M2I Corporation
Man·Machine·Interface

www.m2i.co.kr

www.m2i.co.kr

Industrial
HMI Solution TOP

TOP TOUCH Operation Panel

TOP TOUCH Operation Panel

M2I Corporation
Man·Machine·Interface

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)

▶**Compliance with the RoHS Directive**
M2I has taken steps to meet requirements for environmental preservation and has sought to comply with the RoHS Directive by adopting measures to eliminate specified harmful substances from existing products to be manufactured and sold beginning in 2007.

▶**Conformity with International Safety Standards**

UL / UL / CE
ISO 9001

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 2 and more 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.
- All information contained in this catalog is subject to change without notice.
- All product names used in this catalog are the registered trademarks and trademarks of their companies.
- Microsoft Excel, Windows, the Windows logo and other products referenced here are either registered trademarks of Microsoft Corporation in U.S. and other countries.

A0 WORLD 2009 02

M2I Corporation
Man·Machine·Interface

LINE UP

	15"	12.1"	10.4"	8.4"	5.7"	3.8"
X TOP Series	XTOP15TX-SA	XTOP12TS-SA	XTOP10TV-SA / XTOP10TS-SA	XTOP08TV-SD / XTOP08TS-SD	XTOP05TQ-SD / XTOP05MQ-SD	
E-X TOP Series			XTOP10TV-ED/ED-E	XTOP08TV-ED/ED-E	XTOP05TQ-ED/ED-E / XTOP05MQ-ED/ED-E	
C TOP Series					CTOP3M	CTOP2M-A/B, CTOP2T-A/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-A	CTOP2M-B	CTOP2T-A	CTOP2T-B
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"	3.8"	3.8"	3.8"
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)	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	16 Levels	256 Color	256 Color
Resolution	1024×768	800×600	800×600	640×480	800×600	640×480	320×240	320×240	640×480	640×480	320×240	320×240	640×480	640×480	320×240	320×240	320×240	320×240	320×240	320×240	320×240
Brightness	350cd/m²	380cd/m²	400cd/m²	380cd/m²	350cd/m²	450cd/m²	450cd/m²	260cd/m²	350cd/m²	400cd/m²	230cd/m²	400cd/m²	350cd/m²	400cd/m²	230cd/m²	400cd/m²	200cd/m²	150cd/m²	150cd/m²	400cd/m²	400cd/m²
Panel Cut(W)×(H)	355(W)×286(H)	306(W)×247(H)	295(W)×229(H)	295(W)×229(H)	222(W)×168(H)	222(W)×168(H)	158(W)×126(H)	158(W)×126(H)	260(W)×202(H)	222(W)×168(H)	158(W)×126(H)	158(W)×126(H)	260(W)×202(H)	222(W)×168(H)	158(W)×126(H)	158(W)×126(H)	*4	121(W)×95(H)	121(W)×95(H)	121(W)×95(H)	121(W)×95(H)
Dimension	*2	*3	305(W)×239(H)×58(D)	305(W)×239(H)×58(D)	232(W)×177(H)×60(D)	232(W)×177(H)×60(D)	170(W)×138(H)×60(D)	170(W)×138(H)×60(D)	*6	*7	170(W)×138(H)×60(D)	170(W)×138(H)×60(D)	*6	*7	170(W)×138(H)×60(D)	170(W)×138(H)×60(D)	*5	128(W)×102(H)×55(D)	128(W)×102(H)×55(D)	128(W)×102(H)×55(D)	128(W)×102(H)×55(D)
Screen Memory	26MB	26MB	26MB	26MB	26MB	26MB	26MB	26MB	26MB	26MB	6MB	6MB	26MB	26MB	6MB	6MB	2MB	512KB	512KB	2MB	2MB
Back up Memory	256KB	256KB	256KB	256KB	256KB	256KB	256KB	256KB	256KB	256KB	256KB	256KB	256KB	256KB	256KB	256KB	256KB	None	256KB	None	256KB
INTERFACE / Serial / RS-232C	∨	∨	∨	∨	∨	∨	∨	∨	∨	∨	∨	∨	∨	∨	∨	∨	∨	∨	∨	∨	∨
INTERFACE / Serial / RS-422/485	∨	∨	∨	∨	∨	∨	∨	∨	∨	∨	∨	∨	∨	∨	∨	∨	∨	∨	∨	∨	∨
INTERFACE / Etherne / 10/100Base-T	∨	∨	∨	∨	∨	∨	∨	∨	∨	∨	∨	∨	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
INTERFACE / USB / USB 1.1	∨	∨	∨	∨	∨	∨	∨	∨	∨	∨	∨	∨	∨	∨	∨	∨	N/A	N/A	N/A	N/A	N/A
INTERFACE / CF CARD / CompactFlash	∨	∨	∨	∨	∨	∨	∨	∨	∨	∨	∨	∨	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
INTERFACE / Print / RollPrinter	∨	∨	∨	∨	∨	∨	∨	∨	∨	∨	∨	∨	∨	∨	∨	∨	∨	∨	∨	∨	∨
INTERFACE / Print / Printer	*1	*1	*1	*1	*1	*1	*1	*1	*1	*1	*1	*1	*1	*1	*1	*1	N/A	N/A	N/A	N/A	N/A

