

Industrial HMI Solution TOP

TOP TOUCH Operation Panel

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M2I^{TOP} M2I Corporation
Man-Machine-Interface

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►Conformity with International Safety Standards



The CE Mark and the UL or c-UL and Recognized Component Marks which are printed in TOP guarantees of compliance with safety standards accepted in countries and regions worldwide

⚠ Caution : Before operating the products, be sure to read all related manuals

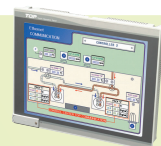
- The colors in this catalog may differ from those of the actual product.
- Actual user screens may differ from those of the monitor screen of PC.
- LCD screens may show 3 and less grid-point(light and dark) on the display panel surface. Also, some parts of the screen are brighter than others. Both are normal for an LCD display and are not defects.
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Applications

Semiconductor Production System
Automobile Production System
Chemical Process Monitoring & Operating System
Building Automation System, Parking System
Wrapping System
Cutting System
Textile Machine,
Electric Panel
Information Service System
(Advertisement, Publicity, Information Guide)

LINE UP

	15"	12.1"	10.4"	8.4"	7"	5.7"	4.3"	3.8"
X TOP Series	 XTOP15TX-SA	 XTOP12TS-SA	 XTOP10TV-SA / XTOP10TS-SA	 XTOP08TV-SD XTOP08TS-SD		 XTOP05TQ-SD XTOP05MQ-SD		
X TOP-E Series			 XTOP10TV-ED/ED-E	 XTOP08TV-ED/ED-E		 XTOP05TQ-ED/ED-E XTOP05MQ-ED/ED-E		
X TOP Wide Series					 XTOP07TW-UD		 XTOP04TW-UD	
C TOP Series						 CTOP3M		 CTOP2M-B

Model Name	XTOP15TX-SA	XTOP12TS-SA	XTOP10TS-SA	XTOP10TV-SA	XTOP08TS-SD	XTOP08TV-SD	XTOP05TQ-SD	XTOP05MQ-SD	XTOP10TV-ED-E	XTOP08TV-ED-E	XTOP05MQ-ED-E	XTOP05TQ-ED-E	XTOP10TV-ED	XTOP08TV-ED	XTOP05MQ-ED	XTOP05TQ-ED	CTOP3M	CTOP2M-B	XTOP04TW-UD	XTOP07TW-UD
Screen Size	15"	12.1"	10.4"	10.4"	8.4"	8.4"	5.7"	5.7"	10.4"	8.4"	5.7"	5.7"	10.4"	8.4"	5.7"	5.7"	5.7"	3.8"	4.3"(Wide)	7"(Wide)
Display Type	TFT Color	TFT Color	TFT Color	TFT Color	TFT Color	TFT Color	TFT Color	Blue(Mono)	TFT Color	TFT Color	Blue(Mono)	TFT Color	TFT Color	TFT Color	Blue(Mono)	TFT Color	Blue(Mono)	Blue(Mono)	TFT Color	TFT Color
Display Color	65536Color	65536Color	65536Color	65536Color	65536Color	65536Color	65536Color	16 Levels	65536Color	65536Color	16 Levels	65536Color	65536Color	65536Color	16 Levels	65536Color	16 Levels	16 Levels	65536Color	65536Color
Resolution	1024 x 768	800 x 600	800 x 600	640 x 480	800 x 600	640 x 480	320 x 240	320 x 240	640 x 480	640 x 480	320 x 240	320 x 240	640 x 480	640 x 480	320 x 240	320 x 240	320 x 240	320 x 240	480 x 272	800 x 480
Brightness	350cd/m ²	380cd/m ²	400cd/m ²	380cd/m ²	350cd/m ²	450cd/m ²	450cd/m ²	260cd/m ²	350cd/m ²	400cd/m ²	230cd/m ²	400cd/m ²	350cd/m ²	400cd/m ²	230cd/m ²	400cd/m ²	200cd/m ²	150cd/m ²	500cd/m ²	350cd/m ²
Panel Cut(W)×(H)	355(W)×286(H)	306(W)×247(H)	295(W)×229(H)		222(W)×168(H)		158(W)×126(H)		260(W)×202(H)	222(W)×168(H)	158(W)×126(H)		260(W)×202(H)	222(W)×168(H)	158(W)×126(H)		*3	121(W)×95(H)	121(W)×95(H)	199(W)×129(H)
Dimension	*1	*2	305(W)×239(H)×58(D)		232(W)×177(H)×60(D)		170(W)×138(H)×60(D)		*5	*6	170(W)×138(H)×60(D)		*5	*6	170(W)×138(H)×60(D)		*4	128(W)×102(H)×55(D)	128(W)×102(H)×55(D)	206(W)×136(H)×64(D)
Screen Memory	26MB	26MB	26MB	26MB	26MB	26MB	26MB	26MB	26MB	26MB	6MB		26MB	26MB	6MB		2MB	512KB	6MB	26MB
Back up Memory	256KB	256KB	256KB	256KB	256KB	256KB	256KB	256KB	256KB	256KB	256KB	256KB	256KB	256KB	256KB	256KB	256KB	256KB	256KB	256KB
I N T E R F A C E	Serial	RS-232C	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		RS-422/485	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Ethernet	10/100Base-T	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	USB	USB 1.1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	N/A	N/A	*7	*7
	CF CARD	CompactFlash	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Print	RollPrinter	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

* 1 : 366(W) x 296.5(H) x 58(D)mm

* 2 : 317(W) x 257(H) x 58(D)mm

* 3 : 158(W) x 126(H)mm

* 4 : 170(W) x 138(H) x 60(D)mm

* 5 : 270(W) x 212(H) x 58(D)mm

* 6 : 232(W) x 177(H) x 60(D)mm

*7: if use the optional device of USB Gender, Supporting USB Downloading

LINE UP

5.7"

H TOP Series

HTOP05TQ(V)-SD HTOP05TQ(V)-SD-W

W-Station Series

Communication Option Device: W-Station

HTOPWS-SD
(Wired)HTOPWS-SD-W
(Wireless)

Model Name			HTOP05TQ-SD	HTOP05TV-SD	HTOP05TQ-SD-W	HTOP05TV-SD-W	HTOPWS-SD	HTOPWS-SD-W
Screen Size			5.7"	5.7"	5.7"	5.7"	None	None
Display Type			TFT Color	TFT Color	TFT Color	TFT Color	None	None
Display Color			65536Color	65536Color	65536Color	65536Color	None	None
Resolution			320 x 240	640 x 480	320 x 240	640 x 480	None	None
Brightness			400cd/m ²	400cd/m ²	400cd/m ²	400cd/m ²	None	None
Panel Cut(W)×(H)			None	None	None	None	None	None
Dimension							120(W)×160(H)	199(W)×157(H)
Screen Memory			26MB	26MB	26MB	26MB	None	None
Back up Memory			256KB	256KB	256KB	256KB	None	None
I N T E R F A C E	Serial	RS-232C	√	√	None	None	√	√
		RS-422/485	√	√	None	None	√	√
	Ethernet	10/100Base-T	None	None	None	None	√	√
	USB	USB 1.1	√	√	√	√	√	√
	SD CARD	SD Memory 2.0	√	√	√	√	None	None
	Wi-Fi	IEEE802.11 b/g	None	None	√	√	None	√

CONTENTS

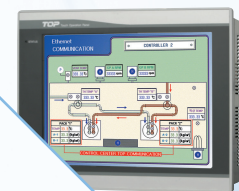
Communication 05

Special Feature 07

XDesigner Plus 11

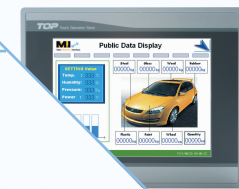
XTOP

Specification 13



XTOP-E

Specification 15



CTOP

Specification 17



XTOP WIDE

Specification 18



HTOP

Specification 19



Connectable PLC

List 21



Serial & Fieldbus Network

1. Serial Communication

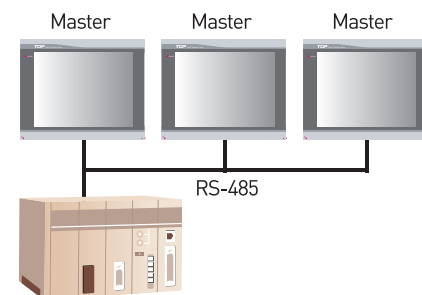
1:1 Communication

Connect to CPU Port or Communication Unit of Controller by RS-232C/422/485

RS-232C/422/485

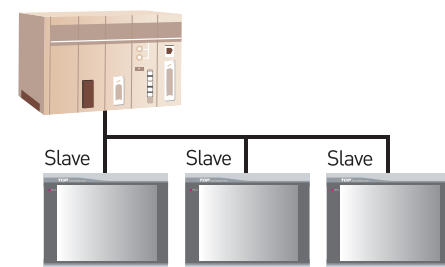


N:1 Serial Communication

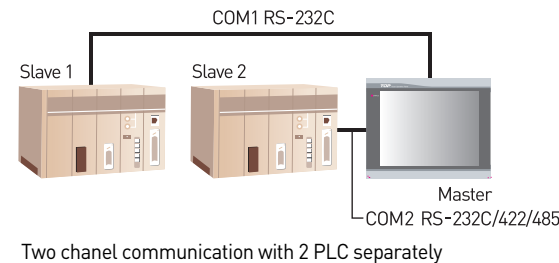


- Control Only 1 Controller with Many TOP using Token Protocol
- Restrictive to N:1(TOP:PLC) Supported PLC only
- RS-485/422 Only

