

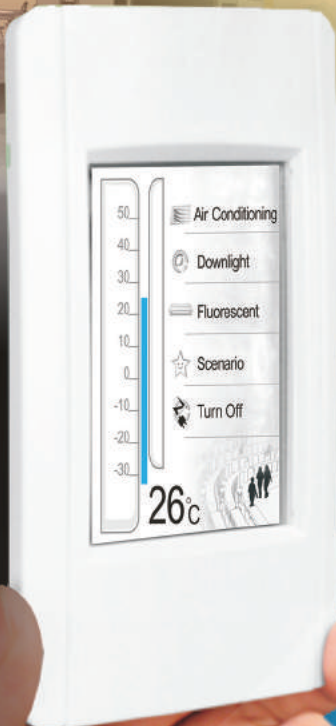


ICP DAS CO., LTD.

Touch HMI Solutions

Vol.TouchPAD 4.07.12-EN
2018, Dec.

TouchPAD



2.8"
TPD-28x series



7"
TPD-703 series



3.5"
VPD-13x series



4.3"
TPD-43x series



4.3"
VPD-14x series



7"
VPD-17x series

I/O Expansion Board
(XV-board)



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

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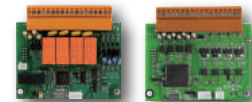
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Touch HMI Solutions

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

Introduction

1 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, RS-232/RS-485 and Ethernet. 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.

TPD Series VPD Series



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

- 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)
- 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
- Waterproofed Front Panel (VPD: IP65, TPD: IP40)
- Operating temperature: -20 ~ +50 °C (2.8 inch Series: -20 ~ +70 °C; 7 inch Series: -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 support, fully I/O integration... etc. HMIWorks helps users to short the development time and design the sophisticated, cost effective solutions for the complex systems.

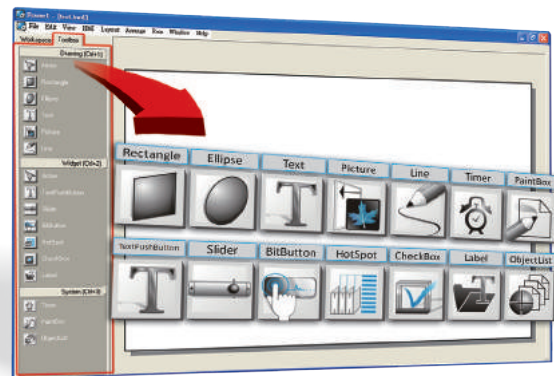
Intuitive Design

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.



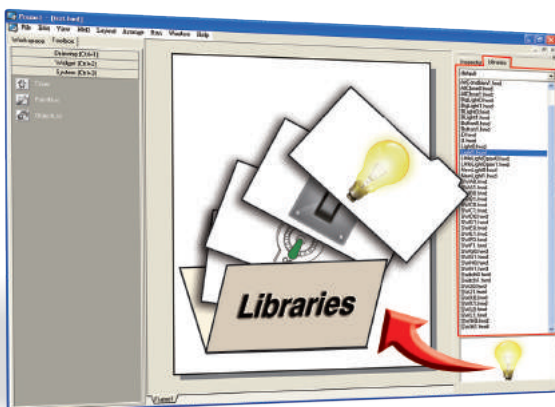
Support Many Widgets - Shorten Development Time

Many widgets are 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.



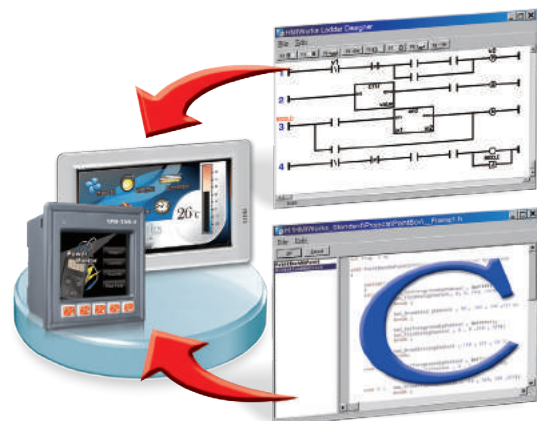
Built-in the Extensible Graphics Library

HMIWorks provides a variety of graphics for common situations. Users can also add their own graphics (supports JPG, BMP, WMF and EMF) to the library by the common painting or photo editing software.



C and Ladder Diagram Programming

HMIWorks supports "Standard C" for users of programmer and "Ladder Designer" for user of PLC. These two program can be used alone or in combination."Standard C" also provides a rich TCP/IP and Uart API, allowing users to develop private communication protocols for devices that are not using standard Modbus protocols.





Vertical or Horizontal Display

TouchPAD can be installed as "vertical" or "horizontal" depends on your need.



Fast-start the Main Program

The main program is fast started and ready to work within few seconds after powered on.



Multilingual Functions

TouchPAD can display multilingual text including English, Russian, French, German/Italian/Spanish, CJK (Chinese/Japanese/Korean) and others. This feature helps users designing user-friendly interfaces.



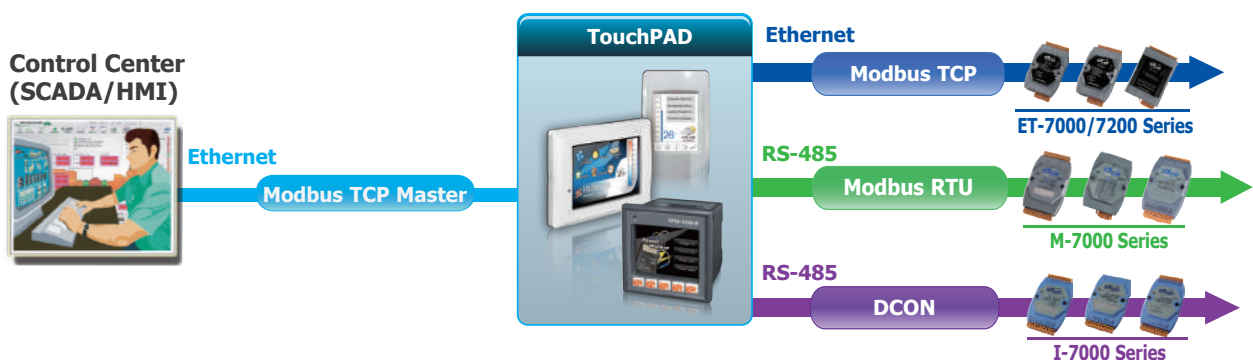
65536 Colors - Bright and Clear

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.

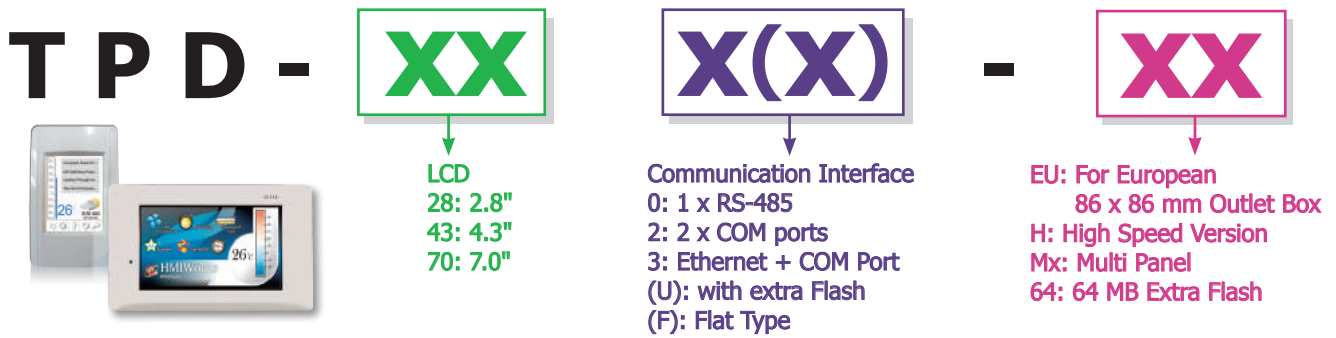


Flexible Communication Interfaces and I/O Expansion Capability

TouchPAD is equipped with RS-232/422/485 or Ethernet communication interfaces. It is easy to control various remote IO modules with standard Modbus TCP/RTU or DCON protocols, and some models support XV-board for local I/O expansion. TouchPAD can also work as Modbus TCP/RTU slave device for easy integration with SCADA software.



TPD Series Selection Guide



✓ 2.8" (Resolution: 240 x 320)



Model	Extra Flash	Image Storage Capacity (1)	Ethernet	COM port	RTC	Wall Mounting		Power Input (2)
TPD-280-H	-	4	-	1x RS-485	-	OB120	EWB-T28 EWB-T28-BK	+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

✓ 4.3" (Resolution: 480 x 272)



Model	Extra Flash	Image Storage Capacity (1)	Ethernet	COM port	RTC	Wall Mounting		Power Input (2)
TPD-430-H	16 MB	64	-	1x RS-485	Yes	OB120	EWB-T43 EWB-T43-BK	+12 ~ +48 Vdc
TPD-433-H			Yes					+12 ~ +48 Vdc or PoE
TPD-430-H-EU			-			+12 ~ +48 Vdc		
TPD-433-H-EU	Yes	+12 ~ +48 Vdc or PoE						
TPD-432F-H	16 MB	64	-	2x RS-485		OB140F OB140FP	EWB-T43F	+12 ~ +48 Vdc
TPD-433F-H	16 MB	64	Yes	1x RS-232 1x RS-485				+12 ~ +48 Vdc or PoE
TPD-433-M2								

✓ 7" (Resolution: 800 x 480)



Model	Extra Flash	Image Storage Capacity (1)	Ethernet	COM port	RTC	Wall Mounting		Power Input (2)
TPD-703	16 MB	18	Yes	1x RS-232	Yes	OB170	EWB-T70	+12 ~ +48 Vdc or PoE
TPD-703-64	64 MB	84		1x RS-485				

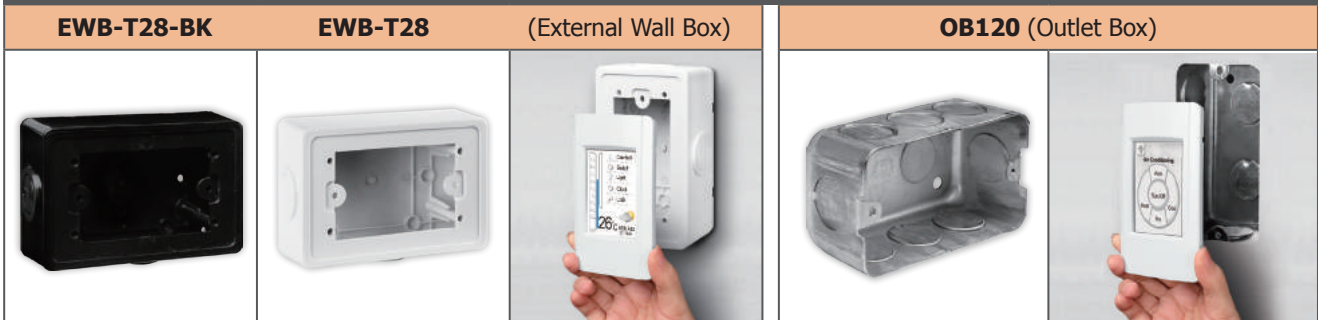
(1) Image Storage Capacity depends on the content of program and the size of images. The number is counted by how many images in full screen size can be stored on the device.