* 1 : Printer with USB port (PCL level 3 language)
* 2 : 366(W) x 296.5(H) x 58(D)mm
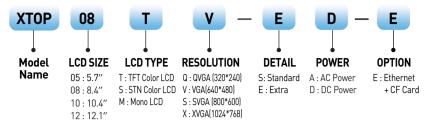* 3 : 317(W) x 257(H) x 58(D)mm
* 4 : 158(W) x 126(H)mm
* 5 : 170(W) x 138(H) x 60(D)mm
* 6 : 270(W) x 212(H) x 58(D)mm
* 7 : 232(W) x 177(H) x 60(D)mm

Core HMI System of FA Field

Built in Various Network
Add Data Management
Value UP Your System

XTOP series assortment of detail model name

XTOP	08	T	V	—	E	D	—	E

Model Name	LCD SIZE	LCD TYPE	RESOLUTION	DETAIL	POWER	OPTION
	05 : 5.7″	T : TFT Color LCD	Q : QVGA (320*240)	S : Standard	A : AC Power	E : Ethernet
	08 : 8.4″	S : STN Color LCD	V : VGA(640*480)	E : Extra	D : DC Power	+ CF Card
	10 : 10.4″	M : Mono LCD	S : SVGA (800*600)			
	12 : 12.1″		X : XVGA(1024*768)			
	15 : 15″					

Interface

Profibus DP

Barcode Reader

PLC, INVERTER
PC, TEMP CONTROLLER

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

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

PC

Ethernet

CF Card, USB

Printer

VM UNIT

XTOP Series   **VM Unit are developing**
Profibus(Option)

CONTENTS

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

Master   Master   Master

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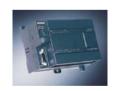
- Control Only 1 Controller with Many TOP using Token Protocol
- Restrictive to N:1(TOP:PLC) Supported PLC only
- RS-485/422 Only
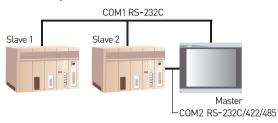
MPI Direct Network

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

S7-300

XTOP

Two Way Communication

COM1 RS-232C

Slave 1   Slave 2

Master
COM2 RS-232C/422/485
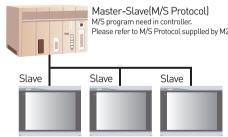
Two chanel communication with 2 PLC separately

Multi Drop

RS-422/485

Slave   Slave

Master

• Communication Tag
• Block communication
• Low Speed
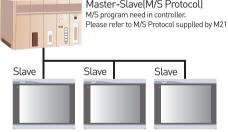
- Master TOP controls several PLC or Controllers
- Restrictive to 1:N(TOP:PLC) Supported PLC only
- RS-485/422 Only

Slave

Master-Slave(M/S Protocol)
M/S program need in controller.
Please refer to M/S Protocol supplled by M21

Slave   Slave   Slave
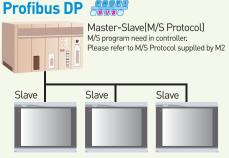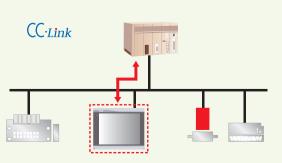
Master PLC controls 1 TOP or several TOP

