M2I Corporation
Man · Machine · Interface

SMART HMI
EMBEDDED HMI
TOP SERIES

EMBEDDED **HMI**

TOP SERIES

Caution: before operating the products, please be sure to read all related manuals

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V 3.3E (250425)

SMART X HMI

THE
BEGINNING OF
CHANGE IS NOW

EMBEDDED HMI

Contents

Greetings

M2I Corporation was established in April 1999 for manufacturing industrial HMI, and get strong visions of global HMI specialized company in industrial monitoring/controlling territory

We do the roll to sense all information of industrial field and signals of devices, and connect human and machine. Also we support not only manual operation, but also smart system(Automatic monitor/Control).

Continuous R&D and technical service development were focused all the time as dramatic changes of industrial structure. And M2I tries constantly for brand identity and quality development by products that customer needs and make wide range of product line-up

M2I Corporation cooperates plenteous customers with knowledge and know-how in industrial automation field. Aiming to be the global leader of smart factory and industrial IoT, M2I Corporation will do the best to improve the reliability and productivity by revolutionary product development and service.

M2I Corporation

Applied Field

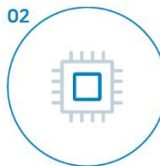## Optimized Product for Smart Factory, Represented as Industry 4.0

M2I's Smart HMI is surpassing traditional HMI products for Factory Automation, and having connectivity for various devices, flexible functionality, stability and security.
With various versatile, it can be used in Smart Factory and other various fields, and it is adopted not only in high-technology industry like Semiconductor, Display, but also in Growing/Normal industry like Automobile, Mobile Device, Secondary Cell, and Pharmacy/Bio.

01 Display/Mobile Phone
Logistics

02 Semiconductor/Electronics
Gas cabinet, VMB, Chiller, Loader/Unloader, Scrubber Lead frame, Laser marker, Chamber

03 Chemical/Steel
Pharmacy, Plastic, Cosmetics, Chemical, Steel manufacture

04 Automobile/Shipbuilding
Painting, Welding, Pressing, Assmebly

05 Food/Pharmacy
Ramen, Soup, Snack, Ice cream, Milk, Rice, Packaging, Storage

06 Secondary Cell/Solar
Oil refining, Battery, Power generation, Water resources

07 Textile/Packaging
Dyeing, Print, Dry cleaning, Knitting, Rotary machine

08 Automated/Logistics
OHCV, OHT, Lifter, OHS, AMR, AGV, Stacker Crane

History

M2I Corporation will do the best to improve the reliability and productivity by revolutionary product development and service.

2016 - Present
Customized Smart Factory Solution

Relocation of New M2I Building
Smart Factory Solution Business Start and Obtaining New Projects' Orders
Launching TOP-PCVIEW Series, Designated in Semiconductor and Automobile Industry
Launching TOPRW and TOPRE Series
The Highest Sales Record as 60,000 Units
Launching TOP-VIEW(SCADA S/W) and TOP-PCVIEW(Panel PC)

2011 - 2015
Endless R&D and Effort

Launching TOPRX and TOPRH Wired/Wireless Series
ATEX/KCS/NEPSI Certificates for XTOP Series Acquired
Launching TOPR Series
Launching XTOP Wide Series

2001 - 2010
The Automation in Anywhere

Launching HTOP Handy Type Wired/Wireless Series
Opening Regional Office in Daegu
Launching XTOP Series
Selected to INNO-BIZ Company
UL/CE/FCC Certificates Acquired

1999 - 2000
The beginning of M2I

Venture Company Certificates Acquired
Launching TOP Series(The First Industrial HMI in Korea)
M2I Corporation Established

M2I Corporation
Man · Machine · Interface

TOP Series Introduction

TOP R

Detachable Aluminum Body with Multimedia Functions

Premium/Standard/ATEX Model

SERIAL 3 PORTS | ETHERNET 2 CHANNEL | USB HOST 2 PORTS | USB OTG | SD CARD
OPTION MODULE | HDMI OUT | CAMERA | AUDIO OUT | VIDEO IN

* Multimedia functions are supported only in premium model

EMBEDDED **HMI**

TOP RE

Compact Size, Light and Convenient

TOPRE Series

SERIAL 1 PORT | ETHERNET 1 CHANNEL | USB OTG | SD CARD

EMBEDDED **HMI**

TOP RX

The Series Developed TOPR's Function from XTOP Products

Normal/EX Model

SERIAL 3(2) PORTS | ETHERNET 2(1) CHANNEL | USB HOST | USB OTG | SD CARD

* 15", 12",10", 8", 5" please check the number of ports by each model

EMBEDDED **HMI**

TOP RH

Handy Type with Egronomic Designed Hand Grip

TOPRH Wired/Wireless Series

Wired   SERIAL 2 PORTS | ETHERNET 1 CHANNEL | USB HOST 2 PORTS | SD CARD
Wireless   WIFI | USB HOST 2 PORTS | USB OTG | SD CARD

EMBEDDED **HMI**

TOP RW | TOP RW IO

With a Wider Screen

TOPRW/TOPRW-IO Series

SERIAL 2 PORTS | ETHERNET 1 CHANNEL | USB HOST | USB OTG | SD CARD

* USB HOST functions is supported only in 10" and 7"

EMBEDDED **HMI**

TOP RP | MDP

Miniaturized New Form Factor, Smaller and Simple

TOPRP Series/Touch Monitor

SERIAL 2 PORTS | ETHERNET 2 CHANNEL | USB HOST 2 PORTS | USB OTG
SD CARD | HDMI OUT

BOX **HMI/TOUCH MONITOR**

TOP Design Studio Software

The software which supports TOPR, TOPRX, TOPRW, TOPRE, TOPRH, TOPRP, TOP-VIEW, TOP-WVIEW you can download in **M2I website(www.m2i.co.kr/eng) for free**.

Combination of PC BASED HMI and EMBEDDED HMI

Mutual convert between PC BASED HMI(SCADA, TOP-PCVIEW series) and EMBEDDED HMI(TOPR/TOPRX/TOPRW/TOPRE/TOPRH series) is possible. So program is efficiently used. This make the person who is familiar with EMBEDDED HMI program(TOP Design Studio) easy to use PC BASED HMI(SCADA) program without any training procedure.
To change the project, select [Project] – [Property] – [Change HMI] function in TOP Design Studio.

DYNAMIC RIBBON MENU
Menu and toolbar into one

PROJECT PROPERTY WINDOW
Convenient
and systematic management

OBJECT LIST WINDOW
Easy to see objects
with table format

TDS

PROPERTY WINDOW
Modify multiple objects
at the same time

USER LIBRARY WINDOW
Object
and screen sample supplied

01
LANGUAGE

LANGUAGE

This software supports korean/english/chinese(Sim plified)/japanese. You can select the language in [VIEW-Language] menu in software.

02
DYNAMIC RIBBON MENU

DYNAMIC RIBBON MENU

Menu-Toolbar united ribbon UI, easy to use by big icon.

03-1
DOCKING WINDOW

PROJECT PROPERTY WINDOW

Helping the project/screen/resource to be easier and systemized management.

03-2
DOCKING WINDOW

OBJECT LIST WINDOW

The object registered on screen is shown as table format.

03-3
DOCKING WINDOW

PROPERTY WINDOW

Showing the property of screen/object and editing them is possible. Same kind of object can be edited by group in same time.

03-4
DOCKING WINDOW

USER LIBRARY WINDOW

Supporting the screen/parts designed by objects.

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01. Automatic Resizing Function for Model Change

If you change the TOP model which has different resolution, all registered objects in screens will automatically resize by new model's resolution.