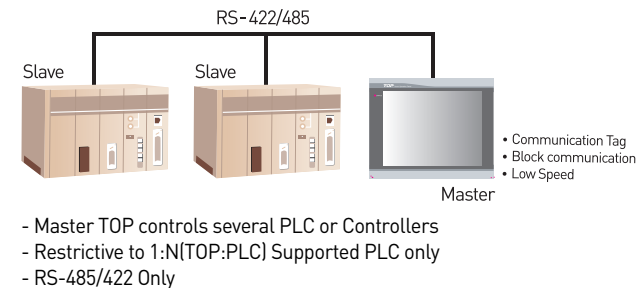
Slave



Two Way Communication

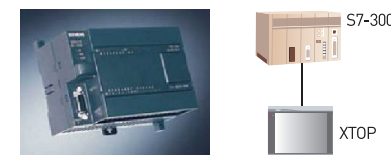


Multi Drop



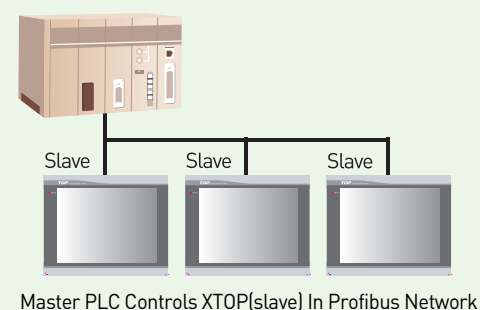
MPI Direct Network

- High Speed Communication (Fixed 187,500bps)
- RS-485
- Long Distance Communication (Max 1.2km)
- Do not need MPI adapter

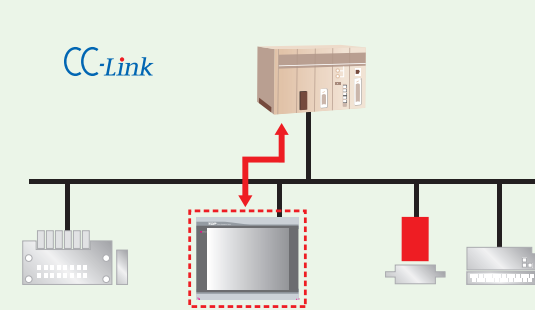


2. Field Network

Profibus DP



CC Link

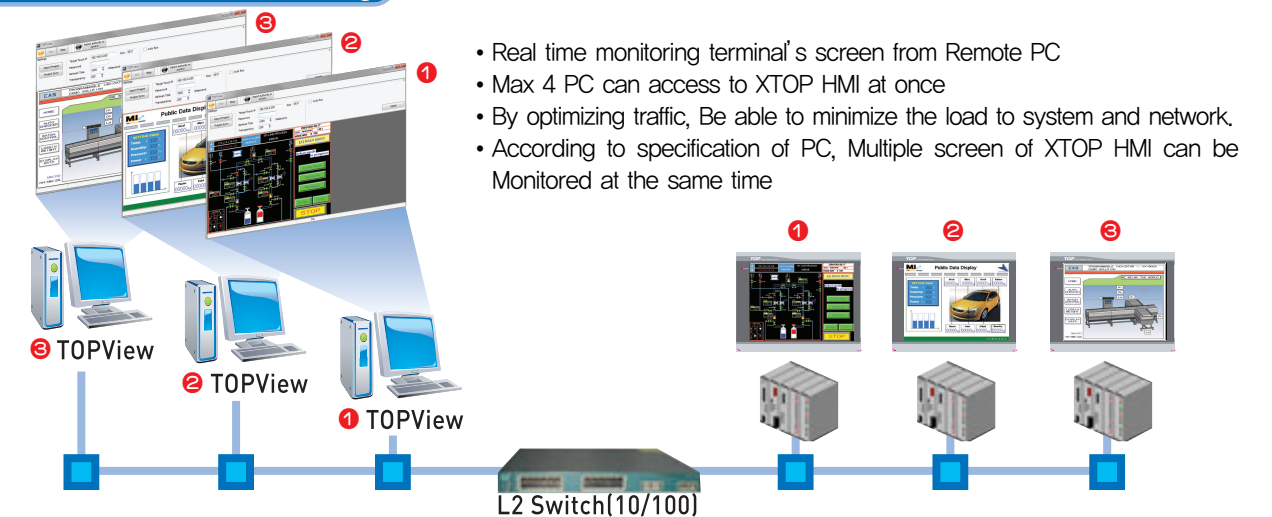


3. Ethernet Network

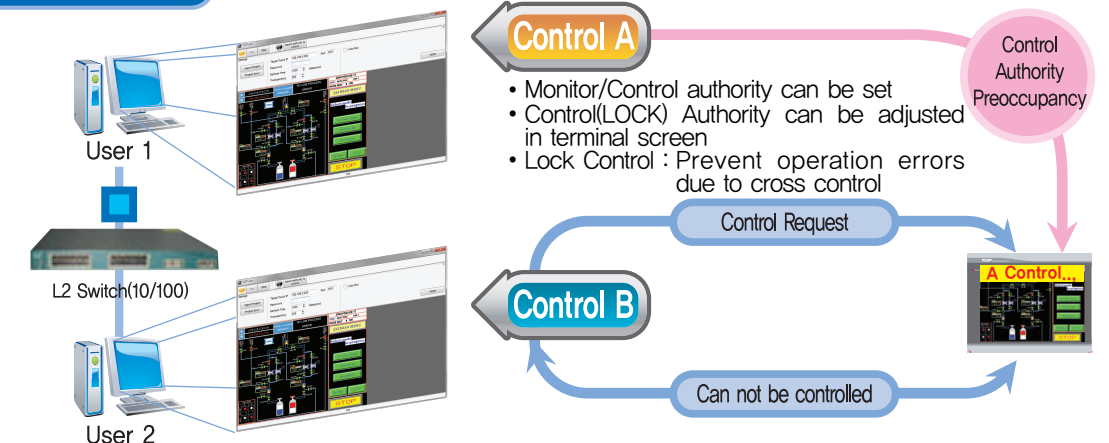
Remote Monitoring Service & Application S/W

- Neither extra S/W setup nor costs are needed.
- XDesignerPlus supply TOP View Client which can be created with click of TOPView(exe) file
(Attention: Data such as alarm history, logging can not be monitored in remote PC Screen)

Remote Screen Monitoring

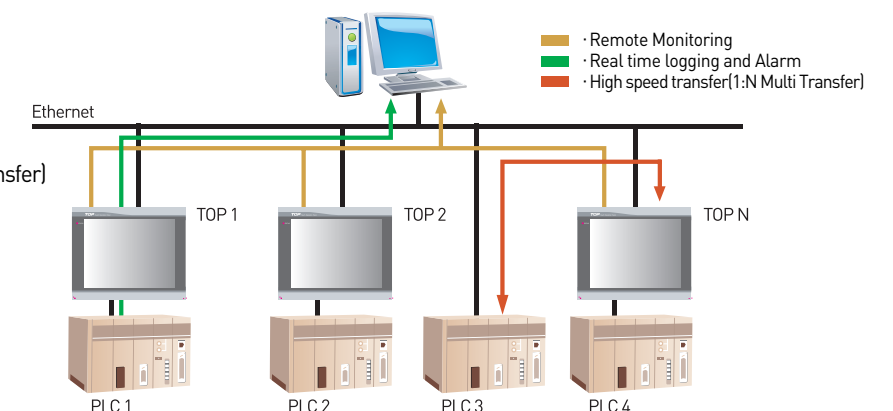


Remote Control



Ethernet

- Remote Monitoring
- Real time logging and Alarm
- High speed transfer(1:N Multi Transfer)



Feature

1. High Image Quality & Clearness

- ▶ **65,536 Color & Analog Touch** 
- ▶ **JPG Support** 



2. Various Interface Built in

- ▶ **USB and Ethernet built in** 

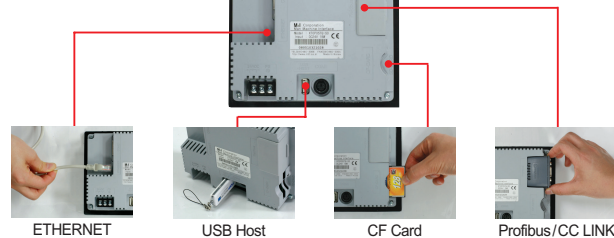
1. USB Host / Device

- USB Device: Support High Speed Transfer from PC
- USB Host: Support USB Memory, USB 1.1 Compatible

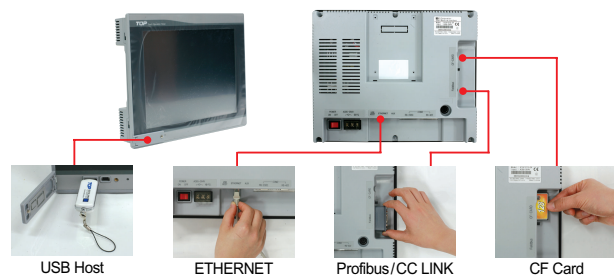
2. Ethernet

- Support Automatic Detection in 10M, 100M
- Support Strait, Cross Cable
- Data Transfer with PC VIA ETHERNET
- Upload/Download of program, Upload logging, alarm and recipe
- Support Remote screen monitoring and remote control via TOPView

5.7"~8.4" LCD Model



10.4"~15" LCD Model



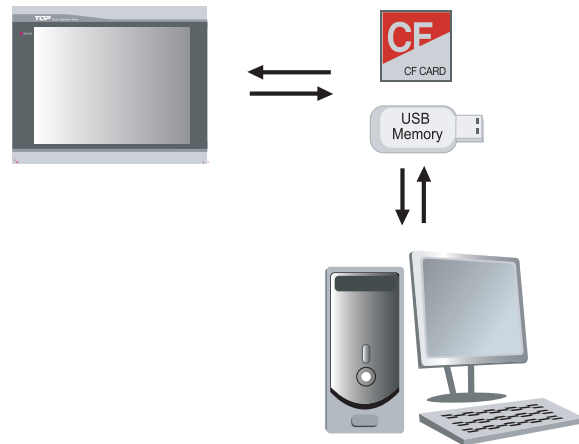
- ▶ **Use of CF Card, USB Memory** 

1. CF Card

- Save Alarm, Logging to CF Card or USB Memory with CSV Format
- Load recipe from CF Card and Save it with CSV Format

2. USB

- Copy Alarm/Logging/Recipe between CF Card and USB Memory
 - After saving program, OS to USB Memory, Transfer them to TOP HMI with USB Memory
- (When the TOP HMI which it is setup are several, UBS Memory can support to transfer program to each TOP HMI)



- ▶ **Barcode/Rfid Reader and Roll Printer** 

1. Barcode Reader

- Support one dimensional and two dimensional Barcode Reader
- Support Serial & USB Barcode Rader
- Save ASCII data from Barcode Rader to the specified PLC or SRAM of TOP HMI
- Support Programmable bit for expressing status of read completion

2. RFID Reader

- Support Omron, LS RFID Reader
- Save ASCII data from RFID Reader to the specified PLC or SRAM OF TOP HMI
- Support Programmable bit for reading condition
- Support specified message display, when read error appears

3. Roll Printer

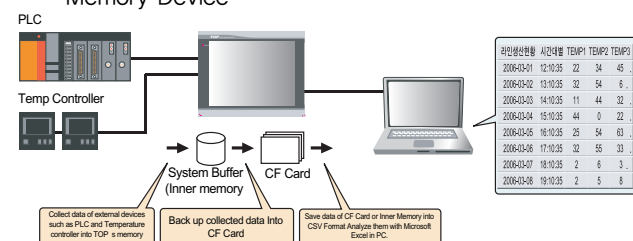
- Possible to connect to Roll Printer which compatible EPSON Protocol
- Possible to make TEXT Format which it is printed by using Roll Printer Editor
- Possible to express Numeric/ASCII Data of Internal Memory(SRAM) Data of TOP HMI

3. Powerful Data Management

- ▶ **Data Logging**  

Specific data of PLC Address or Internal Memory Address of TOP HMI is recorded According to the condition.

