

# Cermate

Cermate is a professional hardware manufacturer specializing in the production of Human Machine Interface (HMI) touch screen hardware. Cermate currently supplies over 100,000 units of our easy-to-use high-quality hardware to successful businesses worldwide. From our 100% guaranteed test for the highest quality, to our excellent customer service and commitment to always provide you with the best, most innovative technology, you can rest assured in your purchases from Cermate, A professional HMI solution provider.



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# PanelMaster

## Designed to be Outstanding



www.cermate.com

# Cermate

# PT Series Products Selection Guide



## PT Series

The PT series supports comprehensive LCD sizes range from 4.3" to 15" and equipped with ARM9 based CPU, 8M flash memory and 128KB battery backed memory. Also, with rich communication interfaces—RS232/422/485, Ethernet and USB port, and over 300 communication drivers, PT series can easily connect with the different equipments, such as motion/thermal controllers, inverters or sensors. The LCD of PT series are 65536 colors TFT LCD with LED back light which can provide clear display and high precise operation. To confront severe environment in factory setting, PT series complies with IP65 and allows operating temperature -20 ~ 60°C. Moreover, Cermate also provides some options for customers to shape their own HMI that tailored their needs. For example, aluminum front case is suited for those who prefer more fashion design or will operate HMI under harsh environment; NAND flash and micro SD provide extending the capacity of HMI; different COM port option provide elasticity for customers. All those features bundle with our easy-to-use programming software—PM Designer— provides you perfect automation solutions.



**PT150**  
PT150-4



**PT104**  
PT104-1/2/4



**PT100**  
PT100-1/2/4



**PT080**  
PT080-1/2/4



**PT070**  
PT070-1/2/4



**PT056**  
PT056-1/2



**PT043**  
PT043-1/2/4

	PT150	PT104	PT100	PT080	PT070	PT056	PT043
Size	15 inch (4:3)	10.4 inch (4:3)	10.1 inch (16:9)	8 inch (4:3)	7 inch (16:9)	5.6 inch (4:3)	4.3 inch (16:9)
Resolution	1024 x 768	800 x 600	1024 x 600	800 x 600	800 x 480	320 x 234	480 x 272
Nor Flash Memory	8 MB	8 MB	8 MB	8 MB	8 MB	8 MB	8 MB
NAND Flash Memory	128 MB***	128 MB***	128 MB***	128 MB***	128 MB***	128 MB***	128 MB***
*Battery Backed Memory	128 KB	128 KB	128 KB	128 KB	128 KB	128 KB	128 KB
COM1	RS232/422/485	RS232/422/485	RS232/422/485	RS232/422/485	RS232/422/485	RS232/422/485	RS232/422/485
**COM2	A/B/C	A/B/C	A/B/C	A/B/C	A/B/C	A/B/C	A/B/C
COM3	RS232	RS232	RS232	RS232	RS232	RS232	RS232
USB	Client x 1 Host x 1	Client x 1 Host x 1	Client x 1 Host x 1	Client x 1 Host x 1	Client x 1 Host x 1	Client x 1 Host x 1	Client x 1 Host x 1
Realtime Clock	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Front Function Key	-	-	Yes	Yes	Yes	Yes	-
Front USB	-	Yes	Yes	Yes	Yes	Yes	-

\* 1 MB optional

\*\* A: RS422/485 B:RS232/485 C: RS232 with RTS&CTS

\*\*\* 128MB NAND Flash only for sub-number 2 and 4



# GX Series Products Selection Guide



## GX series

The GX series is WinCE based HMI with LCD size range from 7" to 15". GX also equipped with 256MB working memory and 128MB storage memory so that provide high performance operation. All the series uses high color TFT LCD with LED back light to ensure clear display and longer backlight life. The ultra slim design is fashion and easily-mounted. Not only design for stylish, the robust structure enable the GX series used in any stringent environment. The rich communication interface of GX series, including 3 COM ports, Ethernet and 2 USB ports (1client, 1host), can provide easy connection with other devices. Besides, we also provide customized option for some specific purpose so that we can promise what products you need. Here are some customized options: aluminum front case, audio/video function and micro SD or NAND flash. GX series are what Cermate present for open HMI users who desire for high performance products.



**GX150-4**  
GX150-4



**GX121**  
GX121-2/4



**GX104**  
GX104-2/4



**GX100**  
GX100-1/2/4



**GX080**  
GX080-2/4



**GX070**  
GX104-2/4

Size	15 inch (4:3)	12.1 inch (4:3)	10.4 inch (4:3)
Resolution	1024 x 768	1024 x 768	800 x 600
Working Memory	256 MB	256 MB	256 MB
Built-in Storage Memory	128 MB (64MB: WinCE OS 64 MB: User)	128 MB (64MB: WinCE OS 64 MB: User)	128 MB (64MB: WinCE OS 64 MB: User)
COM1	RS232/422/485	RS232/422/485	RS232/422/485
*COM2	A/B/C	A/B/C	A/B/C
COM3	RS232	RS232	RS232
USB	Client x 1 Host x 1	Client x 1 Host x 1	Client x 1 Host x 1
Audio	Yes (optional)	Yes (optional)	Yes (optional)
Video	Yes (optional)	Yes (optional)	Yes (optional)
Realtime Clock	Yes	Yes	Yes
Micro SD	Yes	Yes	Yes

Size	10.1 inch (16:9)	8 inch (4:3)	7 inch (16:9)
Resolution	1024 x 600	800 x 600	800 x 480
Working Memory	256 MB	256 MB	256 MB
Built-in Storage Memory	128 MB (64MB: WinCE OS 64 MB: User)	128 MB (64MB: WinCE OS 64 MB: User)	128 MB (64MB: WinCE OS 64 MB: User)
COM1	RS232/422/485	RS232/422/485	RS232/422/485
*COM2	A/B/C	A/B/C	A/B/C
COM3	RS232	RS232	RS232
USB	Client x 1 Host x 1	Client x 1 Host x 1	Client x 1 Host x 1
Audio	Yes (optional)	Yes (optional)	Yes (optional)
Video	Yes (optional)	Yes (optional)	Yes (optional)
Realtime Clock	Yes	Yes	Yes
Micro SD	Yes	Yes	Yes

\* A: RS422/485 B:RS232/485 C: RS232 with RTS&CTS



# PK Series Products Selection Guide

# PANEL EXPRESS

Designed for Convenience



PanelExpress is a Windows based HMI runtime. It enables you to utilize the resources of a PC, such as computation power, multimedia, and bigger screen, to realize a high-end sophisticated HMI. Its configuration software, PM Designer, is also the development tool for PanelMaster series RTOS based HMI products. Thanks to the cross platform flexibility offered by PM Designer, switching hardware for the consideration of cost and performance becomes an easy job.