10" 800X600   **Converting**   15" 1024X768

TOPRD1020S   TOPRD1520X
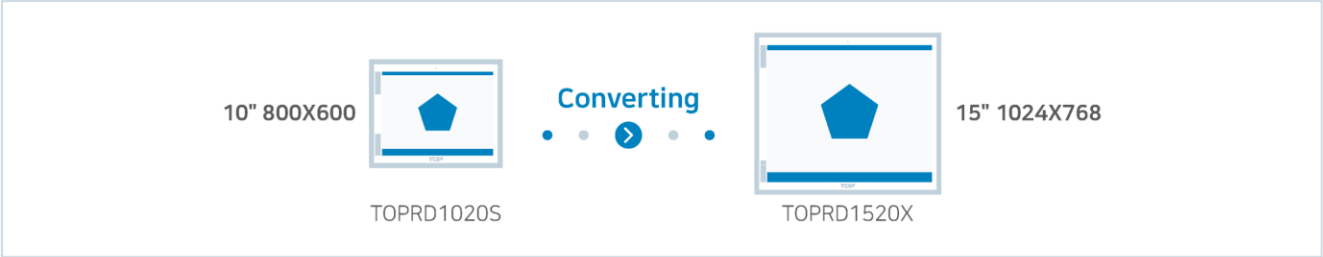
02. Vector Image Library

TOP supports vector image library(SVG format) with 16M full color. Vector image can display clear view regardless of size change.

.bitmap   .svg

Bitmap image format   Vector image format
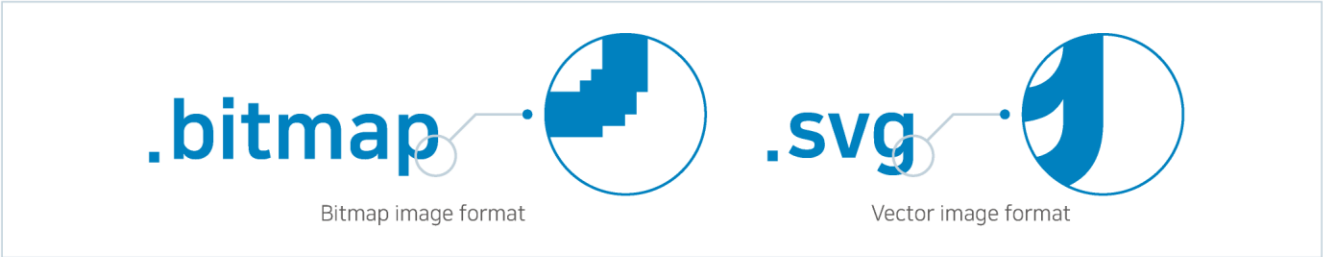
03. User Library Window Sample

We supply the sample of screens and objects which customers can use for their own project.

Screen sample

Parts sample

Select

User library window

Screen sample   **OR**   Object sample

04. Off-Line/On-Line Simulation

Off-line simulation is a test operation in PC without the control unit, and on-line simulation is a test operation in PC connected to control unit like PLC. This on-line simulation has 2 hours trial mode. The operation of TOP and PC simulation is same because they are same program.

2 Hour

PLC   **Same action**   **Same action**

Online simulation   Offline simulation   TOP running

TOP Design Studio Software

05. Flexible and Easy Programming by [Effect/Action] Function of Object

[Effect/Action] function is supported regardless any shape or type of object. If a set [Condition] meets, [Effect] or [Action] already set operates. Animated effect and other many operation can be set in object.

Condition(AND/OR)
Event(Touch) + Bit data + Word data + String data + Time/Schedule + Interval

Effect
Hide + Disable + Reverse + Blink + Shape change + Image change + Width/Height change + Move + Rotate

Action
Bit data + Word data + String data + Script + Key + Special function

06. Faster and More Accurate Analysis by Variable Graph Format

Beyond one or two, 3 dimensional graph shows the data quickly.
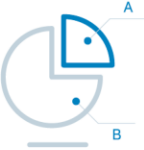
| Chart graph | Pi graph | Donut graph | Meta graph | Bar graph | Trend graph | 3D graph |

* 3D graph is supported in TOP Design Studio v2.0

07. Global Alarm Scroll/Action for Occurred Alarm

Alarm list can be shown as table format or scroll format. [Global alarm scroll] function displays the contents of occurred Alarm by scroll format moving by 1 letter. An operator can check the alarms in any screens. The action for this occurred alarm, supports showing image/text/PDF file and sound effect. Also, operating set action or saving a certain address data maximum 10ea.

| Global alarm scroll display | Action | Sound | OR | Call image file | OR | Call text file | OR | Call PDF file |
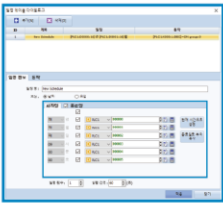
08. Schedule Function Address Data

Each schedule(Year/Month/Day/Hour/Minute/Second) can be set as PLC's address, so data can be edited during operation. [* Project menu > Schedule > Schedule table dialog]

Step. 01
Set start and end schedule as PLC address

Step. 02
Set the count of operation and interval

Step. 03
Set an action

09. Text/Image Automatic Copy

If text data outside of TDS is copied and pasted in TDS, a [Text object] is created automatically. If image data outside of TDS is copied [Image object] is created automatically.

Ctrl + C
Ctrl + V
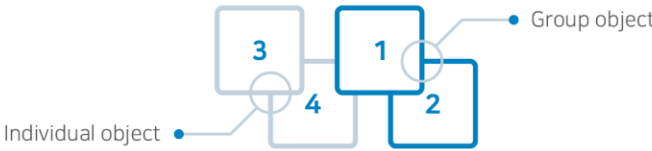
Memo   Paint   TOP Design Studio

Automatically made text/image object

10. Multi-Layer System of Object

Object can be layered and set by top/bottom order. Putting layered object on other object and set animated effect is available.

Individual object   Group object

Object overlap(Ordering)

Move   Blink   Rotation

11. Table Object

Easy registration without any drawing process of table. Text/Image/Numeric/String/Clock/Lamp objects can be set in table property dialog.

Table object   Registration

	ABC	ABC
ABC		123
ABC		123

Object setting by each cell

12. Easy and Powerful Programming by JAVA script

As the powerful functions of JAVA script, the most common used one, not only a simple command but also programming language can be set easily with samples.

JAVA script   Coding   TOP

Use of Smart TOP in Industrial Field

More Convenient and Safer

| LEGACY CONTROLLER | TOP DEVICE | TOP SERVER |

SERVO, PLC, TEMPERATURE CONTROLLER, FAN, MOTOR, ROBOT

TOPR, TOPRX, TOPRW, TOPRH

DATABASE, MRP/MES/ERP SERVER

Private/Encrypted Protocol

OPC UA/Modbus/Fieldbus

OPC UA/MQTT/Modbus

TOP-PCVIEW

FTP/VNC   WiFi/Internet

TOP TOOLS

TABLET/MOBILE(Android)

USER SERVICE

01. VNC(Virtual Network Computing)/FTP(File Transfer Protocol)

The screen of TOP in factory cab be monitored and controlled by remote PC, tablet, mobile device, and other TOP by VNC. Also file transferring is possible by FTP.

H/Q   VNC/FTP   Smart factory

Connecting

VNC is available in TOPR/TOPRX/TOPRW/TOPRH
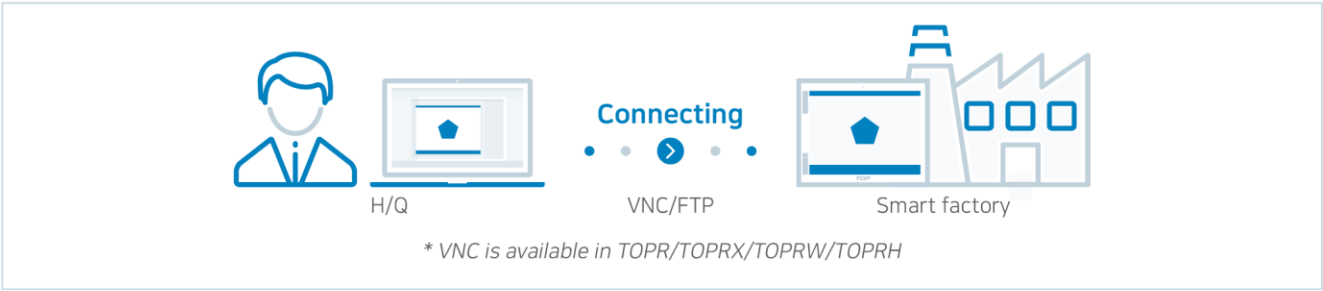
02. OPC UA(Open Platform Communications Unified Architecture) Protocol Supports

OPC UA is a future-oriented and expandable architecture. This makes PCVIEW(PC BASED HMI) gather and manage data stable.