2. Field Network

Profibus DP

Master-Slave(M/S Protocol)
M/S program need in controller.
Please refer to M/S Protocol supplled by M2

Slave   Slave   Slave
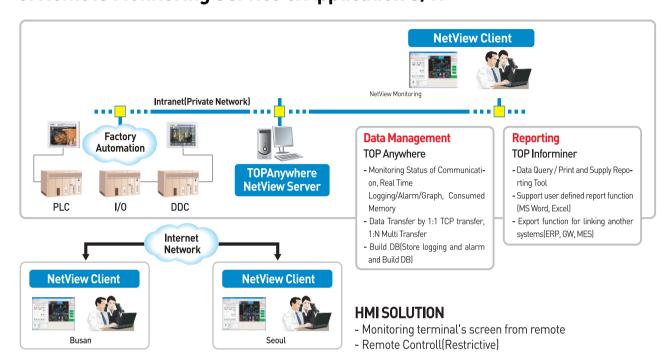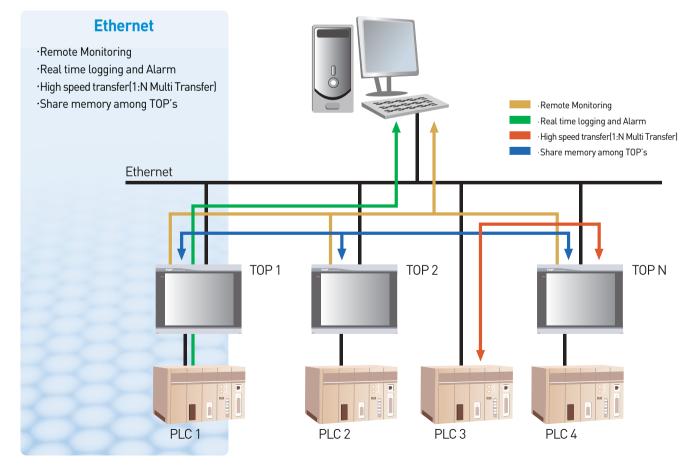
Master PLC Controls XTOP(slave) In Profibus Network

CC Link

CC-Link

3. Remote Monitoring Service & Application S/W

NetView Client

NetView Monitoring

Intranet(Private Network)

Factory Automation

PLC   I/O   DDC

TOPAnywhere NetView Server

Data Management
TOP Anywhere
- Monitoring Status of Communication, Real Time Logging/Alarm/Graph, Consumed Memory
- Data Transfer by 1:1 TCP transfer, 1:N Multi Transfer
- Build DB(Store logging and alarm and Build DB)

Reporting
TOP Informiner
- Data Query / Print and Supply Reporting Tool
- Support user defined report function (MS Word, Excel)
- Export function for linking another systems(ERP, GW, MES)

Internet Network

NetView Client

Busan

NetView Client

Seoul

HMI SOLUTION
- Monitoring terminal's screen from remote
- Remote Controll(Restrictive)

Ethernet

· Remote Monitoring
· Real time logging and Alarm
· High speed transfer(1:N Multi Transfer)
· Share memory among TOP's

· Remote Monitoring
· Real time logging and Alarm
· High speed transfer(1:N Multi Transfer)
· Share memory among TOP's

Ethernet

TOP 1   TOP 2   TOP N

PLC 1   PLC 2   PLC 3   PLC 4

Feature

1. High Image Qualty & Clearness

▶65,536 Color & Analog Touch

- High Color TFT LCD & STN LCD
- Support wide viewing angleNote: Not applicable to XTOP05MQ

256Color **65,536Color**

▶JPG Support

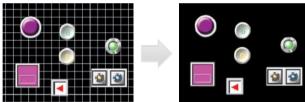Support Real Jpeg as compared to competitor.
Available to Tag, Diagram, Function and every objects which use Image.
File capacity of JPG is reduced to 90% as compared to Bitmap file.
So it is possible to raised the efficiency of memory consumption.

2. Clear Screen without Grid

▶Adopt Analog Touch Screen

Compared with existing matrix touch screen, It has no scale marks
in it's face. so it is clean.
Designing is possible, free from the restriction of grid.
So user can conveniently arrange objects on the screen.

