC Isolated
Power	
Input Range	12 V ~ 48 VDC
Consumption	4.8 W
Mechanism	
Installation	DIN-Rail
Dimensions	72 mm x 33 mm x 119 mm (W x L x H)
Environment	
Temperature	Operating Temperature: -25 ~ +75 °C Storage Temperature: -30 ~ +80 °C
Humidity	10% ~ 90% RH, non-condensing



# SI Series: Video Intercom Door Station



SI-002



## Features



- Full-duplex voice and video intercom (Support SIP)
- Using high-resolution camera 1080P (1920 x 1080)
- Advanced echo cancellation technology
- Built-in high sensitivity microphone and speaker
- Built-in call button
- Built-in Relay output channel (door control or alarms output)
- Built-in Digital input channel (door magnetic switch detection or external emergency button)



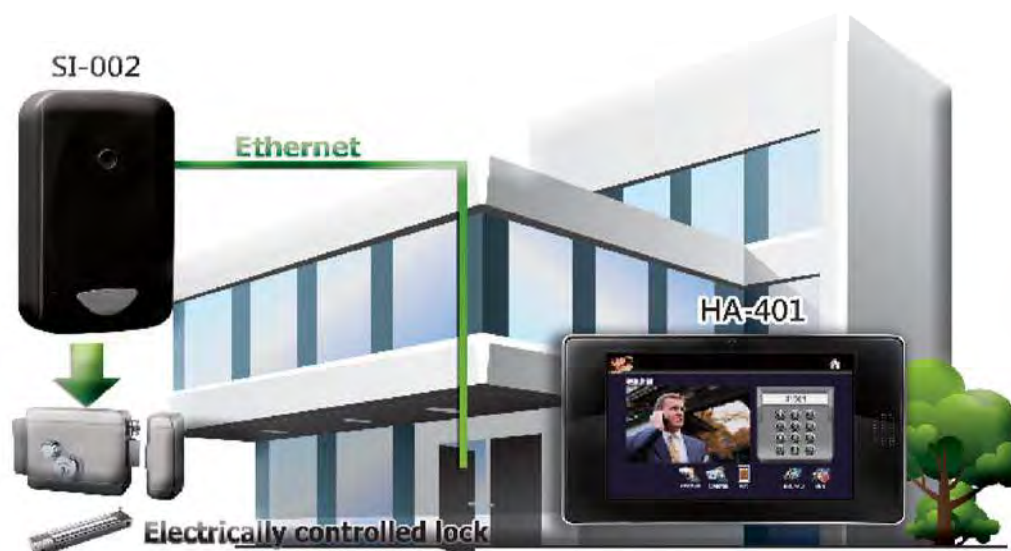
## Introduction

**SI-002** is video intercom door station that supports VoIP technology and SIP communication protocol. With HA-401 product, households can see visitor's images and have a video conversation with them when the door bell ringing, after identity confirmation, they can open the door remotely. Using high-resolution CMOS camera and advanced echo cancellation technology can show a clearer picture and excellent audio residential.



## Applications

- Voice Conversation
- Remote Door Control
- One-touch Calling
- Video Surveillance
- Door Position Detection



## Specifications

Communication Interface		
Ethernet	RJ-45 x 1, 10/100 Base-T (Auto-negotiating, Auto MDI/MDI-X, LED indicators)	
Digital Input		
Channels	2	
Input Type	Dry contact (Source)	
Dry Contact Level	Off Voltage Level: Open	On Voltage Level: Close to GND
Relay Output		
Channels	1	
Output Type	Form C (N.O./COM./N.C.)	
Contact Capacity	0.6 A @ 125 VAC; 2 A @ 30 VDC	
Endurance	Mechanical: 2 × 10 <sup>8</sup> ops.	Electrical : 1 × 10 <sup>5</sup> ops.

