


Industrial HMI Solution TOP

TOP TOUCH Operation Panel 

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

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►Compliance with the RoHS Directive

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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)

ADWORLD 2010. 12.

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	√

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HTOP	
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Serial & Fieldbus Network

1. Serial Communication

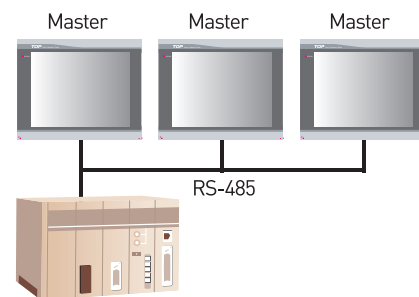
1:1 Communication

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

RS-232C/422/485

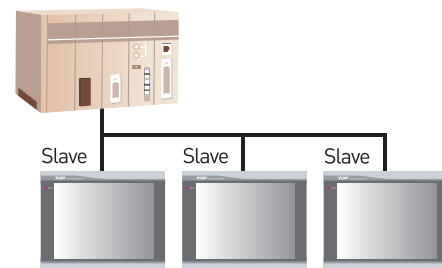


N:1 Serial Communication

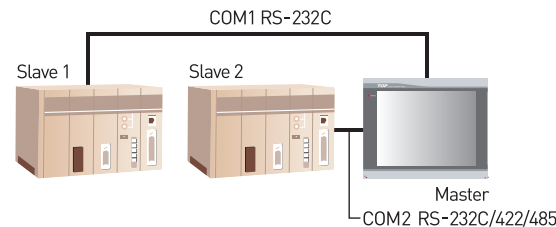


- Control Only 1 Controller with Many TOP using Token Protocol
- Restrictive to N:1(TOP:PLC) Supported PLC only
- RS-485/422 Only

Slave

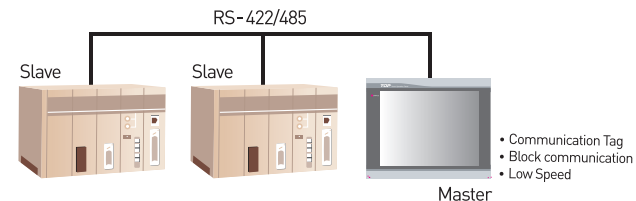


Two Way Communication



Two channel communication with 2 PLC separately

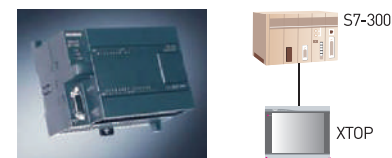
Multi Drop



- Master TOP controls several PLC or Controllers
- Restrictive to 1:N(TOP:PLC) Supported PLC only
- RS-485/422 Only