03. E-mail, SMS Sending in Factory Fireld

E-mail and SMS set in program can be sent by field's condition. Manager or customer can receive the situation immediately by E-mail and SMS.

04. Multi Screen

A single screen can show several other screens with 'Screen call object'. Monitoring a number of screens is possible, and screen change will be done when this small screen call object is touched.

Multi screen layout   Select   Selected screen
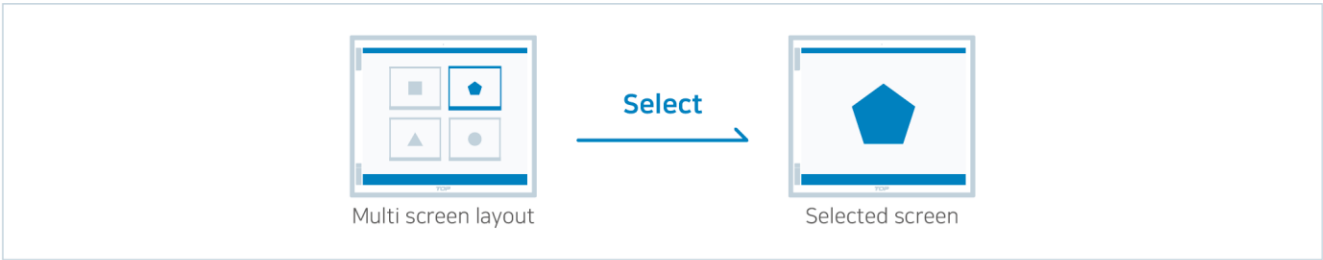
05. Using Big Screen with HDMI Out

Set a screen as multi screen, and show this to big monitor or TV by HDMI. HDMI screen can show individual screen as HDMI dual mode.

TOPR   HDMI   TV   OR   Monitor   OR   Projector

06. Thermal/IP/Video/Integrated Camera

TOPR premium model has an integrated camera in front side, and a video port which can connect a video camera. Thermal and IP camera can be connected to ethernet port, and USB camera is also connectable.
Operating with video and recording is possible. Also, making safer industrial environment is possible using this function in anti-fire or security area.

TOPR front camera   Video camera   USB camera   IP camera   TOPR/TOPRX   X 4   Thermal camera
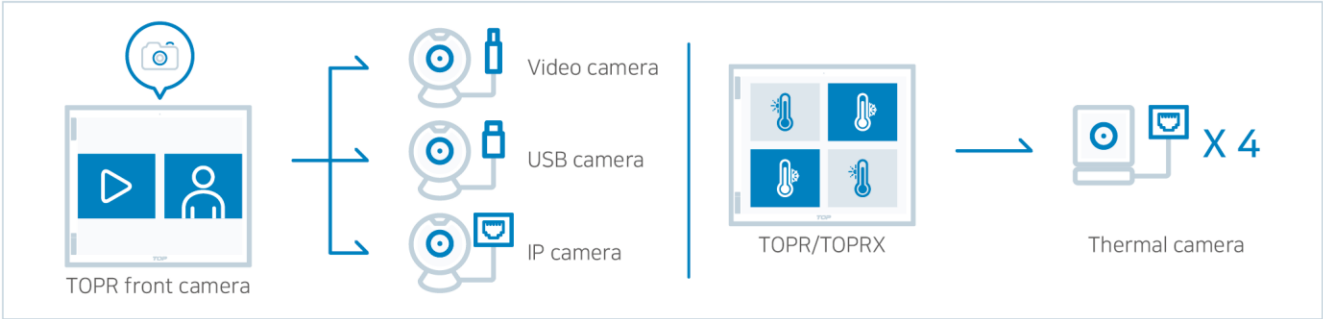
07. Immediate Graph Display of Data in SD Card

Sampling a data in SD card and showing it in record graph can make the analysis faster.

SD card data display by graph
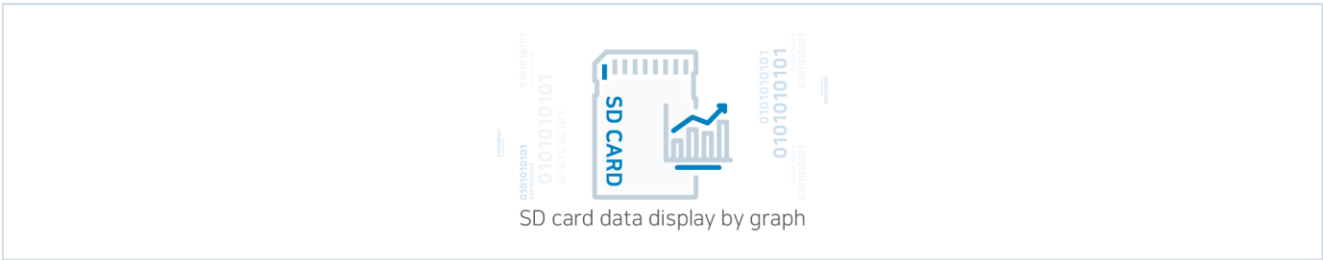
Use of Smart TOP in Industrial Field

More Convenient and Safer

08. Close Security Management and Convenient Log-in

TOP can set 16 levels of password to be safe security management. Log-in methods are input the password directly by keyboard, or using QR code, RFID tag. External reading device is needed for each method of log-in. Additionally, security log function is able to record the log-in and log-out, or save the video data of log-in spot by capture function.

QR code
Password   RFID tag
Choose the log-in method

User log-in   Lv.2
Security log   OR   Login capture
Checking security log
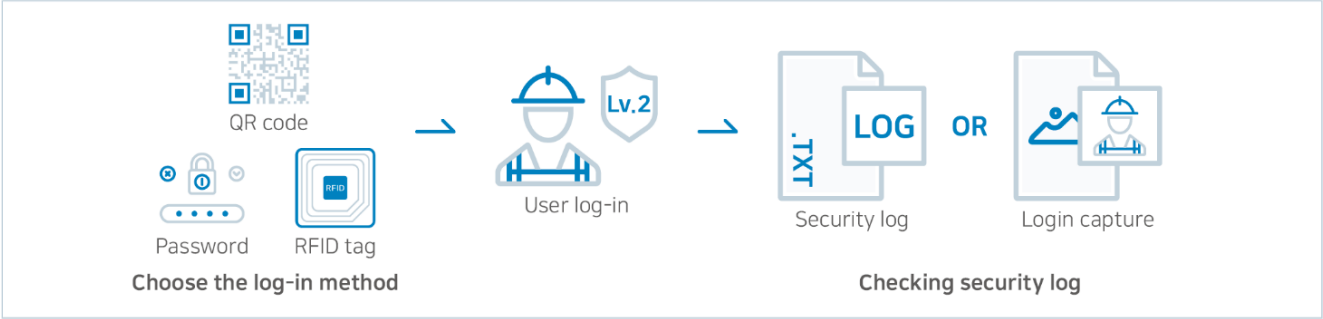
09. FDA 21CFR Part 11

Operator authorization, tracking the log of monitoring/control, managing DB and PDF file.