Matrix Touch Screen   Analog Touch Screen

3. Improved User Interface

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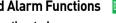
Design for conversion of language in the string table
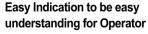
A string table, which makes it possible to simply set a language
for each country, is available so while working, User can change
the previously designed language in the same table by using the
programmable function

Excel

Multi Language Table

▶Extend Alarm Functions

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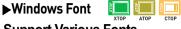
- Various editor key options to control
  contents in alarm list
- Display in time&reverse time order on
  events like occurrence/clearance/acknowledge of alarm
- Setting of Alarm & Subsidiary explanation
  : shift screen/display subsidiary explanation by using ex-tag
- Display alarms stored in CF Card

▶Windows Font
-Support Various Fonts

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

Image Fonts

＊Support windows font in alarm & message

▶Various graphic library available

Adopt graphic images which are often used at sites.
Classification by object is easy so it can be used for various
product group. Also support high quality vector library make user
interface more conveniently

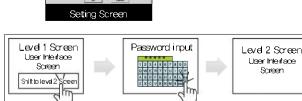| Push Buttons				Lamps			Switch		ETC			
Rectangle	Circle	Arrow	Tenkey	Pilot	Circle frame	Toggle	Selector	Fan	Tank	Value	Pipes	
Image												

▶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
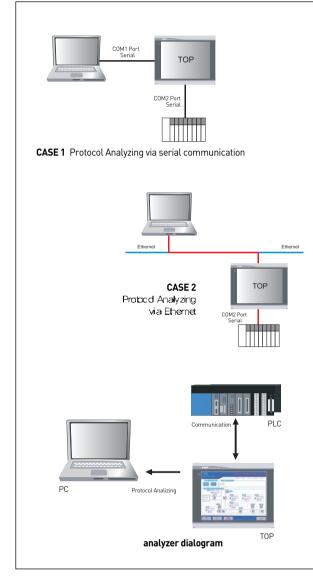- Max. 16 levels of security settings and initialization of levels

Setting Screen

Level 1 Screen
User Interface
Screen
Shift to level 2 Screen

Password input

Level 2 Screen
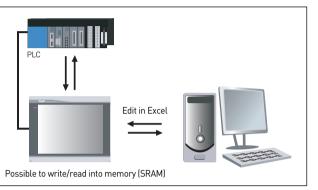User Interface
Screen

▶TOP Analyzer

Analyze communication problems, which happen on sites, with
the analyzer function of X TOP. That is, possible to save
communication details between XTOP and PLC in a file, using
the TOP Analyzer function. By analyzing them, It is possible to
easily solve communication problems.

COM1 Port
Serial

TOP

COM2 Port
Serial

CASE 1 Protocol Analyzing via serial communication

Ethernet   Ethernet

**CASE 2
Protocol Analyzing
via Ethernet**

TOP

COM2 Port
Serial

Communication   PLC

PC   Protocol Analizing

TOP

analyzer dialogram

▶Recipe

Saving data such as the conditions for mixture or processing of
Materials into TOP's inner memory(SRAM) and then, to read/write
in PLC that need the data.
For Instance, creates data to write in PLC and then, writes data
values, which are consecutively created from specified device, It
offers the function of reading large quantity of device values from
PLC that is consecutively connected from a specific device. When
power is off, Recipe maintains the data that are saved last.

PLC

Edit in Excel

Possible to write/read into memory (SRAM)

▶PASS THROUGH

COM2   COM1

Summary: Through the PC or Micom Controllers which connected
COM1 Serial port of XTOP control the PLC which connected COM2
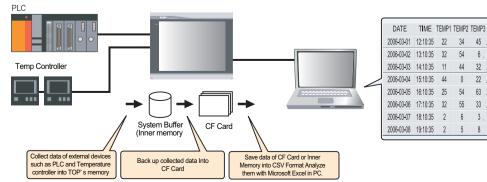Serial port of XTOP via XTOP
Function :
1. Download, upload, monitoring the program of PLC via COM2 of XTOP
2. Direct Communication with Controller via COM1 of XTOP

Note : It is possible that In case of downloading PLC program with loader port
communication. Downloading from USB,ETHERNET will be developed later.