HMI	
Camera	1080P (1920 x 1080), CMOS Sensor
Audio	AMP 2.5 W; Digital microphone
Power Supply	
Input Range	12 V ~ 48 Vdc
Consumption	1.68 W (70 mA @ 24 Vdc)
Protection	Reverse Polarity Protection
Mechanical	
Installation	Wall Mounting (Suitable for the European 86 mm x 86 mm outlet box)
Dimensions	102 mm x 161 mm x 41 mm (W x L x H)
Environment	
Temperature	Operating: -10 ~ +60 °C Storage: -20 ~ +70 °C
Humidity	10% ~ 90% RH, non-condensing



# ACS Series: Access Control Reader with Proximity Card



**ACS-10V-MF**  
**ACS-10VP-MF**



**ACS-11-MF**  
**ACS-11P-MF**



## Features



- Supports RFID induction control
- Supports Card Type: Mifare Classic, Ultralight, DESFire
- Built-in Voice Message Function
- Supports Ethernet/RS-485/CAN Bus Interface
- Built-in RTC and WDT
- Electric Door Lock Control and Door Position Detection
- Provides Access Records
- Max Card Capacity: 8192 Cards
- Supports Elevator Floor Control (Max. 16 F)



## Introduction

**ACS Series** is an access control reader that supports keypad and RFID induction of access control. It integrates three functions of door access control, voice guidance and floor control all in one, suitable for use in community door access and elevator control.



## Specifications

Model	ACS-10V-MF ACS-11-MF	ACS-10VP-MF ACS-11P-MF
CAN Bus		
Baud rate	1M (bps)	-
Specification	ISO-11898-2, CAN 2.0A/B	-
UART		
COM	RS-485 (D+, D-)	
Baud rate	9600 (bps)	
Format	N, 8, 1	
Ethernet		
Controller	10/100Base-TX Ethernet Controller (Auto-negotiating, Auto MDIX)	
Connector	RJ-45 with LED indicator	
Digital Input		
Channels	4	2
Input Type	Dry contact (Source), Wet Contact (Sink, Source)	
Relay Output		
Channels	2	
Output Type	Form C	
Contact Capacity	0.5A 120 V <sub>AC</sub> / 2A 30 V <sub>DC</sub>	

Model	ACS-10V-MF ACS-11-MF	ACS-10VP-MF ACS-11P-MF
RFID		
Supported Card	Mifare Classic, Ultralight, DESFire	
Standard	ISO 14443 A	
Keypad		
Supported	ACS-11-MF/ACS-11P-MF: Yes ACS-10V-MF/ACS-10VP-MF: No	
Power		
Protection	Yes, Reverse Polarity Protection	
Input Power	From CN1 Connector, 10 V ~ 30 V	PoE, IEEE 802.3af, Class1
Consumption	2.0 W	1.7 W
Mechanical		
Installation	Wall Mounting (Suitable for the outlet box in United States)	
Dimensions	83 mm x 120 mm x 28 mm (W x L x H)	
Environment		
Temperature	Operating: -20 ~ +60 °C Storage: -30 ~ +80 °C	
Humidity	10% ~ 90% RH, non-condensing	



# Applications

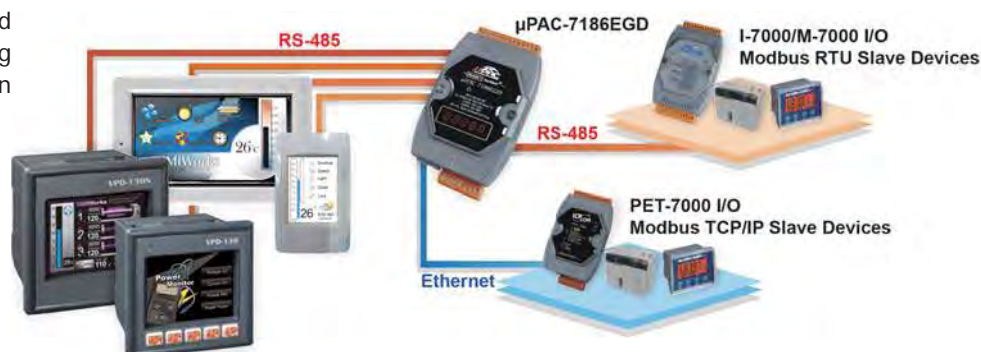
## The Solution of Sophisticated Design

To realize multi-room touch or multi-terminal control in a large, complex system, users can utilize our PACs (Programmable Automation Controller) to bridge TouchPAD and a variety of I/O devices. Configured appropriately, PAC provides incredible power and flexibility to build a comprehensive system which spreads all of TouchPAD and all kinds of I/O devices.