- Up to 256KB to be recorded to Internal Memory of TOP HMI or CF Card. By installing CF Card, Logging data can be written as CF Card Memory capacity
- Logging data can be transferred to PC or USB Memory Device



- ▶ **Log Table** 

Display stored logging data as designed format of table

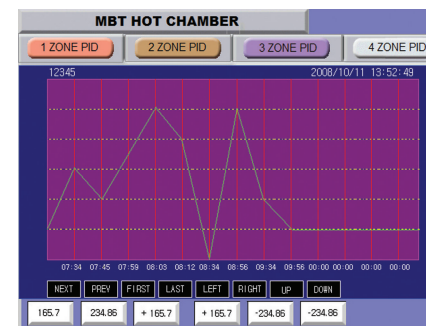
- Assignment of title name at the top of table
- Scroll with UP&Down, right&left direction in the Log Table
- Display logging data stored in CF Card

No	날짜	시간	온도	W1	W2	W3	W4
1	2010/06/25	13:54:12	10	20	60	50	130
2	2010/06/25	13:54:19	50	70	60	50	130
3	2010/06/25	13:54:28	30	20	10	50	130
4	2010/06/25	13:54:41	50	40	1000	50	130
5	2010/06/25	13:54:50	10	50	1000	50	130
6	2010/06/25	13:54:57	90	20	1000	50	130
7	2010/06/25	13:55:00	00	40	1000	50	130

- ▶ **Recorder** 

Display the logged data with graph

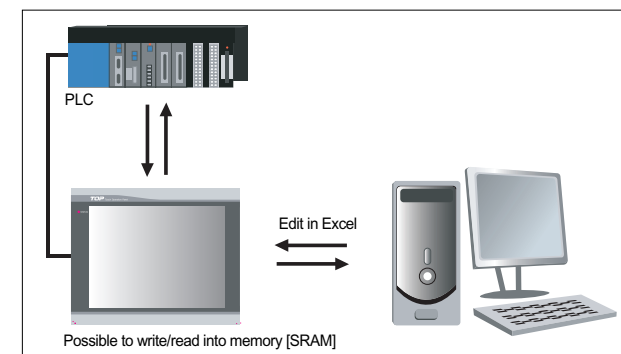
- Supply 4 Page shift key and 4 Cursor Key
- Monitor Current log and Past log with graph
- Possible to express data value & Time at the point of Cursor located



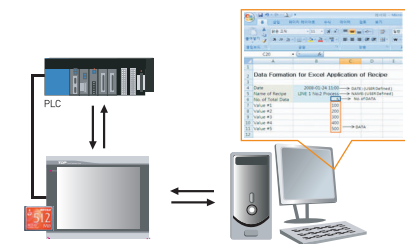
- ▶ **Recipe**  

The data required by PLC or TOP HMI Panel is saved to Internal Memory of TOP HMI or CF Card, when the moving condition is accomplished, Move data of recipe to set address pre-arranged.

- Be capable of setting recipe data in Run
- Supply CF Recipe Setting
- Transfer Recipe data to the PC or USB Memory

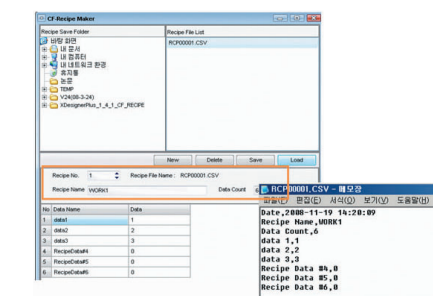
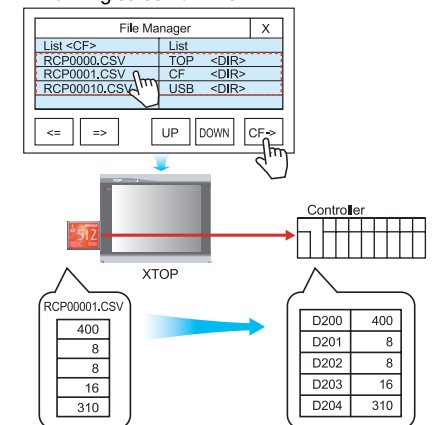


- ▶ **RECIPE TRANSFER VIA CF CARD** 



- Save CSV Format data to CF Card in Excel
- Transfer above CSV data to XTOP or PLC
- Provided Easy Interface to edit the data Because user can edit the data in Excel
- Moreover CF Recipe Maker supply solution to Easy Interface as belows

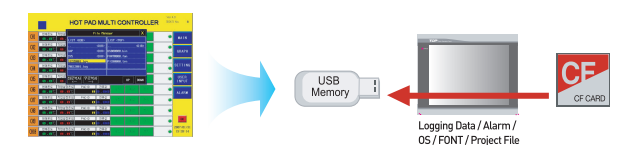
In case of using File Manager in running screen of XTOP



- ▶ **File List** 

Supply Easy Interface to copy data to CF Card and USB Memory

- Copy data to CF Card and USB Memory in Run Mode
- Data type: Logging, Recipe, Alarm, OS, Font, Project File

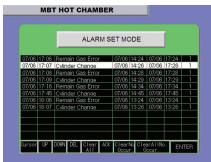


Feature

▶Alarm Ex

Show alarm list occurred, Provide convenient features more extensive than alarm Tag

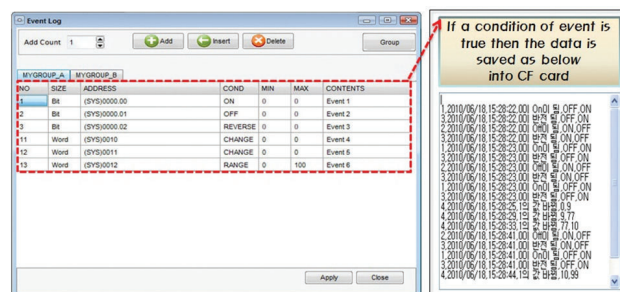
- Various editor key options to control contents in alarm list
- Display in time&reverse time order on events like occurrence/clearance/acknowledge of alarm
- Setting of Alarm & Subsidiary explanation : shift screen/display subsidiary explanation by using ex-tag
- Display alarms stored in CF Card



▶Event Log Viewer

The ability to monitor the status of registered address

- Save change of status for registered Bit/Word address when the condition of event is true
- Available to display saved event log data with Event log Viewer tag.

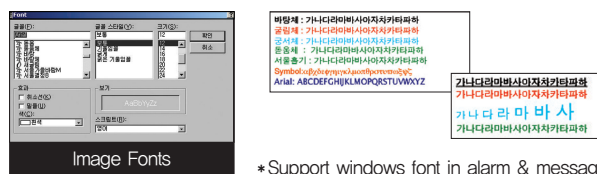


4. Convenient Software Function

▶Windows Font

Support Various Fonts

Make various size of fonts and font style using the MS Windows Font on the PC



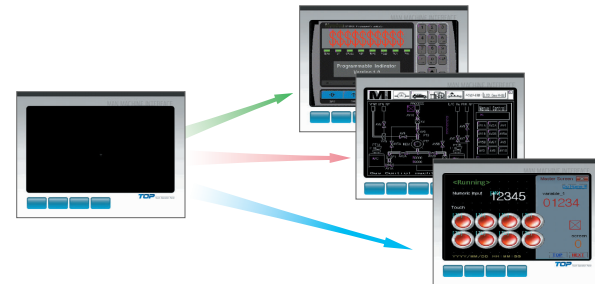
*Support windows font in alarm & message

▶Various graphic library available



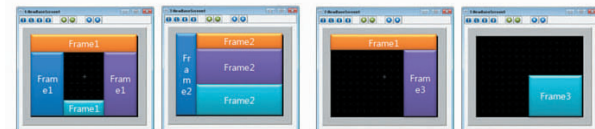
▶Master Screen

- Be able to set Master Screen(No limit of diagram, Tags)
- Be applied in each base screen
- Can not be applied In special designed base screen
- Increase the efficiency of memory consumption by using master screen

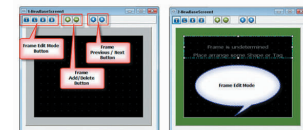


▶Frame

- Support 4 Frame set without no limit of it s number
- Available to raise the efficiency of memory consumption to use frame



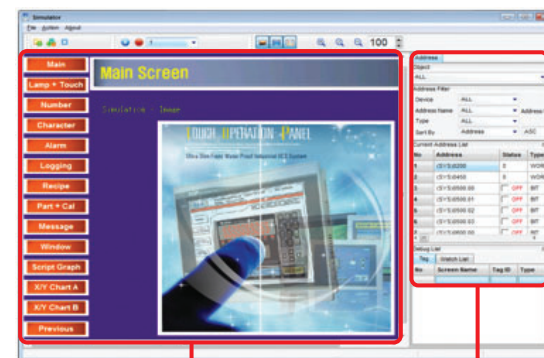
- Support Frame Editor Mode conversion in Base screen with Icon
- Assign the area of Frame with drag of mouse and register tags and diagrams in Frame Editor mode
- Select Frame which it is registered and apply them to base screen



▶Simulator

Operates project file with PC virtually without transmitting it to TOP HMI.