### General Features

- Low cost Windows based HMI runtime
- 50 kinds of screen objects can fulfill almost all types of HMI operating and viewing needs for machine automation
- Supports up to 16 communication links
- No limitation on the number of I/O points used in an application
- Over 100 field proven communication drivers are provided for free
- Supports data collection, alarm monitoring, recipe handling, and operation logging
- Provides a complete set of useful macro commands. Macro programs can be embedded in objects, screens, and the global process
- The reliable HMI engine has over 100,000 installation sites
- Brand labeling possible

### Advanced Features

- Number of communication links can be up to 248
- Monitors up to 64 discrete alarm blocks and 64 analog alarm blocks. Totally up to 65535 alarms can be defined
- Supports VNC(Virtual Network Computing)
- Supports Access, My SQL, and SQL databases
- Supports Visual Basic Script



**PK100**  
PK100-10M-T0S



**PK070**  
PK070-10M-T0S



**PK043**  
PK043-10M-T1S



**PK100-20M-T1S**



**PK070-20M-T1S**

Size  
Resolution  
Flash Memory  
Battery Backed Memory

10.1 inch (16:9)  
1024 x 600  
8 MB  
-

7 inch (16:9)  
800 x 480  
8 MB  
-

4.3 inch (16:9)  
480 x 272  
8 MB  
128 KB

Size  
Resolution  
Flash Memory  
Battery Backed Memory

10.1 inch (16:9)  
1024 x 600  
8 MB + 128 MB NAND Flash  
128 KB

10.4 inch (16:9)  
800 x 480  
8 MB + 128 MB NAND Flash  
128 KB

\* 1MB Battery Backed Memory Optional



# Application Story

## 1. Building Automation

In building automation, HMI provides an economic and an easy answer for those who need integrated and systematic solutions. Elevator, power system management, AC system and alarm system can be integrated into a more intelligent system. You can manage, supervise and record with easier way than what you have ever experienced before.

## 2. Home Automation

Besides a traditional role that HMI plays in industrial automation, the application field of HMI has extended for a more general usage and involves with our daily life. Home Automation is one of it. To combine home appliances and multimedia devices in one control system or to select a predefined mode in one touch, HMI can integrate those descriptions and its main focus is to combine your mobile phone and Ethernet to provide an intelligent life.

## 3. Factory Automation

The HMI is burgeoning in the Factory Automation field. With more accessible price, friendly operation and wide range of selection, successful application is seen everywhere in our daily life. The automation system for manufacturing process will provide more stable output and save your time and cost.

## 4. Machine Automation

In the scope of industrialization, automation is required to provide an efficient and precise way of manufacturing. Machine automation can provide operators to assist with muscular work, and greatly decreases the need for human sensory and mental requirements as well. In the chain of machine, HMI takes the helm of the automation process and helps you manage the whole system from top down.



# Hardware Feature—Communication

## General Description

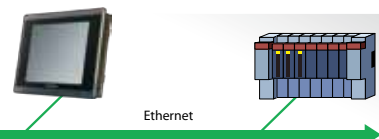
You can use serial port or ethernet to complete different type of communications. You can communicate with 1 or multiple devices direct or indirect.

## Various Communication Links

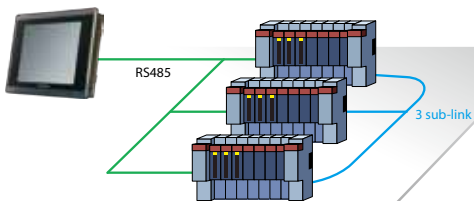
### Direct Link



### 2 to 1 connection

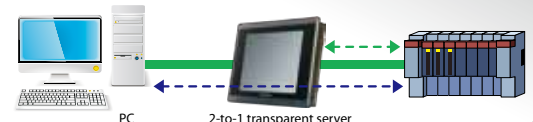


### 2 to 1 transparent connection

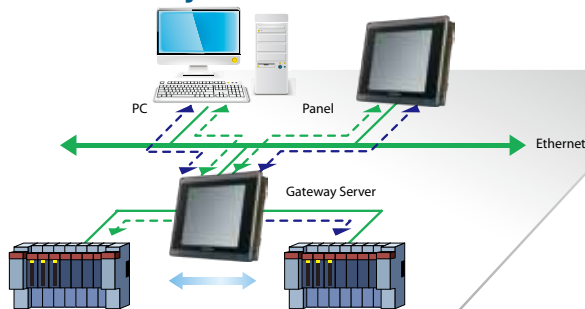


### Sub-link

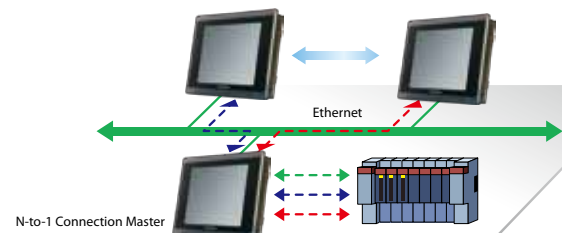
Using RS485 serial connection to link multiple device with same protocol, such as temperature controller and intelligent sensor. Users can activate/stop the sub-link and save the communication status