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

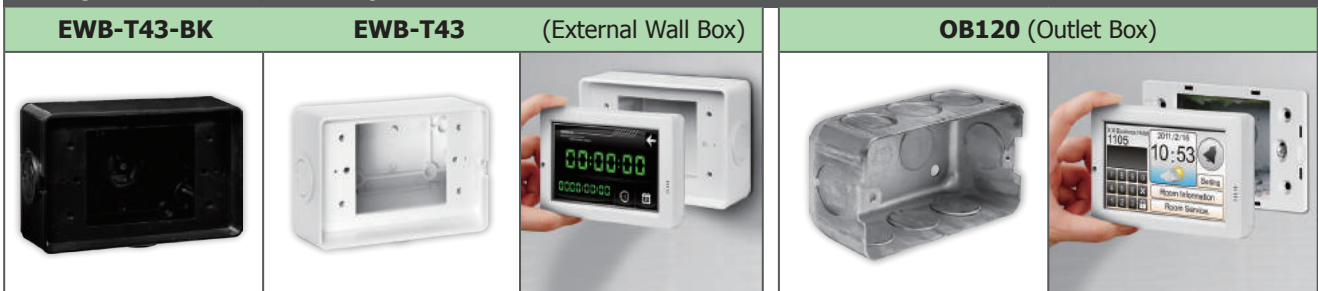


External Wall Box and Outlet Box

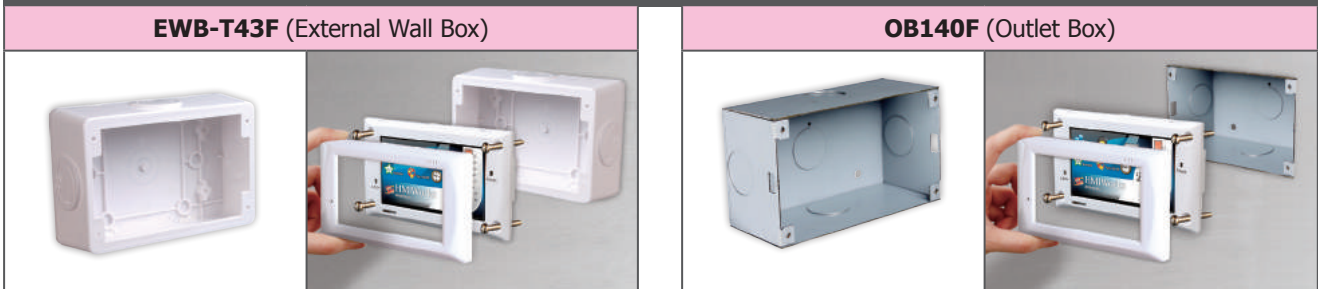
2.8" (TPD-280-H/TPD-280U-H/TPD-283-H/TPD-283U-H/TPD-280-Mx/TPD-283-Mx/TPD-283U-Mx)



4.3" (TPD-430-H/TPD-433-H)



4.3" (TPD-432F-H/TPD-433F-H/TPD-433-M2)



OB140FP (Outlet Box)



4.3" (TPD-430-H-EU/TPD-433-H-EU)



7" (TPD-703/TPD-703-64)



VPD Series Selection Guide

VPD - 1



LCD
3: 3.5"
4: 4.3"
7: 7"



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): Expansion XV-Boards



H: High Speed Version
64: 64 MB Extra Flash

✓ 3.5" (Resolution: 320 x 240)



Model	Extra Flash	Image Storage Capacity (1)	COM Port	Ethernet	RTC	I/O Expansion	Rubber Keypad	Ingress Protection	Power Input (2)
VPD-130-H	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			-						
VPD-133-H			Yes						
VPD-133N-H			-						

✓ 3.5" (Resolution: 320 x 240)



Model	Extra Flash	Image Storage Capacity (1)	COM Port	Ethernet	RTC	I/O Expansion	Rubber Keypad	Ingress Protection	Power Input (2)
VPD-142-H	16 MB	64	COM1: RS-485 or RS-232 COM2: RS-485 or RS-232	-	Yes	Yes	Yes	Front Panel: IP65	+12 ~ +48 Vdc
VPD-142N-H				-			-		
VPD-143-H				Yes			Yes		
VPD-143N-H				-			-		

✓ 7" (Resolution: 800 x 480)



Model	Extra Flash	Image Storage Capacity (1)	COM Port	Ethernet	RTC	I/O Expansion	Rubber Keypad	Ingress Protection	Power Input (2)
VPD-173N	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				-			
VPD-173X	16 MB	18				Yes			
VPD-173X-64	64 MB	84				Yes			

(1) 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.

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

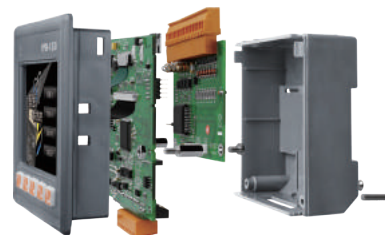


Expansion XV-board Selection Guide

VPD-13x Series
VPD-14x Series
VPD-173X Series

Optional XV-board

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



Digital I/O



Model	DI			DO		
	Channel	Sink/Source	Contact	Channel	Type	Sink/Source
XV107	8	Source	Wet	8	Open Collector	Sink
XV107A	8	Sink		8	Open Emitter	Source
XV110	16	Sink/Source	Wet + Dry	-	-	-
XV111	-	-	-	16	Open Collector	Sink
XV111A	-	-	-	16	Open Emitter	Source



Relay Output



Model	DI			DO	
	Channel	Sink/Source	Contact	Channel	Type
XV116	5	Sink/Source	Wet	2	Signal Relay
				4	Power Relay



Multi-Function



Model	AI		AO		DI		DO	
	Channel	Type	Channel	Range	Channel	Type	Channel	Type
XV303	-	-	4	0 V ~ +5 V, ±5 V, 0 V ~ +10 V, ±10 V, 0 mA ~ +20 mA, +4 mA ~ +20 mA	4	Wet	4	Relay, FormA, 6A
XV306	4	±1 V, ±2.5 V, ±5 V, ±10 V, ±20 mA, 0 ~ 20 mA, 4 ~ 20 mA	-	-	4	Wet	4	Relay, FormA, 6A
XV307	-	-	2	0 V ~ +5 V, ±5 V, 0 V ~ +10 V, ±10 V, 0 mA ~ +20 mA, +4 mA ~ +20 mA	4	Wet	4	Relay, FormA, 6A
XV308	8	±1 V, ±2.5 V, ±5 V, ±10 V, ±20 mA, 0 ~ 20 mA, 4 ~ 20 mA	-	-	DI+DO=8	Dry/Wet	DI+DO=8	Open Collector, Sink
XV310	4	±1 V, ±2.5 V, ±5 V, ±10 V, ±20 mA, 0 ~ 20 mA, 4 ~ 20 mA	2	0 V ~ +5 V, ±5 V, 0 V ~ +10 V, ±10 V, 0 mA ~ +20 mA, +4 mA ~ +20 mA	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



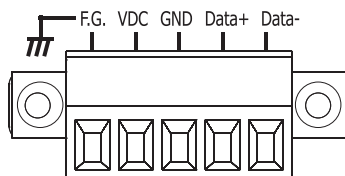
Introduction

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.

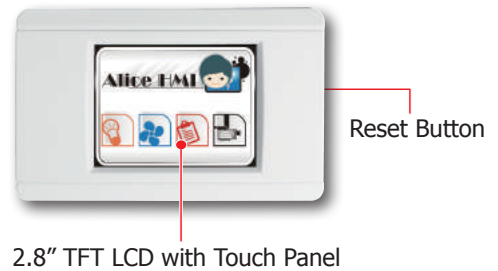
Pin Assignments

TPD-280-H/280U-H/283U-H ▼

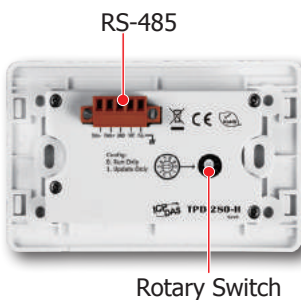


Appearance

Front View ▼

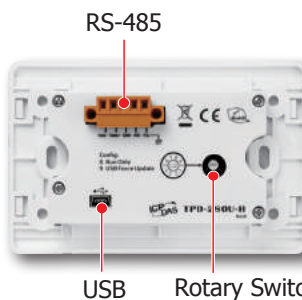


TPD-280-H Rear View ▼



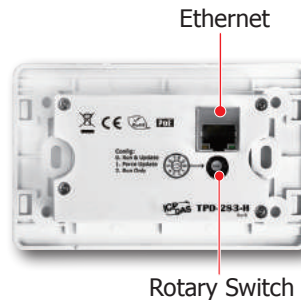
Rotary Switch

TPD-280U-H Rear View ▼



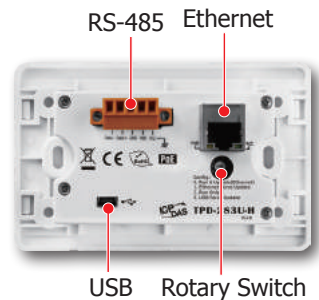
USB Rotary Switch

TPD-283-H Rear View ▼



Rotary Switch

TPD-283U-H Rear View ▼



USB Rotary Switch



Specifications

Model	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	Yes			
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	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)	DIN-KA52F CR 24 Vdc/1.04 A, 25 W Power Supply with DIN-Rail Mounting (RoHS)	EWB-T28 External Wall Box (White) for TPD 2.8 inch Series	EWB-T28-BK External Wall Box (Black) for TPD 2.8 inch Series	OB120 Outlet Box for TPD 2.8 inch Series and TPD-430-H/TPD-433-H Devices
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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



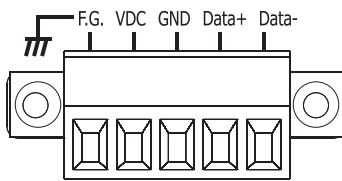
Introduction

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.

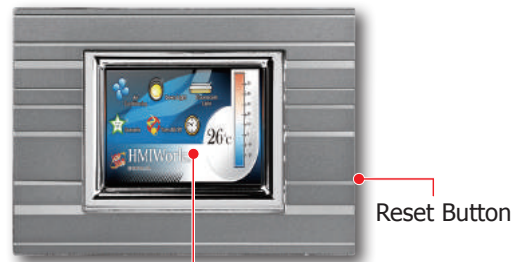
Pin Assignments

TPD-280-Mx/283U-Mx Series ▼



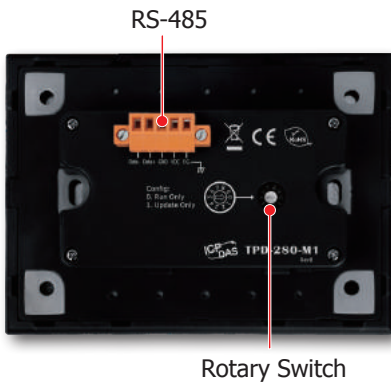
Appearance

Front View ▼



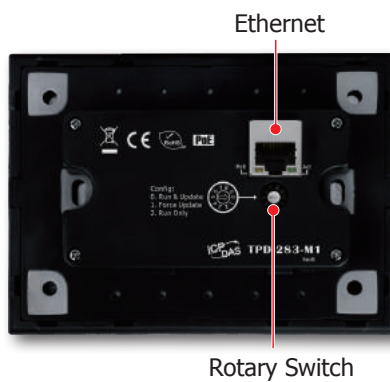
2.8" TFT LCD with Touch Panel

TPD-280-Mx Series Rear View ▼



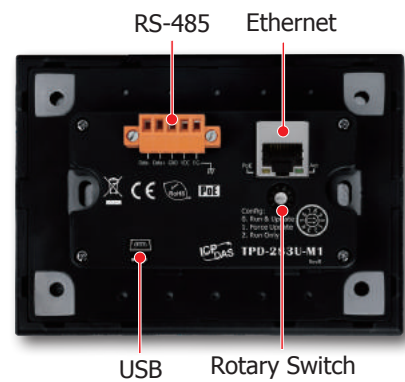
Rotary Switch

TPD-283-Mx Series Rear View ▼



Rotary Switch

TPD-283U-Mx Series Rear View ▼



USB Rotary Switch



Specifications

Model	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	Yes		
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