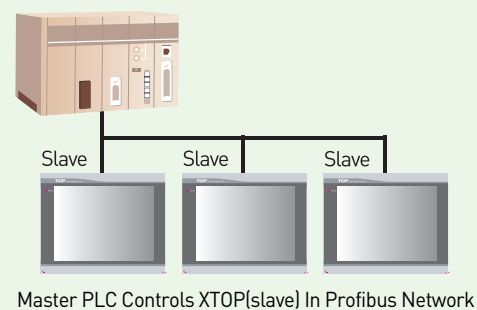
MPI Direct Network

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



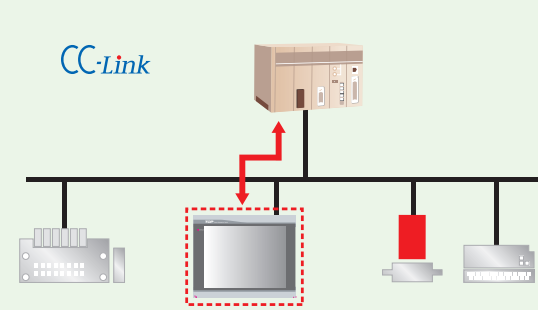
2. Field Network

Profibus DP



Master PLC Controls XTOP(slave) In Profibus Network

CC Link

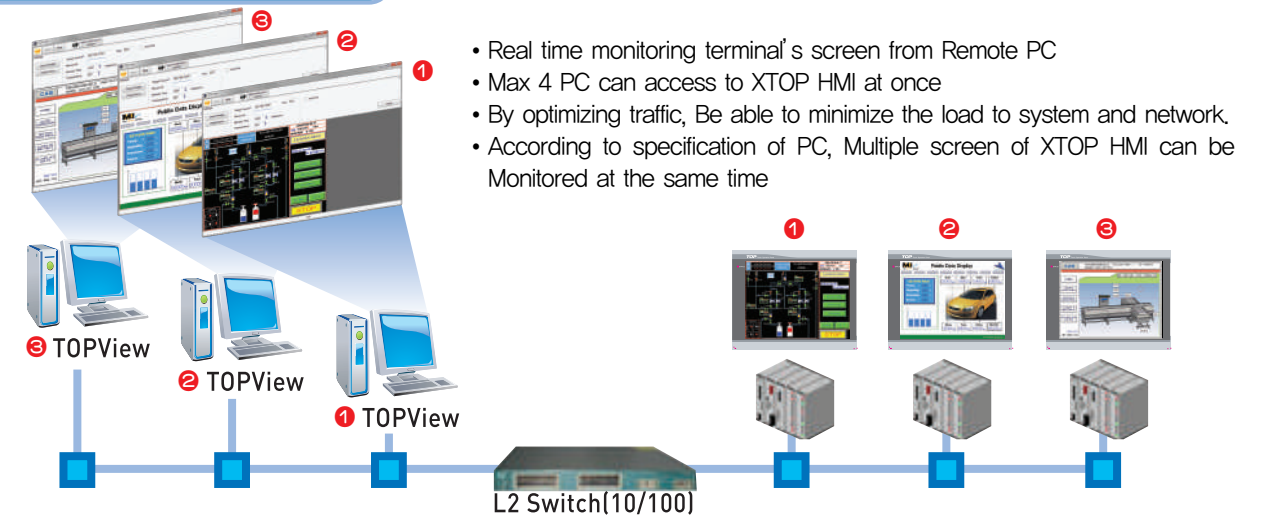


3. Ethernet Network

Remote Monitoring Service & Application S/W

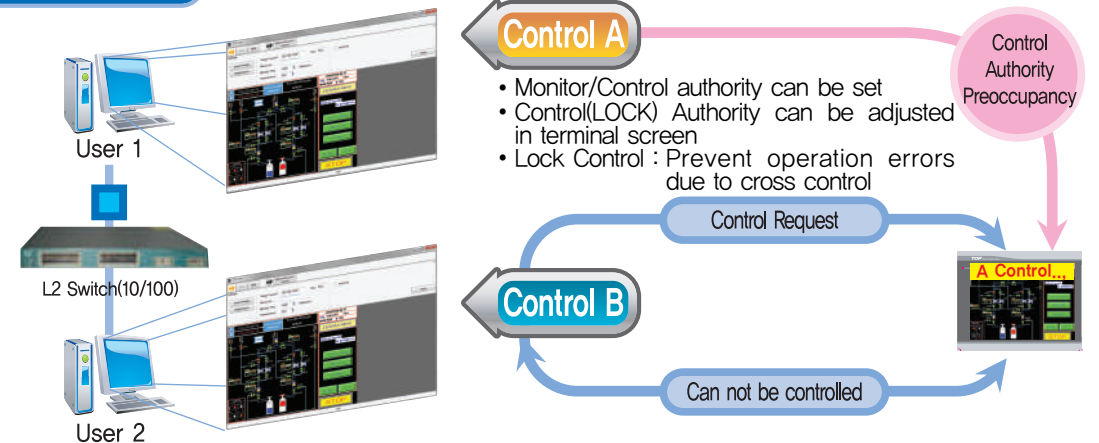
- Neither extra S/W setup nor costs are needed.
- XDesignerPlus supply TOP View Client which can be created with click of TOPView(exe) file
(Attention: Data such as alarm history, logging can not be monitored in remote PC Screen)

Remote Screen Monitoring



- Real time monitoring terminal's screen from Remote PC
- Max 4 PC can access to XTOP HMI at once
- By optimizing traffic, Be able to minimize the load to system and network.
- According to specification of PC, Multiple screen of XTOP HMI can be Monitored at the same time

Remote Control



Control A

- Monitor/Control authority can be set
- Control(LOCK) Authority can be adjusted in terminal screen
- Lock Control : Prevent operation errors due to cross control

Control B

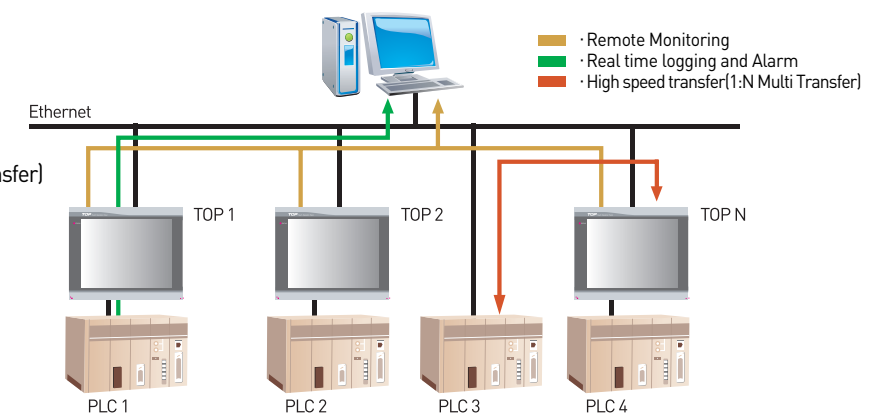
- Can not be controlled

Control Authority Preoccupancy

Control Request

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

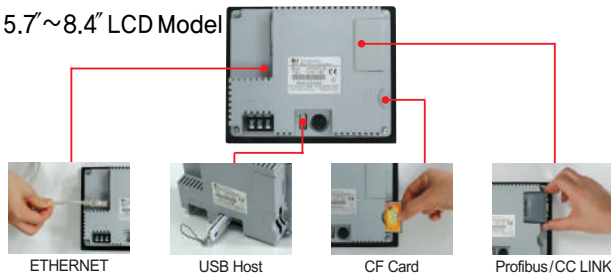


2. Various Interface Built in

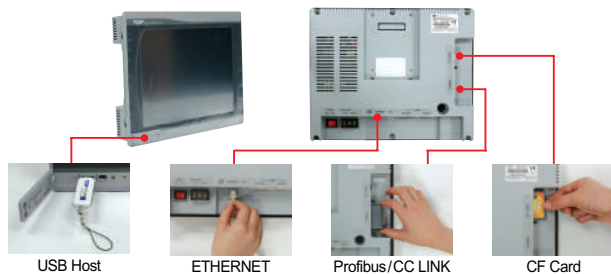
▶ USB and Ethernet built in

- 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

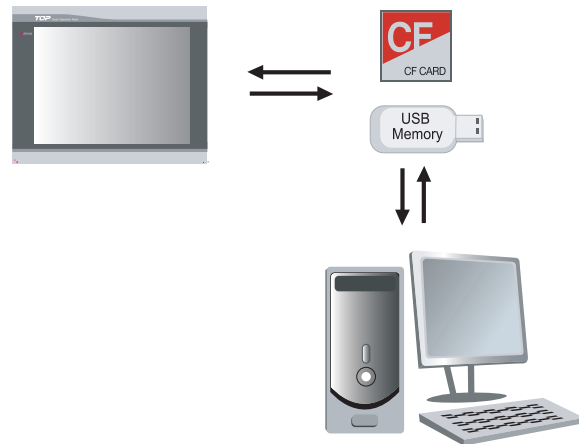


10.4"~15" LCD Model



▶ 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, USB Memory can support to transfer program to each TOP HMI)