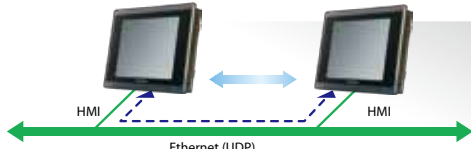
### Gateway Service



### N-to-1 Communication



### Data Sharer

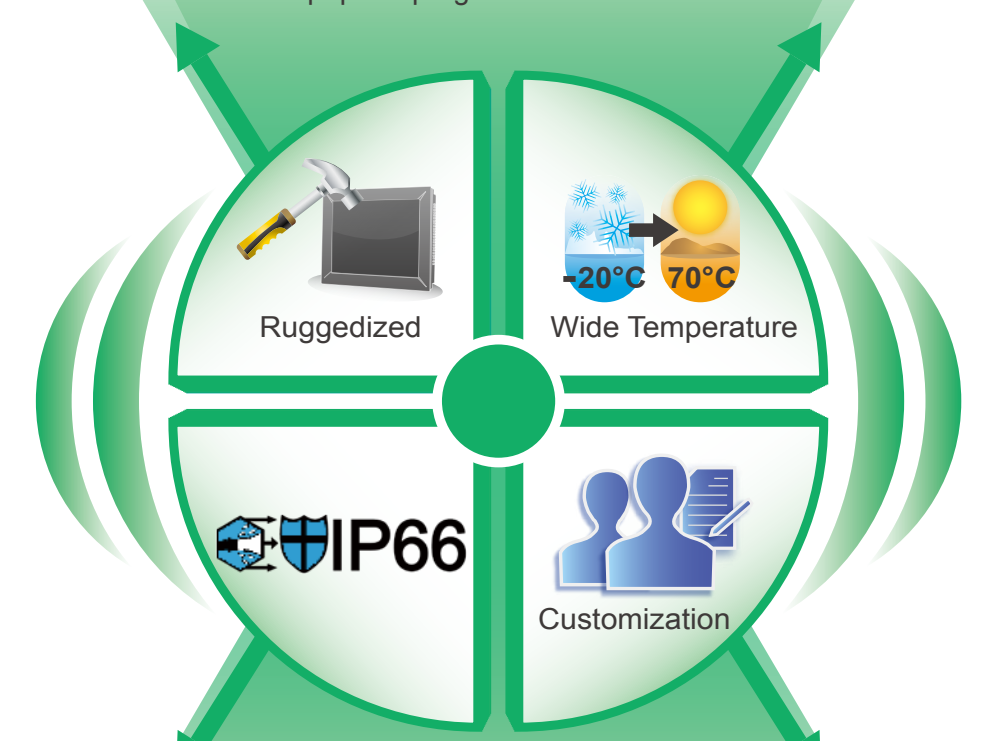


# Hardware Feature—

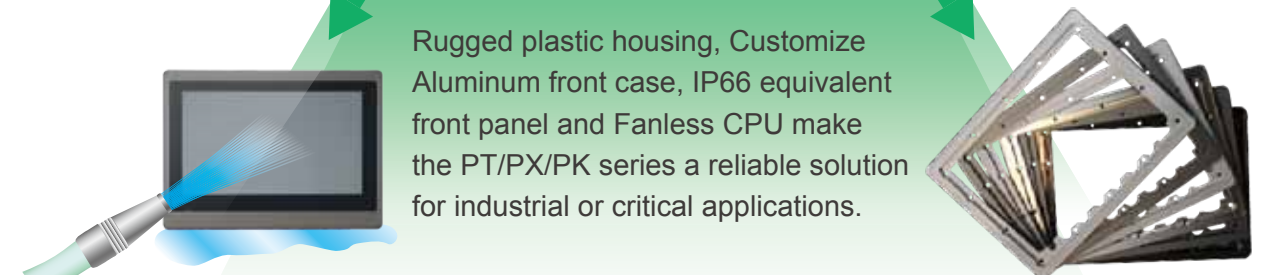
We will provide total H.M.I. Solution for Different Various Application of Automation Field



Our HMI is a high function but cost effective products which can communicate with popular programmable controllers.



Rugged plastic housing, Customize Aluminum front case, IP66 equivalent front panel and Fanless CPU make the PT/PX/PK series a reliable solution for industrial or critical applications.



# Specification of PT



Model Name	PT150				PT104				PT100				PT080				
Sub-model	4				1				2				4				
Display	Size	15.0" (4:3)				10.4" (4:3)				10.1" (16:9)				8.0" (4:3)			
	Max. Resolution	1024x768				800x600				1024x600				800x600			
	Type	TFT LCD															
	Max. Colors	65,536 colors															
	Backlight Type	LED															
	Backlight Life (hr)	50000								20000							
	Luminance (cd/m2)	350				400				200				250			
Touchscreen	5 wires analog resistive								4 wires analog resistive								
CPU	RISC 32 bits																
Flash Memory	8 MB NOR Flash																
Battery Backed Memory	128KB (1024KB optional)																
Working Memory	64 MB				64 MB				64 MB				64 MB				
NAND Flash	128 MB				-				128 MB				-				
Communication Interface	Micro-SD Slot	Yes				-				Yes				-			
	USB Client	Yes															
	USB Host	Yes															
	Serial	COM1: RS232/422/485; COM2: A- RS422/485 B- RS232/485 C- RS232 with RTS&CTS; COM3: RS232															
	Ethernet	Yes (10/100M)				-				Yes (10/100M)				-			
	Functional Keys (optional)	-				-				7Keys				6Keys			
Power	Supply Voltage	24 VDC ± 10%															
	Consumption	25W				20W				20W				20W			
Environment	Operating Temperature	- 10 ~ 50°C (32 ~ 120°F)															
	Relative Humidity	10% ~ 90% RH @ 0 ~ 50°C, non-condensing															
	Shock (operation)	10 ~ 55 Hz (X,Y, Z direction, 1 G, 30 minutes)															
	EMI	FCC Part 15 Class A															
	CE	EN61000-6-2, EN61000-6-4															
	Ingress Protection	NEMA4, IP66															
	Cooling	Natural Cooling															
Dimension WxHxD (mm)	399.1 x 297.6 x 55.0				270.1 x 212.1 x 42.5				270.1 x 212.1 x 42.5				231.5 x 174.5 x 42.5				
Cutout Dimension WxH (mm)	384.5 x 283.0				259.5 x 201.5				259.5 x 201.5				221.0 x 164.0				
Net Weight (kg)	2.9				1.2				1.2				0.93				

com2 Option	Description
HMB-CER-XXX	General Type RS422/485 Model
HMB-CER-XXX	General Type RS232/485 Model
HMB-CER-XXX	General Type RS232 with RTS&CTS Model
HMB-CER-XXX	Isolated Type RS422/485 Model
HMB-CER-XXX	Isolated Type RS232 with RTS&CTS Model



Model Name	PT070			PT056			PT043			
Ordering Information	1			2			4			
Display	Size	7.0" (16:9)			5.6" (4:3)			4.3" (16:9)		
	Max. Resolution	800x480			320x234			480x272		
	Type	TFT LCD								
	Max. Colors	65,536 colors								
	Backlight Type	LED								
	Backlight Life (hr)	20000								
	Luminance (cd/m2)	300			300			400		
Touchscreen	4 wires analog resistive									
CPU	RISC 32 bits									
Flash Memory	8 MB NOR Flash									
Battery Backed Memory	128KB (1024KB optional)									
Working Memory	64 MB			32 MB			32 MB			
NAND Flash	-			128 MB			-			
Communication Interface	Micro-SD Slot	-			Yes			-		
	USB Client	Yes								
	USB Host	Yes								
	Serial	COM1: RS232/422/485; COM2: A- RS422/485 B- RS232/485 C- RS232 with RTS&CTS; COM3: RS232								
	Ethernet	-			Yes (10/100M)			-		
	Functional Keys (optional)	6 Keys						-		
Power	Supply Voltage	24 VDC ± 10%								
	Consumption	15 W			13 W			13 W		
Environment	Operating Temperature	-10 ~ 50°C (32 ~ 120°F)								
	Relative Humidity	10% ~ 90% RH @ 0 ~ 50°C, non-condensing								
	Shock (operation)	10 ~ 55 Hz (X,Y, Z direction, 1 G, 30 minutes)								
	EMI	FCC Part 15 Class A								
	CE	EN55022, EN61000-4-2, EN61000-4-3, EN61000-4-8								
	Ingress Protection	NEMA4, IP66								
	Cooling	Natural Cooling								
Dimension WxHxD (mm)	Standard:188.0 x 143.3 x 36.0 W:203.5 x 148.5 x 36.0						130.0 x 106.2 x 39.0			
Cutout Dimension WxH (mm)	Standard:175.0 x 132.5 W:191.5 x 138.0						119.0 x 93.0			
Net Weight (kg)	0.6			0.59			0.35			