NS-208PSE CR
Unmanaged Industrial PoE (Power over Ethernet) Ethernet Switch (RoHS)



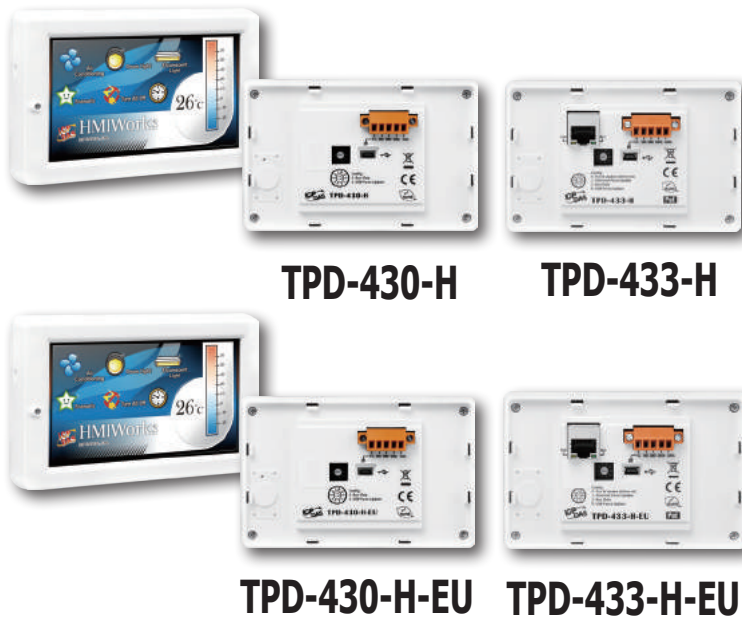
MDR-60-24 CR
24 Vdc/2.5 A, 60 W Power Supply with DIN-Rail Mounting (RoHS)



OB120
Outlet Box for TPD 2.8 inch Series and TPD-430-H/TPD-433-H Devices



TPD 4.3" Series



Features

- High-color high-resolution touch screen
- PoE (Power over Ethernet) for TPD-433 Series
- 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

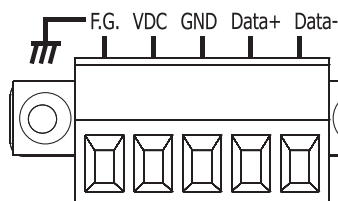


Introduction

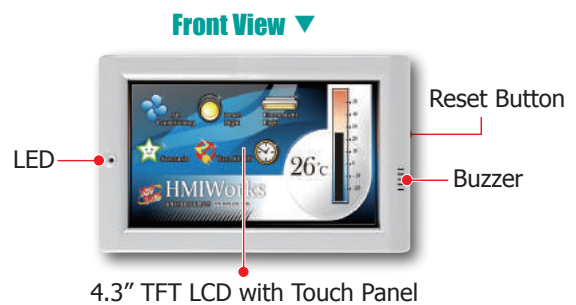
The **TouchPAD TPD 4.3" Series**, TPD-430-H/TPD-430-H-EU/TPD-433-H/TPD-433-H-EU, is a series of touch HMI and designed for building and home automation. The TPD 4.3" Series is equipped with high-color high-resolution TFT touch screen and fits in with regular electrical wall-mount outlet. Besides, it 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.

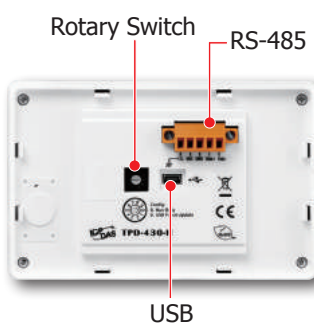
Pin Assignments



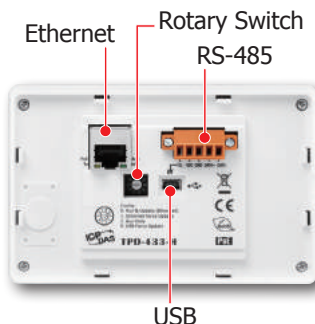
Appearance



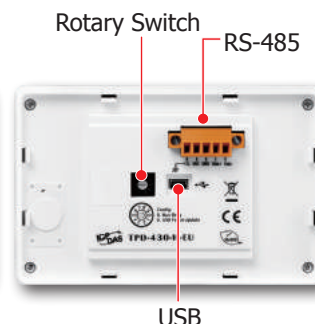
TPD-430-H Rear View



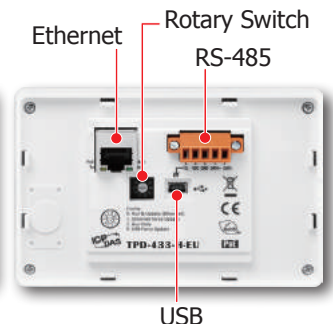
TPD-433-H Rear View



TPD-430-H-EU Rear View



TPD-433-H-EU Rear View





Specifications

Model	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	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 /TPD-433-H	EWB-T43-BK External Wall Box (Black) for TPD-430-H/ TPD-433-H	OB120 Outlet Box for TPD 2.8 inch Series and TPD-430-H/TPD433-H Devices
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TPD 4.3" Series



TPD-433-M2



TPD-432F-H



TPD-433F-H

Features

- High-color high-resolution touch screen
- PoE (Power over Ethernet) for TPD-433 Series
- 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



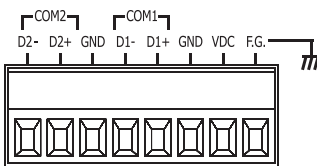
Introduction

The **TouchPAD TPD 4.3" Series**, TPD-432F-H/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.

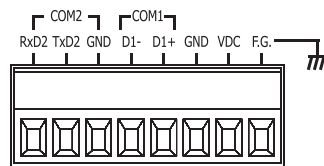
For PLC users, HMIWorks provides Ladder Designer, and for IT users, C language environment is provided. Especially, it only takes no more than 30 minutes to learn how to create an application program of TouchPAD series devices when using Ladder Designer. Moreover, by utilizing the Ethernet functionality 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-H ▼



TPD-433F-H/433-M2 ▼

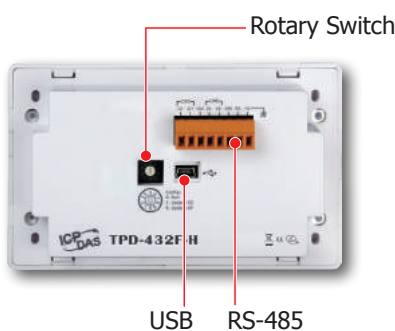


Appearance

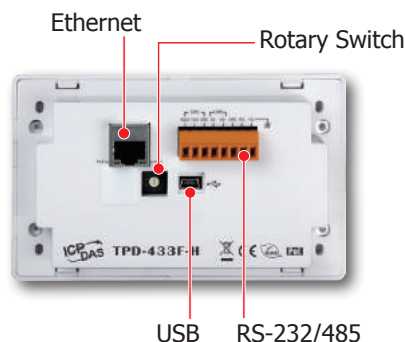
Front View ▼



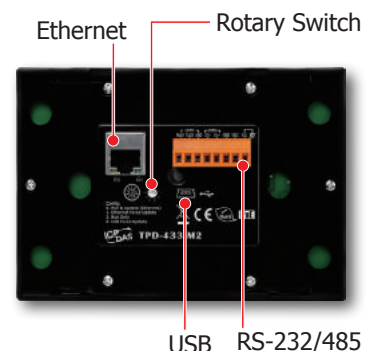
TPD-432F-H Rear View ▼



TPD-433F-H Rear View ▼



TPD-433-M2 Rear View ▼





Specifications

Model	TPD-432F-H	TPD-433F-H	TPD-433-M2
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-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	+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-H 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: grey, RoHS)

Accessories

CA-USB10 USB to 5P Mini-USB, 28AWG, 1.5 m	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)	DIN-KA52F CR 24 Vdc/1.04 A, 25 W Power Supply with DIN-Rail Mounting (RoHS)	EWB-T43F External Wall Box for TPD-432F-H/TPD-433F-H/TPD-433-M2	OB140F Outlet Box for TPD-432F-H/TPD-433F-H/TPD-433-M2	OB140FP Plastic outlet Box for TPD-432F-H/TPD-433F-H/TPD-433-M2
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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

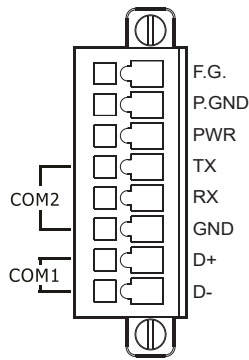


Introduction

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.

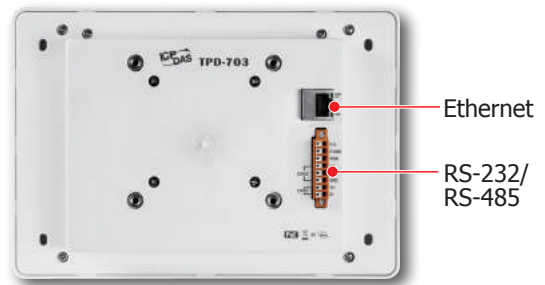
For PLC users, HMIWorks provides Ladder Designer, and for IT users, C language environment is provided. Especially, it only takes no more than 30 minutes to learn how to create an application program of TPD-series devices when using Ladder Designer.

Pin Assignments



Appearance

Rear View ▼



Front View ▼



7" TFT LCD with Touch Panel

Front View ▼



Reset Button — Rotary Switch



Specifications

Model	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

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/TPD-703-64 Devices



OB170
Outlet Box for TPD-703/TPD-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
- Support user-defined third party protocol (C language)
- Modbus TCP/RTU & DCON protocols
- I/O Expansion Board: XV-board
- Front Panel: IP65 Waterproof
- Operating Temperature: -20 ~ 50 °C



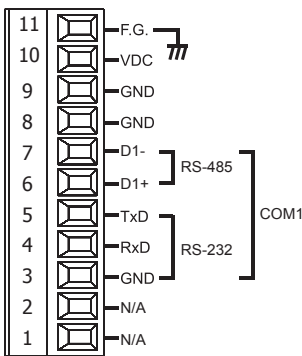
Introduction

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.