Operator authorization   Monitoring/Tracking   Database management   PDF management
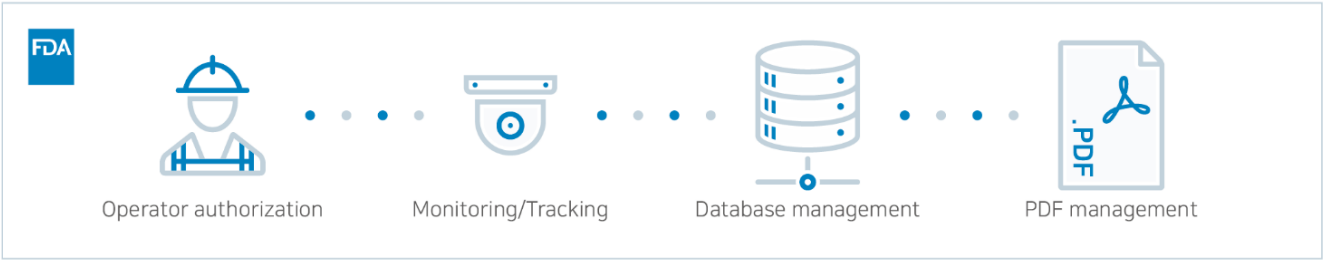
10. HSMS SECS GEM Protocol for Semiconductor Industry

Communication for Variable/Alarm/Report/Event/Item/Message/Host command and remote command/limit monitoring

Step. 01
Open/Make a project
Step. 02
Communication option
Step. 03
Symbol manger
* Available in TOPR/TOPRX
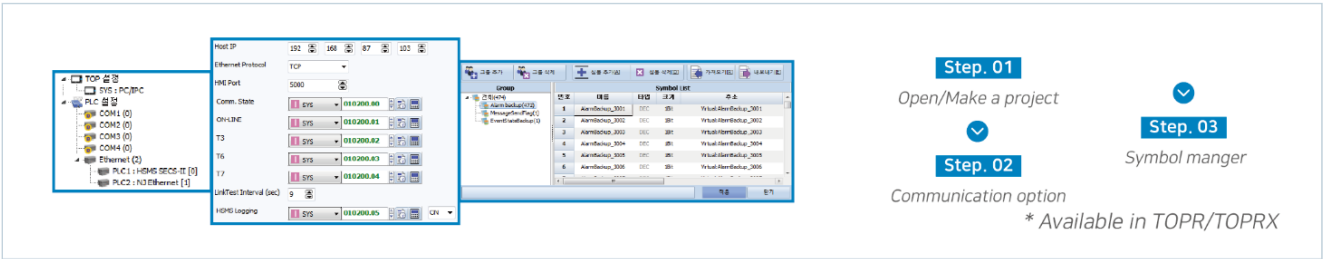
11. Memo Write/Read for Operator

Memo function with text/drawing mode on the spot is possible. Saved memo can be checked by a selected operator.

TOP
Memo draw up   Image or Text for message   OR   Operator check
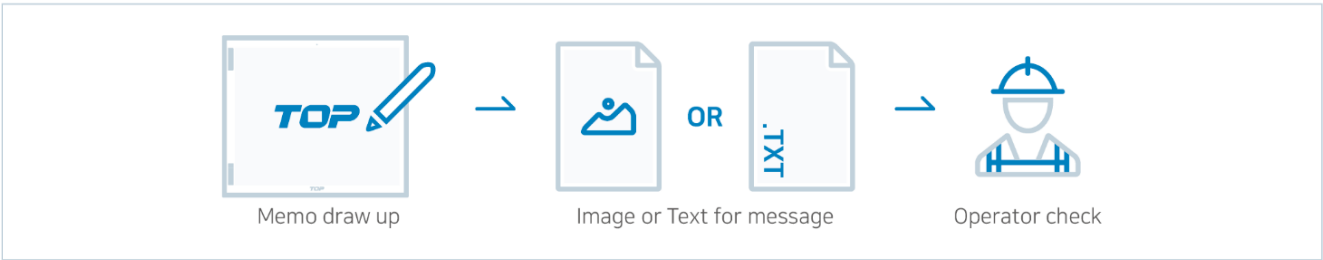
12. Log/Recipe Data Monitoring, Always On The Spot

There is Logviewer/Recipe menu in Top side menu, showed when you drag from upper outside to inside. [Logviewer' menu is a table format viewer for log file even in SD card. [Recipe editor] menu is also table format for recipe data in TOP's memory and editable of item names or data. So, additional object on the screen is not needed to check log/recipe data on the spot anytime.

Drag
Topside menu
Logviewer/Recipe
icon choice
TOP   Logviewer   Recipe
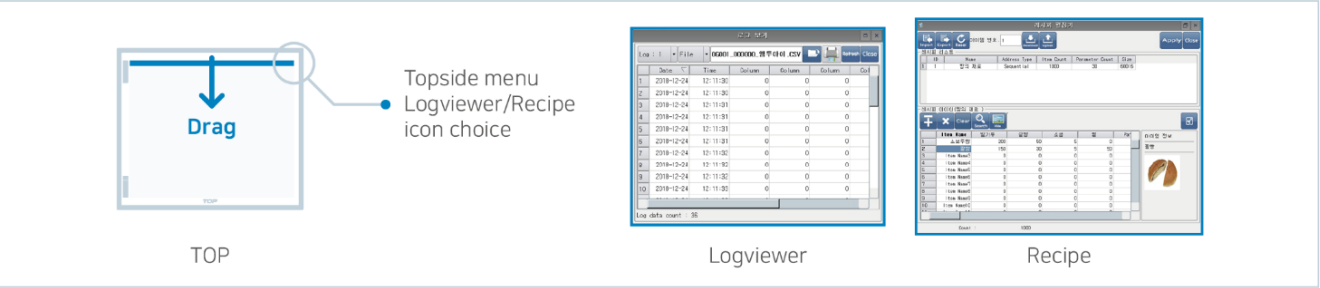
13. File Checking On The Spot, with Image/Text/PDF viewer

Screen captured images, text files like system log, and manuals in PDF format can be monitored immediately on TOP without transfer to Laptop or PC.

OR   .TXT   OR   .PDF
Image/System log/PDF manual   Check on the spot
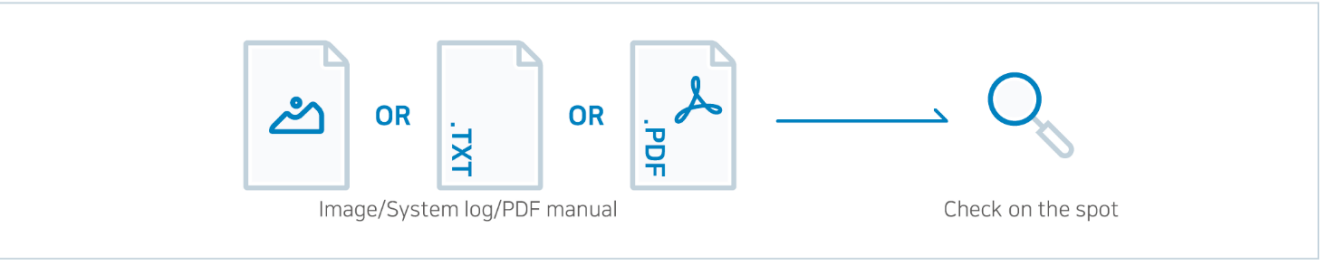
14. Project Change without PC, On The Spot

Using project browser menu, project launch file(HBZ) in USB memory/SD card/TOP internal memory can be selected. When the [OK] button is pushed, project can be changed on the spot.

USB   OR   SD CARD   IN   .HBZ   Change   .HBZ
USB/SD card   HBZ   New HBZ

15. Wider Use by Zoom Screen Function

Virtual working space, which is bigger than product's resolution, is supported.