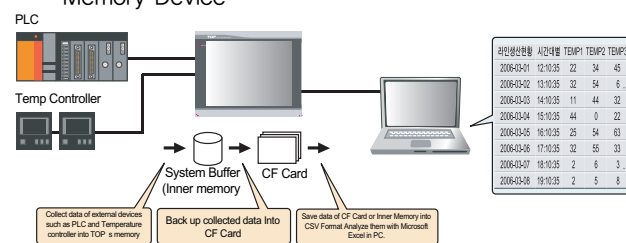
▶ Barcode/Rfid Reader and Roll Printer

- 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

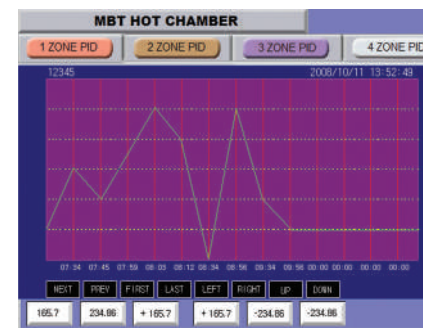
- Assigination of title name at the top of table
- Scroll with UP&Down, right&left direction in the Log Table
- Display logging data stored in CF Card

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

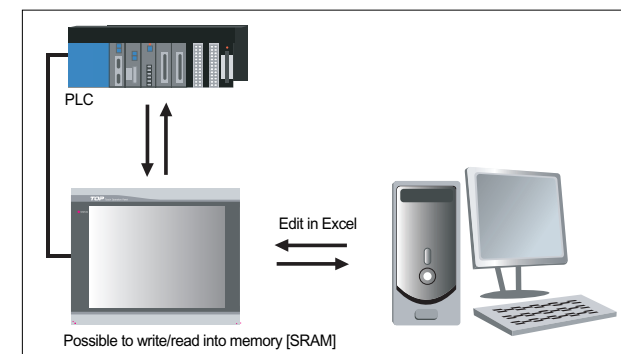
- Supply 4 Page shift key and 4 Cursor Key
- Monitor Current log and Past log with graph
- Possible to express data value & Time at the point of Cursor located



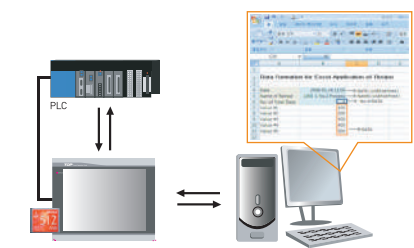
▶ Recipe

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

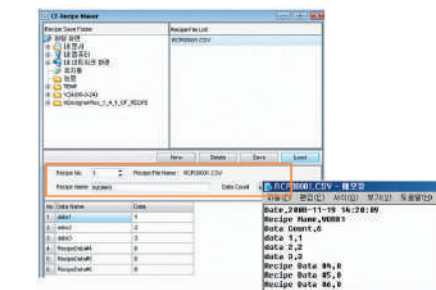
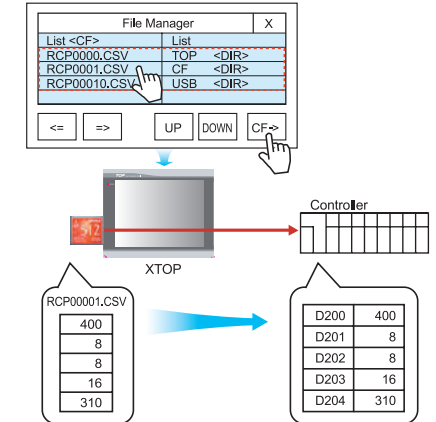


▶ RECIPE TRANSFER VIA CF CARD



- 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

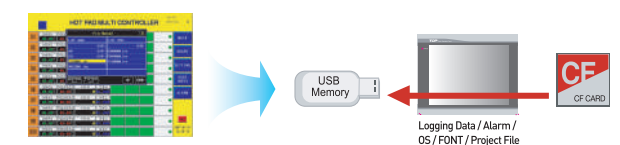
In case of using File Manager in running screen of XTOP



▶ 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

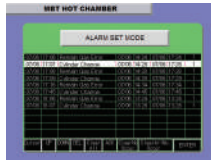


Feature

▶ Alarm Ex

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

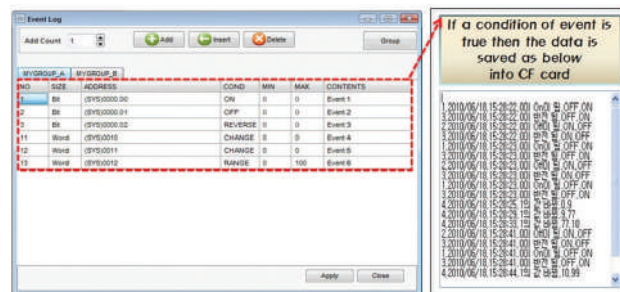
- Various editor key options to control contents in alarm list
- Display in time&reverse time order on events like occurrence/clearance/acknowledge of alarm
- Setting of Alarm & Subsidiary explanation : shift screen/display subsidiary explanation by using ex-tag
- Display alarms stored in CF Card



▶ 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



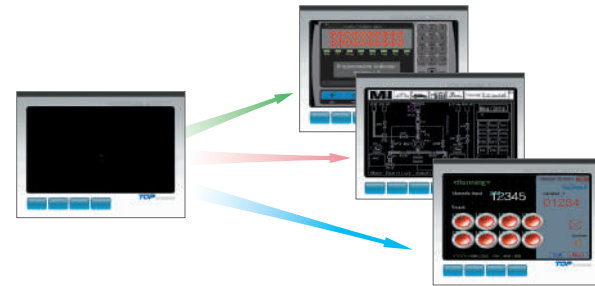
*Support windows font in alarm & message