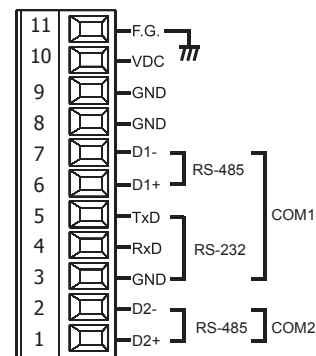
HMIWorks, the free development software for VPD series, provides an easy-to-use environment, and powerful and intuitive programming with graphic capabilities to let users create appealing graphical interface screens in minutes. For PLC users, HMIWorks provides Ladder Designer and C language environment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

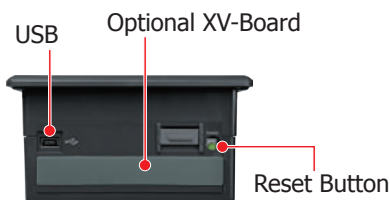


3.5" TFT LCD with Touch Panel

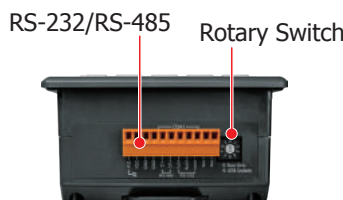
LED

Rubber Keypad

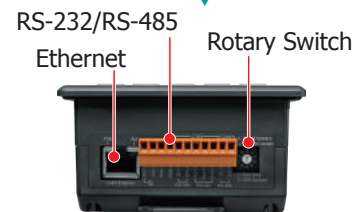
VPD-130(N)-H/132(N)-H/133(N)-H Top View



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



VPD-133(N)-H Bottom View








Specifications

Model	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

 <p>XV Board</p>	<p>The plug-in XV-Board lets VPD series have its own I/O to control!</p> <p>Note: Models is increasing to support all VPD series, please contact your sales representative for latest modules & supporting list.</p>		 <p>CA-USB10</p>	<p>USB to 5P Mini-USB, 28AWG, 1.5 m</p>		
	DIO Board	XV107, XV107A, XV110, XV111, XV111A			 <p>MDR-60-24 CR</p>	<p>24 Vdc/2.5 A, 60 W Power Supply with DIN-Rail Mounting (RoHS)</p>
	Relay Output Board	XV116				
	Multifunction Board	XV303, XV306, XV307, XV308, XV310				

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

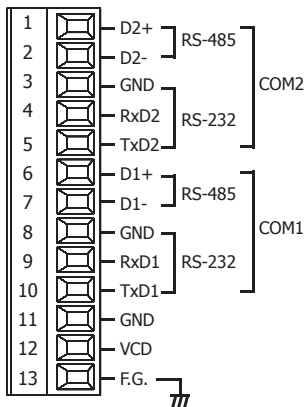


Introduction

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

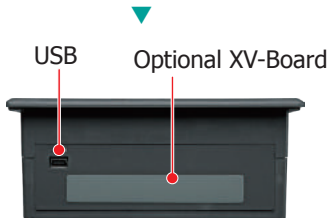
VPD-142N-H/143N-H Front View



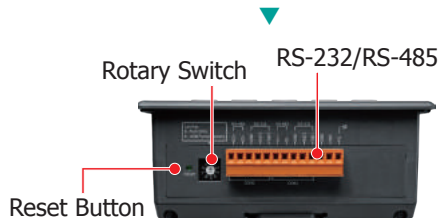
VPD-142-H/143-H Front View



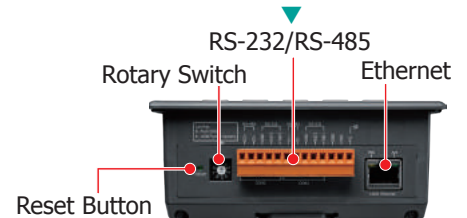
VPD-142(N)-H/143(N)-H Top View



VPD-142(N)-H Bottom View



VPD-143(N)-H Bottom View








Specifications

Model	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

 <p>XV Board</p>	<p>The plug-in XV-Board lets VPD series have its own I/O to control!</p> <p>Note: Models is increasing to support all VPD series, please contact your sales representative for latest modules & supporting list.</p>		 <p>CA-USB10</p>	<p>USB to 5P Mini-USB, 28AWG, 1.5 m</p>		
	DIO Board	XV107, XV107A, XV110, XV111, XV111A			 <p>MDR-60-24 CR</p>	<p>24 Vdc/2.5 A, 60 W Power Supply with DIN-Rail Mounting (RoHS)</p>
	Relay Output Board	XV116				
	Multifunction Board	XV303, XV306, XV307, XV308, XV310				

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

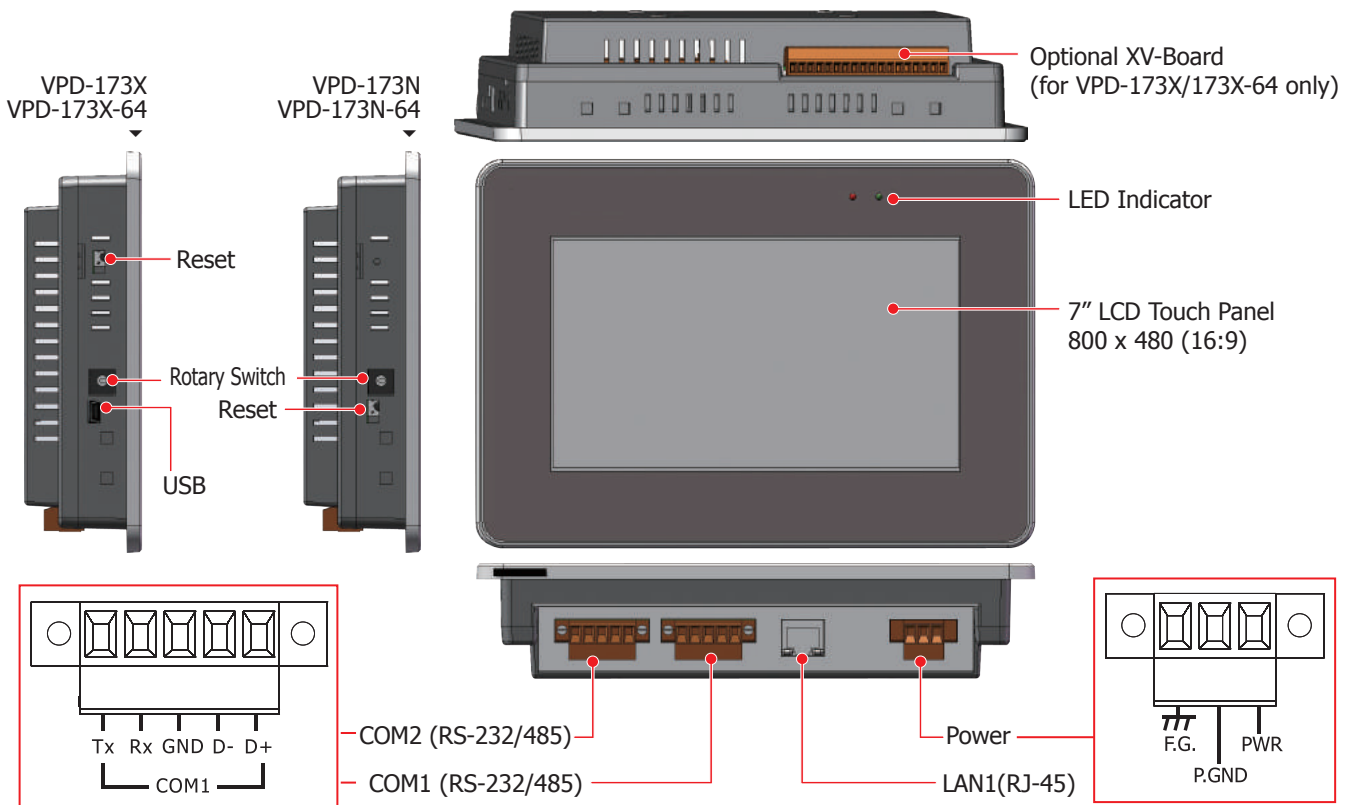


Introduction

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



Model	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			
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	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)

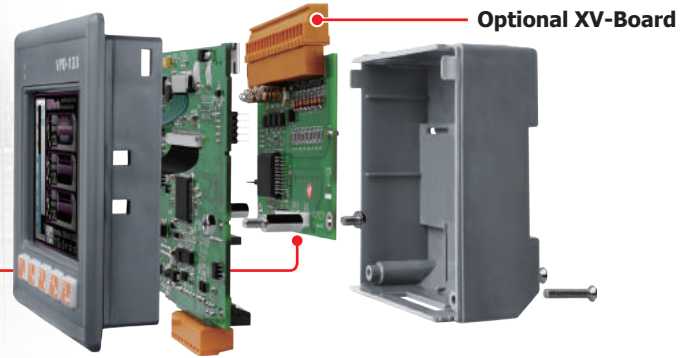
Accessories

 <p>XV Board</p>	The plug-in XV-Board lets VPD series have its own I/O to control! Note: 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	XV303, XV306, XV307, XV308, XV310

 <p>MDR-60-24 CR</p>	24 Vdc/2.5 A, 60 W Power Supply with DIN-Rail Mounting (RoHS)
 <p>NS-208PSE CR</p>	Unmanaged Industrial PoE (Power over Ethernet) Ethernet Switch (RoHS)

XV-Board Series

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



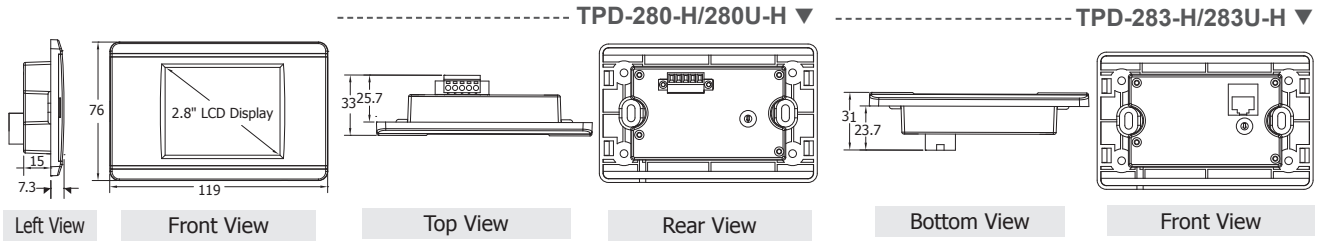
		DIO Board					Relay Output Board		
Model		XV107	XV107A	XV110	XV111	XV111A	XV116		
Image									
Digital Input									
Channel		8	8	16			5		
Contact		Wet	Wet	Dry+Wet			Wet		
Sink/Source (NPN/PNP)		Source	Sink	Sink/Source			Sink/Source		
Wet Contact	On Voltage Level	+3.5 Vdc ~ +50 Vdc						+3.5 Vdc ~ +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 K Ω , 0.5 W						10 K Ω , 0.5 W	
Overvoltage Protection		70 Vdc						70 Vdc	
Digital Output									
Channel		8				16			
Type		Open Collector	Open Emitter		Open Collector	Open Emitter			
Sink/Source (NPN/PNP)		Sink	Source		Sink	Source			
Load Voltage		+3.5 Vdc ~ 50 Vdc	+10 Vdc ~ 40 Vdc		+3.5 Vdc ~ 50 Vdc	+10 Vdc ~ 40 Vdc			
Max. Load Current		700 mA/channel	650 mA/channel		600 mA/channel				
Overload Protection		1.4 A				1.4 A			
Relay Output									
Channel							2 (channel 0, 1)	4 (channel 2~5)	
Type							Signal Relay	Power Relay	
Form A Relay	Contact Rating						2 A @ 30 VDC 0.24 A @ 220 VDC 0.25 A @ 250 VAC	6 A @ 35 VDC 6 A @ 240 VAC	
	Min. Contact Load						10 mA @ 20 mV	100 mA @ \geq 12 V	
	Contact Material						Silver Nickel, Gold-covered	Silver Cadmium Alloy	
	Operate Time						3 ms (typical)	5 ms (typical)	
	Release Time						4 ms (typical)	1 ms (typical)	
	Mechanical Endurance						10 ⁸ ops.	30 X 10 ⁶ ops.	
	Electrical Endurance						2 X 10 ⁵ ops.	1 X 10 ⁵ ops.	
Isolation									
Intra-module Isolation		3750 Vdc (Field to Logic)							
Power Requirements									
Consumption		0.15 W	0.45 W	0.25 W	0.2 W	0.8 W	1.2 W		