If clicks screen with mouse cursor, it operates the same as touches actual touch screen, right address list displays status or values of address, and can be set by user in person.



Simulator Screen

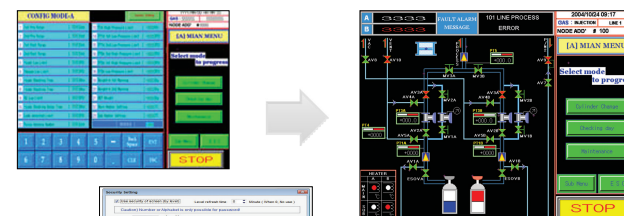
Address List

▶Security Setting

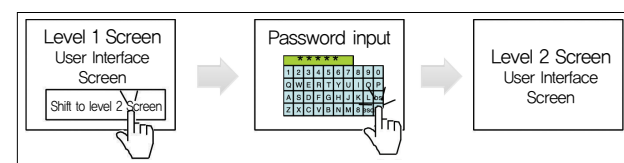
Security Setting per each Screen

Making authority of setting & access to the screen to who have access rights.

- Set up password & security level for each screen
- Password tenkey to input password like default tenkey
- Max. 16 levels of security settings and initialization of levels



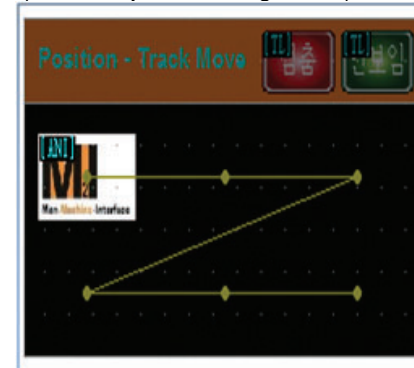
Setting Screen



▶Animation, Slide

Provide animation effect to shape and Tag

- Available to move sequential order and vertical & horizontal, rotating along the coordinates setting
- Stop & Operates object according to the preset condition



Animation Tag



Slide Tag

▶Report

Project information such as System, Global, Screen, Address can be edited or printed according to the sample format shown.

System Information			
HMI Information			
Model	XTOP215-S-A/S0	Resolution	800 x 600
Color	255K Color	Memory	256 Mbyte
U SB	○	Serial232	○
CF Card	○	Serial485	○
FlashROM	○	Ethernet	○
COM2 Setup			
Board Name	Default	Signal Level	RS232C
Stop Bit	1	Station Name, In Chg	0
Parity Bit	None	Time Out (x 100 msec)	0
COM1 Setup			
Board Name	Default	Station Name, In Chg	0
Stop Bit	1	Time Out (x 100 msec)	0
Parity Bit	None	Serial VPort (x 100 msec)	0
H-1 Setup			
Bit User	NO	Station Name, In Chg	0
HMI Setup			
Project On/Off	OFF	Printer	DefaultPDC
Initial Screen Number	1	Display Method (1-9999 : 0:Normal)	0
Screen Name/Number	014	Touch Key Sensitivity	Normal
Start Of Latch	1	Set Limit of Sys. Err	0
Font Of Latch	0		

▶Multi Language Table

Design for conversion of language in the string table

A string table, which makes it possible to simply set a language for each country, is available so while working, User can change the previously designed language in the same table by using the programmable function

	A	B	C
1	수동 운전	Manual Mode	手動運転 モード
2	자동 운전	Auto Mode	自動運転 모드
3	리셋	Reset	リセット
4	상한도달 온도	High Limit Temp	上限到達溫度
5	하한도달 온도	Low Limit Temp	下限到達溫度
6	현재 온도	Present Temp	現在溫度

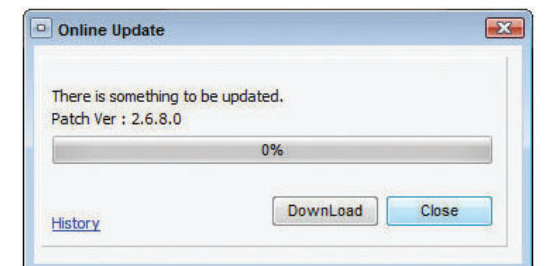
No	Length	0 Table1	1 Table2	2 Table3
1	15	Manual Mode	手動運転 모드	
2	15	Auto Mode	自動運転 모드	
3	8	Reset	リセット	
4	15	High Limit Temp	上限到達溫度	
5	14	Low Limit Temp	下限到達溫度	
6	12	Present Temp	現在溫度	

▶Automatic Update

When the version up or urgent patch of XDesigner Plus are happened, It can inform the change of S/W and install the new version of urgent patch install automatically.

1. Enable Update Service

- When XDesigner Plus are started in PC which it is online, user can check out the new version up or urgent install from the website: www.m2i.co.kr



XDesigner Plus

Core HMI System of FA Field

Built in Various Network
Add Data Management
Value UP Your System

TOP series assortment of detail model name

(X)TOP	08	T	V	—	E	D	—	E
Model Name	LCD SIZE	LCD TYPE	RESOLUTION	DETAIL	POWER	OPTION		
XTOP	04 : 4.3"	T : TFT Color LCD	Q : QVGA(320*240)	S : Standard	A : AC Power	E : Ethernet		
HTOP	05 : 5.7"	S : STN Color LCD	V : VGA(640*480)	E : Extra	D : DC Power	+ CF Card		
CTOP	07 : 7.0"	M : STN Mono LCD	S : SVGA(800*600)	U : U Model		W : Wireless		
	08 : 8.4"		X : XVGA(1024*768)					
	10 : 10.4"		W : WQVGA(480*272)					
	12 : 12.1"		WVGA(800*480)					
	15 : 15"							

Interface

Operate/Display (screen editor S/W) XDesigner Plus

Data Control (Data Management S/W) TOP Informiner TOP Anywhere NetView CF Viewer

PC

Ethernet

Profibus DP

Barcode Reader

CF Card, USB

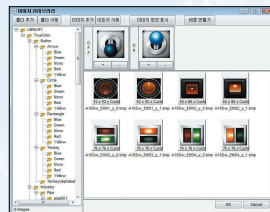
Printer

VM UNIT

PLC, INVERTER
PC, TEMP CONTROLLER

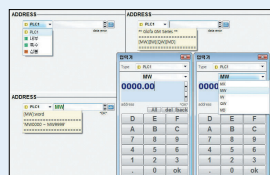
XTOP Series VM Unit are developing
Profibus(Optional)

Library Viewer



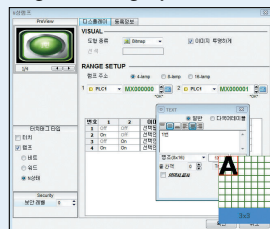
- Support Drag & Drop interface
- High Speed Browsing
- Support detail information of image
- Adding images by Drag&Drop from Windows explorer

Address Input/Auto Completion



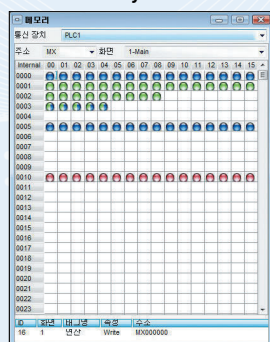
- Input address by keyboard
- Various tooltip appears according to device
- Support auto-completion
- Also traditional keypad is possible

Figure & Teg Specification



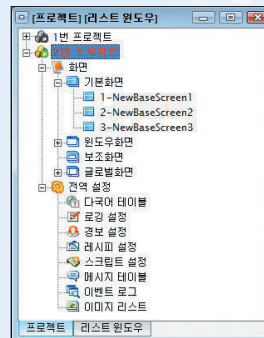
- Real-time previews
- Clear, easy-to-understand Specification

Memory Viewer



- Address assignment can be visually shown, ensuring by icon efficiency.
- By clicking on the used address, the Tag IDs where the address are used will be displayed.

Project Manager



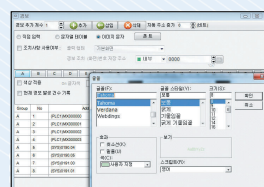
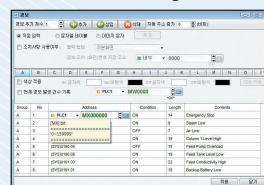
- Support Multiple project files
- Copy with screens or list
- Import/Export

Multi Language Table



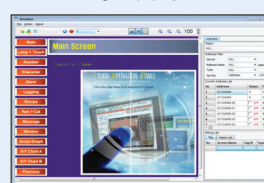
- Simple copy & paste functions to place data into the text table after translation in CSV or Excel
- The language of other countries input is possible regardless of a language of the OS by supporting Unicode.

Alarm / Message Table

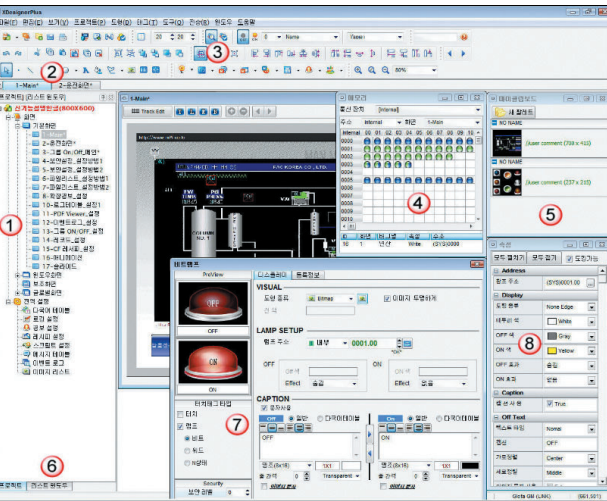


- Input address by keyboard
- Excel compatible
- Image text/Text table possible.