▶ Various graphic library available



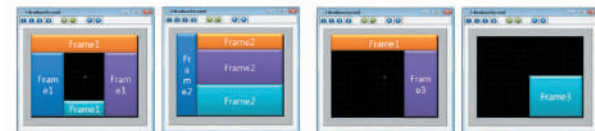
▶ Master Screen

- 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

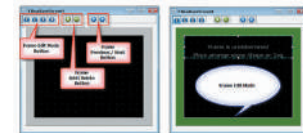


▶ Frame

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



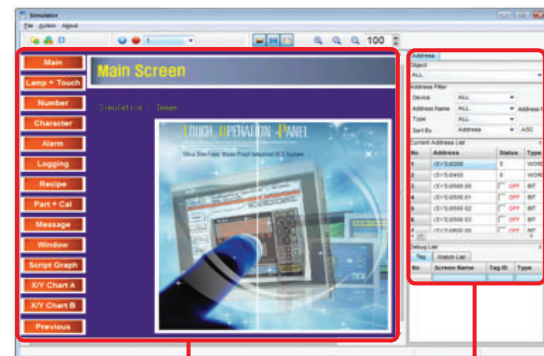
- Support Frame Editor Mode conversion in Base screen with Icon
- Assign the area of Frame with drag of mouse and register tags and diagrams in Frame Editor mode
- Select Frame which it is registered and apply them to base screen



▶ 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

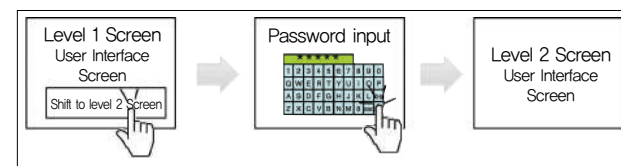
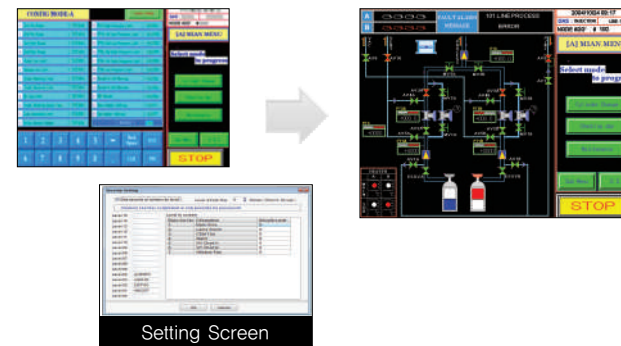
Address List

▶ Security Setting

Security Setting per each Screen

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

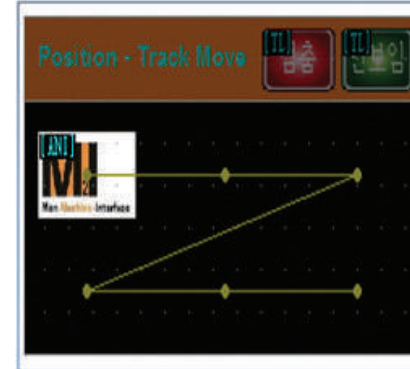
- Set up password & security level for each screen
- Password tenkey to input password like default tenkey
- Max. 16 levels of security settings and initialization of levels



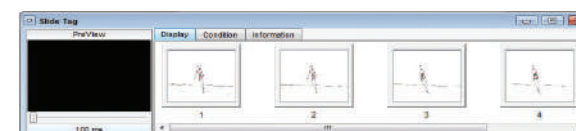
▶ Animation, Slide

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



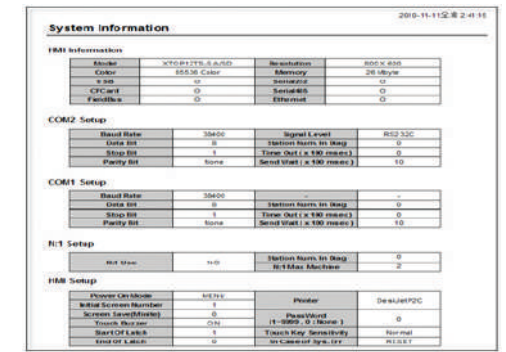
Animation Tag



Slide Tag

▶ Report

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



▶ 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	自動運転モード
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

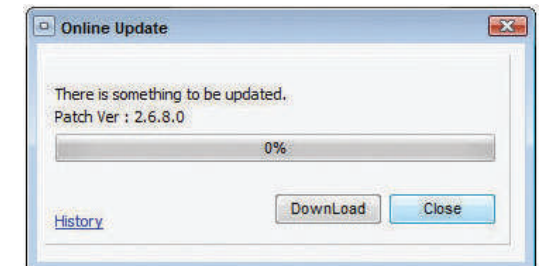
No	Length	0 Table1	1 Table2	2 Table3
1	15	Manual Mode	手動運転 모드	
2	15	Auto Mode	自動運転 모드	
3	8	Reset	リセット	
4	15	High Limit Temp	上限到達溫度	
5	14	Low Limit Temp	下限到達溫度	
6	12	Present Temp	現在溫度	

▶ 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

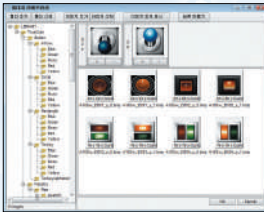
Core HMI System of FA Field

Built in Various Network
Add Data Management
Value UP Your System

TOP series assortment of detail model name

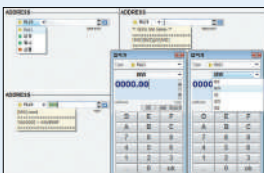
(X)TOP	08	T	V	—	E	D	—	E
Model Name	LCD SIZE	LCD TYPE	RESOLUTION	DETAIL	POWER	OPTION		
XTOP	04 : 4.3"	T : TFT Color LCD	Q : QVGA (320*240)	S : Standard	A : AC Power	E : Ethernet		+ CF Card
HTOP	05 : 5.7"	S : STN Color LCD	V : VGA (640*480)	E : Extra	D : DC Power			W : Wireless
CTOP	07 : 7.0"	M : STN Mono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