▶Data Logging

Collect data of external devices such as temperature controller and
PLC into TOP's memory according to the conditions for period an
device value. Basically Logging is saved in SRAM(256KB)or CF Card
and Back up in CF card or USB memoryStick. It is possible to
represent logged data into graph using recorder tag and extended
graph tag. Also possible to convert into CSV format which can be used
in PC so it is possible to analyzer data with S/W like Micro Soft Excel.

PLC

Temp Controller

System Buffer
(Inner memory)

CF Card

Collect data of external devices
such as PLC and Temperature
controller into TOP' s memory

Back up collected data Into
CF Card

Save data of CF Card or Inner
Memory into CSV Format Analyze
them with Microsoft Excel in PC.

Feature

▶ Logging Table `XTOP`

Display stored logging data as designed format of table

- Assignation of title name to each word
- Scroll stored logging data with up&down, right&left direction
- Display stored logging data both SRAM and CF Card
- Easy Interface to data back up to USB from CF Card through File Manager Program

▶ Recorder `XTOP`

- Simple checking of logged data with graph

By adding recorder tag, it is possible to represent the data values, which are saved through the logging function, in graph and then, monitor the past and the present history. It is possible to represent the data values, which are saved through the logging function, and the files, which are saved in not only the inner memory, but also CF cards, in graph. It is possible to show the past information by use of a scroll switch only. It is possible to represent the cursor or the device value and the time the cursor is located.

4. Various Interface Built in
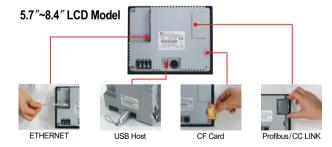
▶ USB and Ethernet built in `XTOP`

1. USB Host / Device built in

Through USB interface, Connect USB Storage(stick) and transfer the data

2. High speed transfer with PC through Ethernet

Upload/download of program and data communication such as logging, alarm, and recipe have become fast and simple. By use of various kinds of Ethernet package software, it becomes possible to remote-monitor and control from PC.

5.7″~8.4″ LCD Model

ETHERNET   USB Host   CF Card   Profibus / CC LINK

10.4″~15″ LCD Model

USB Host   ETHERNET   Profibus / CC LINK   CF Card

▶ Use of CF card and USB memory `XTOP`
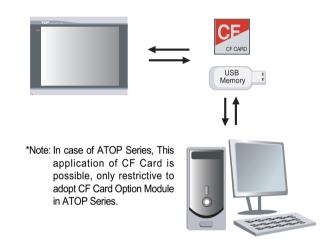
1. Effective use of CF card and USB memory

It is possible to save PLC data in CF card or USB memory, to convert them into CSV data when necessary, and then, to mak out a daily or a monthly document. (However, in the case of USB, it is possible to save PLC data only if data are copied from CF card.) It is possible to save picture, OS, or font files in CF card or USB memory, and then, to transmit to the TOP's memory. In case there are several TOPs, set-up is possible only by transmitting picture program to each TOP with a CF card or USB memory.

CF CF CARD

USB Memory

*Note: In case of ATOP Series, This application of CF Card is possible, only restrictive to adopt CF Card Option Module in ATOP Series.

▶ Data Management by File List `XTOP`

1. Data Management Tool for CF Card and USB Memory

- Copy data(Logging, alarm, OS, Fonts, Screen Program) Both CF Card and USB In RUN Mode
- Easy Interface to data back up & Operation by using USB Memory & CF Card

USB Memory   **CF** CF CARD

Logging Data / Alarm / OS / FONT / Project File

▶ Barcode reader and roll printer `XTOP ATOP CTOP`

1. Communication of Barcode reader and roll printer

Save ASCII data, which are read through the connection with the barcode reader, in PLC designated by a user or TOP's inner memory(SRAM).

It is possible to temporarily designate completion byte which can confirm that barcode data have been successfully read. It is possible to print data by connecting with the roll printer. The above connecting devices all use RS-232C interface to communicate.

▶ Master Screen `XTOP`

- 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 `XTOP`

- 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

▶ Automatic Update `XTOP`

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 ot 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
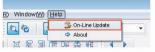
[Window of Online update]

[Enable Update Service]

2. Unable Update Service

- Through Main Menu of XDesigner Plus, User can check out the change of S/W.