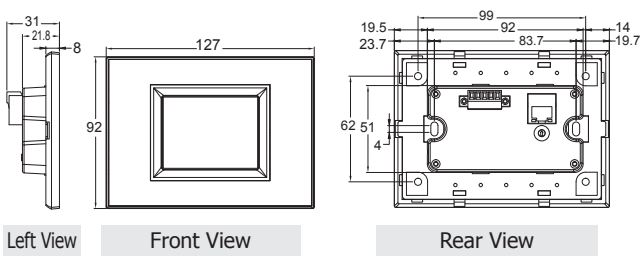
		Multifunction Board				
Model		XV303	XV306	XV307	XV308	XV310
Image						
Analog Input						
Channel			4		8	4
Sensor Type			$\pm 1\text{ V}, \pm 2.5\text{ V}, \pm 5\text{ V}, \pm 10\text{ V}, 0 \sim 20\text{ mA}, 4 \sim 20\text{ mA}, \pm 20\text{ mA}$ (Jumper selectable)		$\pm 1\text{ V}, \pm 2.5\text{ V}, \pm 5\text{ V}, \pm 10\text{ V}, 0 \sim 20\text{ mA}, 4 \sim 20\text{ mA}, +/-20\text{ mA}$ (Jumper selectable)	
Resolution		-	16-bit	-	16-bit	
Sampling Rate	Normal Mode		10 Hz		10 Hz	
	Fast Mode		200 Hz		200 Hz	
Input Impedance			20 M Ω		20 M Ω	
Overvoltage Protection			120 VDC		120 VDC	
Analog Output						
Channel		4		2		2
Range		0 V ~ +5 V, $\pm 5\text{ V}$, 0 V ~ +10 V, $\pm 10\text{ V}$, 0 mA ~ +20 mA, +4 mA ~ +20 mA (Jumper Selectable)	-	0 V ~ +5 V, $\pm 5\text{ V}$, 0 V ~ +10 V, $\pm 10\text{ V}$, 0 mA ~ +20 mA, +4 mA ~ +20 mA (Jumper Selectable)	-	0 V ~ +5 V, $\pm 5\text{ V}$, 0 V ~ +10 V, $\pm 10\text{ V}$, 0 mA ~ +20 mA, +4 mA ~ +20 mA (Jumper Selectable)
Resolution		12-bit		12-bit		12-bit
Voltage Output Capability		10 V @ 20 mA		10 V @ 20 mA		10 V @ 20 mA
Current Load Resistance		500 Ω		500 Ω		500 Ω
Universal Digital Input/Output						
Channel			-		DI+DO=8 (by Wire)	-
Digital Input						
Channel		4	4	-		4
Sink/Source (NPN/PNP)		Sink/Source	Sink/Source	Source		Source
Wet Contact	On Voltage Level	$+3.5 \sim +50\text{ VDC}$			+1 VDC Max.	-
	Off Voltage Level	$+1\text{ VDC Max.}$			+4 ~ 30 VDC	-
Dry Contact	On Voltage Level	-			Close to GND	Close to GND
	Off Voltage Level	-			Open	Open
Counters	Max. Count	32-bit (0~4,294,967,285)				
	Max. Input Frequency	50 Hz				
	Min. Pulse Width	10 ms				
Overload Protection		70 VDC	70 VDC		60 VDC	60 VDC
Digital Output						
Channel		4			-	4
Type		Power Relay (Form A)			Sink	Source
Load Voltage					3.5 ~ 50 VDC	+10 ~ +40 VDC
Max. Load Current					700 mA	650 mA/channel
Overload Protection					60 VDC	47 VDC
Contact Rating		6 A @ 35 VDC 6 A @ 240 VAC				
Min. Contact Load		100 mA @ $\geq 12\text{ V}$				
Operate/Release Time		5 ms (typical)/1 ms (typical)				
Mechanical/Electrical Endurance		30 x 10 ⁶ ops./1 x 10 ⁵ ops.				
Isolation						
Intra-module Isolation, Field to Logic		2000 VDC				
Power Requirements						
Consumption		1.6 W			0.8 W	1.6 W

TPD Series Dimensions (Units: mm)

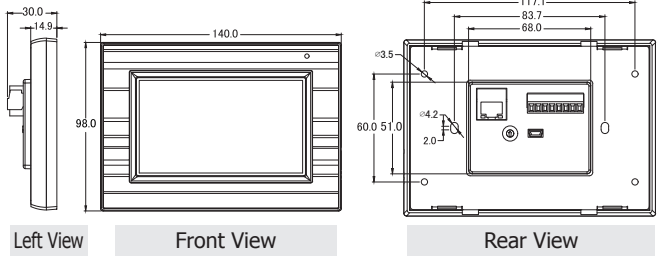
TPD-280-H/280U-H/283-H/283U-H



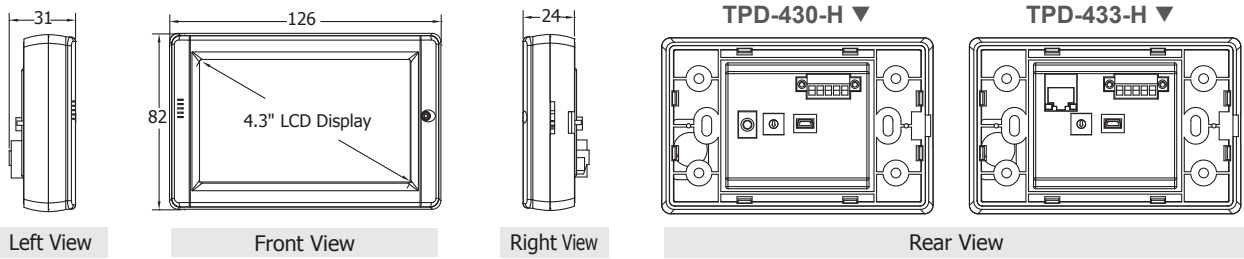
TPD-280-Mx/283-Mx/283U-Mx Series



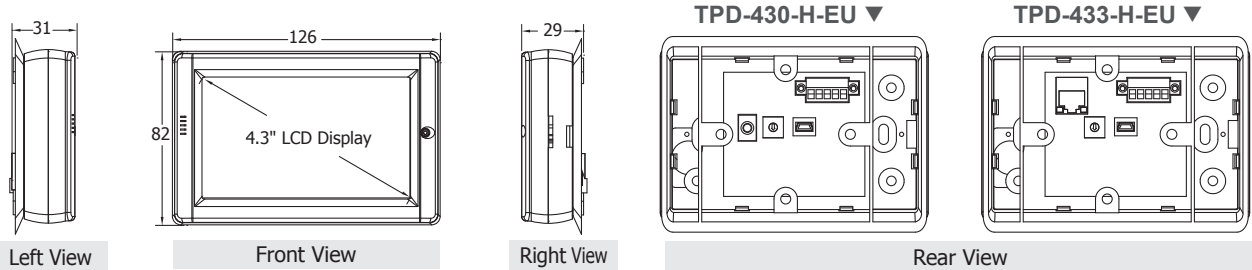
TPD-433-M2



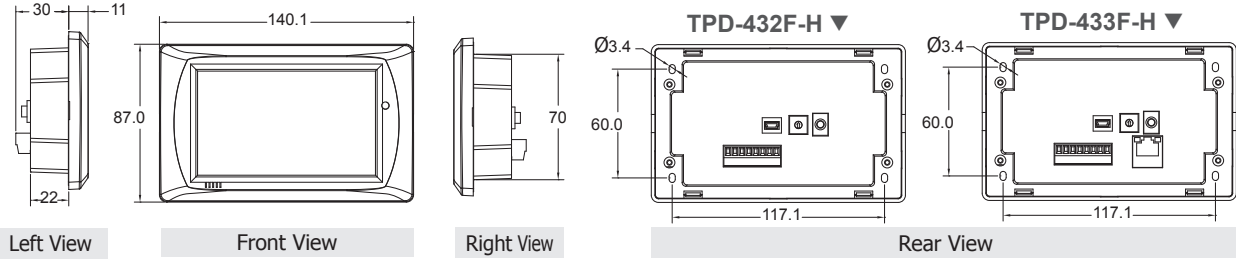
TPD-430-H/433-H



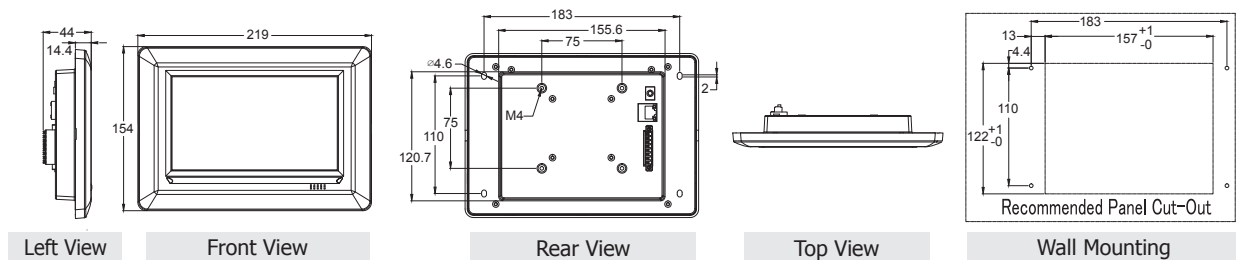
TPD-430-H-EU/433-H-EU



TPD-432F-H/433F-H



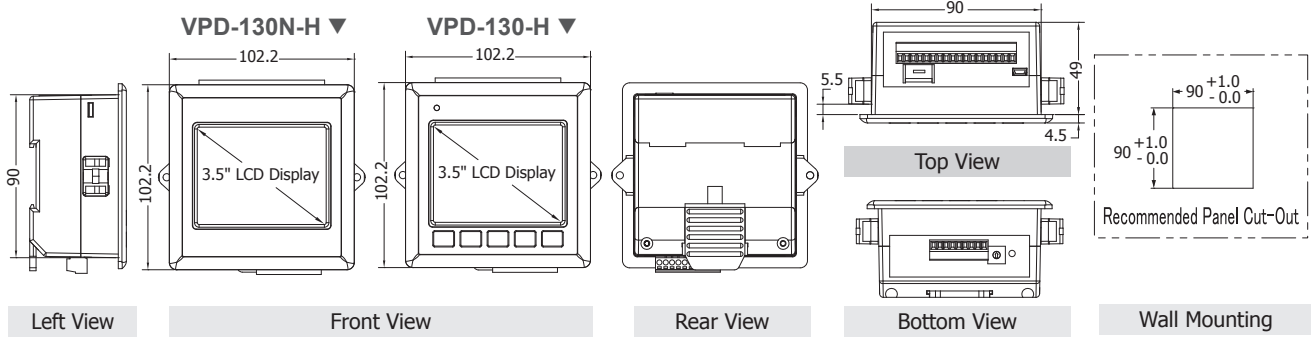
TPD-703/703-64



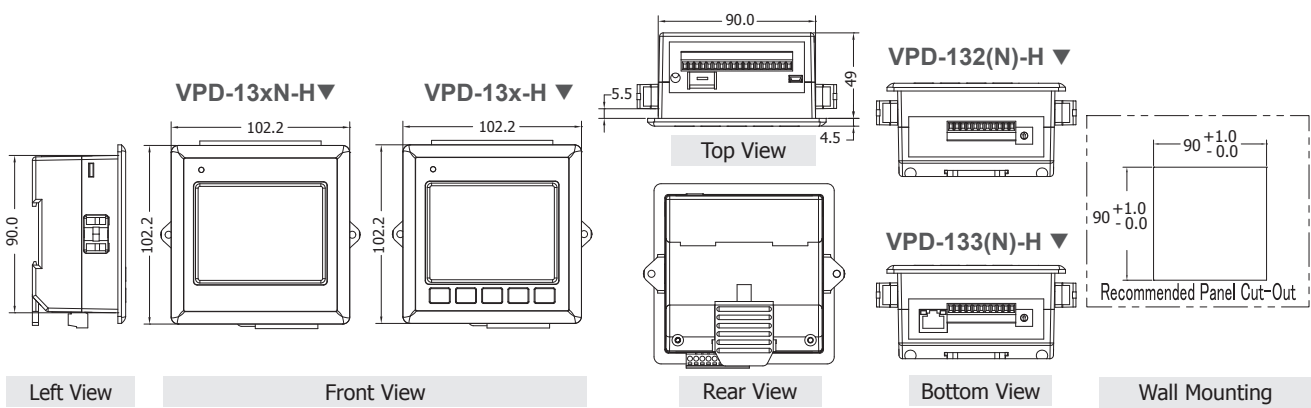


VPD Series Dimensions (Units: mm)

