XPANEL

Revolutionary HMI Experience

CIMON Xpanel

CIMON
Total Solutions for Industrial Automation

CIMON XPANEL
WINDOWS CE BASED

Durable Reinforced Plastic

The improved heat and shock resistant case safely protects the electrical components.

High Quality LED Display

Low-power, low-heat, full-brightness and vivid color display.

Variety of Interfaces

Including Ethernet, Serial (RS232/485), USB Host/Tool, and SD card slot options.

Convenient and Powerful Designing Tool

XPANEL Designer has powerful features, including unlimited tag database, communication drivers, more than 20,000 graphic library objects and a user friendly interface making for easy development and integration.
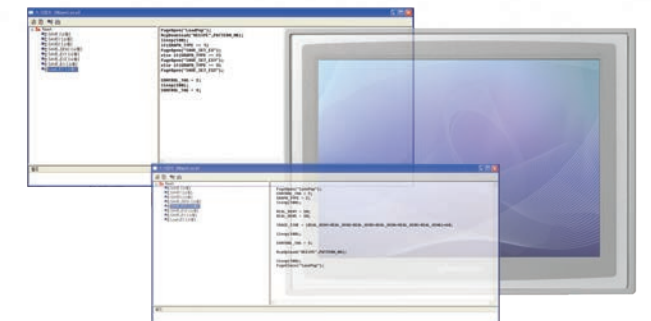
Auto Page Resize

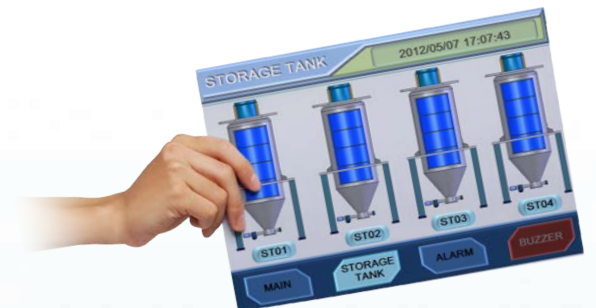Projects can be transferred on all XPANEL displays.

Easy-to-use Script Editor

The scripting functions are both easy to use and very powerful and match many of the features of high end SCADA systems.

Project Protection

Projects can be password protected with XPANELDesigner so unauthorized users cannot make changes or download the program.

Real-time Data Logging

Reports can be saved as CSV files onto the internal memory; SD card or USB memory card and then they can be viewed in Microsoft Excel.
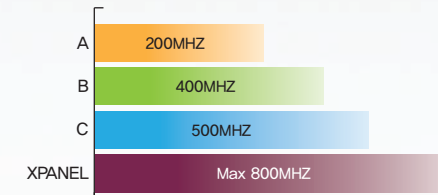
CIMON XPANEL

XPANEL lets you program to display different languages.

Ultrafast CPU Processor

Equipped with high-speed industrial CPU which features low-power consumption and low-temperature operation to conserve energy and reduce heat.

A	200MHZ
B	400MHZ
C	500MHZ
XPANEL	Max 800MHZ

Powerful and Versatile Communication

Provides more than 200 communication drivers with connection through serial communication (RS232, RS485/422) or Ethernet.

Operating Temperature of 0°C~60°C

Reliable operation even in extreme conditions.

Security Control

Protects the system safely from unauthorized access with 10 security levels.

Graphic Object Library

Provides more than 20,000 different graphic objects to assist with rapid project development.

Intelligent Self-Diagnosis Function
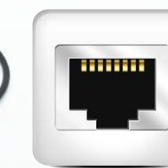
Painless Project Download/Upload

SD Card   USB   USB Cable   Ethernet

Easy Connection with Peripherals

USB Mouse   USB Keyboard   USB Hub

Resistive touchscreen panel for durability and accuracy

High-Definition Display

Supports 262,000 Full Color SVGA for delicate graphic tasks with high-definition LED display.

16.7M

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Experience Performance

- High-speed embedded CPU
- Large memory size and user storage
  - XT04/07 128MB, XT10/12 256MB DDR2 SDRAM
  - 128MB SLC NAND Flash
  - Multiple page components and objects
- High-quality color expression up to 16.7M colors
- High-resolution display up to Max 1024 x 768

Operating Environment

- Windows CE / Windows Embedded Compact 7
- Manages the project data by Activesync or Mobile Device Center

Microsoft®
Windows CE™

Easy Project Download

- Project files downloadable through XPANELDesigner
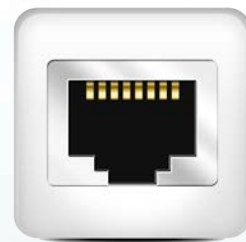- Project downloading through USB cable / Ethernet cable / SD memory card / USB memory