# Specification of GX



Model Name		GX150	GX121	GX104
Sub-models		4	2	4
Display	Size	15.0" (4:3)	12.1" (4:3)	10.4" (4:3)
	Max. Resolution	1024x768	1024x768	800x600
	Type	TFT LCD		
	Max. Colors	65,536 colors		
	Backlight Type	LED		
	Backlight Life (hr)	50000		20000
	Luminance (cd/m2)	400	600	400
Touchscreen	5 wires analog resistive		4 wires analog resistive	
CPU		ARM11 RISC 667MHz		
Working Memory		256 MB		
Built-in Storage Memory		128MB (64MB:Win CE OS / 64MB:User)		
Communication Interface	Micro-SD Slot	YES		
	USB Client	YES		
	USB Host	YES		
	Serial	COM1: RS232/422/485; COM2: A- RS422/485 B- RS232/485 C- RS232 with RTS&CTS; COM3: RS232		
	Ethernet	Yes (10/100M)	-	Yes (10/100M)
Functional Keys (optional)		-		
Audio (optional)		YES		
Audio (optional)		YES		
Power	Supply Voltage	24 VDC ± 10%		
	Consumption	25W		
Environment	Operating Temperature	0 ~ 50°C (32 ~ 120°F)		
	Relative Humidity	10% ~ 90% RH @ 0 ~ 50°C, non-condensing		
	Shock (operation)	10 ~ 55 Hz (X,Y, Z direction, 1 G, 30 minutes)		
	EMI	FCC Part 15 Class A		
	CE	EN61000-6-2, EN61000-6-4		
	Ingress Protection	NEMA/IP65		
	Cooling	Natural Cooling		
Dimension WxHxD (mm)		399.1 x 297.6 x 55.0	315.0 x 241.0 x 54.5	270.1 x 212.1 x 42.5
Cutout Dimension WxH (mm)		384.5 x 283.0	301.5 x 228.0	259.5 x 201.5
Net Weight (kg)		2.9	2.1	1.25



Model Name		GX100	GX080	GX070
Sub-models		2	4	2
Display	Size	10.1" (16:9)	8.0" (4:3)	7.0" (16:9)
	Max. Resolution	1024x600	800x600	800x600
	Type	TFT LCD		
	Max. Colors	65,536 colors		
	Backlight Type	LED		
	Backlight Life (hr)	2000		
	Luminance (cd/m2)	200	250	300
Touchscreen	4 wires analog resistive			
CPU		ARM11 RISC 667MHz		
Working Memory		256 MB		
Built-in Storage Memory		128MB (64MB:Win CE OS / 64MB:User)		
Communication Interface	Micro-SD Slot	YES		
	USB Client	YES		
	USB Host	YES		
	Serial	COM1: RS232/422/485; COM2: A- RS422/485 B- RS232/485 C- RS232 with RTS&CTS; COM3: RS232		
	Ethernet	-	Yes (10/100M)	-
Functional Keys (optional)		7 Keys		6 Keys
Audio (optional)		YES		
Audio (optional)		YES		
Power	Supply Voltage	24 VDC ± 10%		
	Consumption	18W	25W	13W
Environment	Operating Temperature	0 ~ 50°C (32 ~ 120°F)		
	Relative Humidity	10% ~ 90% RH @ 0 ~ 50°C, non-condensing		
	Shock (operation)	10 ~ 55 Hz (X,Y, Z direction, 1 G, 30 minutes)		
	EMI	FCC Part 15 Class A		
	CE	EN61000-6-2, EN61000-6-4		
	Ingress Protection	NEMA/IP65		
	Cooling	Natural Cooling		
Dimension WxHxD (mm)		270.1 x 212.1 x 42.5	231.5 x 174.5 x 42.5	Standard:188.0 x 143.3 x 36.0 W:203.5 x 148.5 x 36.0
Cutout Dimension WxH (mm)		259.5 x 201.5	221.0 x 164.0	Standard:175.0 x 132.5 W:191.5 x 138.0
Net Weight (kg)		1.25	1.25	0.54



# Specification of PK



Model Name		PK100		PK070		PK043	
Sub-model		10	20	10	20	10	
Display	Size	10.1" (16:9)		7.0" (16:9)		4.3" (16:9)	
	Max. Resolution	1024x600		800x480		480x272	
	Type	TFT LCD					
	Max. Colors	65,536 colors					
	Backlight Type	LED					
	Backlight Life (hr)	20000					
Luminance (cd/m2)	200		280		250		
Touchscreen		4 wires analog resistive					
CPU		RISC 32 bits					
Flash Memory		8 MB NOR Flash					
Battery Backed Memory		-	128 KB	-	128 KB	128 KB	
NAND Flash		-	128 MB	-	128 MB	-	
Communication Interface	Micro-SD Slot	-					
	USB Client	Yes					
	USB Host	Yes					
	Serial	COM1: RS232/422/485; COM2:-; COM3: RS232					
	Ethernet	-					
Functional Keys (optional)		-					
Power	Supply Voltage	24 VDC ± 10%					
	Consumption	20 W		15 W		13 W	
Environment	Operating Temperature	0 ~ 50°C (32 ~ 120°F)					
	Relative Humidity	10% ~ 90% RH @ 0 ~ 50°C, non-condensing					
	Shock (operation)	10 ~ 55 Hz (X,Y, Z direction, 1 G, 30 minutes)					
	EMI	FCC Part 15 Class A					
	CE	EN61000-6-2, EN61000-6-4					
	Ingress Protection	NEMA4, IP65					
Cooling	Natural Cooling						
Dimension WxHxD (mm)		270.1 x 212.1 x 42.5		204.4 x 151.0 x 33.0		130.0 x 106.2 x 39.0	
Cutout Dimension WxH (mm)		259.5 x 201.5		191.5 x 138.0		119.0 x 93.0	
Net Weight (kg)		1.1		0.65		0.35	