Library Viewer



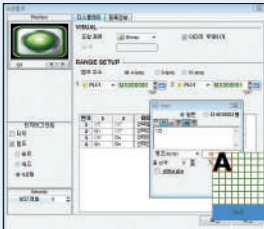
- Support Drag & Drop interface
- High Speed Browsing
- Support detail information of image
- Adding images by Drag&Drop from Windows explorer

Address Input/Auto Completion



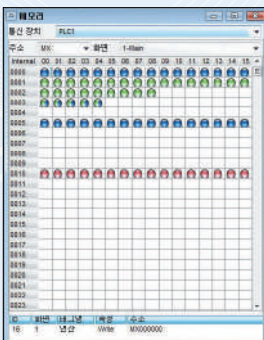
- Input address by keyboard
- Various tooltip appears according to device
- Support auto-completion
- Also traditional keypad is possible

Figure & Teg Specification

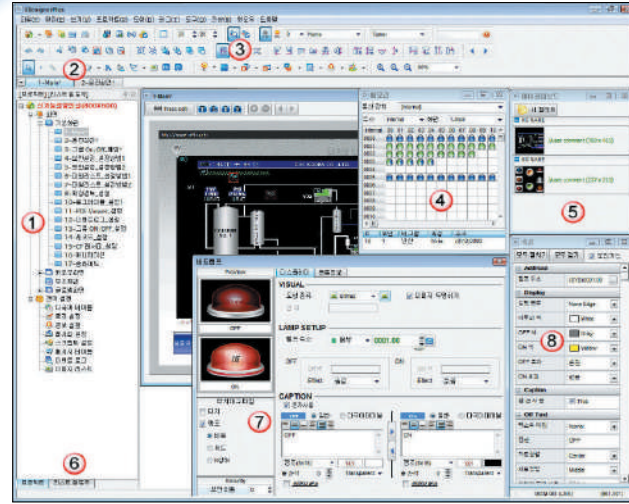


- Real-time previews
- Clear, easy-to-understand Specification

Memory Viewer



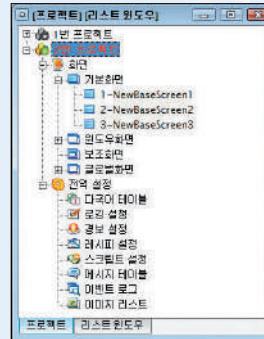
- Address assignment can be visually shown, ensuring by icon efficiency.
- By clicking on the used address, the Tag IDs where the address are used will be displayed.



- 1 Project manager**
 - Intuitive and easy interface
 - Manage two or more projects
- 2 Emphasis on ease of user Interface**
 - View of the user Interface
 - Efficient utilization of space environment
- 3 Menu, Toolbar**
 - Simple/Convenient layout of Icon
 - Grouping tags with similar themselves
- 4 Memory View**
 - Address assignment can be visually shown
- 5 My Clipboard**
 - Managing user libraries
 - All tags, drawings, groups and images are possible
- 6 Information list**
 - All objects registered are shown
 - The fastest view
- 7 Tag dialog**
 - Support previews
 - Changed all of olders
- 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

Project Manager



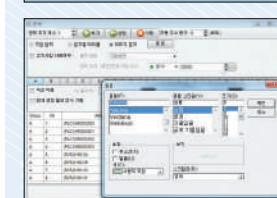
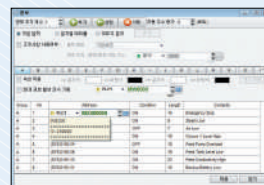
- Support Multiple project files
- Copy with screens or list
- Import/Export

Multi Language Table



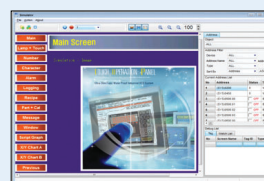
- Simple copy & paste functions to place data into the text table after translation in CSV or Excel
- The language of other countries input is possible regardless of a language of the OS by supporting Unicode.