SD Card	USB	USB Cable	Ethernet

Flexible

- Supports SD memory card
- Connects to various external deices via USB
- Easy to manage with built-in maintenance

Networking

- Supports several communication protocols
  - Built-in 10/100M Ethernet port (except XT04CD-DN, XT07CD-AN/DN)
  - Two built-in serial ports

- Excellent Scalability
  - Built-in USB (Host) port, which connects to USB devices such as keyboard, mouse, USB storage, etc.
  - Built-in SDHC card slot (except XT04CD, XT07CD-AN/DN)

- Integrated Networking Solutions
  - Operates up to 3 communication ports concurrently (2 serial, 1 Ethernet)
  - All models support multi-drop networking : RS485 port, 10/100M Ethernet port
  - Easy communication with other CIMON-XPANELs or CIMON-SCADA
  - Communicates with other monitoring devices or software by MODBUS RTU/CP slave
  - Various drivers supported

General Specification

Item	Description
Permitted Voltage	DC24V or AC100~240V
Ambient Temperature	0℃ ~ 60℃
Storage Temperature	-10℃ ~ 60℃
Ambient Humidity	10%RH ~ 90%RH (Non-condensing, wet bulb temperature: 39℃ max.)
Storage Humidity	10%RH ~ 90%RH (Non-condensing, wet bulb temperature: 39℃ max.)
Air Pressure Vibration Resistance (Availment altitude)	800hPa ~ 1114hPa (Up to 2000m/6,500ft)
Dust	0.1mg/m³ or less
Pollution Degree	Less than equal to Pollution degree 2
Corrosive gases	Free from corrosive gases
Vibration Resistance	IEC61131-2 Compliant, Occasional Vibration, 10Hz to 75Hz 0.075mm, 57Hz to 150Hz 9.8m/s² Continuous Vibration, 10Hz to 57Hz 0.035mm, 57Hz to 150Hz 4.9m/s² X,Y,Z directions for 10 cycle (80 min.)
Noise resistance	± 2kV, 1uS
Electrostatic Discharge Immunity	Contact Discharge 4kV (IEC61000-4-2)
	Air Discharge 8kV
CPU	i.MAX537 32bit
Back light	80,000Hrs
Touch Screen	Analog Resistive Film
Data Transfer	SD card or USB memory
Protection	IP65

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## User-Friendly Development Software

- Designing tool for XPANEL is called XPANELDesigner
- Development environment is similar to CIMON-SCADA.
- Various ways to download / update the project (USB, Ethernet loader, removable disk)

■ Easy to insert images using the Clipboard

- External graphic images can be imported and exported using windows clipboard.
- Supports transparent color function
- Supports image compression
- Supports 24bit bitmap image

■ Animation Editor
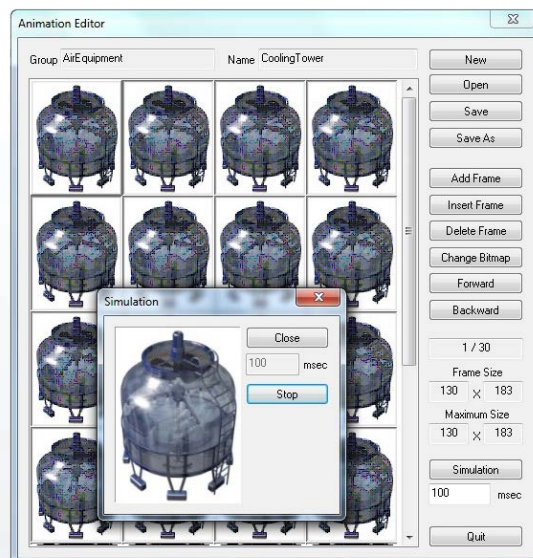
- User can create his own animated object
- Provides the simulator for animation object
- Newly made animation can be added to the library
- Supports 24bit bitmap image