Simulator



- Touch the screen using the mouse
- Monitor the status of the memory address in the list window and change the value randomly



1 Project manager

- Intuitive and easy interface
- Manage two or more projects

5 My Clipboard

- Managing user libraries
- All tags, drawings, groups and images are possible

2 Emphasis on ease of user Interface

- View or the user Interface
- Efficient utilization of space environment

6 Information list

- All objects registered are shown
- The fastest view

3 Menu, Toolbar

- Simple/Convenient layout of Icon
- Grouping tags with similar themselves

7 Tag dialog

- Support previews
- Changed all of olders

4 Memory View

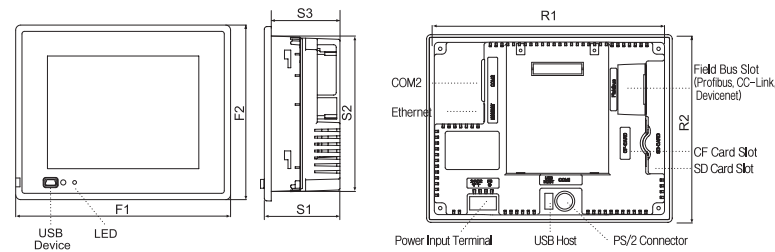
- Address assignment can be visually shown

8 Docking Window

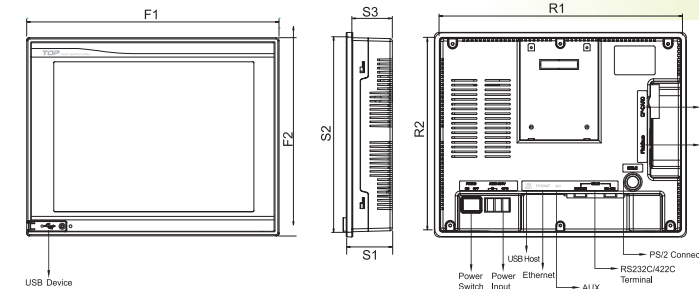
- Outlined in the object property
- Expression and Modification

- ▶ Open/manage multiple project files simultaneously
- ▶ The most fastest editing of numerous objects in screens
- ▶ Memory map
- ▶ Support My Clipboard
- ▶ As specification, Preview can be done
- ▶ Support image-libraries of vector
- ▶ Support Layer
- ▶ Support snap to object
- ▶ Support lock/unlock each object
- ▶ A wide variety of attractive libraries are prepared
- ▶ Change tags within familiar tags
- ▶ Make/Modify date/time of object can be issued
- ▶ Guideline alignment
- ▶ Off-Line simulation (*1)
- ▶ Text table in Unicode
- ▶ New script editor
- ▶ Fix and Hide(Not transferred) function in all objects
- ▶ Resolution converter
- ▶ Input address by keyboard with completion automatically
- ▶ Support variables of address

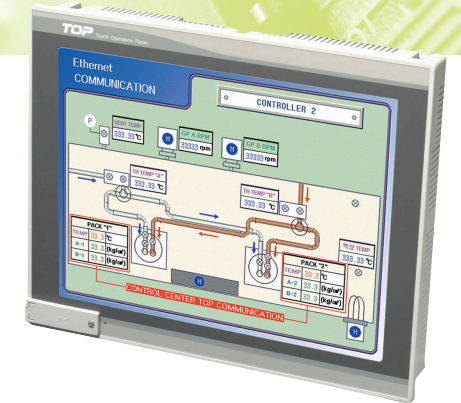
XTOP Standard Series : Wall Mounted Type



Model	FRONT		SIDE			REAR	
	F1	F2	S1	S2	S3	R1	R2
XTOP05 Series	170	138	60	123	54.5	155.5	123.3
XTOP08 Series	232	177	60	165	54.5	220	165



Model	FRONT		SIDE			REAR	
	F1	F2	S1	S2	S3	R1	R2
XTOP15TX-SA	366	296.5	58	283.5	51	352.8	283.8
XTOP12TS-SA	317	257	58	244.3	51	303.8	244.3
XTOP10TV-SA/10TS-SA	305	239	58	226.4	51	292.4	226.4



Specification

Functional

Model		XTOP05MQ-SD		XTOP05TQ-SD	XTOP08TV-SD	XTOP08TS-SD	
Display Function	Display type	5.7" Mono(Blue)		5.7" TFT Color		8.4" TFT Color	
	Display Area	115.2×86.4mm				170.9×128.2mm	
	Resolution	320×240			640×480		800×600
	Color	16 Level		65,536 Color			
	Backlight life	50,000hrs(MIN)					
	Contrast Control	Touch					
	Brightness	260cd/m²		450cd/m²		450cd/m²	350cd/m²
Touch Function	Touch type	Analog Resistive Film					
	Touch Durability	1 Million times or more					
Interface	Serial	RS-232C, RS-422 / 485					
		Baud rate : Max 115, 200bps					
	Ethernet	10/100Base-T					
	Printer	Roll Printer : EPSON Protocol					
	USB	Built-in : USB 1.1 Compatible					
	CF Card	Compact Flash Compatible					
Memory & Clock	Battery	Coin type lithium primary cell					
	Backup memory	256KB					
	Backup time period	2 years or more[at ambient temperature 25°C]					
	Clock	Built-in					
	Status LED	Built-in					
	Screen memory	26MB					

General

Power supply	Input Voltage	DC24V [20~28V]	
	Power Consumption	15W or less	
	Voltage Sag	Within 10ms	
	Insulation Resistance	500V DC, 10M Ω	
Environment & conditions (Physical/ Mechanical/ Electrical)	Operation Temperature	0℃ ~ +50℃	
	Storage Temperature	-10℃ ~ +60℃	
	Ambient Humidity	85%RH or less	
	Atmosphere	No corrosive gas	
	Vibration Endurance	Amplitude:10 ≤ F ≤ 25Hz [2G] X, Y, Z direction for 30 minutes	
	Noise Immunity	1000Vp-p (Pulse width 1 μ s)	
	Static Electricity Discharge	Contact : ±6KV	
	Shock Endurance	10G, X, Y, Z direction for 3 times	
	Electricity Endurance	Conforming to IEC801-2	
	Ground Connection	Class 3(100 Ω)	
	Protection Classification	Conforming to IP65F (*1)	
Structure	External Dimension	170×138×60	232×177×60
	Panel Cut	158×126	222×168
	Weight	0.7 KG	1.3 KG
	Cooling System	Natural air circulation	
	Case Material	ABS (Resistance to flame)	

(*1) : Although we confirm the IP65F Conformity according to test standard of concern, we don't assure it in all conditions.

Functional

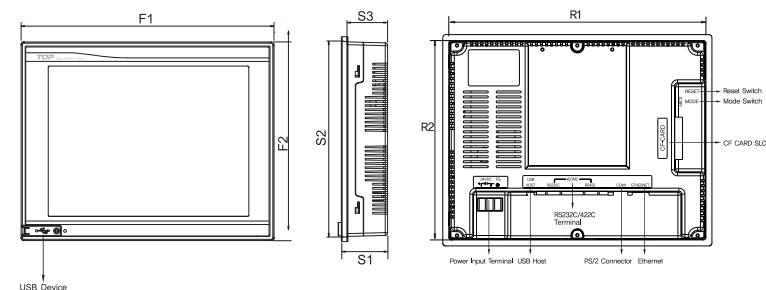
Model		XTOP10TV-SA	XTOP10TS-SA	XTOP12TS-SA	XTOP15TX-SA
Display Function	Display type	10.4" TFT Color		12.1" TFT Color	15" TFT Color
	Display Area	211.2×158.4mm		246×184.5mm	304.1×228.1mm
	Resolution	640×480	800×600		1024×768
	Color	65,536 Color			
	Backlight life	50,000hrs(MIN)			
	Contrast Control	Touch			
	Brightness	380cd/m²	400cd/m²	380cd/m²	350cd/m²
Touch Function	Touch type	Analog Resistive Film			
	Touch Durability	1 Million times or more			
Interface	Serial	RS-232C, RS-422/485			
		Baud rate : Max 115, 200bps			
	Ethernet	10/100Base-T			
	Printer	Roll Printer : EPSON Protocol			
	USB	Built-in : USB 1.1 Compatible			
	CF Card	Compact Flash Compatible			
Memory & Clock	Battery	Coin type lithium primary cell			
	Backup memory	256KB			
	Backup time period	2 years or more(at ambient temperature 25°C)			
	Clock	Built-in			
	Status LED	Built-in			
	Screen memory	26MB			

General

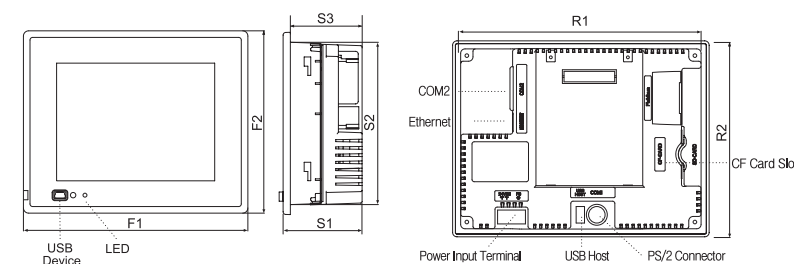
Power supply	Input Voltage	AC85~264V /DC24V		
	Power Consumption	20W or less		25W or less
	Voltage Sag	Within 10ms		
	Insulation Resistance	500V DC, 10M Ω		
Environment & conditions (Physical/ Mechanical /Electrical)	Operation Temperature	0℃~+50℃		
	Storage Temperature	-10℃~-+60℃		
	Ambient Humidity	85%RH or less		
	Atmosphere	No corrosive gas		
	Vibration Endurance	Amplitude:10 ≤ F ≤25Hz[2G] X, Y, Z direction for 30 minutes		
	Noise Immunity	1500Vp-p (Pulse width 1 μ s)		
	ESD Immunity	Contact : ±6KV		
	Shock Endurance	10G, X, Y, Z direction for 3 times		
	Electricity Endurance	Conforming to IEC801-2		
	Grounding	Class 3{100 Ω }		
	Protection Classification	Conforming to IP65F (*1)		
	Structure	External Dimension	305×239×58	317×257×58
Panel Cut		295×229	306×247	355×286
Weight		2.3KG	2.5KG	3.2KG
Cooling System		Natural air circulation		
Case Material		ABS(Resistance to flame) VE0856		

(*1) : Although we confirm the IP65F Conformity according to test standard of concern, we don't assure it in all conditions.