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

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

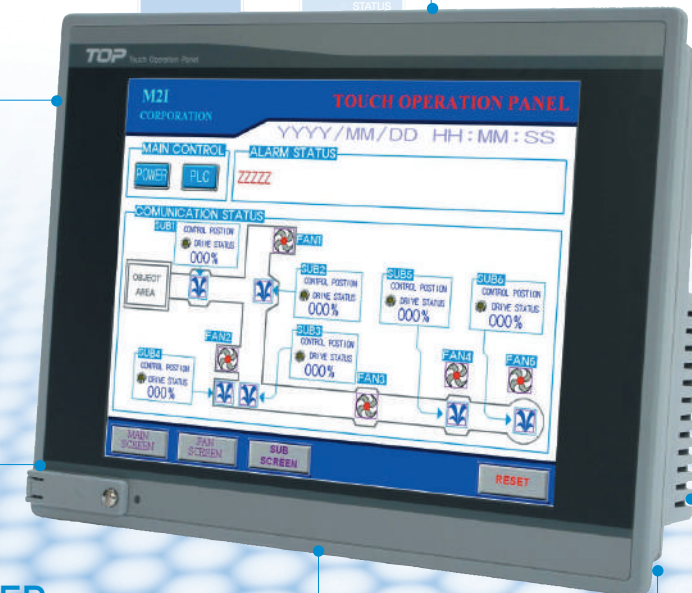
Barcode Reader

PLC, INVERTER
PC, TEMP CONTROLLER

CF Card, USB

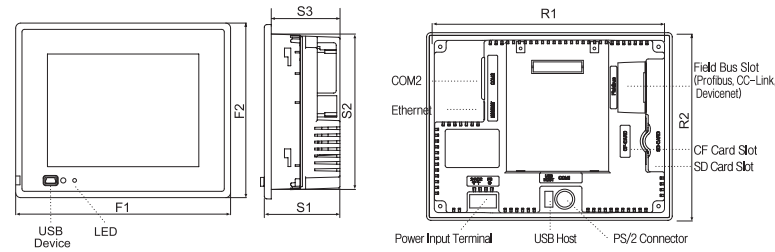
Printer

VM UNIT

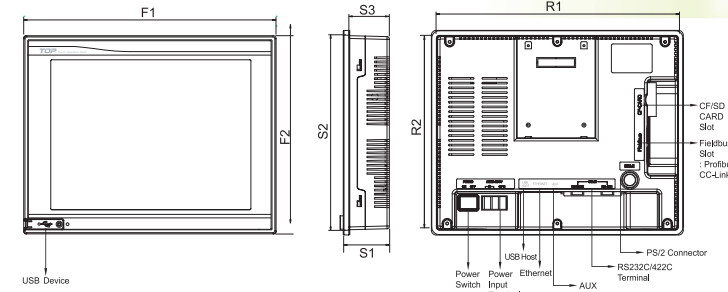


XTOP Series VM Unit are developing
Profibus(Optional)

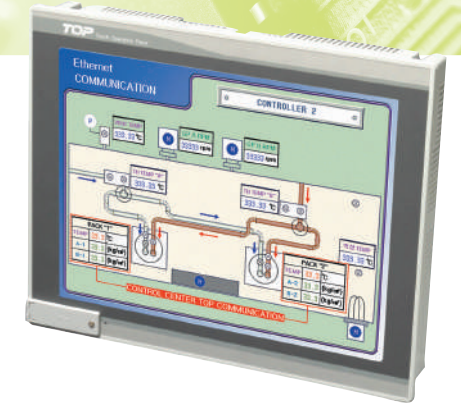
XTOP Standard Series : Wall Mounted Type



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

Item	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/m ²	450cd/m ²	450cd/m ²	350cd/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	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°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	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

Item	Model	XTOP10TV-SA	XTOP10TS-SA	XTOP12TS-SA	XTOP15TX-SA
		Display Function	Display type: 10.4" TFT Color	10.4" TFT Color	12.1" 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/m ²	400cd/m ²	380cd/m ²	350cd/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	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

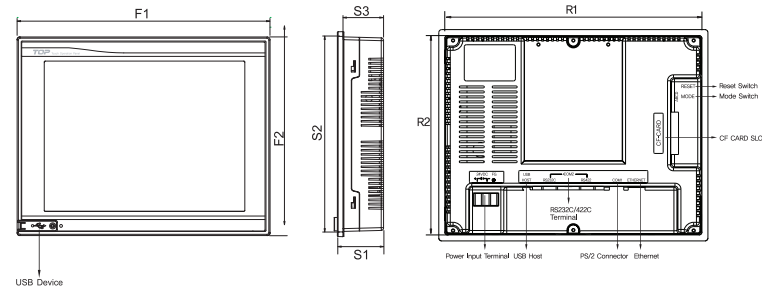
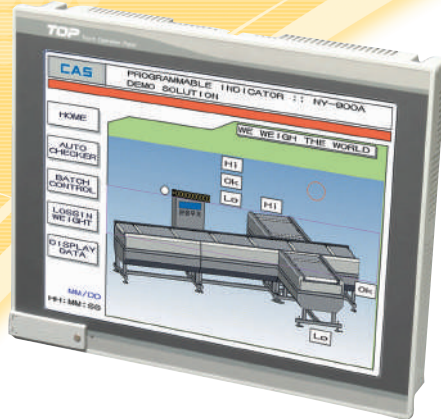
Power supply	Input Voltage	AC85-264V / DC24V		
	Power Consumption	20W or less		25W or less
	Voltage Sag	Within 10ms		
	Insulation Resistance	500V DC, 10M Ω		
Environment & conditions (Physical/Mechanical/Electrical)	Operation Temperature	0°C ~ +50°C		
	Storage Temperature	-10°C ~ +60°C		
	Ambient Humidity	85%RH or less		
	Atmosphere	No corrosive gas		
	Vibration Endurance	Amplitude:10 ≤ F ≤ 25Hz[2G] X, Y, Z direction for 30 minutes		
	Noise Immunity	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	366×296.5×58
	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.

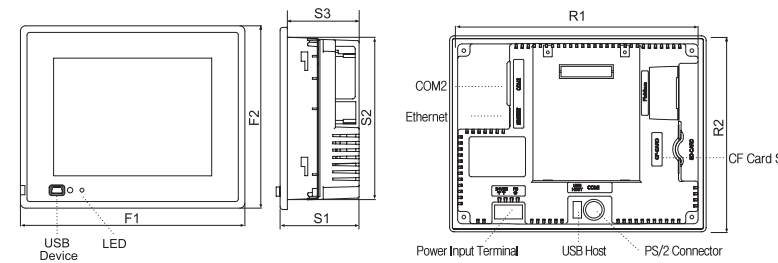


XTOP Economy Series : Wall Mounted Type

XTOP-E



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	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	N/A			
	Printer	Roll Printer : EPSON Protocol			
	USB	USB 1.1 Compatible			
	CF Card	N/A			
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	26MB	6MB		

General

Item	Model	XTOP10TV-ED-E	XTOP08TV-ED-E	XTOP05MQ-ED-E	XTOP05TQ-ED-E
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°C ~ +50°C			
	Storage Temperature	-20°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	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	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	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	26MB	6MB		