■ Convenient Switch/Lamp Object
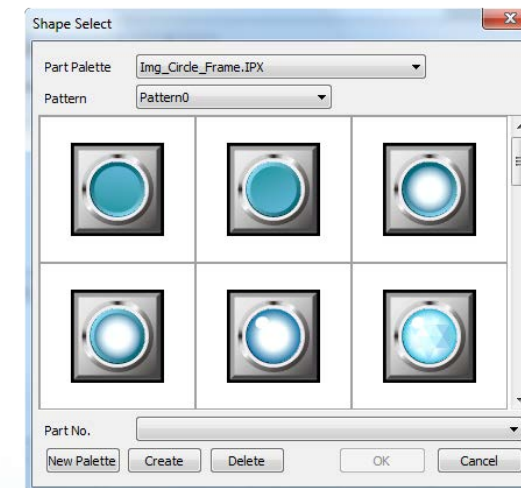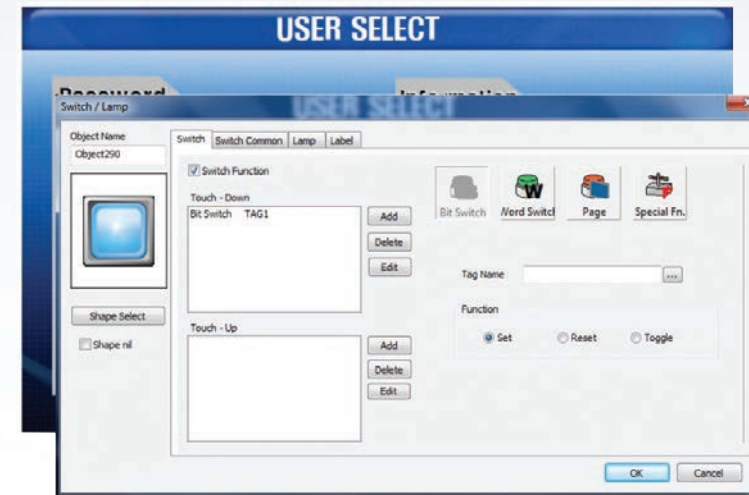
- Up/down action is divided in the switch function
- Up to 256 steps can be defined in the lamp function
- Provides 8000 part palette

■ Simple and Easy Database Manager
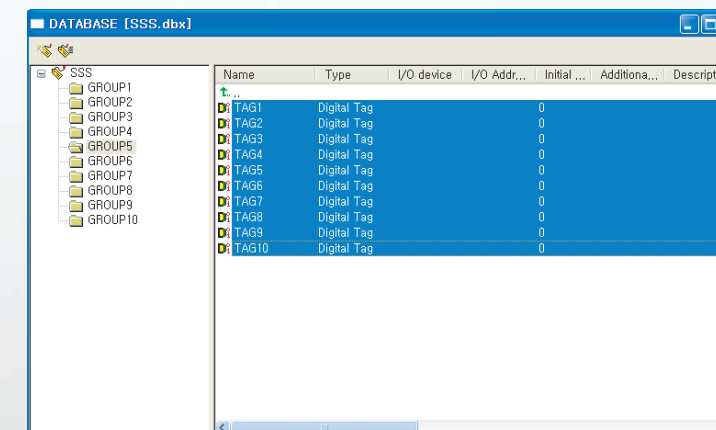
- All the address data can be identified and modified in the database
- Database compatible with Excel
- Easy to exchange the project to other devices

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■ Supports multiple languages and various fonts
  - Enables the use of installed fonts from Windows
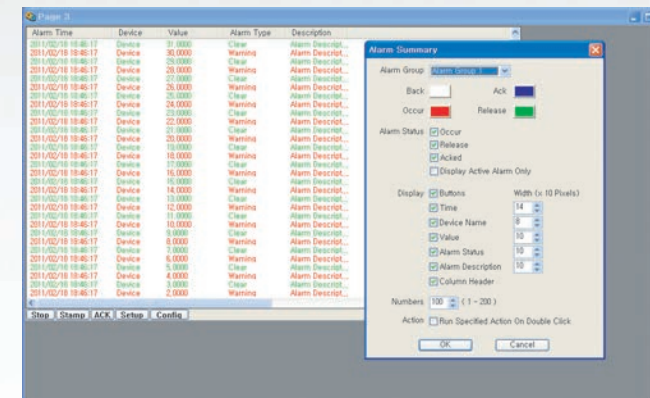 - Supports unicode
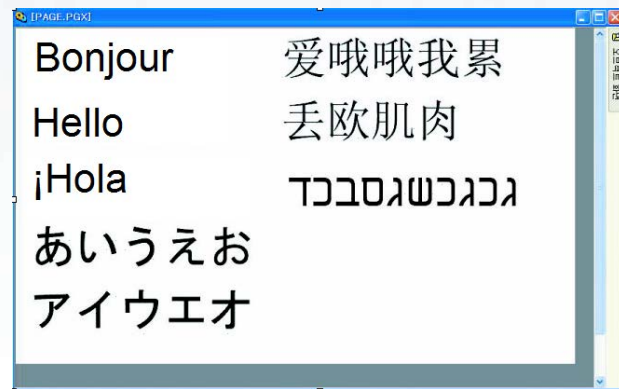
Supports a Variety of Special Functions

■ Provides various kinds of trends
  - YT, XY, Log, ST, SPC, Scope
  - Trend sampling can be set to 100ms
  - Provides historical trend (YT, XY)
  - Supports zoom feature (YT, XY)