# Accessories & Others

## 1. Cable

1. FCB-FE0-009	2m Download Cable		
	D-sub 9 pins (male)	Connection	D-sub 9 pins (female)
2. FCB-FE0-011	Cable for Fatek		
	D-sub 9 pins (male)	Connection	FBs 4 pins (male)
3. FCB-XD0-018	Cable for Mitsubishi FX		
	D-sub 9 pins (male)	Connection	FX 8 pins (male)
4. FCB-FE0-019	Cable for Panasonic FP		
	D-sub 9 pins (male)	Connection	FP 5 pins (male)
5. UR23	USB-RS232/422/485		
			1.USB interface 2.D-SUB 09M interface 3.D-SUB 25M interface 4.Jumper Selection
6. UR42	USB-to-Serial CABLE		
	1. UR42-232M9-B1L20C01—USB to Cermate HMI cable 2. UR42-422R8-B1L20M01—USB to Mitsubishi PLC cable 3. UR42-485M9-B1L20S01—USB to Siemens PLC PPI cable		

## 2. Others

7. HPB-CER-001/002	8. HMB-CER-017	9. HMB-CER-018	10. HMB-CER-022
001: RS422/485 002: RS232/485	RS232(COM1/3)	RS422/485(COM1) RS232(COM1&COM3)	RS422/485(COM1) RS232(COM1&COM3)

# HMI Development Software - PM Designer

PM Designer is proven in many application fields and is an easy to use integrated development tool featuring solution-oriented screen objects, high-end vector graphics, Windows fonts for multi-language applications, recipes, alarms, data loggers and operation logging. PM Designer also includes online/offline simulation and other utility programs such as Data Transfer Helper (DTH); recipes editors and text editors. PanelMaster runtime, a part of PM Designer, guarantees reliability and performance because of the minimum system overhead, high communication data rates, sub-second screen switching, and 24/7 operation.



## Shortcut & Execution Toolbar

### Icon Display Improves Work Efficiency

- Shortcut icons designed to show objects, figure type, and operations improving work efficiency.
- Frequently used objects and figures can be registered as Favorites.

## Project Workspace

### An Intuitive Tree Display Makes Runtime Development Easy

Easy to create, develop, and manage project property efficiency by project-based management worksheets.

## Screen Design Worksheet

### Smart Screen Design

Easy to view screens during runtime development, adjustable based on user-oriented application.

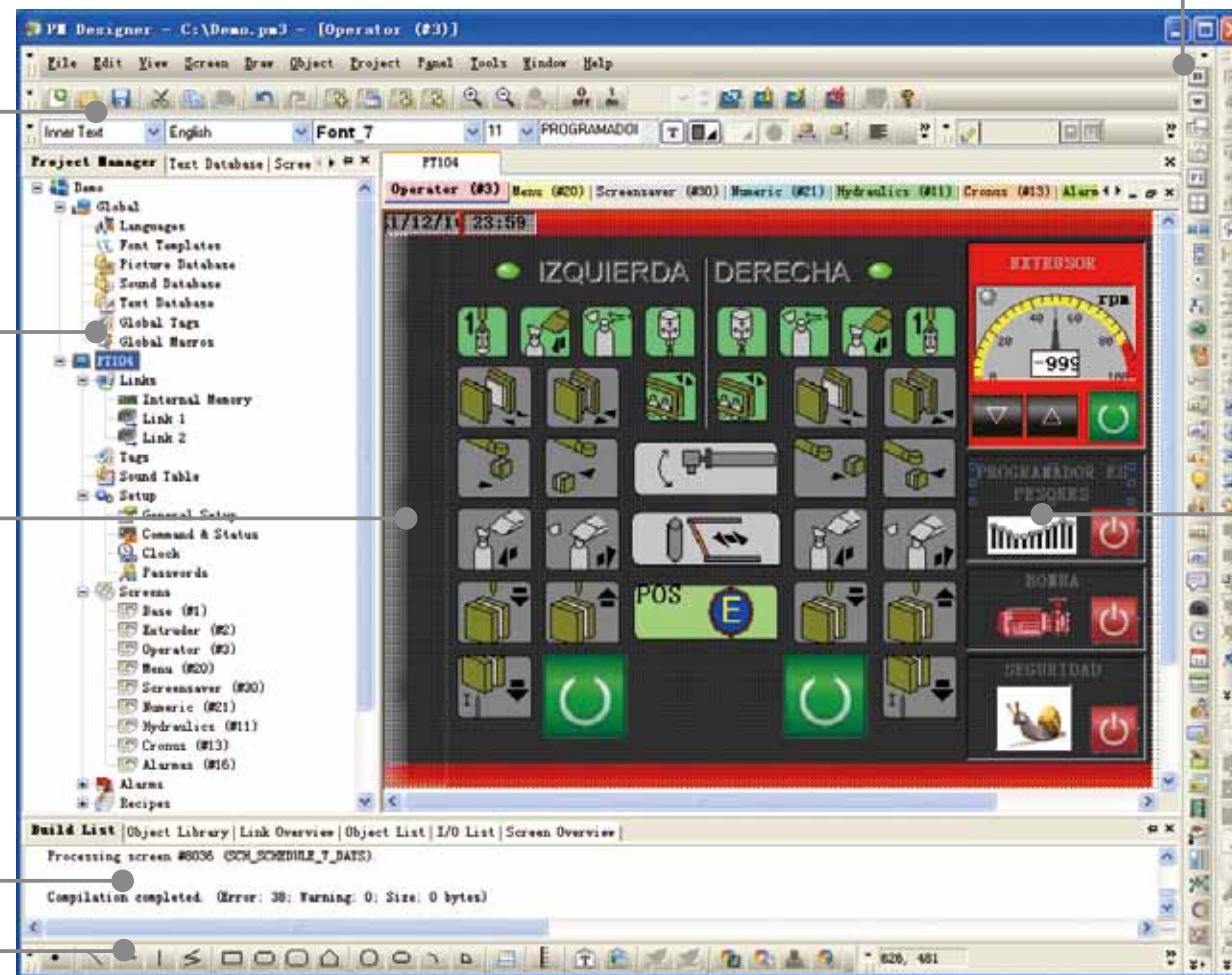
## Message Build List

### Compile & Simulate Results

By double clicking on the error message after compilation it will automatically jump to the place where the problem is.

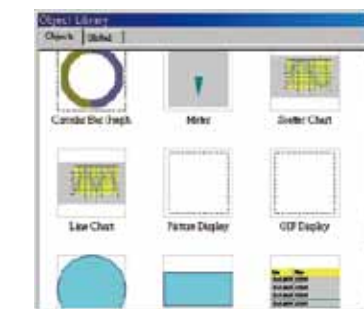
## Draw Toolbar

A variety of drawing tools empower developers to create expansive applications.