▶ Group On/Off `XTOP`

- Available to set the group of Object(diagram, Tags) visible or invisible
- After setting the group, user can assign them for Bit condition
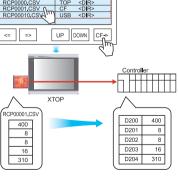- Support object to pop up without window screen and window tag

▶ RECIPE TRANSFER VIA CF CARD `XTOP`

PLC

In case of using File Manager in running screen of XTOP

File Manager

List <CF>	List
RCP00001.CSV	TOP <DIR>
RCP0001.CSV	CF <DIR>
RCP000010.CSV	USB <DIR>

<=   =>   UP   DOWN   CF<-

XTOP   Controller

RCP00001.CSV

400	
8	
8	
16	
310	

D200	400
D201	8
D202	8
D203	16
D204	310

- 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

XDesigner Plus

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

❶ **Project manager**
· Intuitive and easy interface
· Manage two or more projects

❷ **Convenient User Interface**
· Support standard MDI Type& Tab Type

❸ **Menu, Toolbar**
· Simple/Convenient layout of Icon
· Grouping tags with similar themselves

❹ **Memory View**
· Address assignment can be visually shown

❺ **My Clipboard**
· Managing user libraries
· All tags, drawings, groups and images are possible

❻ **Information list**
· All objects registered are shown
· The fastest view

❼ **Tag dialog**
· Support previews
· Changed all of olders

❽ **Property list**
· Summarize properties of selected objects

▶ 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

(*1) : Under Developing

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.
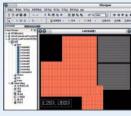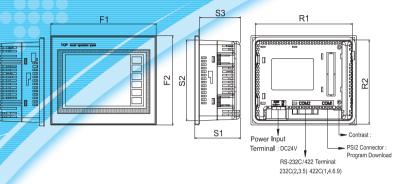
Alarm / Message Table

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

Fast Editing

- Regardless of plentiful tags or drawings or images, drawing and registration are comfortable.

C TOP

Power Input Terminal : DC24V
RS-232C/422 Terminal: 232C(2,3.5) 422C(1,4.6.9)
Contrast :
PS/2 Connector : Program Download

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

Model	FRONT		SIDE			REAR	
	F1	F2	S1	S2	S3	R1	R2
CTOP2 Series	128	102	55	92.3	50	118.3	92.3
CTOP3M	170	138	60	123	54.5	155.5	123.3

Specification

Item	Model	CTOP2M-A	CTOP2M-B	CTOP2T-A	CTOP2T-B	CTOP3M	
Display Function	Display type	3.8" Mono(Blue)		3.8" TFT Color		5.7"Mono(Blue)	Functional
	Display Area	76.8×57.8mm				115.2×86.4mm	
	Resolution	320×240					
	Color	16 Level		256 Color		16 Level(Blue)	
	Backlight life	20,000hrs		40,000hrs		50,000hrs	
	Contrast Control	Variable resistance		Fixed		Adjustable (S/W)	
	Brightness	150cd/㎡		400cd/㎡		200cd/㎡	
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					
	Parallel Printer	None					
	USB	None					
	CF Card	None					
Memory & Clock	Battery	None	Coin type lithium primary cell	None	Coin type lithium primary cell	Coin type lithium primary cell	
	Backup memory	None	256 KB	None	256 KB	256 KB	
	Backup time period	None	2 years or more	None	2 years or more	2 years or more	
	Clock	Built-in					
	Status LED	None					
	Screen memory	512 KB		2MB			
Power supply	Input Voltage	DC24V (20~28V)					General
	Power Consumption	8W or less					
	Voltage Sag	Within 10ms					
	Insulation Resistance	500V DC, 10㏁					
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	900Vp-p (Pulse width 1㎲)					
	ESD Immunity	Contact : ±4KV					
	Shock Endurance	10G, X, Y, Z direction for 3 times					
	Electricity Endurance	Conforming to IEC801-2					
	Ground Connection	Class 3(100Ω)					
	Protection Classification	Conforming to IP65F (*1)					
Structure	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)					

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

X TOP

Dimension (left)

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

Dimension (right)

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 / General (left)

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/㎡	450cd/㎡	450cd/㎡	350cd/㎡
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	General : HP PCL Level 3 Language / Roll Printer			
	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			
Power supply	Input Voltage	DC24V (20~28V)			
	Power Consumption	15W or less			
	Voltage Sag	Within 10ms			
	Insulation Resistance	500V DC, 10㏁			
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㎲)			
	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(100Ω)			
	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)			