  - Save as a CSV file (YT, Log)
  - Support data log (Scope)
  - Supports special purpose trend (ST, SPC)
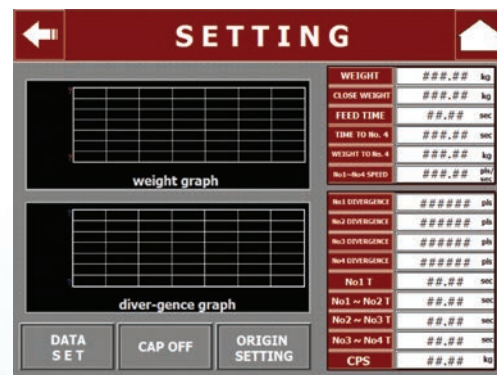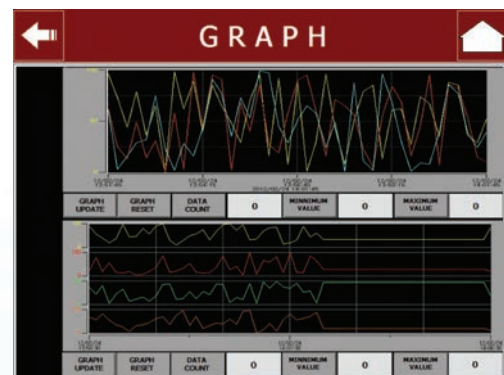
■ Alarm
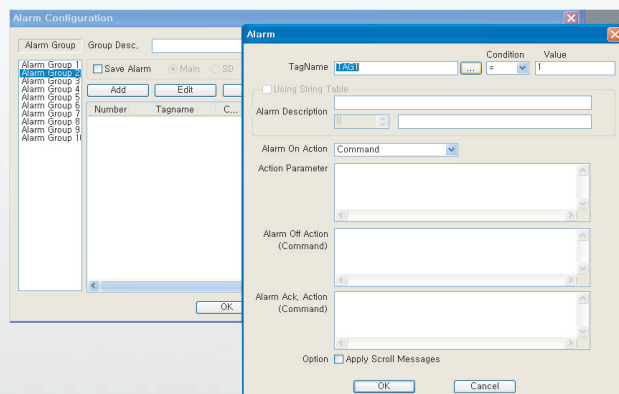
- Supports 10 alarm groups
- Each alarm group stores up to 200 alarms
- Depending on the set, the alarm will be saved at power-off
- Alarm summary displays alarm history on the screen
- desired status can be displayed on the screen
- Alarm on/off action can be specified
  (supports open page/command expression)
- Can change font and size of alarm summary object
- Provides alarm recognition functionalities
- Supports customized alarm summary control button

■ Script
  - Scripts can be executed by event, time period or function call
  - Scripting language resembles C syntax
  - Internal script function controls the advanced features of XPANEL
  - Supports user-defined functions

■ Data Log
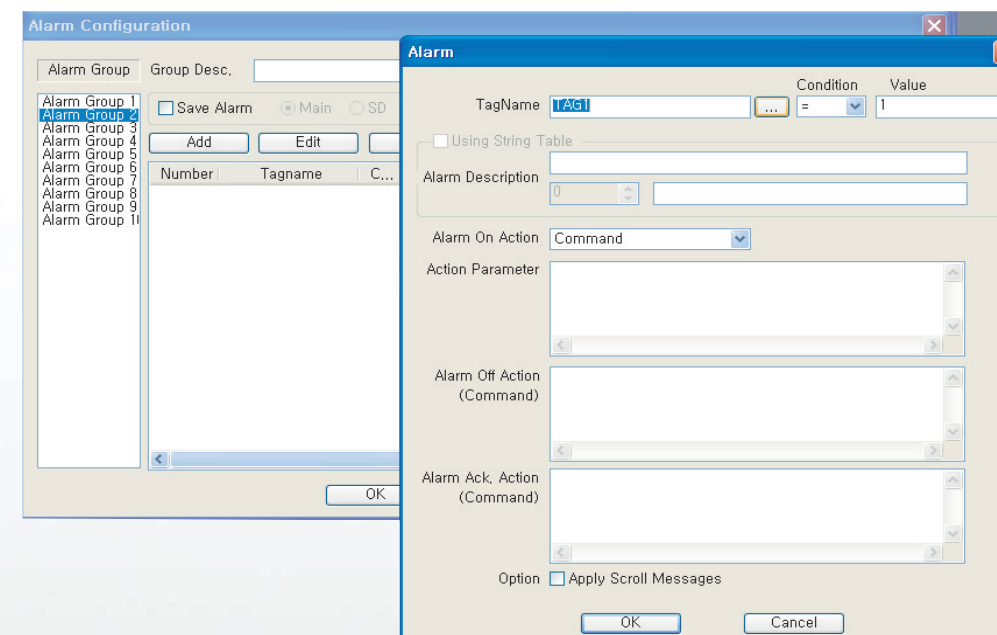
- Collected data can be displayed on table
- Collected data (through Scope Trend) can be displayed on graph