Virtual working area
TOP
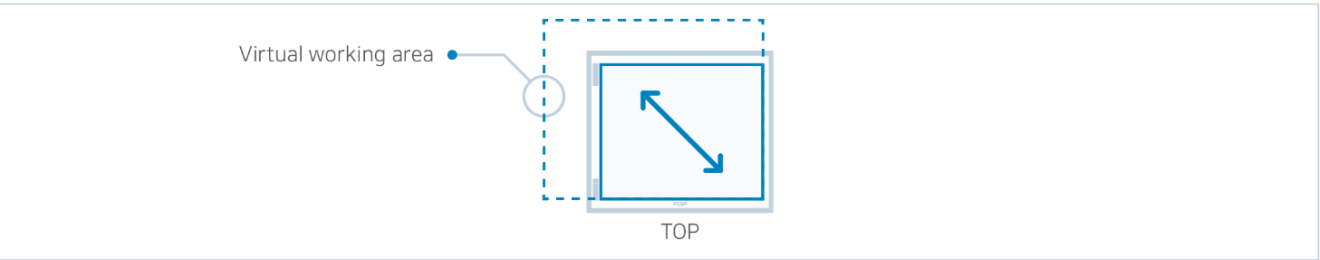
Solid and High-Performance Hardware   Smarter

TOPR,RX,RW,RE,RH support QUAD CORE CPU, 16M FULL COLOR

QUAD CORE CPU   Extraordinary speed ✕ **16M FULL COLOR**   Clean and detail display with bright and clear touch screen

Convenient TOP Menu

Top-side menu bar shows by drawing down from top side of screen. When EXIT button is pushed, screen is changed to menu screen. They are organized with Icons, and supporting korean/english. This menu support variable information and convenient functions.

Top-side menu

Exit | Browser | Capture | USB | VNC | Front USB | LogViewer | Recipe | System Monitor | CommTable Monitor | Screen Navigator | Security | Info | Close

Menu screen

Menu screen with icon UI like PC, which is more familiar. (Supporting VNC viewer, FTP, Project browser, File browser, Screen shot, Control panel, Information, etc)

Supplying various functions in menu as, Communication Status Checking/Touch Sensing Test and Calibration/Data Move/Setting Changes/Information Display. Menu Screen can be protected and managed by Admin Password functions.

Certificates

Representative Interfaces

USB OTG
Convertible port between 'Transmitter mode' to transfer the program and 'Host mode' to connect USB devices like memory, barcode reader, or camera.

SD Card
Saving data like Log/Alarm/Recipe, Up/Downloading files like Project/Image/Video/Text, and Recovery disk.

Ethernet Port
Connect with PLC, PC, camera, barcode reader, etc.

Rear USB HOST Port
Connect with barcode reader, camera, memory, etc.

Serial Port
Connect with PLC, servo, temp controller, barcode reader, etc.

This description introduces common ports for all series M2I supports, so each model's available port can be different. Please check exact port configuration in specifications and draws of each model.

Connectable Devices by Serial/Ethernet Port

Manufacturer	Series	CPU Type	RS-232C/422/485	Ethernet
PLC				
MITSUBISHI Electronic Corporation	MELSEC-Q	Q□□/00J/□□H/□□UDH/□□UDEH	●	●
	MELSEC iQ-R	R□□	●	●
	MELSEC-FX	FX0/1/2/1S/1N/2N/2NC	●	
		3U/3UC/3G	●	(ENET-ADP)
		10/20GM	●	
	MELSEC iQ-F	5U/5UC	●	●
	MELSEC-A	A1N/2N/3N	●	●
		A1S(H)/2S(H)/AOJ2(H)	●	●
		A2A/3A/2A-S1	●	●
		A2U/3U/4U/2USH	●	●
OMRON Industrial Automation	SYSMAC CJ2	CJ2H	●	●
	SYSMAC CJ1	CJ1G/1M	●	●
	SYSMAC CS1	CS1G/H	●	●
	NJ	NJ□□□		●
	NX	NX□□□		●
	SYSMAC CP	CP1L/1H	●	●
	SYSMAC C	C50/120/200/500/1000	●	
		CQM1/1H	●	
		CPM1/2A/2C	●	
	Mobile Robot LD	LD60/LD90		●
LS Industrial Systems	XGT	XGI/XGR/XEC/XMC	●	●
	XGB	XGK/XBM/XBC	●	●
	GLOFA-GM	GM1/2/3/4/6/7	●	●
	Master-K	80/120/200/300/1000S	●	●
		10S1/10/30/60/100S	●	
		50/200H	●	
		500(H)/1000	●	
SIEMENS AG.	SIMATIC S7-1200	All models		●
	SIMATIC S7-1500	All models		●
	SIMATIC S7-400	All models		●
	SIMATIC S7-300	All models	●	●
	SIMATIC S7-200	All models	●	
	LOGO!	0BA8		●
	SIMATIC S5	90/95/100/115/135/155U	●	
Rockwell Automation(Allen Bradely)	ControlLogix	1756	●	●
	CompactLogix	1768/1769	●	●
	MicroLogix	1000/1200/1500 system	●	
	SLC500	SLC5/03/04/05	●	
	PLC-5	PLC5/11/20/30/40/40L/60/60L	●	
MODBUS	MODBUS	All models	●	
	MODBUS/TCP	All models		●
GE Fanuc Intelligent Platforms	Series 90-30 PLC	IC693C□□□□□	●	●
	Series 90-70 PLC	IC697C□□□□□	●	●
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	●	
	M340	M340		●
PANASONIC Electric Works	FP	FP2(SH)/X/Σ/0/e/M/10S(H)/3/1,FP-X,FP7	●	●
YASKAWA Electric Corporation	MP900/2000/3000	MP920/930/2200/2300	●	●
YOKOGAWA Electric Corporation	SR100	SR100	●	
	FA-M3	F3SP□□-□N/H/S	●	●
FUJI Electric	Micrex-SX	SPH□□□	●	●
	Micrex-F	F, F□□(S/H), F1□□(S/H), F200	●	
KEYENCE Corporation	KV	KV-700/1000/3000/5000/7000/8000	●	●
		KV-10/24	●	
		Nano		●
KOYO Electronic Industries	DL-205/305/405	D2 240/330/430	●	
FATEK Automation Corporation	FBs	FBs-□□MA/MC/MN	●	
	FBe	FBe-□□MA/MC	●	
	FBn	FBn-□□MCT	●	
RS Automation	Alpha	N7/NX(70/700/750/CCU)	●	
	Plus	NX7/NX Plus(70P/700P/CCU+)	●	
	SPC	SPC-10/100/120S/300	●	
	N7_NX	70,/700/750	●	●
	X8	All models	●	●
KDT Systems	CM1	XP/CP	●	●
	CM2	BP	●	●
	CM3	S/SB	●	
TOSHIBA	T / V	All models	●	
Comfile Technology	Tiny PLC	TCP-3X/9X	●	
Hitachi Industrial Equipment Systems	HIDIC-H	EH-150	●	
		Micro EH		●