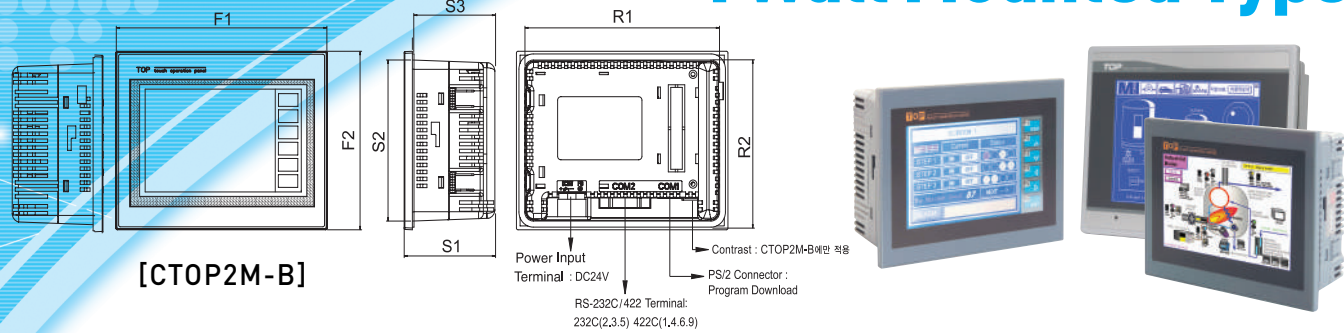
General

Item	Model	XTOP10TV-ED-E	XTOP08TV-ED-E	XTOP05MQ-ED-E	XTOP05TQ-ED-E
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°C ~ +50°C			
	Storage Temperature	-20°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	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.



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	
	CF Card	None	
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	None	
	Screen memory	512KB	2MB

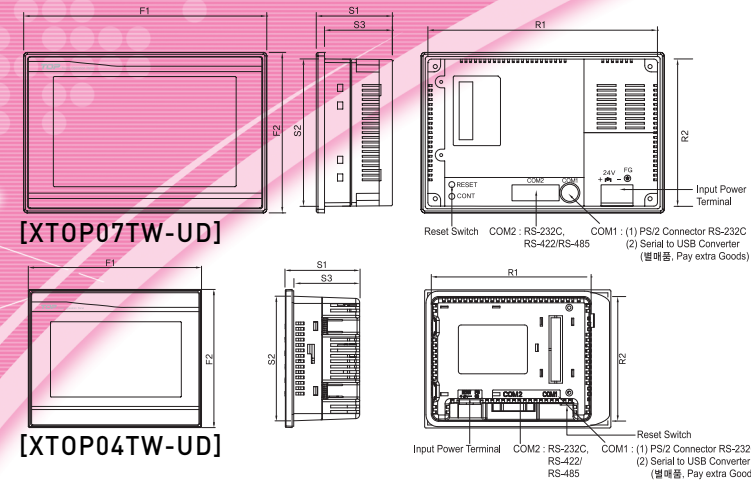
General

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 1 μ s)	
	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 젠더별매 / 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]

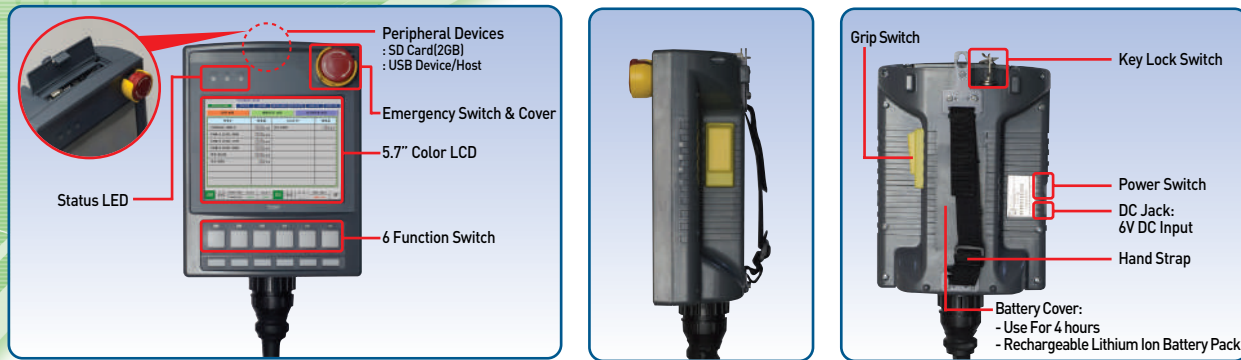
* Attn : Application Case for Pay extra Goods, USB Gender was connected to COM1 Port of Wide HMI Type. Supply USB Downloading speed in this case.

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 1 μ s)	
	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)	
Structure	Protection Classification	Conforming to IP65F	
	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

HTOP



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

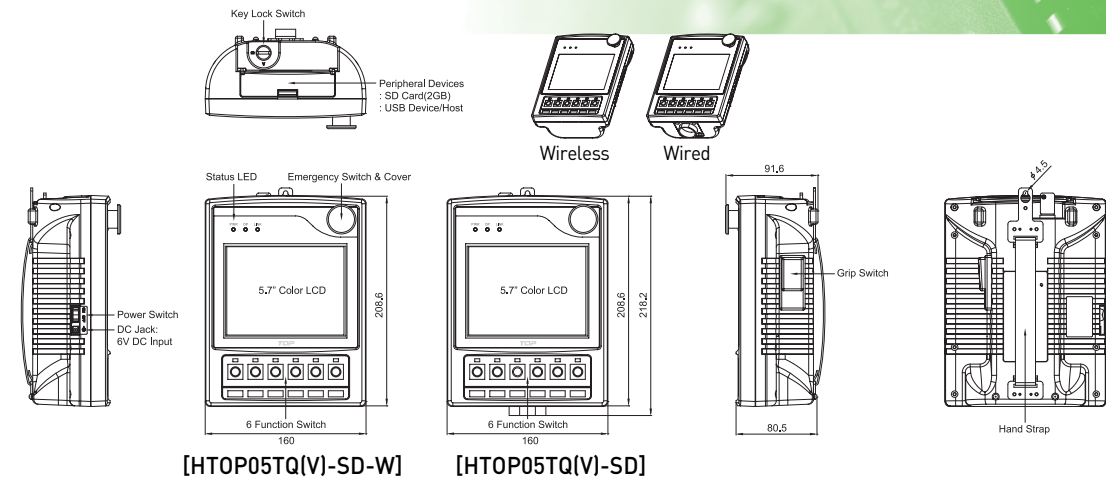
- When emergency, this switch can execute a stop command to machine immediately.