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■ Frame Editor
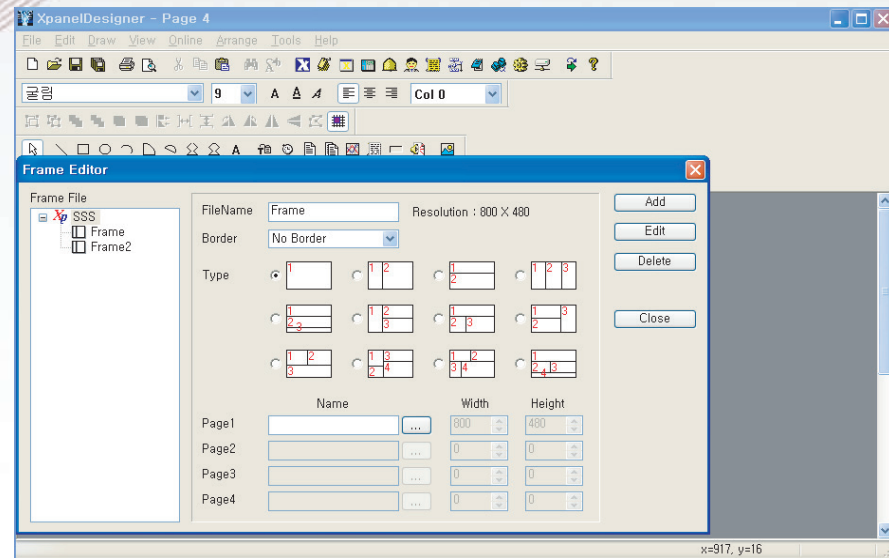
- Supports display frame and allows you to modify size and structure

■ Simulator
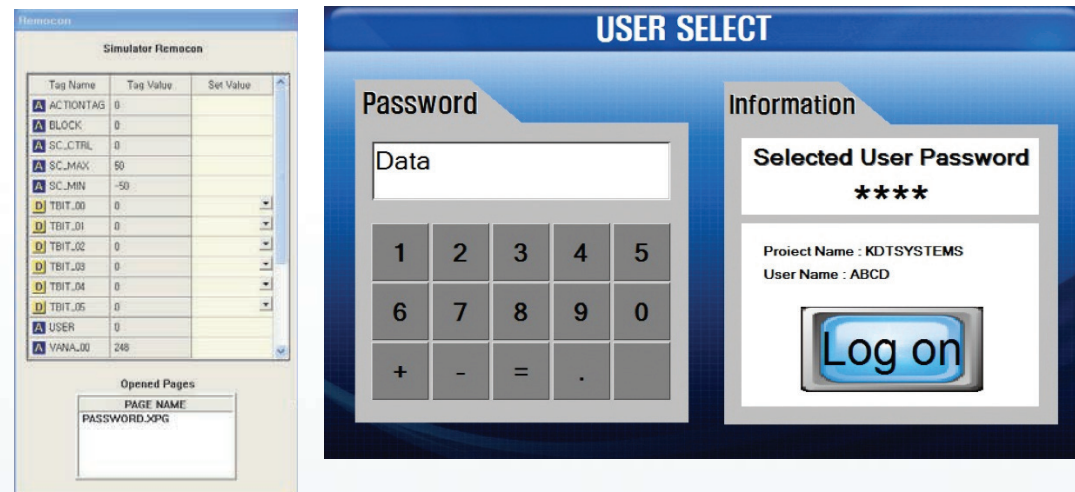
- Precheck the project on the PC without XPANEL
- Modify the tag value on the simulator remote control window
- Runs on the PC with the same resolution as the real screen
- Check the scripts and the alarm functions

Dimensions

Unit : mm

CM-XT04

■ Dimensions

■ Panel cut

CM-XT07

■ Dimensions

■ Panel cut

CM-HP07CD

■ Dimensions

■ Panel cut

CM-XT10

■ Dimensions

■ Panel cut

CM-XT12

■ Dimensions

■ Panel cut

CM-XT15

■ Dimensions

■ Panel cut

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Left section panels
- CM-XT04-DN — 4.3" LCD DISPLAY / DC
- CM-XT07-DN — 7" LCD DISPLAY / DC
- CM-XT07-AN — 7" LCD DISPLAY / AC
- CM-XT04-DE — 4.3" LCD DISPLAY / ETHERNET / DC
- CM-XT07-DE — 7" LCD DISPLAY / ETHERNET / AUDIO / SD CARD / DC
- CM-XT07-AE — 7" LCD DISPLAY / ETHERNET / AUDIO / SD CARD / AC