XTOP Economy Series : Wall Mounted Type



Model	FRONT		SIDE			REAR	
	F1	F2	S1	S2	S3	R1	R2
E-XTOP10 Series	270	212	58	199.9	49.8	257.9	199.9



Model	FRONT		SIDE			REAR	
	F1	F2	S1	S2	S3	R1	R2
E-XTOP05 Series	170.5	138.5	60	123.3	54.5	155.5	123.3
E-XTOP08 Series	232	177	60	165	54.5	220	165



Specification

Functional

Item	Model	XTOP10TV-ED	XTOP08TV-ED	XTOP05MQ-ED	XTOP05TQ-ED
Display Function	Display type	10.4" TFT Color	8.4" TFT Color	5.7" Mono(Blue)	5.7" TFT Color
	Display Area	211.2×158.4mm	170.9×128.2mm	115.2×86.4mm	
	Resolution	640×480	640×480	320×240	
	Color	65,536 Color	65,536 Color	16 Levels	65,536 Color
	Backlight life	40,000hrs (MIN)			
	Contrast Control	Adjustable (S/W)			
Touch Function	Brightness	350cd/m²	400cd/m²	230cd/m²	400cd/m²
	Touch type	Analog Resistive Film			
Touch Function	Touch Durability	1 Million times or more			
	Serial	RS-232C, RS-422 / 485			
Interface	Ethernet	N/A			
	Printer	Roll Printer : EPSON Protocol			
	USB	USB 1.1 Compatible			
	CF Card	N/A			
	Battery	Coin type lithium primary cell			
Memory & Clock	Backup memory	256KB			
	Backup time period	2 years or more(at ambient temperature 25°C)			
	Clock	Built-in			
	Status LED	Built-in			
	Screen memory	26MB	26MB	6MB	

General

Power supply	Input Voltage	DC24V [20~28V]		
	Power Consumption	20W or less	15W or less	
	Voltage Sag	Within 10ms		
	Insulation Resistance	500V DC, 10MΩ		
Environment & conditions (Physical/ Mechanical/ Electrical)	Operation Temperature	0℃ ~ +50℃		
	Storage Temperature	-20℃ ~ +60℃		
	Ambient Humidity	85%RH or less		
	Atmosphere	No corrosive gas		
	Vibration Endurance	Amplitude:10 ≤ F ≤ 25Hz [2G] X, Y, Z direction for 30 minutes		
	Noise Immunity	1000Vp-p (Pulse width 1μs)		
	ESD Immunity	Conforming to IEC61000-4-2, Contact : ±4KV		
	Shock Endurance	10G X, Y, Z direction for 3 times		
	Electricity Endurance	Conforming to IEC801-2		
	Ground Connection	Class 3 (100Ω or less)		
Protection Classification	Conforming to IP65F (*1)			
Structure	External Dimension	270×212×58	232×177×60	170.5×138.5×60
	Panel Cut	260×202	222×168	158×126
	Weight	1.9KG	1.3KG	0.7KG
	Cooling System	Natural air circulation		
Case Material	ABS(Resistance to flame) VE0856-61240			

(*1) : Although we confirm the IP65F Conformity according to test standard of concern, we don't assure it in all conditions.

Functional

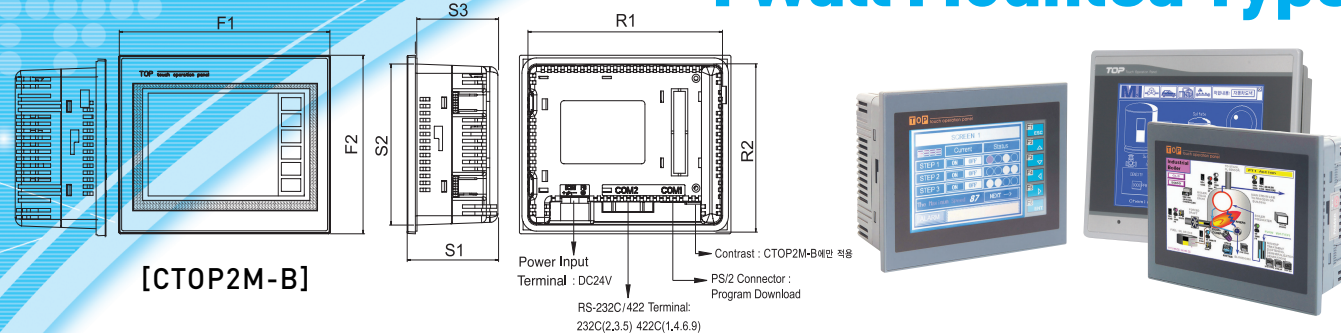
Item	Model	XTOP10TV-ED-E	XTOP08TV-ED-E	XTOP05MQ-ED-E	XTOP05TQ-ED-E
Display Function	Display type	10.4" TFT Color	8.4" TFT Color	5.7" Mono(Blue)	5.7" TFT Color
	Display Area	211.2×158.4mm	170.9×128.2mm	115.2×86.4mm	
	Resolution	640×480	640×480	320×240	
	Color	65,536 Color	65,536 Color	16 Levels	65,536 Color
	Backlight life	40,000hrs (MIN)			
	Contrast Control	Adjustable (S/W)			
Touch Function	Brightness	350cd/m²	400cd/m²	230cd/m²	400cd/m²
	Touch type	Analog Resistive Film			
Touch Function	Touch Durability	1 Million times or more			
	Serial	RS-232C, RS-422 / 485			
Interface	Ethernet	10/100Base-T			
	Printer	Roll Printer : EPSON Protocol			
	USB	USB 1.1 Compatible			
	CF Card	Compact Flash Compatible			
	Battery	Coin type lithium primary cell			
Memory & Clock	Backup memory	256KB			
	Backup time period	2 years or more(at ambient temperature 25°C)			
	Clock	Built-in			
	Status LED	Built-in			
	Screen memory	26MB	26MB	6MB	

General

Power supply	Input Voltage	DC24V (20~28V)		
	Power Consumption	20W or less	15W or less	
	Voltage Sag	Within 10ms		
Environment & conditions (Physical/ Mechanical/ Electrical)	Insulation Resistance	500V DC, 10MΩ		
	Operation Temperature	0℃ ~ +50℃		
	Storage Temperature	-20℃ ~ +60℃		
	Ambient Humidity	85%RH or less		
	Atmosphere	No corrosive gas		
	Vibration Endurance	Amplitude:10 ≤ F ≤ 25Hz [2G] X, Y, Z direction for 30 minutes		
	Noise Immunity	1000Vp-p [Pulse width 1μs]		
	ESD Immunity	Conforming to IEC61000-4-2, Contact : ±4KV		
	Shock Endurance	10G X, Y, Z direction for 3 times		
	Electricity Endurance	Conforming to IEC801-2		
Structure	Ground Connection	Class 3 (100Ω or less)		
	Protection Classification	Conforming to IP65F (*1)		
	External Dimension	270×212×58	232×177×60	170.5×138.5×60
	Panel Cut	260×202	222×168	158×126
	Weight	1.9KG	1.3KG	0.7KG
	Cooling System	Natural air circulation		
	Case Material	ABS(Resistance to flame) VE0856-61240		

(*1) : Although we confirm the IP65F Conformity according to test standard of concern, we don't assure it in all conditions.

CTOP Series : Wall Mounted Type



[CTOP2M-B]

Model	FRONT		SIDE			REAR	
	F1	F2	S1	S2	S3	R1	R2
CTOP2M-B	128	102	55	92.3	50	118.3	92.3
CTOP3M	170	138	60	123	54.5	155.5	123.3

** Please check the 13 page's drawing of XTOP05 series for reference CTOP3M's detail drawings.

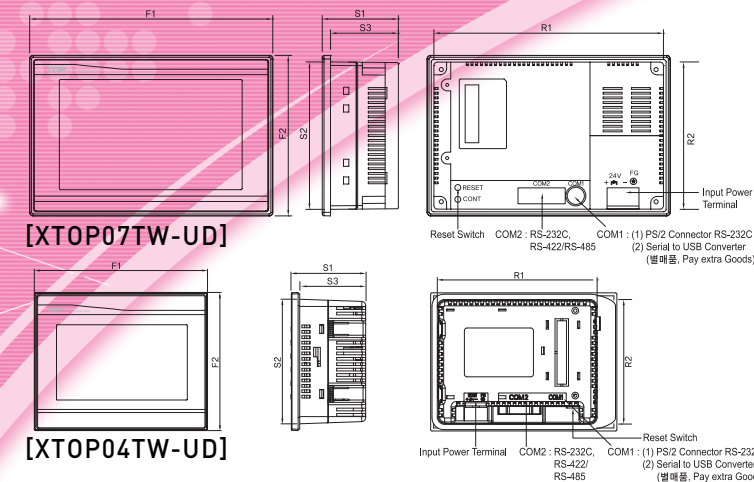
Specification

Functional

Item	Model	CTOP2M-B	CTOP3M
Display Function	Display	3.8" Mono(Blue)	5.7" Mono(Blue)
	Display Area	76.8×57.8mm	115.2×86.4mm
	Resolution	320×240	
	Color	16 Level(Blue)	
	Backlight life	20,000hrs	50,000hrs
	Contrast Control	Adjustable(H/W)	Adjustable (S/W)
	Brightness	150cd/m ²	200cd/m ²
Touch Function	Touch type	Analog Resistive Film	
	Touch Durability	1 Million times or more	
Interface	Serial	RS-232C, RS-422 / 485	
		Baud rate : Max 115,200bps	
	Ethernet	None	
	Printer	Roll Printer : EPSON Protocol	
	USB	None	
Memory & Clock	CF Card	None	
	Battery	Coin type lithium primary cell	
	Backup memory	256KB	
	Backup time period	2 years or more(at ambient temperature 25°C)	
	Clock	Built-in	
	Status LED	None	
	Screen memory	512KB	2MB
Power supply	Input Voltage	DC24V (20~28V)	
	Power Consumption	8W or less	
	Voltage Sag	Within 10ms	
	Insulation Resistance	500V DC, 10M Ω	
Environment & conditions (Physical/Mechanical/Electrical)	Operation Temperature	0°C ~ +50°C	
	Storage Temperature	-10°C ~ +60°C	
	Ambient Humidity	85%RH or less	
	Atmosphere	No corrosive gas	
	Vibration Endurance	Amplitude:10 ≤ F ≤ 25Hz (2G) X, Y, Z direction for 30 minutes	
	Noise Immunity	900Vp-p (Pulse width 1μs)	
	ESD Immunity	Contact : ±4KV	
	Shock Endurance	10G, X, Y, Z direction for 3 times	
	Electricity Endurance	Conforming to IEC801-2	
	Ground Connection	Class 3(100 Ω)	
Structure	Protection Classification	Conforming to IP65F (*1)	
	External Dimension	128×102×55	170×138×60
	Panel Cut	121×95	158×126
	Weight	0.4KG	0.8KG
	Cooling System	Natural air circulation	
	Case Material	ABS (Resistance to flame) VE0856-61240	

(*1) : Although we confirm the IP65F Conformity according to test standard of concern, we don't assure it in all conditions.