Manufacturer	Series	CPU Type	RS-232C/422/485	Ethernet
Delta	DVP	DVP series	●	
VIGOR Electric Corporation	M/VB/VH	M series / VB series / VH series	●	
HONEYWELL	HC900	HC900	●	●
IDEC Corporation	MicroSmart	FC3/FC4A	●	●
HAWE Hydraulik	PLVC	PLVC	●	
IAI Corporation	ACON	ACON-CB/CGB/C/CA/CG/SE/CY	●	
	PCON	PCON-CB/CGB/CFB/CGFB/CA/CFA/C/CG/CF/SE/CY	●	
	SCON	SCON-CB/CGB/CB-F/CA/CAL/CGAL/C	●	
	RCP6	RCP6S	●	
	ERC	ERC2/3	●	
	XSEL	XSEL-J/K/JX/KX/P/Q/PX/QX	●	
BECKHOFF	TwinCAT	TwinCAT supporting ADS/AMS		●
Azbil Corporation	SDC, DCP, DMC, CMC	SDC, DCP, DMC, CMC	●	
CODESYS	CODESYS V2		●	●
	CODESYS V3			●
B&R Automation	X20	X20	●	
JTEKT	TOYOPUC	PC10G, PC3J/PC3JX, Plus	●	●
Temperature Controller				
RKC Instrument	SRV	V-TIO-A/V-TIO-C	●	
	SRX	X-TIO-A	●	
	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	●	
SamwonTech	NOVA500	SD5□□/SL5□□/SP5□□/ST5□□	●	
	NOVA300	SD3□□/SS3□□/ST3□□	●	
	SP790	SP7□□	●	
YOKOGAWA Electric Corporation	UT/UP/UM	UT(/UP/UM/UD)3/4/5/7/10□□	●	
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	●	
Human Automation	TSD	V5-SC1T	●	
On Off Ststem	HSD	NEOS-HSD	●	
TOHO	TTM	TTM-00□	●	
TemcoLine	T50	T5□	●	
	N50	N5□	●	
	M74	M74	●	
Invertor				
LS Industrial Systems	Starvert Inverter	SV-iS7/G5A/P5A/C5/V5/G5/S5/H/V/S3	●	
FUJI Electric Systems	Inverter	FRN□□□□11S-□	●	
Weight Indicator				
AND	AD	AD4326/4327/4328/4329	●	
CAS	CI/NT	CI/NT	●	
	XB	XB	●	
	CI-1580A	CI-1580A	●	
BONGSHIN	BS	BS	●	
SEHWA CNM	SI	SI-4□□□	●	
Shinhan Electronics	SH	SH-5100	●	
MINEBEA	CSD	CSD-912/912B-EX/903/904-EX/891B/815B/701B/709/819C/401	●	
Barcode Reader				
General Barcode Reader	Barcode	USB/RS-232C	●	
KEYENCE Corporation	Barcode	BL-1300 Sereis	●	
OMRON Industrial Automation	Barcode	MicroHAWK Barcode Reader		●
Cognex Corporation	Barcode	DataMan Series		●
OPTION	Barcode	NLV		●
KEYENCE Corporation	Barcode	SR Series(SR1000/SR1000W/SR-X300/SR-X300W)	●	●
RFID Reader				
OMRON Industrial Automation	RFID	V680	●	
	RFID	V680S		●
LS Industrial Systems	RFID	XCODE-1306/1307	●	
CEYON Technology	RFID	TRA5		●
	RFID	CRE1356		●
SICK AG.	RFID	RFH6xx	●	
SYSTEMK	RFID	HFR-2AM/4AM		●
Motion Controller				
DST ROBOT(former DONGBU)	iMS-J	iMS-J	●	
	iM-Σ	iM-Σ2/3/4/5/6/7/8	●	
	iM-U	iM-U	●	●
	DTR	DTR2/3/4	●	
ROBOSTAR	Newro	RCS6000/RCM	●	
EMOTIONTEK	MCU	MCU-MA/MP/XA/XP	●	
	MCU2	MCU-MA2/MP2/XA2/XP2	●	

Manufacturer	Series	CPU Type	RS-232C/422/485	Ethernet
	MCS	MCS-80A4/P4/A8/P8	●	
	MCSH	MCSH-1/2/16/80	●	
	MCST	MCST-16		●
	MDA	MDA7000	●	
OMRON Industrial Automation	Campositioner	3F88L-160/162	●	
FASTECH	Ezi-Servo	Plus-R	●	
		Plus-E		●
Gidding & Lewis	MMC	MMC		●
TOSHIBA	COMPO	COMPO ARM ROBOT	●	
Lenze	L-Force	L-Force servo		●
Delta-Tau	PMAC	PMAC	●	●
MiSUMi	EXRS-C1	EXRS-C1	●	
CSCAM	GX	All models	●	
Servo				
MITSUBISHI Electronic Corporation	MELSERVO	MR-J2S/M, MR-J3, MR-J4	●	
HIGEN Motor(former OTIS)	FDA	FDA6000/7000	●	
LS MECAPION(former Metronix)	Anypack	APD-VS/VP/VK/VN□□	●	
	MXQ	MXQ-20/21/40/41	●	
Parker Hannifin	Compax3	All models	●	
LinMot	LinRS	B1100/E1100/E1200/E1400	●	
Screw Driver				
KOLVER Srl	EDU	2AE/TOP/TA/MITO	●	
Atlas Copco	MT Focus	400	●	
	Power Focus	6000	●	●
TOHNICHI	CEM/CTB	CEM3-G/CTB2-G	●	
SEHAN Electools	SHC	All models	●	
Measurement				
YOKOGAWA Electric Corporation	Chart Recorder	μR10000/20000		●
SAMAHN TECH	Air Speed Meter	Air Speed Meter	●	
Ophir Optronics Solutions	Laser Power Meter	Nova II - Thermopile	●	
ROOTECH	Digital Power Meter	Accura Series		●
Green Power	CPS	CPS Master / Slave	●	
DONGDO TECH	ML	ML Series	●	
SERVOMEX	DF	DF-3□□E, DF-7□□	●	
Tiger Optics	HALO	HALO KA, HALO 3	●	
MKP	MFC	VIC-D2000 Series	●	
OMRON Industrial Automation	EQUO Series	Air Thermo Station		●
SCS	A100	A100-Series	●	
Wireless Data Receiver				
PATLITE	WDR	WDR-LE-Z2		●
Multiplexer				
S.I TECH	MUX	MUX	●	
Camera				
S & E	TMS	TMS 080/160		●
Motor				
CKD	ABSODEX	All models	●	
Printer				
ZEBRA	Printer	Printer	●	●
DDC				
ASIC	DDC	DDC	●	
Speed tech	ExtDDC	ST/PS, ST/RS, ASIC/2-7040	●	
Fieldbus				
EtherCAT				
CANopen			●	
Ethernet/IP				●
Industrial Control System				
OPC UA				●
Building Automation				
BACnet/IP				●
BACnet/MSTP			●	
Power System Automation				
IEC 60870-5-101			●	
DNP3				●
Image Stream				
Cognex Corporation	Insight Vision	Insight Vision		●
Leuze Electronic	IPS 200i	IPS 200i		●
Other Standard Protocol				
SECS	HSMS			●
IP Camera	RTSP/RTP			●
NMEA0183			●	
IPC-Hermes Standard	IPC-Hermes	Upstream/DownStream		●

* This connectable device list can be changed and updated per development situation

TOP R

Detachable Aluminum Body with Multimedia Functions

Premium/Standard/ATEX Model

EMBEDDED **HMI**

SMART X HMI

FEATURES

QUAD CORE CPU

Quad core processor supplying rapid processing speed

16M FULL COLOR

Bright and vivid full color, supports vector image library

ALUMINUM FRAME

Aluminum body with outstanding durability and splendid design

DETACHABLE UNIT STRUCTURE

Efficient combinaton of variable-size display unit and process unit depend on system requirement

SUPPORTING 2 ETHERNET CHANNELS

2 Ethernet channels with different IP

FRONT-SIDE OTG USB

Supporting both HOST mode(USB devices i.e.memory, barcode reader, camera, etc) and program transmission mode

T6

T6 TEMPERATURE LEVEL CERTIFICATION

KCs(Korea), CCC(China), ATEX(Europe), Hazloc(North America), IECEx(Global) certification

MULTIMEDIA FEATURE(PREMIUM MODEL)

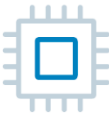Front-side camera, audio output, video input, HDMI output

INTERFACE

SERIAL 3 PORTS | ETHERNET 2 CHANNEL | USB HOST 2 PORTS | USB OTG | SD CARD
OPTION MODULE | CAMERA | HDMI OUT | AUDIO OUT | VIDEO IN
* Multimedia functions are supported only in premium model