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

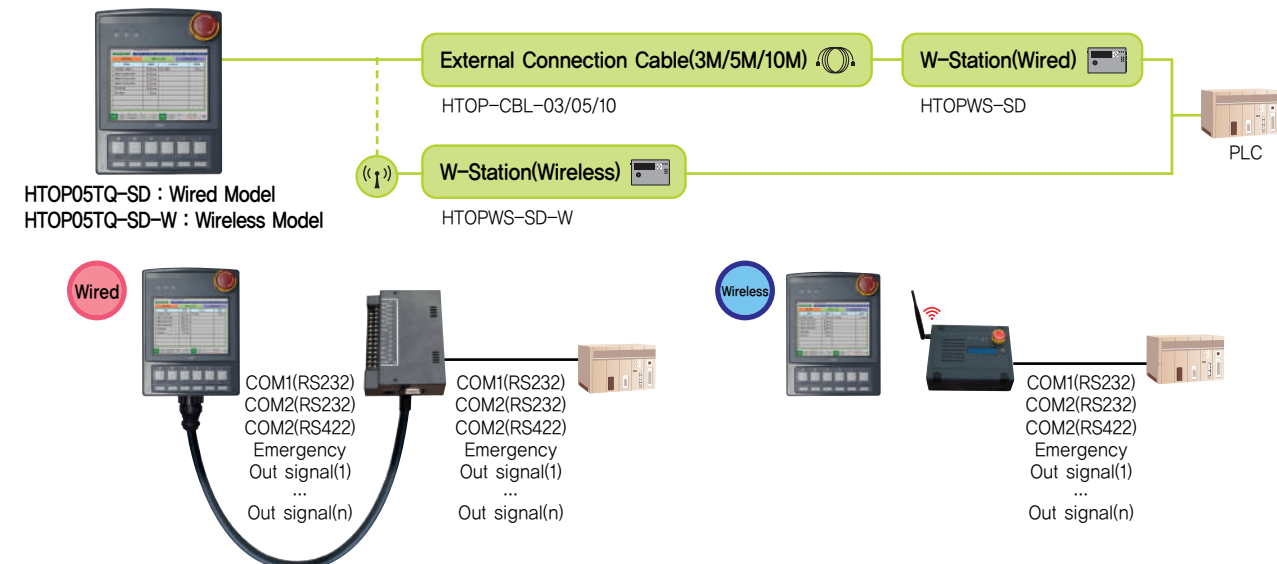


Item	Model	HTOP05TQ-SD	HTOP05TV-SD	HTOP05TQ-SD-W	HTOP05TV-SD-W	Functional
Display Function	Display type	5.7"				
	Display Area	115.2×86.4mm				
	Resolution	320×240	640×480	320×240	640×480	
	Color	65,536 Color				
	Backlight life	40,000hrs(MIN)				
	Contrast Control	Adjustable(S/W)				
Touch Function	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	General
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 1 μs		
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.

* SYSTEM DESIGN



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	●	
			A1N/2N/3N	●	●
	MELSEC-A		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	●	
	Campositioner	3F88L-160/162	●		
RFID	V680	●			
LS Industrial Systems	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	●	●
	Starvert Inverter	SV-iS7/G5A/P5A/C5/V5/G5/S5/H/V/S3	●		
RFID	XCODE-1306/1307	●			
SIEMENS AG	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 Premium	TSX37 All Models	●		
	Twido	TSX/TPMX P57 All Models	●	●	
	Quantum	TWD LCAA/LMDA All Models	●		
	Momentum	140 CPU all Models	●	●	
	MDrive	171 CCS/CCC All Models	●		
PANASONIC Electric Works	FP	MAI3CRL23□6-□□□	●		
RS Automation	Alpha	FP2(SH)/X/Σ/0/e/M/10S(H)/3/1	●		
	Plus	N7/NX(70/700/750/CCU)	●		
KDT Systems	SPC	NX7/NX Plus(70P/700P/CCU+)	●		
	CP	SPC-10/100/120S/300	●		
	XP	CM1-CP3/4□	●	●	
YASKAWA Electric Corporation	BP	CM1-XP1/2/3□	●	●	
	PROGIC-8	CM2-VP16/32□□	●	●	
	MP900/2300	PROGIC-8	●		
YOKOGAWA Electric Corporation	Control Pack	MP920/930/2300	●	●	
	FA-M3	CP-9200SH	●		
	Temperature	F3SP□□-□N/H/S	●	●	
YOKOGAWA Electric Corporation	Digital Indicating	UT130/150/52/155, UP150	●		
	UT2000	UT(UP/UM/UD)3/4/5/7/10□□	●		
		UT2400/2800	●		

*1: Ethernet are plan to develop 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	●	
DASAROBOT	iMS-J	iMS-J	●	
	IM-Σ	iM-Σ2/3/4/5/6/7/8	●	
	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(주 OTIS)	FDA	FDA6000/7000	●	
LS MECAPION(주 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	●	
	HanyoungNux	NP200/100	All Models	●
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/It/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	●	