Right section panels
- CM-XT10-D — 10.4" LCD DISPLAY / ETHERNET / SD CARD / DC
- CM-XT12-A — 12.1" LCD DISPLAY / ETHERNET / SD CARD / AC
- CM-XT10-A — 10.4" LCD DISPLAY / ETHERNET / SD CARD / AC
- CM-XT15-A — 15" LCD DISPLAY / ETHERNET / SD CARD / AC

Specification

Type		CM-XT04-DN	CM-XT04-DE	CM-XT07-DN	XT07CD-AN	CM-XT07-DE	CM-XT07-AE
Panel Size		4.3"		7"			
Resolution		480 x 272		800 x 480			
LCD		Color TFT					
Color		262K Colors					
Luminance		350 cd/m²					
Memory		128MByte DDR2 SDRAM					
Storage		128MByte SLC NAND Flash					
Operating System		Windows CE 6.0					
Programming Tool (HMI)		XPANELDesigner					
Audio		None				1 Port	
Interface	Ethernet	None	10/100 BaseT	None		10/100 BaseT	
	Serial (COM1)	RS232C					
	Serial (COM2)	RS422/485					
	Serial (COM3)	None					
	USB Host	1 Port					
	Tool Port	1 Port (for Loader)					
	SD Card Slot	None				1 Slot	
Input Power		DC24V	DC24V	AC100-240V	DC24V	AC100-240V	
Dimension (mm)		128 X 102 X 50		185 X 127 X 50			
Panel Cut (mm)		120 X 94		177 X 119			

Type		CM-XT10-D	CM-XT10-A	CM-XT12-A	CM-XT15-A
Panel Size		10.4"		12.1"	15"
Resolution		800 x 600			1024 x 768
LCD		Color TFT			
Color		262K Colors			16.7M Colors
Luminance		400 cd/m²		450 cd/m²	400 cd/m²
Memory		256MByte DDR2 SDRAM			
Storage		128MByte SLC NAND Flash			
Operating System		Windows Embedded Compact 7			
Programming Tool (HMI)		XPANELDesigner			
Audio		None			
Interface	Ethernet	10/100 BaseT			
	Serial (COM1)	RS422/485			
	Serial (COM2)	RS232C			
	Serial (COM3)	RS232C			
	USB Host	10/100 BaseT			
	Tool Port	1 Port (for Loader)			
	SD Card Slot	1 Slot			
Input Power		DC24V	AC100-240V		
Dimension (mm)		280 X 220 X 47		330 X 250 X 83	395 X 310 X 89
Panel Cut (mm)		267 X 207		319 X 239	382 X 297

CYMON XPANEL

The Ultimate All-in-One Solution

The most advanced micro PLC integrates seamlessly with HMI featuring vivid and sharp display

XPANEL *Hybrid*

ALL-IN-ONE
HMI + PLC

Specification : HMI Part (XPANEL)

Model	HP07CD-AER HP07CD-DER	HP07CD-ANR HP07CD-DNR	HP07CD-AES HP07CD-DES	HP07CD-ANS HP07CD-DNS
LCD size	7 inch wide			
LCD Type	TFT Color			
Colors	65K Colors			
Resolution	WVGA 800X480			
Backlight	LED			
Luminance	400 cd/m2			
Touch Panel	4 wire resistive			
Memory	128M Byte DDR2			
Storage	128M Byte SLC NAND FLASH			
SD Card	1 SD slot	None	1 SD slot	None
COM1(HMI)	RS-232C/422/485			
COM2(HMI)	RS-232(Internal)			
COM1(PLC)	RS232		RS485	
COM2(PLC)	RS232(Internal)			
Ethernet	10/100 BaseT	None	10/100 BaseT	None
USB Host	1 port			
Tool Port	1 USB device			
Audio	1 port	None	1 port	None
Rated Voltage	-A:AC100-240V / -D:DC24V			
Power Consumption	8W			
OS	Windows CE 6.0			
Dimension(mm)	185 X 127 X 80.5			
Panel Cut(mm)	177 X 119			

Specification : PLC Part (PLC-S)