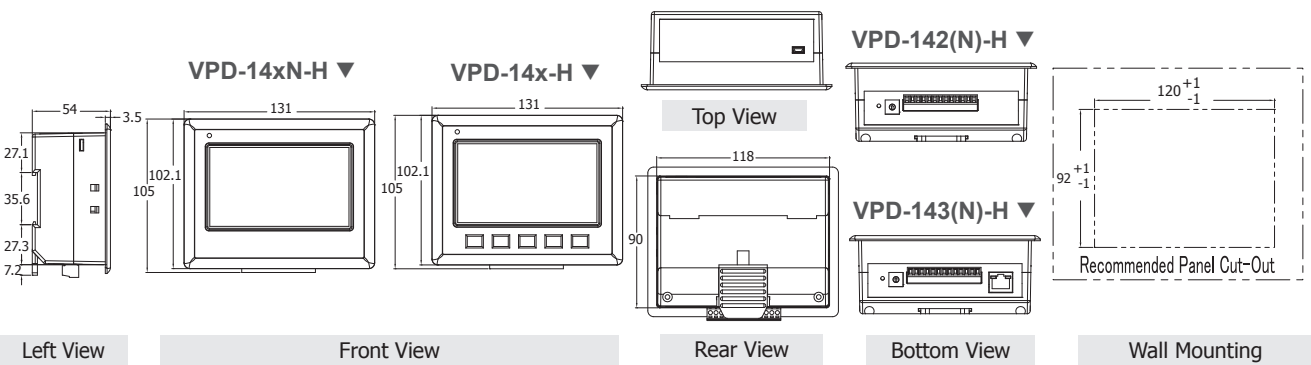
VPD-130-H/130N-H



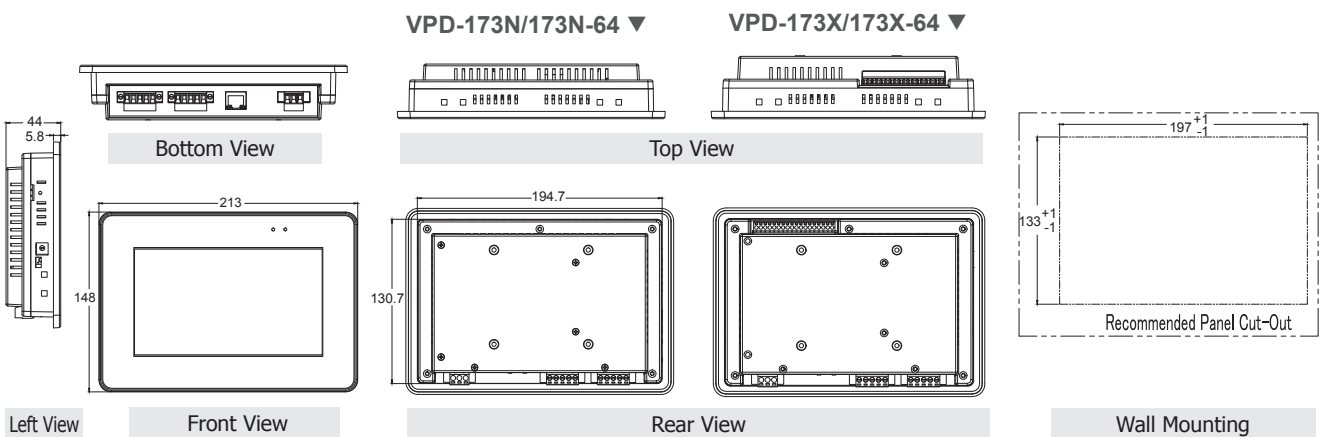
VPD-132-H/132N-H/133-H/133N-H



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



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



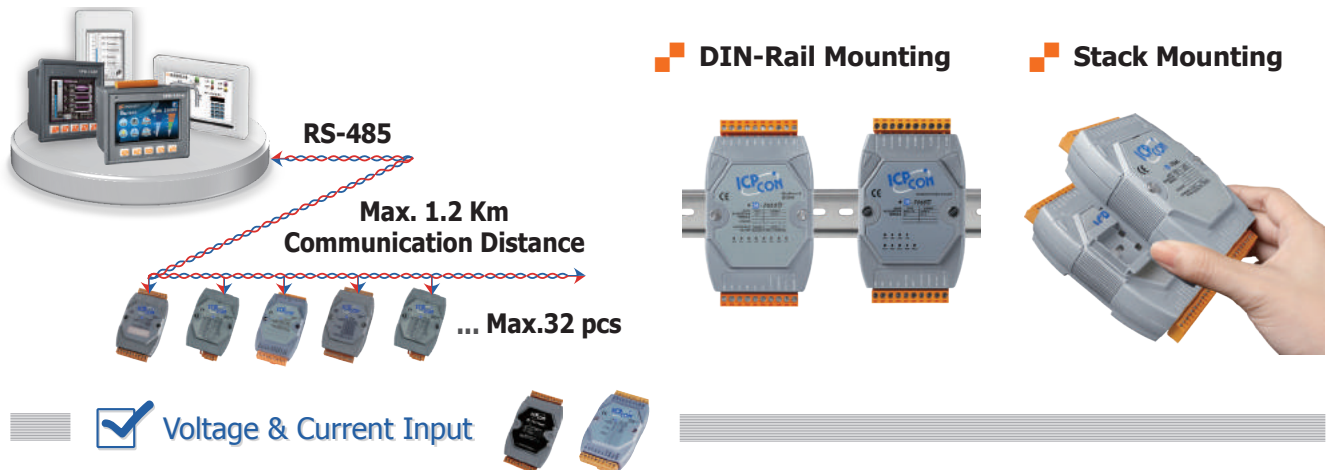
Remote I/O Modules

M-7000 Series

The M-7000 remote I/O modules support DCON protocol and Modbus RTU protocol. According to the different applications, we have developed various I/O modules includes digital I/O, analog I/O, timer/ counter, RS-232 to RS-485 converter, USB to RS-485 converter and RS-232/422/485 to Fiber Optics, etc.

For more information, please contact your sales representative or refer to

http://www.icpdas.com/root/product/solutions/remote_io/rs-485/i-7000_m-7000/i-7000_m-7000_selection.html



Model	Analog Input							
	Channels	Resolution	Sampling Rate (Total)	Voltage and Current Input	Common Voltage Protection	Individual Channel Configurable	Oversoltage Protection	
M-7017	8 Diff.	16-bit	10 Hz	± 150 mV, ± 500 mV, ± 1 V, ± 5 V, ± 10 V, ± 20 mA	± 35 Vdc	-	± 120 Vdc	
M-7017C				$0 \sim +20$ mA, $+4 \sim +20$ mA, ± 20 mA			± 100 Vdc	
M-7017R			10/50 Hz	± 150 mV, ± 500 mV, ± 1 V, ± 5 V, ± 10 V, ± 20 mA	± 200 Vdc	Yes	± 240 Vrms	
M-7017R-A5				± 50 V, ± 150 V,			200 Vdc	
M-7017RC				10/60 Hz			$0 \sim +20$ mA, $+4 \sim +20$ mA, ± 20 mA	± 100 Vdc
M-7017RMS				10 Hz			$0 \sim +10$ Vrms, $0 \sim +5$ Vrms, $0 \sim 1$ Vrms, $0 \sim 500$ mVrms, $0 \sim 150$ mVrms	± 35 Vdc
M-7017Z	10 Diff. or 20 SE	10/60 Hz	10/60 Hz	± 150 mV, ± 500 mV, ± 1 V, ± 5 V, ± 10 V, $0 \sim +20$ mA, $+4 \sim +20$ mA, ± 20 mA	Yes	240 Vrms (Diff.) 150 Vrms (SE)		
M-7017mc-16	16 Diff./SE			10/200 Hz		$0 \sim +20$ mA, $+4 \sim +20$ mA, ± 20 mA	± 100 Vdc	

Multi-function

Model	Analog Input		Analog Output		DC Input		DC Output	
	Channels	Voltage and Current Input	Channels	Voltage and Current Output	Channels	ON Voltage Level	Output Type	Max Load Current
M-7002	4	± 150 mV, ± 500 mV, ± 1 V, ± 5 V, ± 10 V, $0 \sim +20$ mA, $+4 \sim +20$ mA, ± 20 mA	-	-	5	$+10 \sim +50$ Vdc	Power Relay (Form A)	5 A @ 250 VAC/ 30 Vdc
M-7003	8		-	-	-	-		
M-7026	6		2	± 10 V, $0 \sim +10$ V, ± 5 V, $0 \sim +5$ V, $0 \sim +20$ mA, $+4 \sim +20$ mA	3	Connect to GND	Open Collector $\times 3$	Sink, 700 mA

 Thermocouple Input


Model	Analog Input							
	Channels	Resolution	Sampling Rate (Total)	Voltage and Current Input	Sensor Input	Open Wire Detection	Individual Channel Configurable	Overtoltage Protection
M-7018-16	16 Diff.	16-bit	10 Hz	± 15 mV, ± 50 mV, ± 100 mV, ± 50 mV, ± 1 V, ± 2.5 V, ± 20 mA	J.K.T.E. R. S.B.N.C Thermocouple	Yes	-	± 60 V _{DC}
M-7018	8 Diff.				J.K.T.E.R.S. B.N.C.L.M Thermocouple	-		± 120 V _{DC}
M-7018R				10 Diff.	± 50 mV, ± 100 mV, ± 500 mV, ± 1 V, ± 2.5 V, ± 20 mA	J.K.T.E.R.S. B.N.C.L.M Thermocouple	Yes	Yes
M-7018Z	± 50 mV, ± 100 mV, ± 500 mV, ± 1 V, ± 2.5 V, ± 20 mA				J.K.T.E.R.S. B.N.C.L.M, \perp DIN43710 Thermocouple			
M-7019R	8 Diff.			± 15 mV, ± 50 mV, ± 100 mV, ± 150 mV, ± 500 mV, ± 1 V, ± 2.5 V, ± 5 V, ± 10 V, ± 20 mA	J.K.T.E.R.S. B.N.C.L.M, \perp DIN43710 Thermocouple			
M-7019Z	10 Diff.							