## Object Toolbar

### Registered Components Display



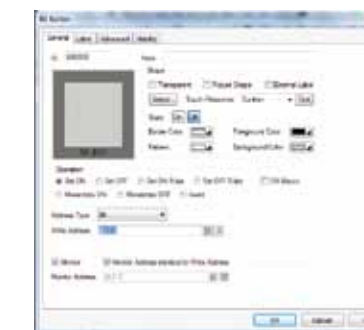
Designing screens is made easy by selecting components from the image list and putting them on the drawing screen.

## Edit Toolbar

### Dedicated Component Editing Screen

- A component editing screen appears by double-clicking a registered component within the library workspace.
- Editing registered components is quick and easy.

## Dialog Box



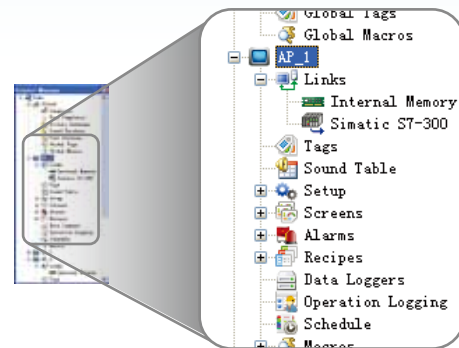
- The property dialog is displayed by double-clicking the object or figure.
- Figure changes are immediately reflected on screen, thereby simplifying the process and reducing setting errors.
- Easy to set the properties through pop-up dialog box.

## Software Features

- Allows users to switch multi-language UI dynamically, with Unicode and multilingual screen text supported.
- Provides password protection of designs, macros and upload/download operations.
- Provides index registers for modifying device addresses at runtime.
- Operation log helps the review and investigation of important events.
- Allows to download the runtime data using serial port, Ethernet, USB and Micro SD card.
- Allows the use of USB memory sticks for trouble-free application updates.
- Supports over 300 industrial communication protocols, such as SIMATIC S7-1200, BACnet MSTP/BACnet IP, and more.

# PM Designer Software

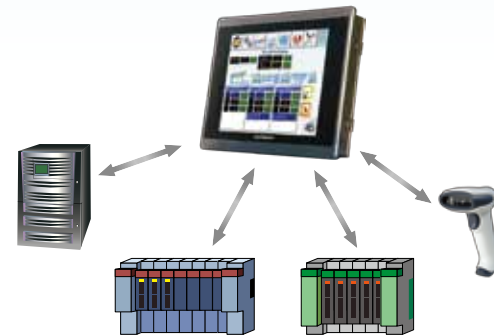
## Efficient Project-based Structure to Manage Multiple Applications



### Project manager

- One project can have many applications.
- The project tree provides all you need to manage a project.
- Global settings and resources sharable to all applications in a project.
- You can make the most out of existing projects by import/export functions for all kinds of settings.
- Containing entire project in one file makes the maintenance job easy.

## Software Functionalities to Meet Various Machine Automation Needs



### Possible to achieve a mini-SCADA system

- 10 sets of text to support multiple languages.
- 4 communication links with the option to add more RS-485 and TCP/IP sub-links.
- 7999 screens.
- 1 startup macro; 1 main macro; 4 event macros, 4 time macros, no limitation on other kinds of macros
- 16 discrete alarm, analog alarm, recipe block and data loggers. data logger.
- 1 operation logger.

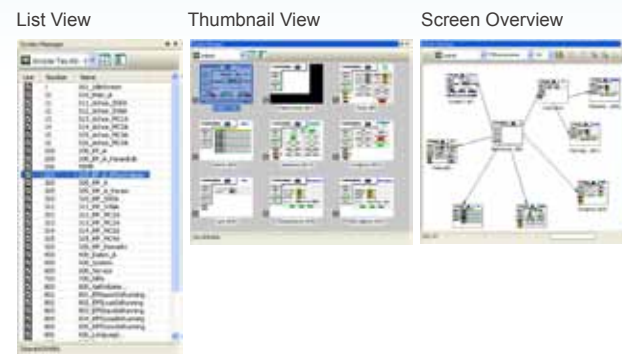
## User Friendly Tools to Make Customized Designs Easier and More Efficient



### Screen editor and toolbars

- Real-time WYSIWYG allows you to see the change of object appearance at any time.
- Property dialogs with semi-transparent features will not block your view to screen objects anymore.
- Automatic size adjustment of characters and pictures according to the object size is supported.
- Groups a number of objects to move, resize, and modify the common attributes.
- Rotate a picture or change its tone to fit the need of an object.

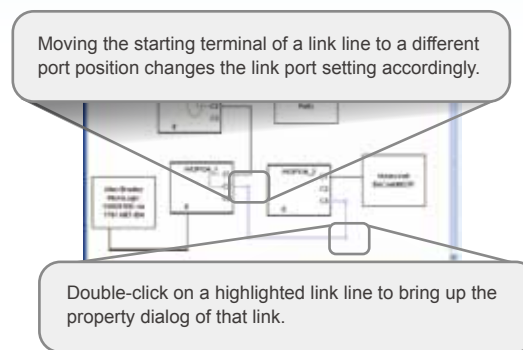
## Smart Screen Management



### Screen manager

- Shows the screen numbers and their names of an application in a traditional text list or a thumbnail list.
- Select screens from the list to edit, cut, copy, delete, or export them.
- Creating new screens and importing screens can be done through a pop-up menu.
- Click on a screen thumbnail to highlight the connections of that screen with others.
- Double-click on a screen thumbnail to open that screen's editing window or property dialog.

## A Graphical Tool for Defining Communication Configuration



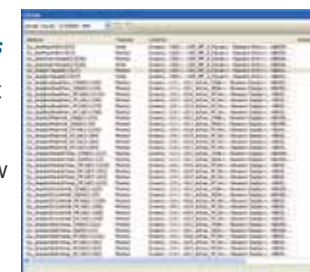
### Link overview

- Depicts the communication links of all the panel applications in a project. You can easily know the panel-device connections and the panel-panel connections.
- Edit the content of the link overview to make it more readable and meaningful.
- Create panel applications and communication links. This is a way of doing top-down design on communication level.

## Shows All I/O Points With Their Purpose in A Table

### Screen editor and toolbars

- Double-click on an I/O point to bring up the property dialog of that I/O point's user. It is convenient to view or modify the configuration of an entity associated with a certain I/O point through this way.



## Display All Objects With Associated I/O Points in a List



### Object list

- Shows all the objects of a screen with their types, IDs, and associated I/O addresses. You can edit the I/O addresses in the list directly.