Item		Specification	Remark
Power		DC 12 - 24V	
Program control method		Cyclic Execution, Time Driven Interrupt	
I/O control method		Indirect method, Directed by program instruction	
Program language		LD(Ladder Diagram), IL(Instruction List), SFC(Sequential Function Chart)	
Data processing method		32 bit	
Instructions	Sequence	55 Instruction	
	Application	389 Instruction	
Processing speed (Sequence)		300 ns/Step	
Program capacity		10K Step	
Maximum I/O points		96pts / Option module + 2 PLC-S modules	
Operation mode		Remote Run, Remote Stop	
Back-up method		K address by (Latch) parameter	
Total program		128	
Total program (Max.128)	Scan	Scan, Subroutine, Cold/Hot Start initialization, Periodic Interrupts	
	Periodic Interrupts	Maximum 15 scan program (Minimum period :10ms)	
	Special	PID , HSC, IO Input Filter, Special Card init	
	Communication	User Protocol(Serial) Comm. Program, MODBUS/RTU Master	
	Etc.	SFC, FBD (Function Block Diagram)	
Self-diagnosis function		Detect delay of scan time, memory, I/O, Power Supply	
Restart		Cold, Hot Restart	
Maximum expansion		1 CPU module + maximum 3 expansion modules	
Data memory	X	1024 pts (X0000 - X063F)	Bit
	Y	1024 pts (X0000 - X063F)	Bit
	M	8192 pts (M0000 - M511F)	Bit
	L	4096 pts (L0000 - L255F)	Bit
	K	4096 pts (K0000 - K255F)	Bit
	F	2048 pts (F0000 - F127F)	Bit
	T	512 pts (T0000 - T0511)	Word
	C	512 pts (C0000 - C0511)	Word
	S	100 states x 100 set (00.00 - 99.99)	
	D	10000 words (D0000 - D9999)	Word
	Z	1024 words (Call Stack : Z0000 - Z0063, Z1000 - Z1063)	Word
	R	16 points (Index)	
High Speed Counter		16Kpps (In case of 2Ph. 2Multi. Max 4Kpps)/ 1Phase pulse Input + Direction signal	
PID		32 Channels, Auto-Tuning	
RTC		Battery (CR2032 Backup)	
Comm. Channel		Standard : USB Loader, Serial 1(RS232C)/Optional : Serial 1Ch(RS485 or RS232)	
Etc.		Real number operation, Online edit	

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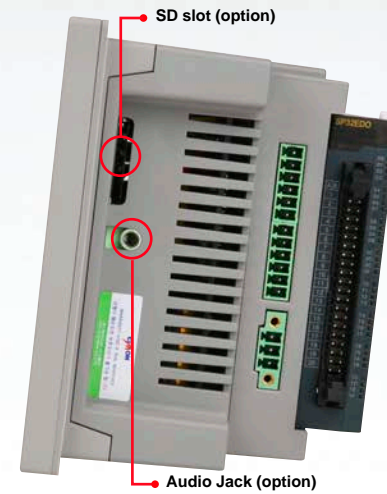
XPANEL Hybrid Features

VESA Wall Mount Ready

100X100mm standard VESA Wall Mount Hole is equipped on the back for easy attachment to a VESA mounting arm.
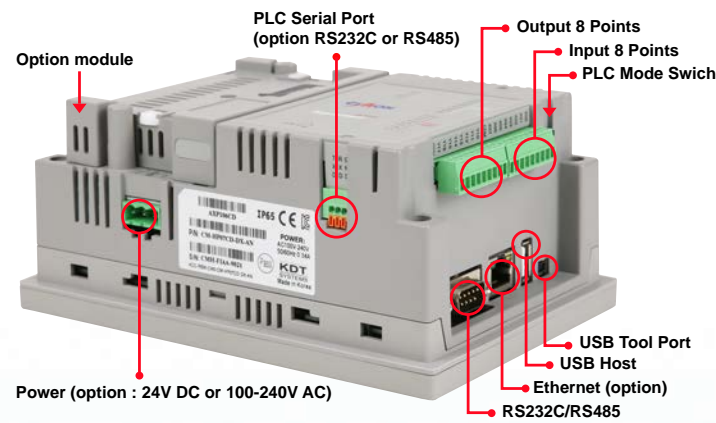
Expandable with PLC-S Modules

Existing PLC-S expansion modules work with XPANEL Hybrid. (Maximum 2 PLC-S expansion modules)

Genuine PLC Integrated

PLC is integrated with HMI to support the full function of PLC-S and XPANEL.

Detachable PLC Wire Terminals

Every connection terminal is detachable for convenient installation and maintenance.