 Analog Output


Model	Analog Output					
	Resolution	Channels	Voltage Output	Current Output	Safe Value	Power-on Value
M-7022	12-bit	2	0 ~ +10 V	0 ~ +20 mA +4 ~ +20 mA	Yes	Yes
M-7024	14-bit	4	± 10 V, ± 5 V, 0 ~ +10 V, 0 ~ +5 V			
M-7024R		4				
M-7024U	16-bit	4				
M-7024UD	12-bit	8				
M-7028						

 DC Input/Output


Model	DC Output				DC Input		
	Channels	Load Voltage	Max Load Current	Short Circuit Protection	Channels	ON Voltage Level	OFF Voltage Level
M-7050 M-7050D	8 (Sink) Open Collector (3750 V _{rms})	+3.5 ~ +30 V _{DC}	30 mA	-	7 (Sink, Non-Isolation)	+4 ~ +30 V _{DC}	+1 V _{DC} Max.
M-7055 M-7055D	8 (Source) Open Source (3750 V _{rms})	+10 ~ +40 V _{DC}	650 mA	Yes	8 (Sink/Source, 3750 V _{rms})	+10 ~ +50 V _{DC}	+4 V _{DC} Max.
M-7055-NPN M-7055D-NPN	8 (Sink) Open Collector (NPN) (3750 V _{rms})	+3.5 ~ +50 V _{DC}	700 mA		8 (Sink/Source, 3750 V _{rms})		
M-7055U M-7055UD	8 (Sink/Source) (2000 V _{DC})	+3.5 ~ +80 V _{DC}	500 mA		8 (Sink/Source, 3750 V _{rms})		

 DC Universal Digital Input/Output


Model	DI + DO	DO				DI	
	Channel	Type	Load Voltage	Max. Load Current	Short Circuit Protection	Type	Sink/Source
M-7054 M-7054D	16	Sink Open Collector	+ 3.5 ~ + 30 V _{DC}	100 mA/channel	-	Dry	Source
M-7054P M-7054PD			+ 3.5 ~ + 50 V _{DC}	500 mA/channel	Yes		

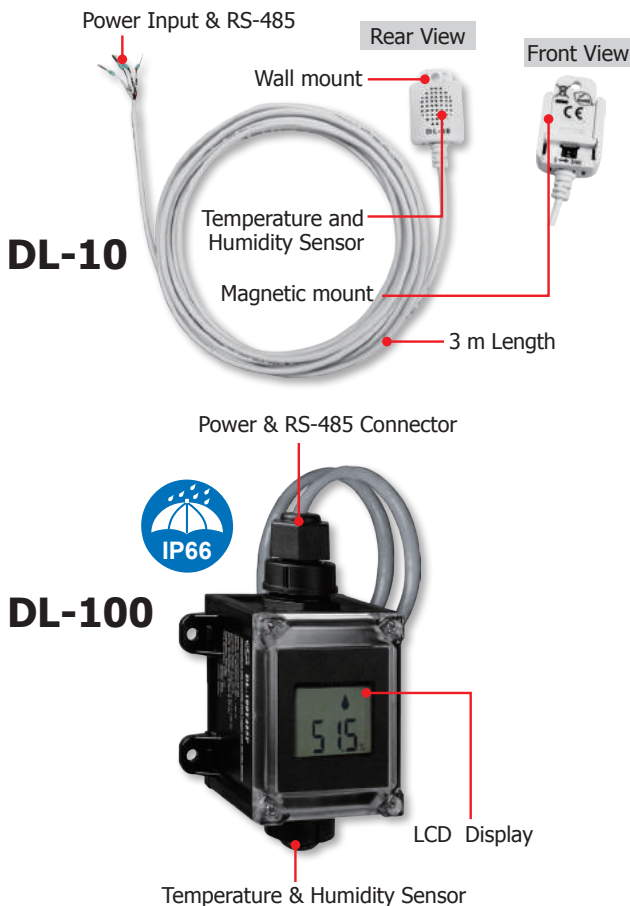
• RS-485 Tiny I/O Modules

For more information, please contact your sales representative or refer to https://www.icpdas.com/root/product/solutions/remote_io/rs-485/tm-series/tm-series_selection.html



Model	AI	AO	DI	DO
tM-AD2	2-ch (Single-Ended, Voltage/Current)	-	-	-
tM-AD5	5-ch (Differential, Voltage)	-	-	-
tM-AD5C	5-ch (Differential, Current)	-	-	-
tM-AD8	8-ch (Single-Ended, Voltage)	-	-	-
tM-AD8C	8-ch (Single-Ended, Current)	-	-	-
tM-AD4P2C2	2-ch (Single-Ended, Voltage) 2-ch (Single-Ended, Current)	-	2-ch (Source)	2-ch (NPN, Sink)
tM-DA1P1R1	-	1-ch (Single-Ended, Voltage)	1-ch (Sink/Source)	1-ch Form A Relay
tM-TH8	8-ch (Thermistor)	-	-	-
tM-P8	-	-	8-ch (Sink/Source)	-
tM-C8	-	-	-	8-ch (NPN, Sink)
tM-P4C4	-	-	4-ch (Source)	4-ch (NPN, Sink)
tM-P4A4	-	-	4-ch (Sink)	4-ch (PNP, Source)
tM-P3R3	-	-	3-ch (Sink/Source)	3-ch Form A Relay
tM-R5	-	-	-	5-ch Form A Relay
tM-POR3	-	-	3-ch (Sink/Source)	3-ch PhotoMos Relay

• DL Series, Temperature, Humidity Sensors



Model	DL-10	DL-100
Sensor Type	Temperature / Relative Humidity	
Temperature Range/Accuracy	R: -20°C ~ +60°C A: ±0.4°C	R: -20°C ~ +60°C A: max. ±0.3°C
Humidity Range/Accuracy	R: 10 ~ 95% RH A: ±3% RH	R: 0 ~ 100% RH A: max. ±1.8% RH
Dew Point	-	Range: Calculated using temperature and relative humidity / Resolution: 0.1°C
Data Logger	-	4088 Records
Communication	Modbus RTU	RS-485 / ZigBee / Ethernet / PoE / USB DCON or Modbus RTU
Display	-	Monochrome LCD
Advantage	Tiny	Tiny, Waterproof Level IP66
IP65 Version	No	Yes

For more information, please contact your sales representative or refer to

https://www.icpdas.com/root/product/solutions/remote_io/rs-485/dl_series/dl_selection.html

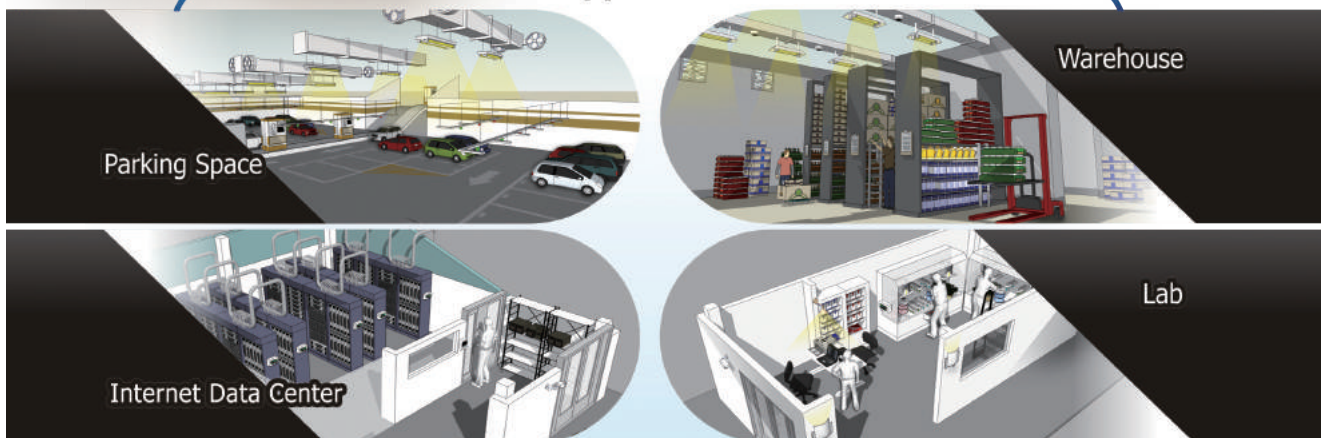
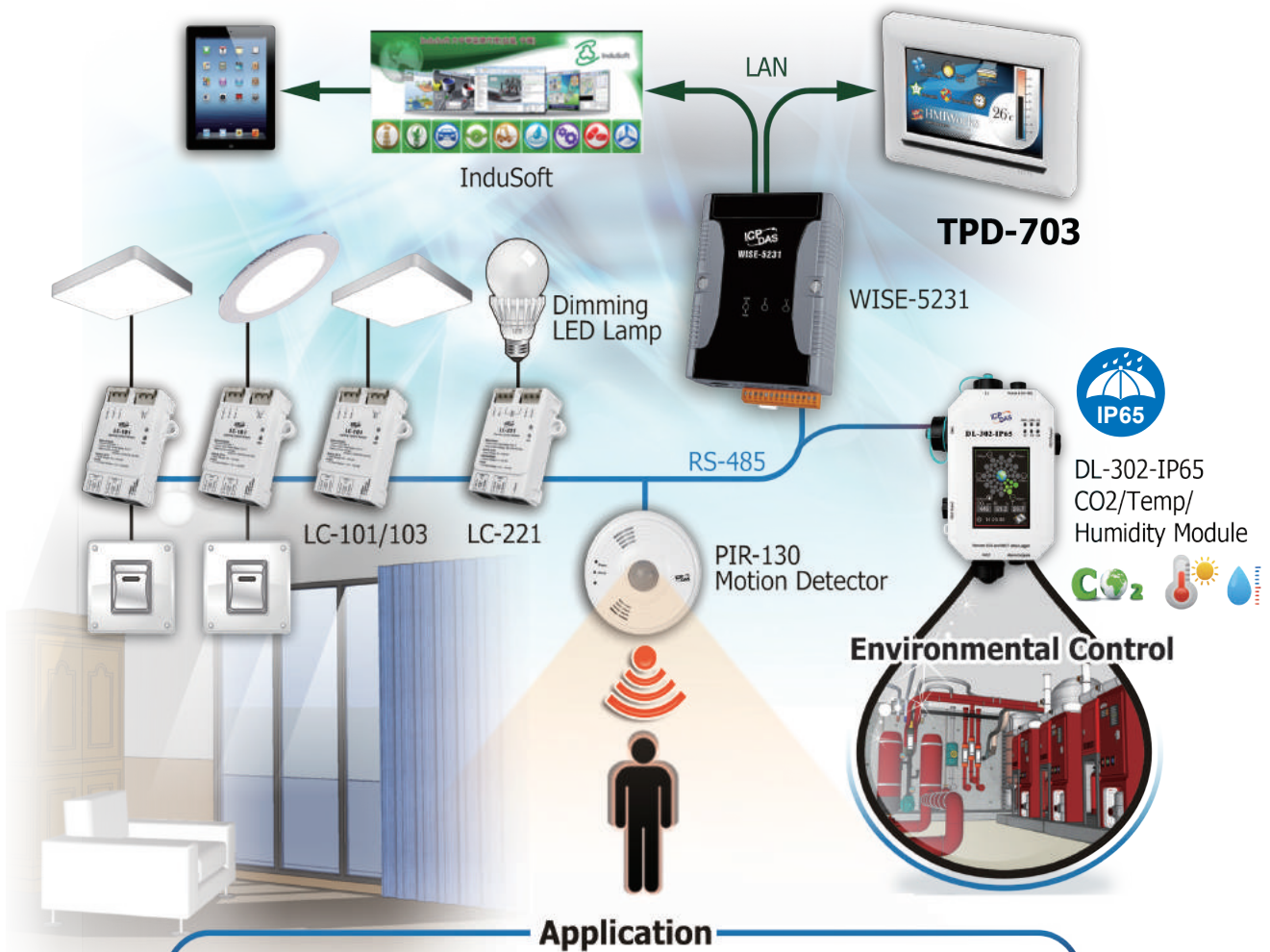


TPD Series Applications

Intelligent Lighting Control System

The smart lighting control system is an intelligent network based lighting control solution that provides the right amount of light where and when it is needed. The LC series is lighting control; the PIR series provides human motion detection and temperature measurement. They are widely used lighting control and dimmer control on both indoor and outdoor of commercial, industrial, and residential spaces. The WISE controller is used in remote logic control and monitoring. Therefore, the TPD series and InduSoft Software through WISE controller provides users interface for easy set-up of the lighting control.