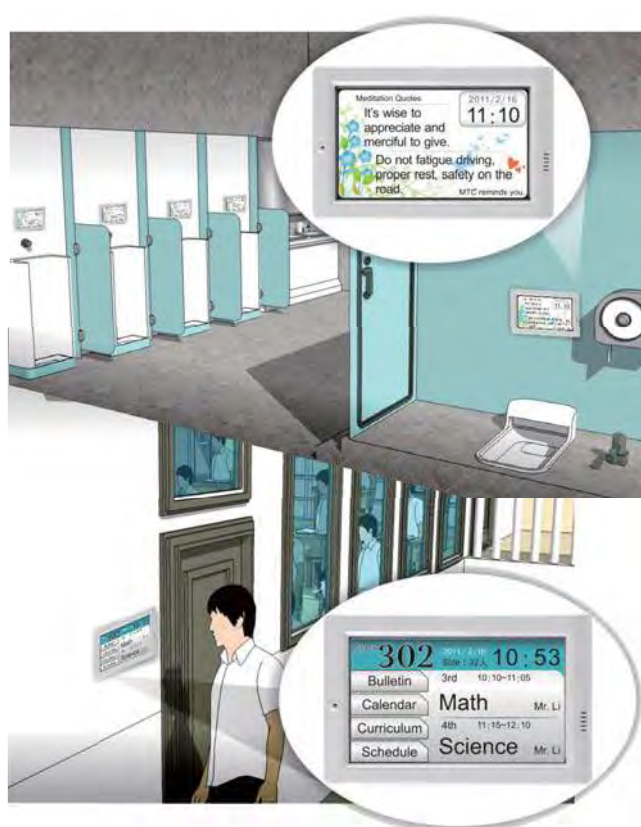


## The Cost Effective Solution for Complex System

Though  $\mu$ PAC-7186 has limited computing resources, using only  $\mu$ PAC-7186 is sufficient in some cases.