XTOP-W Series : Wide HMI Type



[XTOP07TW-UD]

[XTOP04TW-UD]



Model	FRONT		SIDE			REAR	
	F1	F2	S1	S2	S3	R1	R2
XTOP07TW-UD	206	136	64.5	125	57.5	194.5	125
XTOP04TW-UD	128	102	55	92.3	50	118.3	92.3

Specification

Functional

Item	Model	XTOP07TW-UD	XTOP04TW-UD
Display Function	Display type	7" Wide TFT Color LCD	4.3" Wide TFT Color LCD
	Display Area	152.4 x 91.5 mm	95.04 x 52.85 mm
	Resolution	800 x 480	480 x 272
	Color	65,536 Color	
	Backlight life	30,000hrs	
	Contrast Control	Adjustable : S/W	
	Brightness	350cd/m ²	500cd/m ²
Touch Function	Touch type	Analog Resistive Film	
	Touch Durability	1.0 Million times or more	
Interface	Serial	RS-232C: Max 2 Port, RS-422/485: 1 Port, Max 187,500bps	
	Ethernet	N/A	
	Printer	Roll Printer : EPSON Protocol	
	USB	Device (PS/2 Connector, USB 1.1): 공용 USB 젠더 별매 / Serial to USB Converter is Pay Extra	
Memory & Clock	Battery	CR2032: Coin type lithium primary cell	
	Backup memory	256KB	
	Backup time period	2 years or more (at ambient temperature 25°C)	
	Clock	Built-in	
	Screen memory	26MB	6MB



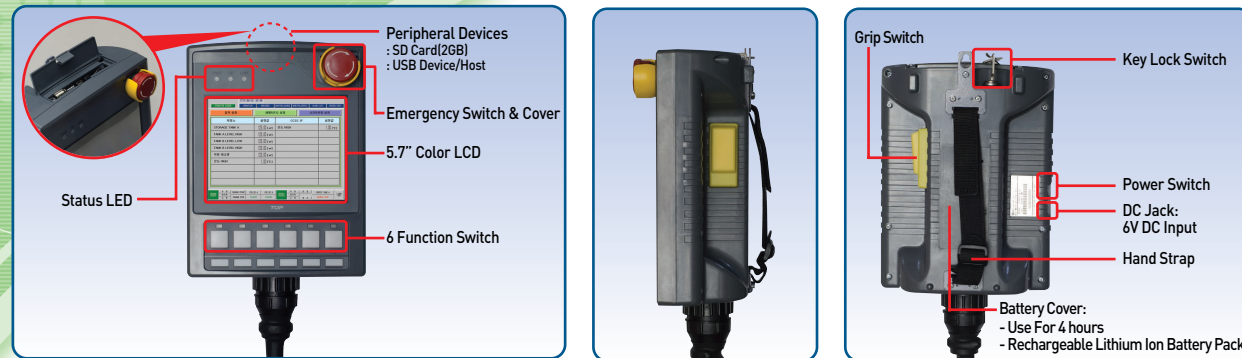
[USB Gender]

* Attn : Application Case for Pay extra Goods, USB Gender was connected to COM1 Port of Wide HMI Type. Supply USB Downloading speed in this case.

General

Power supply	Input Voltage	DC24V(20~28V)	
	Power Consumption	15W or less	
	Voltage Endurance	within 20ms	
	Insulation Resistance	500V DC, Min 10M Ω	
Environment & conditions (Physical/Mechanical/Electrical)	Operation Temperature	0°C ~ +50°C	
	Storage Temperature	-10°C ~ +60°C	
	Ambient Humidity	40°C, 85%RH or less	
	Atmosphere	No corrosive gas	
	Vibration Endurance	Amplitude :10 ≤ F < 25Hz(2G) X, Y, Z direction for 30 minutes	
	Noise Immunity	1000Vp-p(pulse width 1μs)	
	Static Electricity Discharge	Conforming to IEC61000-4-2, contact : ±4KV	
	Shock Endurance	10G X, Y, Z direction for 3 times	
	Electricity Endurance	Conforming to IEC801-2	
	Ground Connection	Class 3(100 Ω or less)	
	Protection Classification	Conforming to IP65F	
	Screen memory	26MB	6MB
Structure	External Dimension	206(W) x 136(H) x 64(D)	128(W) x 102(H) x 55(D)
	Panel Cut	199(W) x 129(H)	121(W) x 95(H)
	Weight	0.8KG	0.4KG
	Cooling System	Natural air circulation	
	Case Material	ABS(Resistance to flame) VE0856-61240	

HTOP Series : Hand Held Type



Key Lock Switch

- Changes Manual/Auto or Mode Selection, Converting Procedure can be limited according to worker

Grip Switch

- The 3 Position(OFF-ON-OFF) switch can be connected to external devices as a dead-man switch. The Grip switch can execute stop command to Machine immediately.

USB(Host/Device) & SD Card Interface

- The SD Card interface enables to save data of HTOP Series.
- The USB Interface permits fast data transfer between XDesigner Plus and HTOP. Also It enables quick data Backup to the USB Memory Stick compatible to HTOP.



6 Operation Switch

- When wired to external devices, these 6 switch can be used as pushbutton switch to stop/work machine. The name label of operation switch can be changed Freely.

Emergency Switch

- When emergency, this switch can execute a stop command to machine immediately.

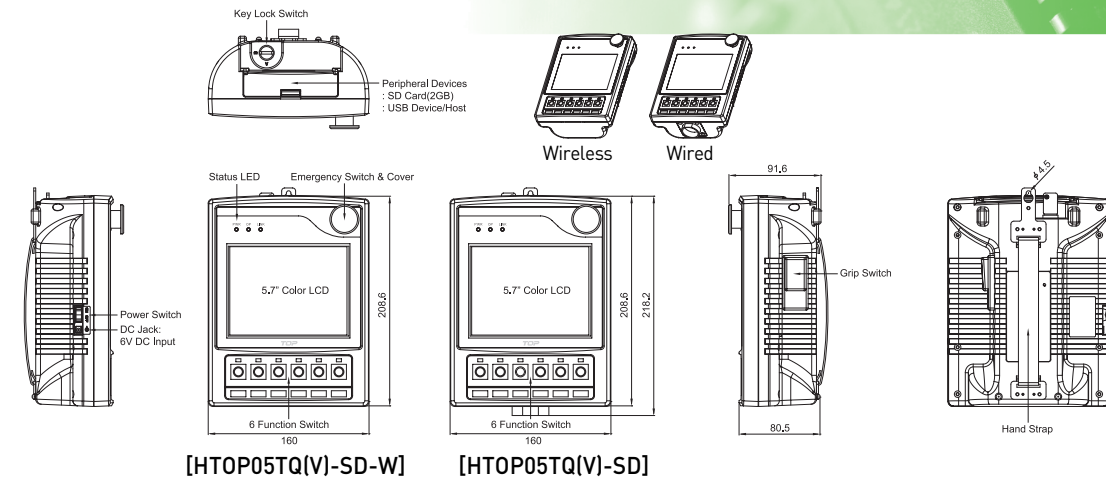
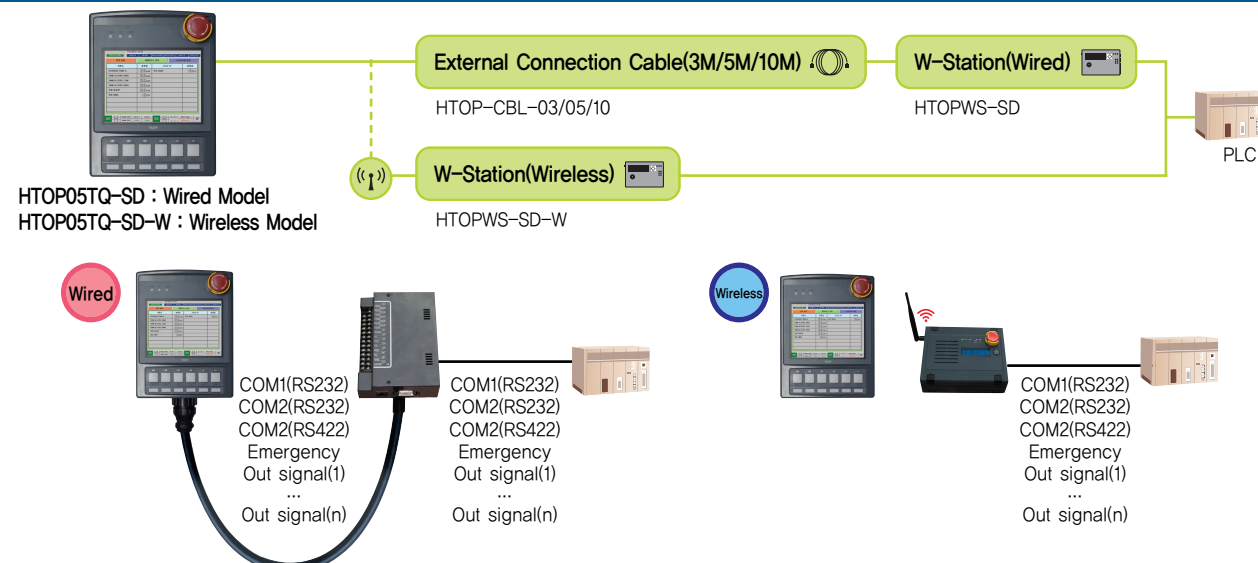
Wired/Wireless communication

- RS-232C or RS-422/485 can be selected for communication with connected devices.
- When it is used wireless, the W-Station (HTOPWS-SD-W) should be required as connected devices.