CERTIFICATION

KC   CE   c(UL)us LISTED   KCs   CCC   IECEx   Ex

DISPLAY UNIT   PREMIUM MODEL

	Functional	TOPRD1520X	TOPRD1220X	TOPRD1020S
Display	Display Type	15" TFT Color	12.1" TFT Color	10.4" TFT Color
	Color	16M Colors		
	Display Area(㎜)	304.1x228.1	246x184.5	211.2x158.4
	Resolution(dot)	1024x768	1024x768	800x600
	Brightness Level	10 Levels(by software)		
	Backlight Type	LED		
	Backlight Life	50,000 hours		
Touch	Touch Type	Analog resistive film		
	Resolution(Cell)	1024x768	1024x768	800x600
	Touch Life	1 million times or more		
Embedded Device	Front Camera	USB UVC Max. Resolution: 640x480		
Structure	Panel Cut(㎜)	355x286	306x247	260x202
	External Dimension(㎜)	370x301x36.7	320x261x34.2	276x219.5x32.6
	Weight(kg)	3.58	2.44	1.88

PROCESS UNIT

* Process unit can be assembled with variable display units

	Functional	TOPRP20D
Interface	Serial COM1	RS-232C, RS-422/485 Asynchronous +5Vdc PWR Data bit: 7/8 bits, Stop bit: 1/2 bits, Parity bit: None/Odd/Even Baud rate: 2400~115.2kbps Connector: DSUB 9pin x 1
	Serial COM2	RS-232C, RS-422/485 Asynchronous Data bit: 7/8 bits, Stop bit: 1/2 bits, Parity bit: None/Odd/Even Baud rate: 2400~115.2kbps Connector: DSUB 9pin x 1
	Serial COM3	RS-485 Asynchronous Data bit: 7/8 bits, Stop bit: 1/2 bits, Parity bit: None/Odd/Even Baud rate: 2400~115.2kbps Connector: 3.5mm 3pin x 1
	Ethernet	IEEE802.3i/IEEE802.3u, 10BASE-T/100BASE-TX Connector: RJ-45 x 2
	USB Host	USB 2.0 Compatible, Output 5Vdc/0.5A Support: USB Storage, USB Barcode Scanner(Standard Keyboard Protocol) Connector: USB Type A x 2
	USB OTG	USB 2.0 Compatible, Output 5Vdc/0.5A, Max 3m Support: USB Storage, USB Barcode Scanner(Standard Keyboard Protocol) Connector: USB Micro-B(Front) x 1
	SD Card	SD Card Slot x 1, SDHC(MAX 32GB)
	Option Modules	CAM32
	HDMI Output	HDMI v1.4a, HDMI Output, Max. Resolution: 1920x1080 at 60Hz Connector: HDMI x 1
	Video Input	Decodes NTSC, PAL or SECAM composite video, S-Video Connector: RCA socket x 1
	Audio Output	Stereo output Connector: 3.5mm Audio socket x 1
	Printer	Roll Printer(EPSON protocol)
Memory & Others	Screen memory	128MB
	Backup memory	512KB: System buffer(10K Word), Including Alarm/Logging/Recipe
	Backup Period	Permanent
	Real Time Clock	Built in
	Status LED	3 LEDs(Power, Operation, Link) Built in
Structure	External Dimension(㎜)	201.6x147.6x37.3
	Weight(kg)	0.82

DISPLAY UNIT   STANDARD MODEL

	Functional	TOPRD1510X	TOPRD1210S	TOPRD1010S
Display	Display Type	15" TFT Color	12.1" TFT Color	10.4" TFT Color
	Color	16M Colors		
	Display Area(㎜)	304.1x228.1	246x184.5	211.2x158.4
	Resolution(dot)	1024x768	800x600	800x600
	Brightness Level	10 Levels(by software)		
	Backlight Type	LED		
	Backlight Life	50,000 hours		
Touch	Touch Type	Analog resistive film		
	Resolution(Cell)	1024x768	800x600	800x600
	Touch Life	1 million times or more		
Structure	Panel Cut(㎜)	355x286	306x247	260x202
	External Dimension(㎜)	370x301x36.7	320x261x34.2	276x219.5x32.6
	Weight(kg)	3.58	2.44	1.88

PROCESS UNIT

* Process unit can be assembled with variable display units

	Functional	TOPRP10D
Interface	Serial COM1	RS-232C, RS-422/485 Asynchronous +5Vdc PWR Data bit: 7/8 bits, Stop bit: 1/2 bits, Parity bit: None/Odd/Even Baud rate: 2400~115.2kbps Connector: DSUB 9pin x 1
	Serial COM2	RS-232C, RS-422/485 Asynchronous Data bit: 7/8 bits, Stop bit: 1/2 bits, Parity bit: None/Odd/Even Baud rate: 2400~115.2kbps Connector: DSUB 9pin x 1
	Serial COM3	RS-485 Asynchronous Data bit: 7/8 bits, Stop bit: 1/2 bits, Parity bit: None/Odd/Even Baud rate: 2400~115.2kbps Connector: 3.5mm 3pin x 1
	Ethernet	IEEE802.3i/IEEE802.3u, 10BASE-T/100BASE-TX Connector: RJ-45 x 2
	USB Host	USB 2.0 Compatible, Output 5Vdc/0.5A Support: USB Storage, USB Barcode Scanner(Standard Keyboard Protocol) Connector: USB Type A x 2
	USB OTG	USB 2.0 Compatible, Output 5Vdc/0.5A, Max 3m Support: USB Storage, USB Barcode Scanner(Standard Keyboard Protocol) Connector: USB Micro-B(Front) x 1
	SD Card	SD Card Slot x 1, SDHC(MAX 32GB)
	Option Modules	EtherCAT, CAM32
	Printer	Roll Printer(EPSON protocol)
Memory & Others	Screen memory	128MB
	Backup memory	512KB: System buffer(10K Word), Including Alarm/Logging/Recipe
	Backup Period	Permanent
	Real Time Clock	Built in
	Status LED	3 LEDs(Power, Operation, Link) Built in
Structure	External Dimension(㎜)	201.6x147.6x37.3
	Weight(kg)	0.82

DISPLAY + PROCESS UNIT   PREMIUM/STANDARD MODEL

	Functional	15"	12.1"	10.4"
Power	Input Voltage	24Vdc(20~28Vdc)		
	Power Consumption	18W	15W	15W
	Voltage Sag	24Vdc, Within 10ms		
	Insulation Resistance	500Vdc, 10㏁		
Environment	Operation Temperature(℃)	-10 ~ +50		
	Storage Temperature(℃)	-20 ~ +60		
	Operation Humidity(%RH)	0 ~ 90(No Dew)		
	Atmosphere	No corrosive gas		
	Vibration Endurance	Amplitude: 10≤F < 25Hz(2G) X,Y,Z each direction(for 30 minutes)		
	Noise Immunity	1000Vp-p(Pulse width 1㎲)		
	Static Electricity Discharge	Connective discharge from EN61000-4-2: ±4kV		
	Shock Endurance	10G X,Y,Z each direction(for 3 times)		
	Ground Connection	Class 3(100Ω or less)		
	Protection Classification	IP65(Front)		
	Certification	CE, KC, UL		
Structure	Weight(kg)	4.4	3.26	2.7
	Cooling System	Natural air circulation		
	Case Material	AL(Aluminum)		

DISPLAY UNIT

ATEX MODEL

Functional		TOPRT1210SD-Ex
Display	Display Type	12.1" TFT Color
	Color	16M Colors
	Display Area(㎜)	246x184.5
	Resolution(dot)	1024x768
	Brightness Level	10 Levels(by software)
	Backlight Type	LED
	Backlight Life	50,000 hours
Touch	Touch Type	Analog resistive film
	Resolution(Cell)	1024x768
	Touch Life	1 million times or more
Embedded Device	Front Camera	USB UVC Max. resolution: 640x480, 4 Adjustable angles: Up 20º, 10º, 0º, Down 10º
Structure	Panel Cut(㎜)	306x247
	External Dimension(㎜)	320x261x34.2
	Weight(kg)	2.44