## Thousands of Professional Pictures to Make Screen Designs Easy and Outstanding

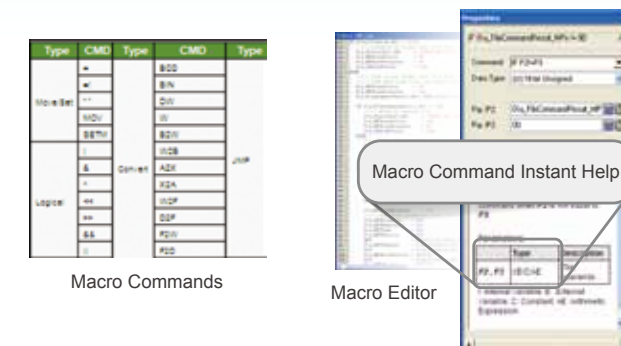
### Picture libraries and picture database

- Famous industrial pictures from Symbol Factory are ready for use, so that making your own picture libraries is easy.



PanelMaster symbols (.BMP)

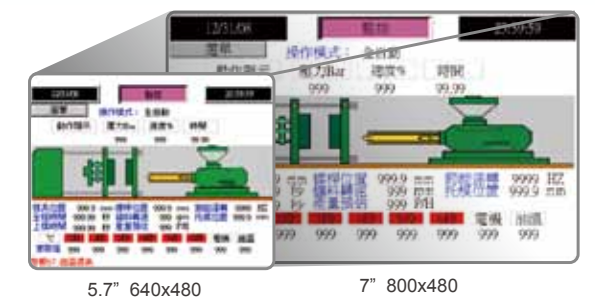
## Easy-to-use Macro Editor and Commands



### Macro editor and macro commands

- Macro editor and macro commands are useful for operations, such as sequential operations, conditional operations, interactive operations, file operations, data exchange between two connected devices, etc.

## Changing HMI Model Can Be Done in Seconds



### Automatic size adjustment

- When changing the screen resolution, all the screen objects are automatically resized to maintain the relative positions and size ratios to the original screens.

# PM Designer Software

## Simple Text Mapping Table Fulfills The Needs for Multiple Languages



Import/Export from or to Excel

### Text database and text editor

- Text database tables have multiple columns to contain strings for all supported languages with import/export functions, you can use Microsoft Excel to edit strings and import them for an application.

## Secure Intellectual Properties



### Design Protection

- Project files, global macros, and password tables can be protected by different passwords.
- Copying and uploading of an application can be prohibited in advance.

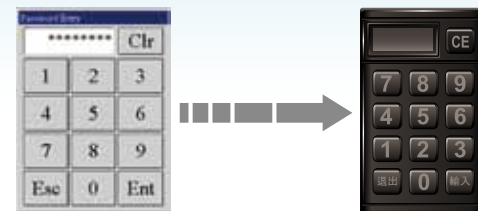
## Supports Dynamic Data, Scale and Time Ranges for Complicated Applications



### Dynamic range

- With the support of dynamic range, a screen object can adapt its display to the current range settings to show information more readable and precise.

## Customized Keypad Layouts and Designs



Custom Keypads

### Custom keypads and on-screen keypads

- You can design your own keypad to make it more appealing or suitable for a special requirement.
- Using on-screen keypads instead of pop-up keypads is possible.

## Anti-Piracy Functions



### Compiler

- An allowable input range can be set for a numeric data entry object.
- Buttons, switches, and data entry objects can be disabled or hidden dynamically by the current user level or the specified bits.
- Operator confirmation can be asked for a data entry.
- Minimum holding time can be required for a button/switch.
- Advanced Numeric Display can use a macro to check the user input.

## Provides Complete Recipe Handling Functions



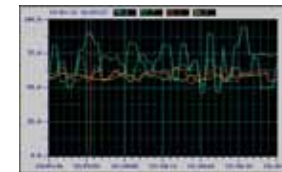
### Recipe blocks

- Support up to 16 different groups of recipes.
- Transfer of recipes between PanelMaster and PLCs/files is supported.
- With RecipeEditor you can edit recipes on a PC.

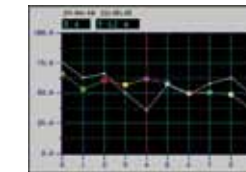
## Easy to Configure Data Collections and Historic Data Displays

### Data loggers

- You can save/load collected data (up to 16 different data sources) to/from a file by a function button or macro program.
- Historic Event Table displays collected data and history of predefined events in tabular form.

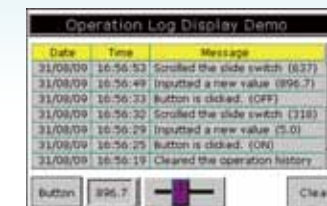


- Historic Trend Graph displays collected data in trend lines



- Single Record Line Chart displays the profile of one sample from a set of collected data.

## Operations Can Be Recorded for Improving Quality and Efficiency

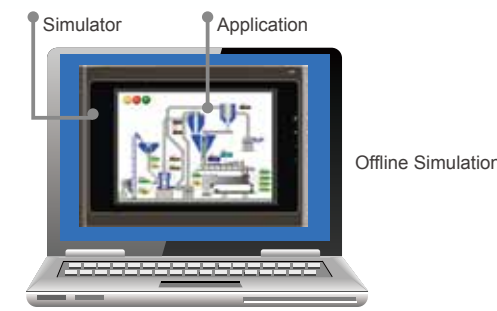


Operation Log Display

### Operation logging

- The starting time and the stopping time of an application can be recorded.
- The failure of a communication link can be recorded.
- Operation Log Display lists the logged operations process for the operator to review.

## Reduce Time and Effort to Boost Performance through Advanced Simulations



### Offline simulation and online simulation

- Offline simulation function can help to experience your design result even before decide to purchase this model.
- Evaluates the communication performance using online simulation before installation.

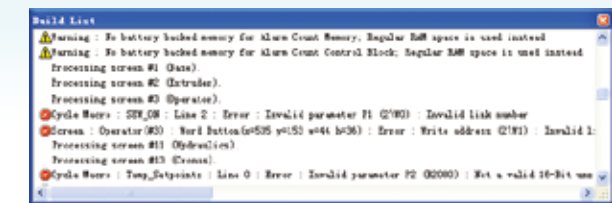
## Versatile Alarm Monitoring and Display Capabilities



### Alarm processing

- Up to 16 discrete alarm blocks and 16 analog alarm blocks can be monitored and recorded.
- Up to 8 data values can be read and recorded along with an alarm event.
- A global alarm marquee is supported.

## Easy-to-Use Error Messages



### Compiler

- Checks the correctness and consistency of all settings and designs to optimize the communications with connected devices.
- Translates macros into compact and ready-to-execute codes.
- Builds runtime data to be executed by the PanelMaster.