Functional / General (right)

Item	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/㎡	400cd/㎡	380cd/㎡	350cd/㎡
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	General : HP PCL Level 3 Language / Roll Printer			
	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			
Power supply	Input Voltage	AC85~264V/DC24V			
	Power Consumption	20W or less			25W or less
	Voltage Sag	Within 10ms			
	Insulation Resistance	500V DC, 10㏁			
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㎲)			
	ESD Immunity	Contact : ±6KV			
	Shock Endurance	10G, X, Y, Z direction for 3 times			
	Electricity Endurance	Conforming to IEC801-2			
	Ground Connection	Class 3 (100Ω)			
	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)			

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

E-X TOP

Specification

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

Functional / General
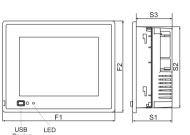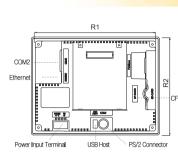
Item	Model	XTOP10TV-ED	XTOP08TV-ED	XTOP05MQ-ED	XTOP05TQ-ED
Display Function	Display type	10.4" TFT Color	8.4" TFT Color	5.7" Mono(Blue)	5.7" TFT Color
	Display Area	211.2×158.4mm	170.9×128.2mm	115.2×86.4mm	
	Resolution	640×480	640×480	320×240	
	Color	65,536 Color	65,536 Color	16 Levels	65,536 Color
	Backlight life	40,000hrs (MIN)			
	Contrast Control	Adjustable (S/W)			
	Brightness	350cd/㎡	400cd/㎡	230cd/㎡	400cd/㎡
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	Restrictive to Protocol / HP: PCL Level 3 Language / Roll Printer(Samsung Mini Printer)			
	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	
Power supply	Input Voltage	DC24V (20~28V)			
	Power Consumption	20W or less	15W or less		
	Voltage Sag	Within 10ms			
	Insulation Resistance	500V DC, 10㏁			
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 1㎲)			
	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.

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

Functional / General

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)			
	Brightness	350cd/㎡	400cd/㎡	230cd/㎡	400cd/㎡
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	Restrictive to Protocol / HP:PCL Level 3 Language / Roll Printer(Samsung Mini Printer)			
	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	
Power supply	Input Voltage	DC24V (20~28V)			
	Power Consumption	20W or less	15W or less		
	Voltage Sag	Within 10ms			
	Insulation Resistance	500V DC, 10㏁			
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 1㎲)			
	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.

Connectable PLC

Maker	Series	CPU Type	CPU Port	Link	(1:N)	Ethernet
LS	GLOFA-GM	GM1/2/3/4/6/7	●	◆	●	●
	Master-K	10S1/10/30/60/100S	●	◆		
		80/120/200/300/1000S	●	◆	●	●
		60/200H	●			
		500(H)/1000	●	◆		
	XGT	XGI/XGR	●	◆	●	●
		XGK/XGB	●	◆	●	●
Samsung	Fara N	N70/700 alpha, 7000	●	◆		
		NX70/700	●	◆		
		N70/700 plus	●			
	SPC	SPC-10/100/120S/300	●			
Mitsubishi	Melsec-A	A1N/2N/3N	●	◆	●	
		A1S(H)/2S(H)/AOJ2(H)	●	◆	●	
		A2A/3A/2A-S1	●	◆	●	
		A2U/3U/4U/2USH	●	◆	●	
	Melsec-QnA	Q2A/2AS/2ASH/3A/4AR	●	◆	●	✕1
	Melsec FX	FX0/1/2/1S/1N/2N/2NC	●	◆	●	
	Melsec Q	00/01/02/02H/06/12/25H	●	◆	●	●
Omron	SYSMAC C	C200H/200HS/500/1000	●			
		CQM1/1H	●	◆		
		CPM1/2A/2C	●	◆		
	SYSMAC CS	CS1G/1H	●	◆		✕1
	SYSMAC CJ	CJ1G/1M	●	◆		✕1
Rockwell(AB)	PLC5	PLC5/11/20/30/40/40L/60/60L	●			✕1
	SLC500	SLC5/03/04	●			✕1
	Control Logix	1756	●			●
	Compact Logix	1769	●			
	Micro Logix	1000 Series	●			
Siemens	SIMATIC S5	90/95/100/115/135/155U		◆		
	SIMATIC S7-200	212/214/215/216/221/222/224	●			
	SIMATIC S7-300	312IFM/313/314/315/315-2DF	●	◆		●
	PC/HMI adapter		●			
GE-Fanuc	Fanuc 90-30	311/331	●	◆		
	Fanuc 90-70	731/732/771/772/781/782	●			
Hitachi	HIDIC-H	EH-150	●	◆	●	
		Micro EH	●		●	
Fuji	Micrex-F	F80/120H/250/120/140/150S		◆		
KEYENCE	KV	KV-700/1000	●			
KOYO	DL-205/305/405	D2 240/330/430	●			
Matsushita	MEWNET	FPx	●			
Modicon (Schneider)	Modbus	884/984A/984B/984X		◆	●	
		Slot-mount984		◆	●	
	TWIDO	LCAA 10/16/24DRF	●	◆	●	
		LMDA 20/40DTK	●	◆	●	
		LMDA 20/40DUK	●	◆	●	
		LMDA 20DRT	●	◆	●	
		Modbus TCP				●
Honeywell	Honeywell	HC900	●		●	
Yaskawa	PROGIC-8	PROGIC-8	●		●	
	MP900	MP920/930	●		●	
	Control Pack	CP-9200SH		◆	●	
Yokogawa	FACTORY-ACE	FA-M3	●	◆	●	●