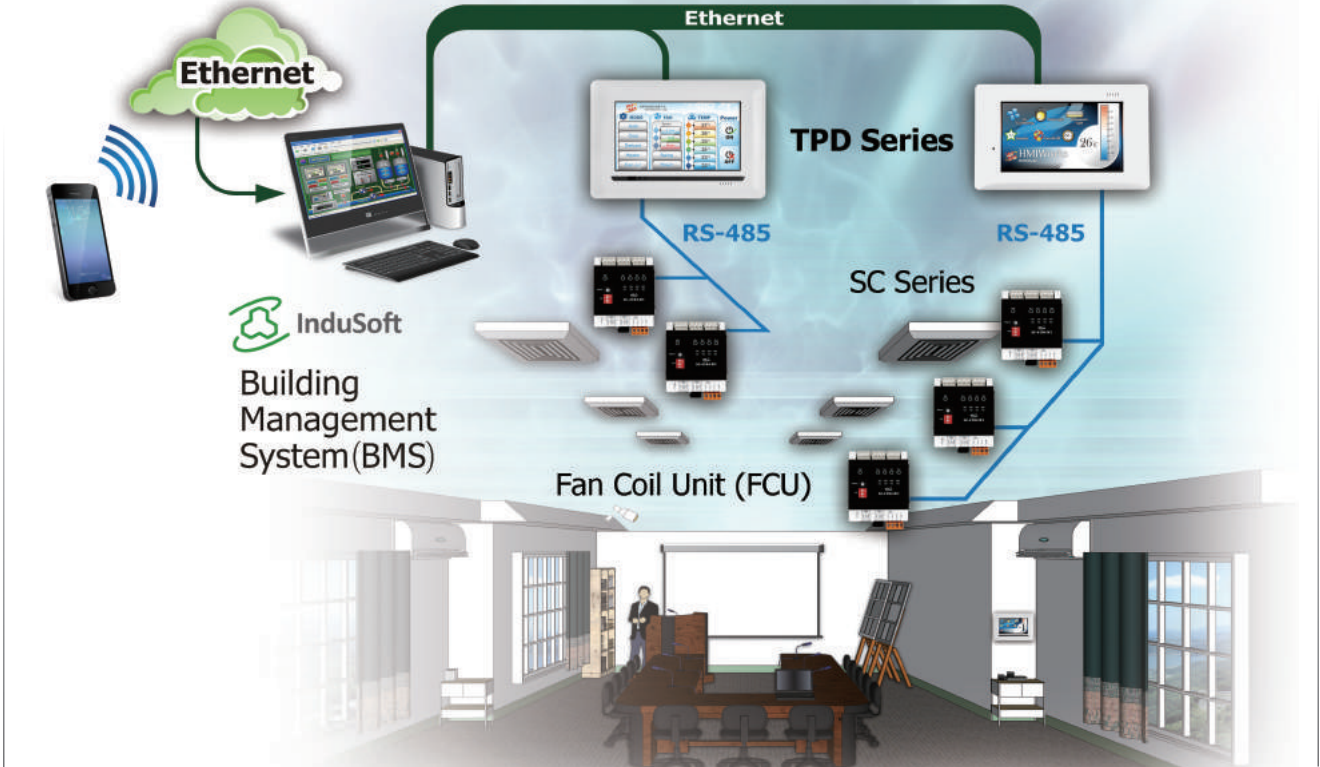
Remote Control Loop Control Scheduling Scenario Control



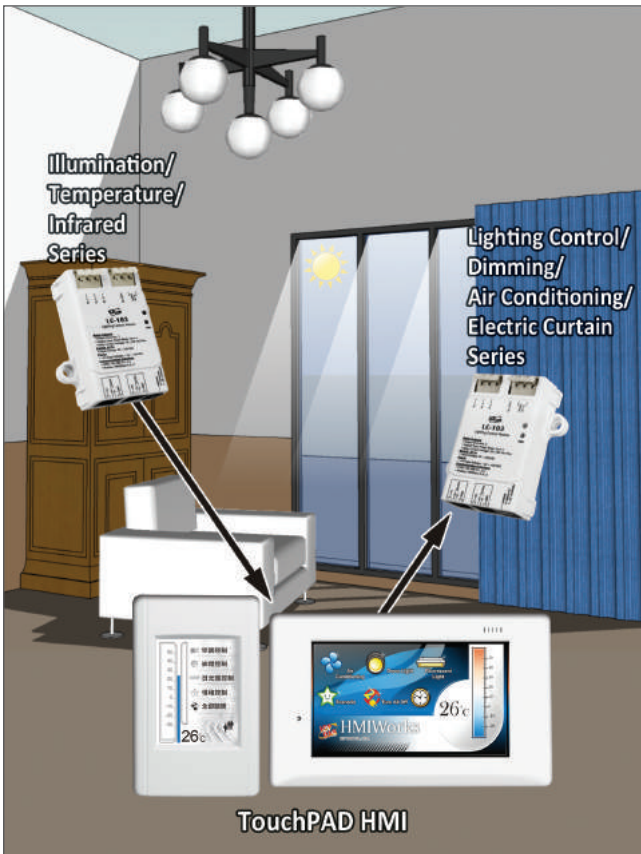
4 Applications

FCU (Fan Coil Unit) Control System

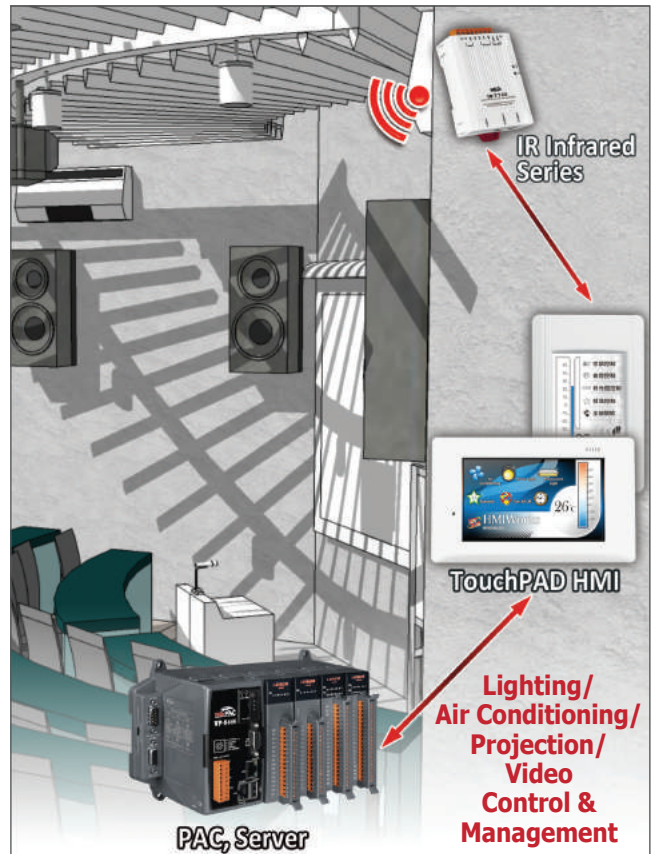
FCU system widely use in commercial building, with SC series relay board and TPD series thermostat, it allows you set up the indoor temperature. The SC series focus on controlling air flow of FCU, and the flow rate of the 2-way valve or 3-way valve for the chilled-water and hot-water in FCU. Moreover, the TPD series provides users interface for easy set-up of the temperature and air flow.



Smart Home Automation



Meeting Room Auto-Management



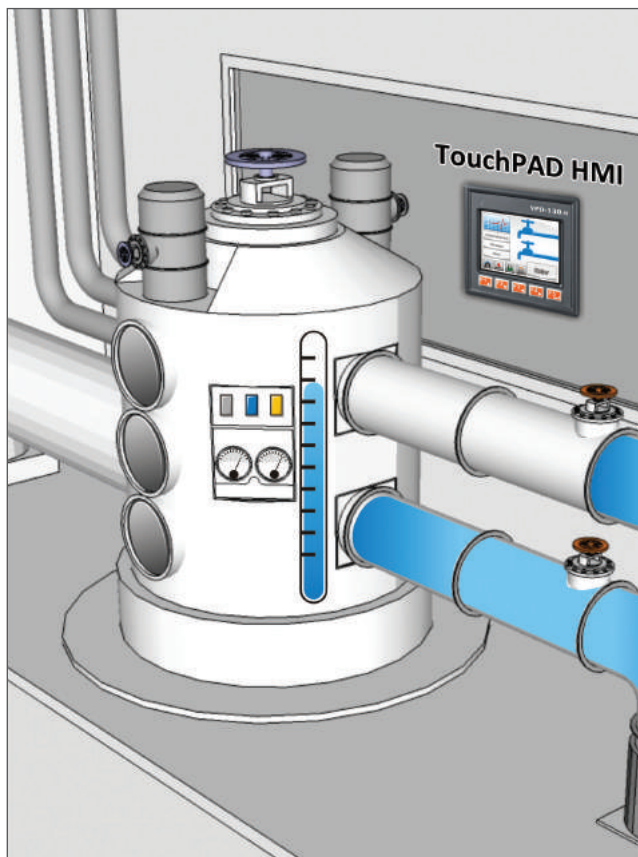


VPD Series Applications

HMI for Small Instruments



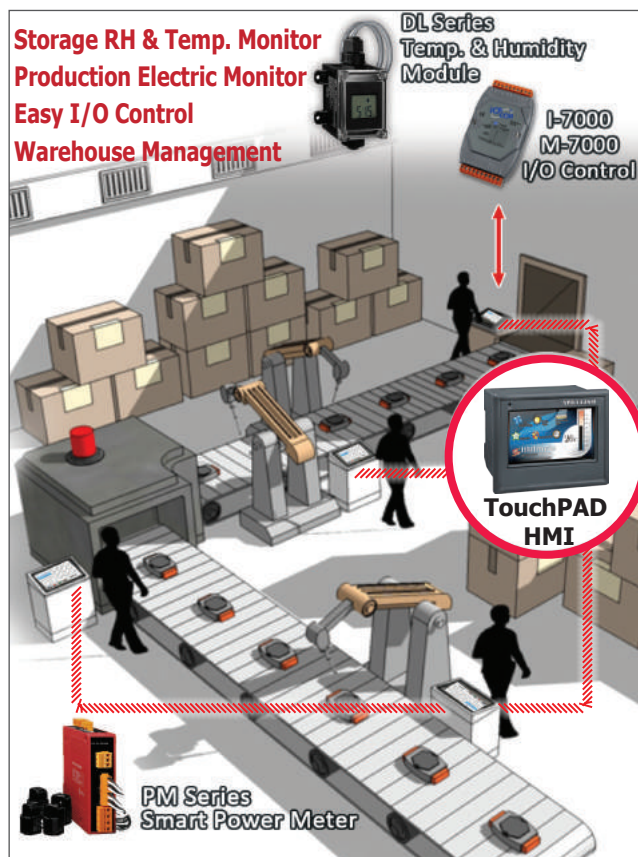
HMI on Large Machines



Factory Automation Solution



Warehouse Production Intelligent Management



4 Applications

ICP DAS Catalogs & Brochure



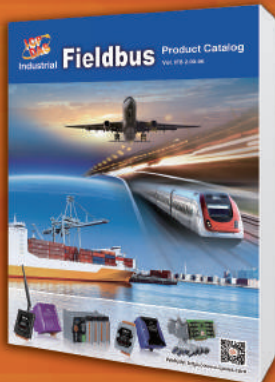
Full Product Catalog

- 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



IIoT Product

- IoTstar: cloud management software
- UA-5200: communication server
- WISE series: IIoT host
- iCAM series: IP camera
- MQ-7200M series: MQTT I/O module
- Sensors: temperature, humidity, CO2, PM2.5,...



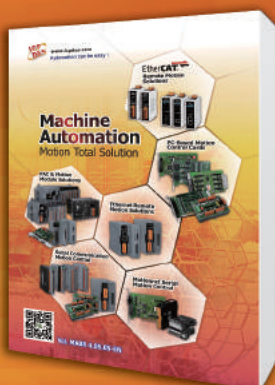
Energy Management Solution

- 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



Wireless Product

- WLAN (Wi-Fi)
- Radio Modems
- 3G/4G Products
- GPS Products
- Bluetooth LE Converters
- ZigBee Products
- Infrared Wireless Modules
- Wireless Modbus Data Concentrator
- Bluetooth LE Gauge Master



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