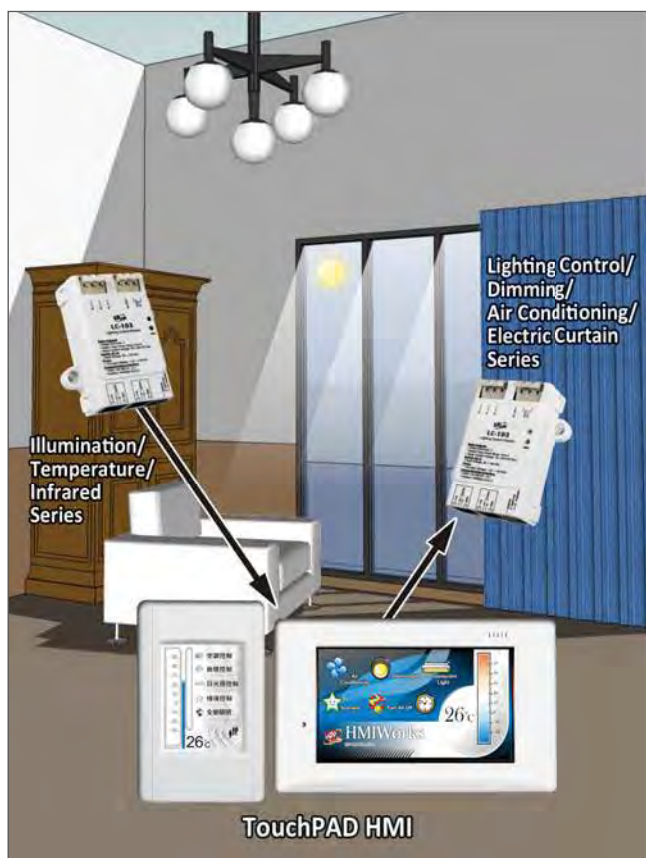
## TouchPAD Anywhere



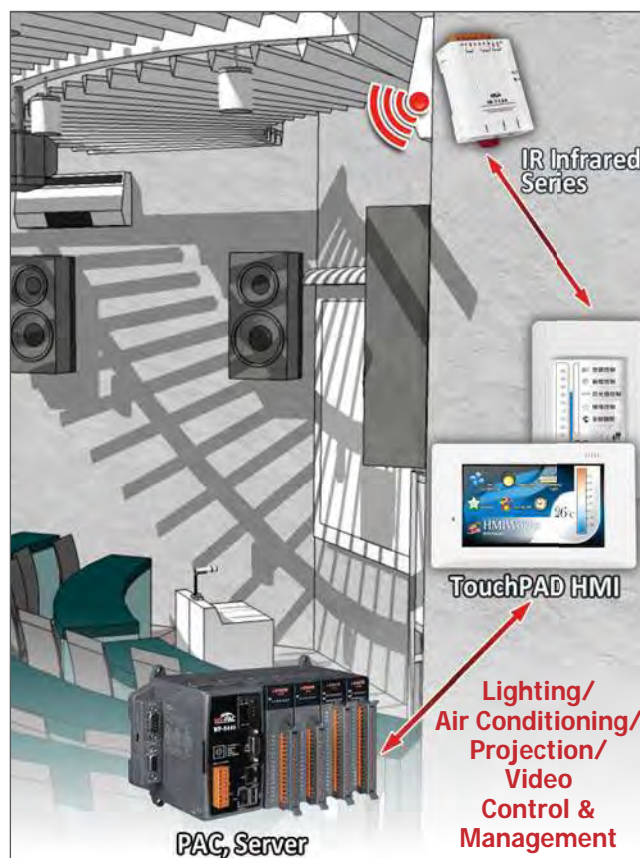


## TPD Series Applications

### Smart Home Automation



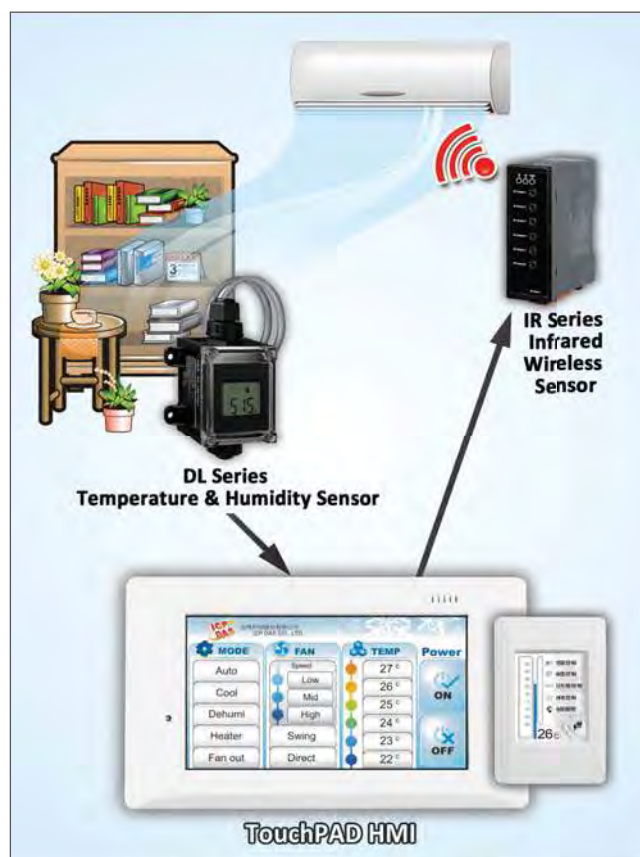
### Meeting Room Auto-Management



### Security Alarm Systems



### Infrared Device Integration





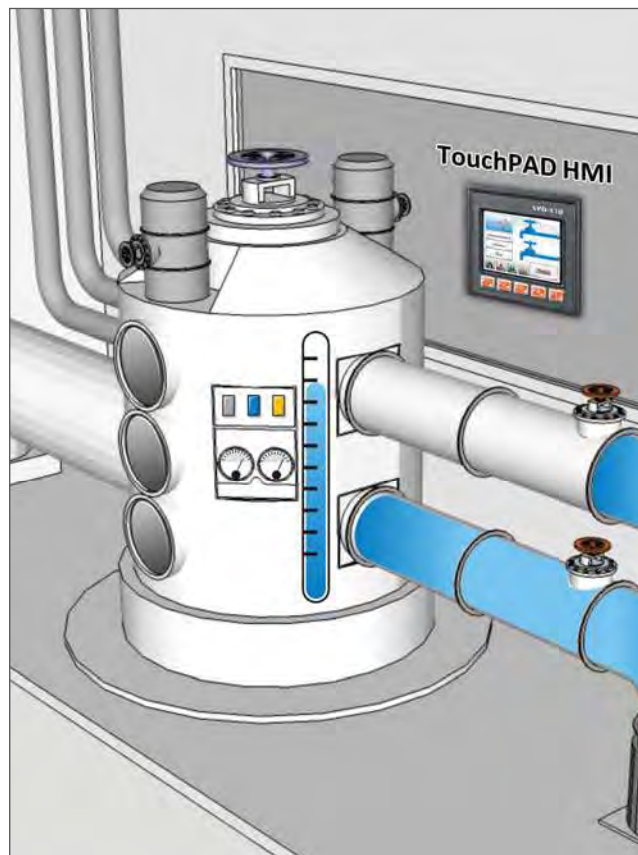


## VPD Series Applications

HMI for Small Instruments



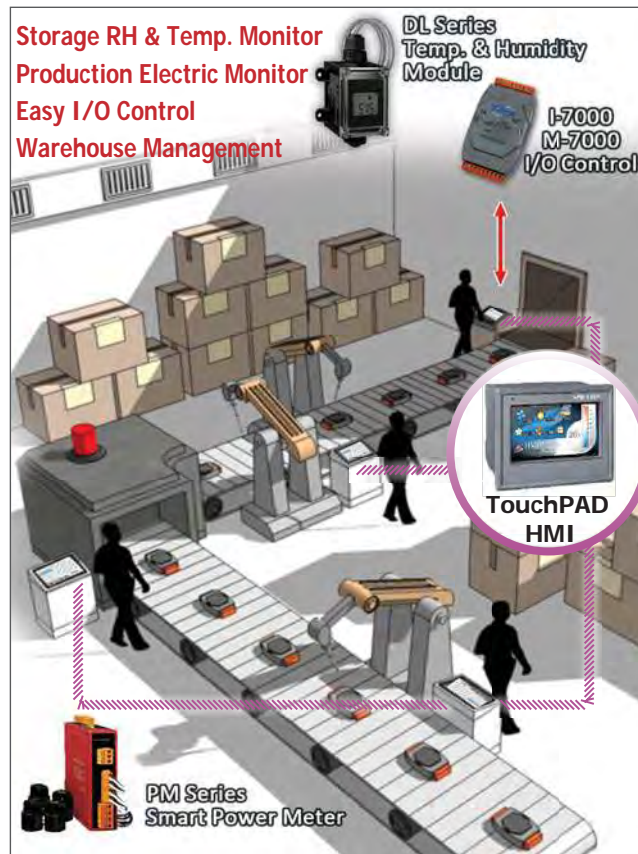
HMI on Large Machines



Factory Automation Solution



Warehouse Production Intelligent Management





# ICP DAS Catalogs & Brochure



## Full Product Catalog

- PAC Products and BoxPC
- Panel Products
- Remote I/O Module and Unit
- IIoT
- Industrial Communication
- Wireless Solution
- Motion Automation
- Energy Management Solution
- DAQ Card
- Accessories



## Acquisition and Control I/O Products for PC-based Systems

- PCI Express Bus Data Acquisition Boards
- PCI Bus Data Acquisition Boards
- ISA Bus Data Acquisition Boards



## Industrial Fieldbus

- RS-485
- Industrial Ethernet
- Profinet
- CAN bus
- CANopen
- Devicenet
- J1939
- PROFIBUS
- HART
- Ethernet/IP
- BACnet



## WISE Product Line

### Smart Front-end for Industrial IoT

- WISE - IIoT Concentrator