The built-in USB hub provides simultaneous connection with XPANEL Designer and CICON Software.
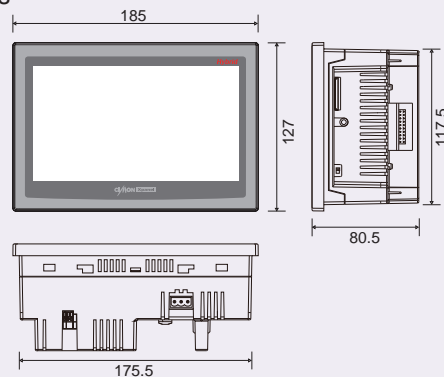
Reliable

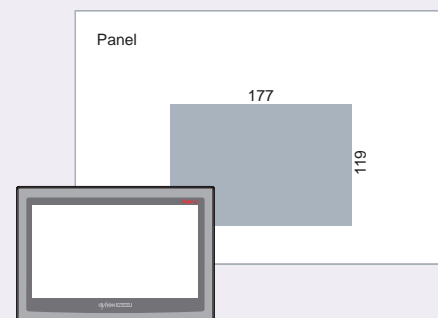The reliability required in the PLC is equally applied to XPANEL Hybrid.

Reliable vibration resistance, temperature resistance, surge resistance, etc.

SD slot (option)

Audio Jack (option)

Example : CM-HP-EAA and CM3-SP32EDO are installed

PLC Serial Port (option RS232C or RS485)
Output 8 Points
Input 8 Points
PLC Mode Swich
Option module
USB Tool Port
USB Host
Ethernet (option)
RS232C/RS485
Power (option : 24V DC or 100-240V AC)

Dimension

■ Dimensions

185
127
117.5
80.5
175.5

■ Panel cut

Panel
177
119

XPANEL Hybrid Product Line-Up

▪ MAIN UNIT

No.	Model	Specification
1	CM-HP07CD-DNR	XT07CD-DN + PLC CPU(DI8/Relay8, RS232C), DC type
2	CM-HP07CD-ANR	XT07CD-DN + PLC CPU(DI8/ Relay8, RS232C), AC type
3	CM-HP07CD-DNS	XT07CD-DN + PLC CPU(DI8/ Relay8, RS485C), DC type
4	CM-HP07CD-ANS	XT07CD-DN + PLC CPU(DI8/ Relay8, RS485C), AC type
5	CM-HP07CD-DER	XT07CD-DE + PLC CPU(DI8/Relay8, RS232C), DC type
6	CM-HP07CD-AER	XT07CD-DE + PLC CPU(DI8/ Relay8, RS232C), AC type
7	CM-HP07CD-DES	XT07CD-DE + PLC CPU(DI8/ Relay8, RS485C), DC type
8	CM-HP07CD-AES	XT07CD-DE + PLC CPU(DI8/ Relay8, RS485C), AC type

▪ OPTION module

No.	Model	Type	Specification
1	CM-HP-DM	DUMMY	Expansion dummy for Hybrid XPANEL
2	CM-HP-EAA	AIO-4	Analog module (AI 2ch, AO 2ch) for Hybrid XPANEL
3	CM-HP-EDR	DI8/DO8	DI 8 pts, DC24V / DO 8 pts Relay for Hybrid XPANEL

PLC Expansion Modules

▪ DIGITAL I/O module

No.	Model	Type	Specification
1	CM3-SP32EDO	DI-32	DI 32 pts, DC24V
2	CM3-SP32EOT	DO-32	DO 32pts. DC24V (TR)sink
3	CM3-SP32EOC		DO 32pts. DC24V (TR)source
4	CM3-SP32EDT	DI-16/DO-16	DI 16 pts, DO 16 pts, TR
5	CM3-SP16EDR	DI8/DO8	DI 8pts, Relay Output 8pts. 2A
6	CM3-SP16EOR	DO-16	Relay Output 15pts, 2A

▪ ANALOG I/O module

No.	Model	Type	Specification
1	CM3-SP04EAO	AI-4	AI 4CH Current/Voltage
2	CM3-SP04EAA	AIO-4	AI 2CH / AO 2CH Current Voltage
3	CM3-SP04ERO	AI-4	AI 4CH RTD
4	CM3-SP04ETO		AI 4CH TC
5	CM3-SP04EAM		AI 4CH TC & RTD MUX
6	CM3-SP04EOAI	AO-4	AO 4CH Current Output
7	CM3-SP04EOAV		AO 4CH Voltage Output

▪ COMMUNICATION module

No.	Model	Type	Specification
1	CM3-SP02ERS	Comm.	RS232C 1CH, RS422/485 1CH, MODBUS RTU Master
2	CM3-SP02ERR		RS232C 2CH. MODBUS RTU Master
3	CM3-SP01EET		10/100Mbps, UDP/TCP, TCP MODBUS Master

▪ ACCESSORIES

No.	Model	Type	Specification
1	CM0-TB32M	SP32MDT	Multi-Terminal Block
2	CM0-SCB15M	SP32MDT	DI16/DO16 Connection Cable (1.5m)
3	CM0-SCB15E	SP32EDO, SP32EOT	I/O 32 Connection Cable (1.5m)

＊Please refer to PLC catalog for detailed information.

CIMON
Total Solutions for Industrial Automation

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