## Provides Various Choices for Application Runtime Data Transfers



### Data Transfer Tool & Data Transfer Helper (DTH)

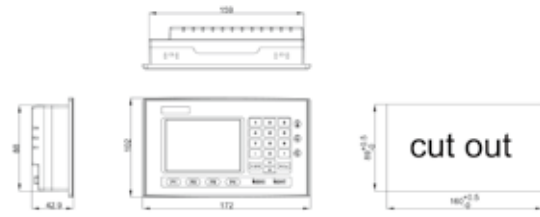
- Uses PM Designer or DTH to transfer an application's runtime data to a PanelMaster through a serial port, an Ethernet port, or a USB port anytime when that PanelMaster is running. (Some PanelMaster models may not have a client USB port to support the data transfer.)
- Without a PC, transfers an application's runtime data to a PanelMaster by using an USB memory stick or Micro SD card.

# Cutout

## PV037LSK

Dimension WxHxD (mm) 172.0 x 102.0 x 42.9

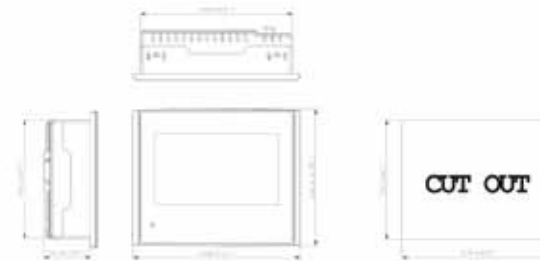
Cutout Dimension WxH (mm) 160.5 x 89.5



## PV035-PT043-PK043

Dimension WxHxD (mm) 130.0 x 106.2 x 39.0

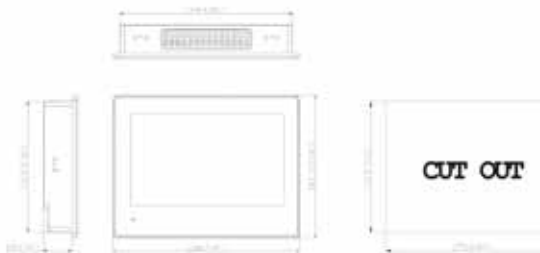
Cutout Dimension WxH (mm) 119.0 x 93.0



## PV057-PV058-PT056-PT070-GX070

Dimension WxHxD (mm) 188.0 x 143.3 x 36.0

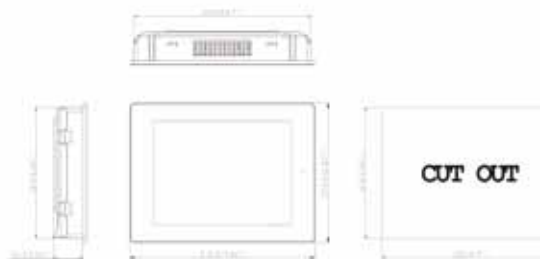
Cutout Dimension WxH (mm) 175.0 x 132.5



## PV080-PT080-GX080

Dimension WxHxD (mm) 231.5 x 174.5 x 42.5

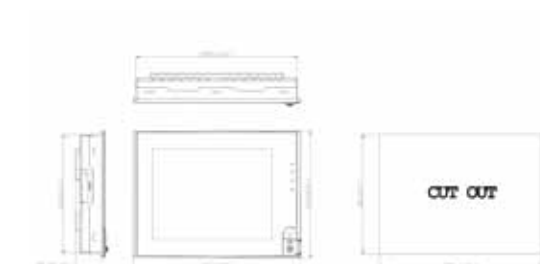
Cutout Dimension WxH (mm) 221.0 x 164.0



## PV104

Dimension WxHxD (mm) 297.0 x 224.0 x 52.0

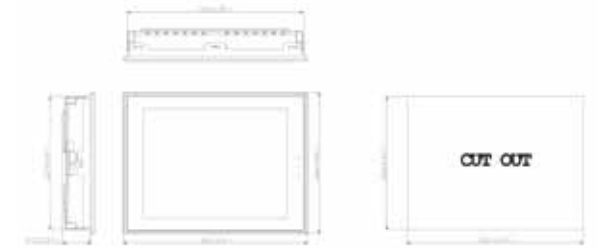
Cutout Dimension WxH (mm) 285.5 x 210.5



## PV121-GX121

Dimension WxHxD (mm) 315.0 x 241.0 x 54.5

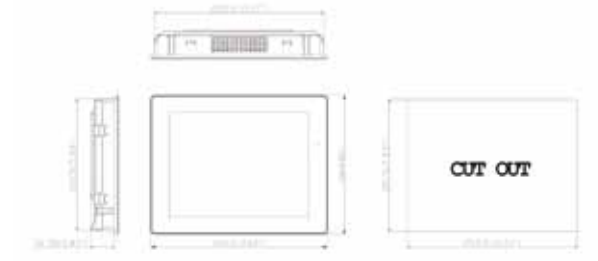
Cutout Dimension WxH (mm) 301.5 x 228.0



## PT100-PT104-GX100-GX104-PK100

Dimension WxHxD (mm) 270.1 x 212.1 x 42.5

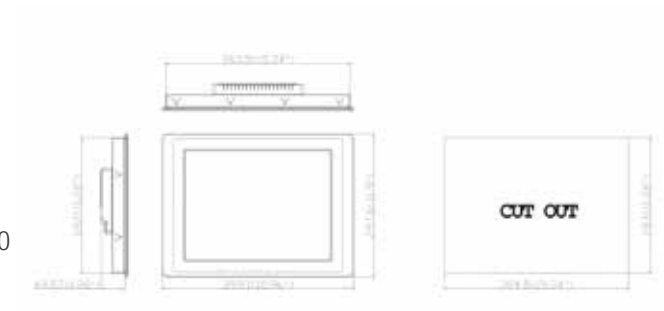
Cutout Dimension WxH (mm) 259.5 x 201.5



## PT150-GX150

Dimension WxHxD (mm) 399.1 x 297.6 x 55.0

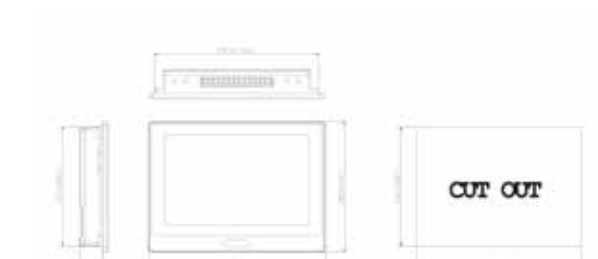
Cutout Dimension WxH (mm) 384.5 x 283.0



## PK070-eV056-eV070

Dimension WxHxD (mm) 204.4 x 151.0 x 33.0

Cutout Dimension WxH (mm) 191.5 x 138.0



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