Maker	Series	CPU Type	CPU Port	Link	(1:N)	Ethernet
SAIA	SAIA	PCD2	●	◆		
Delta	DVP	DVP-ES	●			
FATEK	Facon FB	20MC	●			
Compile	Tiny	TCP32/37/9X	●			
POSCON	POSFA A	POSFA-A		◆		
DDC	DDC	DDC	●			●
Speed tech	DDC	ST/PS, ST/RS, ASIC/2-7040	●			●
KDT	XP	CM1-XP1A/2A/3A/4A	●	◆		
	CP	CM1-CP1A/2A/3A/4A	●	◆		●
	BP	CM2-BP16/32	●	◆		
Emerson	EC20	EC20	●			

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

Inverter/Motion Controller

Maker	Series	CPU Type	CPU Port	Link	(1:N)	Type
LS	SV-iG5	SV-iG5	●		●	Inverter
ABB	ACS	ACS140/400/500	●			Inverter
Metronix	Anypack	Anypack	●			Servo
ROBOSTAR	Newro	RCS6000/RCM	●			Motion
DASA Tech	iMS-J	iMS-J	●			Motion
Delta-Tau	PMAC	Mini-PMAC	●			Motion
Emotiontek	MCU	MCU-MA/MP/XA/XP	●			Motion
	MCU2	MCU-MA2/MP2/XA2/XP2	●			Motion
	MCS	MCS-80A4/P4/A8/P8	●			Motion
Gidding & Lewis	MMC	MMC	●			Motion
Mistubishi	FX2N	FX2N-10/20GM	●			Motion
	MR	J3/J2/C/J2M/E	●			Servo
Rexroth Indramat	VisualMotion	VM7, VM8	●		●	Motion
Hyundai	Hi4	Hi4	●			Motion
IMO	Jaguar	CUB/VXSM/VXM	●			Inverter
Sanken	SAMCO-i	ihf/ipf/QS/lt/iF	●			Inverter
Huropec	HC	HC	●			Motion
FEBA	UDICON	UDICON	●		●	Motion
	SMARTCON	SMARTCON	●		●	Motion

Measurement

Maker	Series	CPU Type	CPU Port	Link	(1:N)	Type
AND	AD	AD4326/4327/4328/4329	●		●	Indicator
CHIMEI	CB920X	CB920X	●			Indicator
IMO	DTP	DTP	●			
Sewha	SI 3000		●		●	Indicator
Yokogawa	Temp Controller	ut/up/um	●			Temp Control
RKC	CB100Z	CB100/400/500/700/900Z	●		●	Temp Control
	SR-Mini		●		●	
Hanyoung	PX		●		●	
	NX		●		●	Temp Control
	UX100		●		●	
	MP3		●		●	Panel Meter

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