- WISE - WISE I/O Module
- WISE-52XX - IIoT Concentrator
- WISE-58XX - WISE I/O Module
- WISE-71XX - WISE I/O Module
- WISE-75XX - WISE I/O Module



## Energy Management Solution

- InduSoft SCADA Software
- Smart Power Meter Concentrator
- Smart Power Meter
- True RMS Input Module
- TouchPAD Devices - VPD Series



## Smart Building, Smart Home Automation

- Video Intercom & Access Control
- Touch HMI - TouchPAD Series
- Smart Lighting Control
- Energy Saving - PM/PMC Series
- Environmental - DL/CL Series
- Motion Detector - PIR/RPIR Series
- Wi-Fi Wireless - WF Series
- Infrared Wireless - IR Series
- ZigBee Wireless - ZT Series
- IIoT Server & Concentrator
- Data Server - iDaSer Series
- LED Display - iKAN Series



## Machine Automation

- Motionnet Solutions
- EtherCAT Motion Control Solutions
- Ethernet Motion Control Solutions
- Serial Communication Motion Control Solutions
- PC-based Motion Control Cards
- PAC Solutions - Motion Modules



## Remote I/O Modules and I/O Expansion Units Products Catalog

- RS-485 Products
- Ethernet Remote I/O Modules
- FRnet I/O Modules
- CAN Bus Products
- PROFIBUS Remote I/O Modules
- HART Products
- Smart Power Meter
- WISE I/O Module



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