Option Device

- SD Card
- W-Station(HTOPWS: Wire&Wireless Type)
- PC Connection Cable(USB Cable)
- External connection Cable
 - Cable (3M) : HTOP-CBL-03
 - Cable (5M) : HTOP-CBL-05
 - Cable(10M) : HTOP-CBL-10
- BATTERY : HTOP-BAT -05AH
- Battery Charger : HTOP-ADT-6V

* SYSTEM DESIGN



Model		HTOP05TQ-SD	HTOP05TV-SD	HTOP05TQ-SD-W	HTOP05TV-SD-W
Display Function	Display type	5.7"			
	Display Area	115.2×86.4mm			
	Resolution	320×240	640×480	320×240	640×480
	Color	65,536 Color			
	Backlight life	40,000hrs(MIN)			
	Contrast Control	Adjustable(S/W)			
	Brightness	400cd/m²			
Touch Function	Touch type	Analog Resistive Film			
	Touch Durability	1 Million times or more			
Interface	Switch	Keylock Switch, Emergency Switch, Function Switch, 3-Position Enabling Switch			
	Printer	Roll Printer : EPSON Protocol			
	SD Card	SD Memory Specification 2.0 Compatible			
	USB	USB 1.1 Compatible			
Memory & Clock	Battery	None		lithium primary cell	
	Backup time period	2 years or more(at ambient temperature 25°C)			
	Wireless Ethernet	None		WLAN Standard : IEEE802.11 b/g	
	Wired Ethernet	10 Base-T / 100 Base-T		None	
	Status LED	Built-in			
	Screen memory	26MB			

Operation Input	6VDC 1A from Cable	System Battery
Additional Input	AC Adaptor 6VDC 2A	
System Battery	*1	2 Cell Li + 3.7V 5000mAh Rechargeable Battery Charging : MIN. 4Hours Running : MAX. 5Hours
Power Consumption	10W Under	
Noise Immunity	Impulse Noise 1000Vp-p Pulse width 1μs	
ESD Immunity	±4KV	
Operating Temperature	0 ~ 50°C	
Storage Temperature	-10 ~ 60°C	
Ambient Humidity	40°C, 85%RH	
Vibration Endurance	Amplitude : 10 ≤ F < 25Hz(2G) X, Y, Z direction for 30 minutes	
Shock Endurance	10G X, Y, Z direction for 3 times	
Grounding	Class 3 Ground, Resistance Under 100Ω	
Weight	800g	900g with system battery
Atmosphere	No corrosive gas	
Enclosure Material	PC / ABS VB-1401(resistance to flame)	
Cooling System	Air-Cooling System	
Voltage Endurance	20ms	
Insulation Resistance	None	
Certificates	KCC, UL, CE, FCC will be approved	

*1: HTOP Wired Model don't need battery.

Specification

Connectable PLC

Present Time : 2010. 12.

Maker	Series	CPU Type	RS-232C /422/485	Ethernet
MITSUBISHI Electronic Corporation	CC-Link(RD)	CC-Link Master Device	●	
	MELSEC-Q *주1)	Q □□/00J/□□H/□□UDH/□□UDEH	●	●
	MELSEC-FX	FX0/1/2/1S/1N/2N/2NC/3U/3UC/3G	●	
		10/20GM	●	
	MELSEC-A	A1N/2N/3N	●	●
		A1S(H)/2S(H)/AOJ2(H)	●	●
		A2A/3A/2A-S1	●	●
		A2U/3U/4U/2USH	●	●
MELSERVO	MR-J2S/M, MR-J3	●		
OMRON Industrial Automation	SYSMAC CJ2	CJ2H	●	●
	SYSMAC CJ1	CJ1G/M	●	●
	SYSMAC CS1	CS1G/H	●	●
	SYSMAC CP	CP1L/1H	●	●
	SYSMAC C	C50/120/200/500/1000	●	
		CQM1/1H	●	
		CPM1/2A/2C	●	
	Campositioner	3F88L-160/162	●	
LS Industrial Systems	RFID	V680	●	
	XGT	XGK/XGI/XGR	●	●
	XGB	XEC/XBC/XBM	●	●
	GLOFA-GM	GM1/2/3/4/6/7	●	●
	Master-K	80/120/200/300/1000S	●	●
		10S1/10/30/60/100S	●	●
		60/200H	●	
		500(H)/1000	●	
Starvert Inverter	SV-iS7/G5A/P5A/C5/V5/G5/S5/H/V/S3	●		
SIEMENS AG	RFID	XCODE-1306/1307	●	
	PROFIBUS DP	PROFIBUS DP Master Device	●	
	SIMATIC S7-400	All Models	●	●
	SIMATIC S7-300	All Models	●	●
	SIMATIC S7-200	All Models	●	
	SIMATIC S5	90/95/100/115/135/155U	●	
Rockwell Automation (Allen Bradely)	Control Logix	1756	●	●
	Compact Logix	1768/1769	●	●
	Mico Logix	1000/1200/1500 System	●	
	SLC500	SLC5/03/04/05	●	●
	PLC-5	PLC5/11/20/30/40/40L/60/60L	●	
GE Fanuc Intelligent Platforms	Versa Max PLC	IC200C/N/U □□□□□	●	●
	Series 90-30 PLC	IC693C □□□□□	●	●
	Series 90-70 PLC	IC697C □□□□□	●	●
	PAC Systems RX3i	IC695 □□□□□□	●	●
	PAC Systems RX7i	IC698C □□□□□	●	●
Schneider Electric Industries	Micro	TSX37 All Models	●	
	Premium	TSX/TPMX P57 All Models	●	●
	Twido	TWD LCAA/LMDA All Models	●	
	Quantum	140 CPU all Models	●	●
	Momentum	171 CCS/CCC All Models	●	
PANASONIC Electric Works	MDrive	MAI3CRL23□6-□□□	●	
	FP	FP2(SH)/X/Σ/0/e/M/10S(H)/3/1	●	
RS Automation	Alpha	N7/NX(70/700/750/CCU)	●	
	Plus	NX7/NX Plus(70P/700P/CCU+)	●	
KDT Systems	SPC	SPC-10/100/120S/300	●	
	CP	CM1-CP3/4□	●	●
	XP	CM1-XP1/2/3□	●	●
YASKAWA Electric Corporation	BP	CM2-VP16/32□□	●	●
	PROGIC-8	PROGIC-8	●	
	MP900/2300	MP920/930/2300	●	●
YOKOGAWA Electric Corporation	Control Pack	CP-9200SH	●	
	FA-M3	F3SP□□-□N/H/S	●	●
	Temperature	UT130/150/52/155, UP150	●	
	Digital Indicating	UT(UP/UM/UD)3/4/5/7/10□□	●	
	UT2000	UT2400/2800	●	

*1: Ethernet are plan to develope in near future. Restrictive to XTOP Series

Maker	Series	CPU Type	RS-232C /422/485	Ethernet
FUJI Electric	Micrex-F	F, F □□ (S/H), F1 □□ (S/H), F200	●	
FUJI Electric Systems	Inverter	FRN □□□□ 11S-□	●	
FATEK Automation Corporation	FBs	FBs- □□ MA/MC/MN	●	●
	FBe	FBe- □□ MA/MC	●	
	FBn	FBn- □□ MCT	●	
	iMS-J	iMS-J	●	
DASAROBOT	IM-Σ	iM-Σ 2/3/4/5/6/7/8	●	
	DTR	DTR2/3/4	●	
ROBOSTAR	Newro	RCS6000/RCM	●	
EMOTIONTEK	MCU	MCU-MA/MP/XA/XP	●	
	MCU2	MCU-MA2/MP2/XA2/XP2	●	
	MCS	MCS-80A4/P4/A8/P8	●	
HIGEN Motor(구 OTIS)	FDA	FDA6000/7000	●	
LS MECAPION(구 Metronix)	Anypack	APD-VS/VP/VK/VN □□	●	
RKC Instrument	CB	CB100/400/500/700/900	●	
	FB900/400	All Models	●	
	HA900/400	All Models	●	
	MA900/901	All Models	●	
	SRV	V-TIO-A/V-TIO-C	●	
	SRX	X-TIO-A	●	
	SA200/100	SA100	●	
	SR Mini HG	H-PCP-A/H-PCP-J	●	
	SRZ	Z-TIO/DIO/CT/COM	●	
	NP200/100	All Models	●	
HanyoungNux	NX, PX	NX9/7/3/2, PX9/7	●	
	RT	RT9	●	
	UX100	UX100	●	
	NOVA500	SD5 □□/SL5 □□/SP5 □□/ST5 □□	●	
Samwon Tech	NOVA300	SD3 □□/SS3 □□/ST3 □□	●	
	SP790	SP7 □□	●	
CHINO Corporation	DB	DB1/DB2 All Models	●	
	KP	KP1/2/3 All Models	●	
	LT	LT23/3/4/830 All Models	●	
	JU	JU All Models	●	
	JW	JW All Models	●	
Comfile Technology	Tiny PLC	TCP-3X/9X	●	
	Qubloc	All Models	●	
Hitachi Industrial Equipment Systems	HIDIC-H	EH-150	●	
		Micro EH	●	
KEYENCE Corporation	KV	KV-700/1000	●	
KOYO Electronic Industries	DL-205/305/405	D2 240/330/430	●	
Gidding & Lewis	MMC	MMC	●	
Hyundai Heavy Industries	Hi4 Robot	BD412 Board	●	
Speed Tech	ExtDDC	ST/PS, ST/RS, ASIC/2-7040	●	
Bosch-Rexroth AG	Visual Motion	VM7, VM8	●	
POSCON	POSFA A	POSFA-A	●	
DDC	DDC	DDC	●	
EMERSON	EC20	EC20	●	
Delta	DVP	DVP Series	●	
ABB	ACS	ACS140/400/500	●	
Delta-Tau	PMAC	Mini-PMAC	●	
IMO	Jaguar	CUB/VXSM/VXM	●	
Sanken	SAMCO-i	ihf/ipf/QS/QT/lt/iF	●	
Huropec	HC	HC	●	
FEBA	UDICON	UDICON	●	
	SMARTCON	SMARTCON	●	
AND	AD	AD4326/4327/4328/4329	●	
CERSA	MCI LSN	MCI LSN	●	
IMO	DTP	DTP/TP	●	
SEWHA	SI 3000		●	
Instrument	IGM402		●	
CHIMEI	CB920X	CB920X	●	
SAIA	SAIA	PCD2	●	