PROCESS UNIT

Functional		TOPRT1210SD-Ex
Interface	Serial COM1	RS-232C, RS-422/485 Asynchronous +5Vdc PWR Data bit: 7/8 bits, Stop bit: 1/2 bits, Parity bit: None/Odd/Even Baud rate: 2400~115.2kbps Connector: DSUB 9pin x 1
	Serial COM2	RS-232C, RS-422/485 Asynchronous Data bit: 7/8 bits, Stop bit: 1/2 bits, Parity bit: None/Odd/Even Baud rate: 2400~115.2kbps Connector: DSUB 9pin x 1
	Serial COM3	RS-485 Asynchronous Data bit: 7/8 bits, Stop bit: 1/2 bits, Parity bit: None/Odd/Even Baud rate: 2400~115.2kbps Connection: 3.5mm 3pin x 1
	Ethernet	IEEE802.3i/IEEE802.3u, 10BASE-T/100BASE-TX Connector: RJ-45 x 2
	USB Host	USB 2.0 Compatible, Output 5Vdc/0.5A Support: USB Storage, USB Barcode Scanner(Standard Keyboard Protocol) Connector: USB Type A x 2
	USB OTG	USB 2.0 Compatible, Output 5Vdc/0.5A, Max 3m Support: USB Storage, USB Barcode Scanner(Standard Keyboard Protocol) Connector: USB Micro-B(Front) x 1
	SD Card	SD Card Slot x 1, SDHC(Max. 32GB)
	Option Modules	EtherCAT, CAM32
	Printer	Roll Printer(EPSON protocol)
Memory & Others	Screen Memory	128MB
	Backup Memory	512KB: System Buffer(10K Word), Including Alarm/Logging/Recipe
	Backup Period	Permanent
	Real Time Clock	Built in
	Status LED	3 LEDs(Power, Operation, Link) Built in
Structure	External Dimension(㎜)	201.6x147.6x37.3
	Weight(kg)	0.82

DISPLAY + PROCESS UNIT

Functional		TOPRT1210SD-Ex
Power	Input Voltage	24Vdc(20~28Vdc)
	Power Consumption	15W
	Voltage Sag	24Vdc, Within 10ms
	Insulation Resistance	500Vdc, 10㏁
Environment	Operation Temperature(℃)	-10 ~ +50
	Storage Temperature(℃)	-20 ~ +60
	Operation Humidity(%RH)	0 ~ 90(No Dew)
	Atmosphere	No corrosive gas
	Vibration Endurance	Amplitude: 10≤F < 25㎐(2G) X,Y,Z each direction(for 30 minutes)
	Noise Immunity	1000Vp-p(Pulse width 1μs)
	Static Electricity Discharge	Connective discharge from EN61000-4-2: ±4kV
	Shock Endurance	10G X,Y,Z each direction(for 3 times)
	Ground Connection	Class 3(100Ω or less)
	Protection Classification	IP65(Front) for CE/KC/UL, IP54(Front) for CCC, IP4X(Front) for KCs
	Certification	CE, KC, UL, KCs, CCC, ATEX, IECEx, Hazloc
Structure	Weight(kg)	3.26
	Cooling System	Natural air circulation
	Case Material	AL(Aluminum)

DRAWING

* Each inch model's blueprint size of premium model and standard model are same
* Each port's name and position are refered to 15 inch model's blueprint

Premium model
TOPRD1520X + TOPRP20D

Standard model
TOPRD1510X + TOPRP10D

① USB OTG(Micro 5Pin B-Type)
② Power Lamp
③ Camera
④ USB Host 2P
⑤ HDMI Output
⑥ Video Input
⑦ Audio Output
⑧ SD Card Slot
⑨ Serial COM2
⑩ Serial COM1
⑪ Ethernet 2Ch
⑫ Status LED
⑬ Expansion Module Connector
⑭ Power Input
⑮ Serial COM3

* The port in blue color is available only in premium model.

Premium model
TOPRD1220X + TOPRP20D

Standard model
TOPRD1210S + TOPRP10D

ATEX model
TOPRT1210SD-Ex

Premium model
TOPRD1020S + TOPRP20D

Standard model
TOPRD1010S + TOPRP10D

TOP RX

The Series Developed TOPR's Function from XTOP Products

Normal/EX Model

EMBEDDED **HMI**

SMART X HMI

MANUFACTURING MIXER CONTROL

FEATURES

QUAD CORE CPU
Quad core processor supplying rapid processing speed

16M FULL COLOR
Bright and vivid full color, supports vector image library

TOUCH DRAG FEATURE
Available touch drag to make a picture memo or scroll down to appear top-side menu

RRFIND INTEGRATED BODY
Refined integrated body with advantage of easy

COMPATIBILITY WITH XTOP SERIES
Same panel cut size of XTOP series easy to replace discontinued XTOP model

SUPPORTING 2 ETHERNET CHANNELS
2 Ethernet channels with different IP (10" or upper model)

FRONT-SIDE OTG USB
Supporting both HOST mode(USB devices i.e.Memory, barcode reader, etc) and program transmission mode

T6 TEMPERATURE LEVEL CERTIFICATION
KCs(Korea), CCC(China), ATEX(Europe), Hazloc(North America), IECEx(Global) certification

INTERFACE

SERIAL 3(2) PORTS | ETHERNET 2(1) CHANNEL | USB HOST | USB OTG | SD CARD

* 15", 12",10", 8", 5" please check the number of ports by each model

CERTIFICATION

TOPRX SPECIFICATIONS

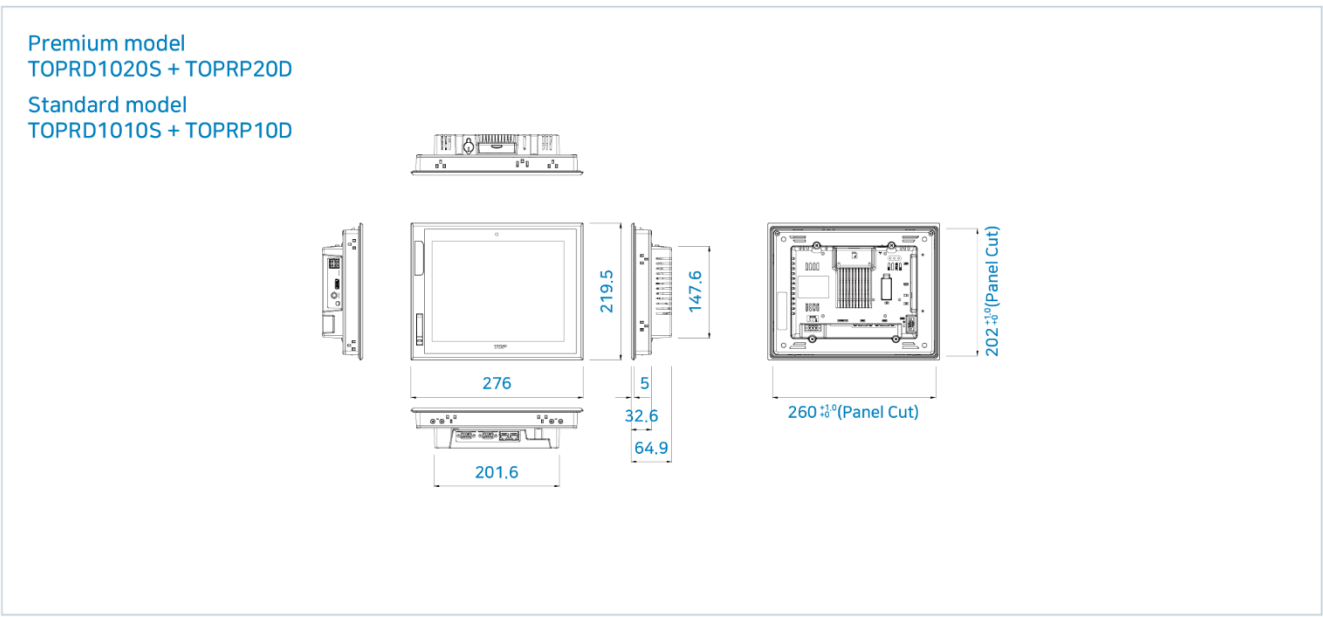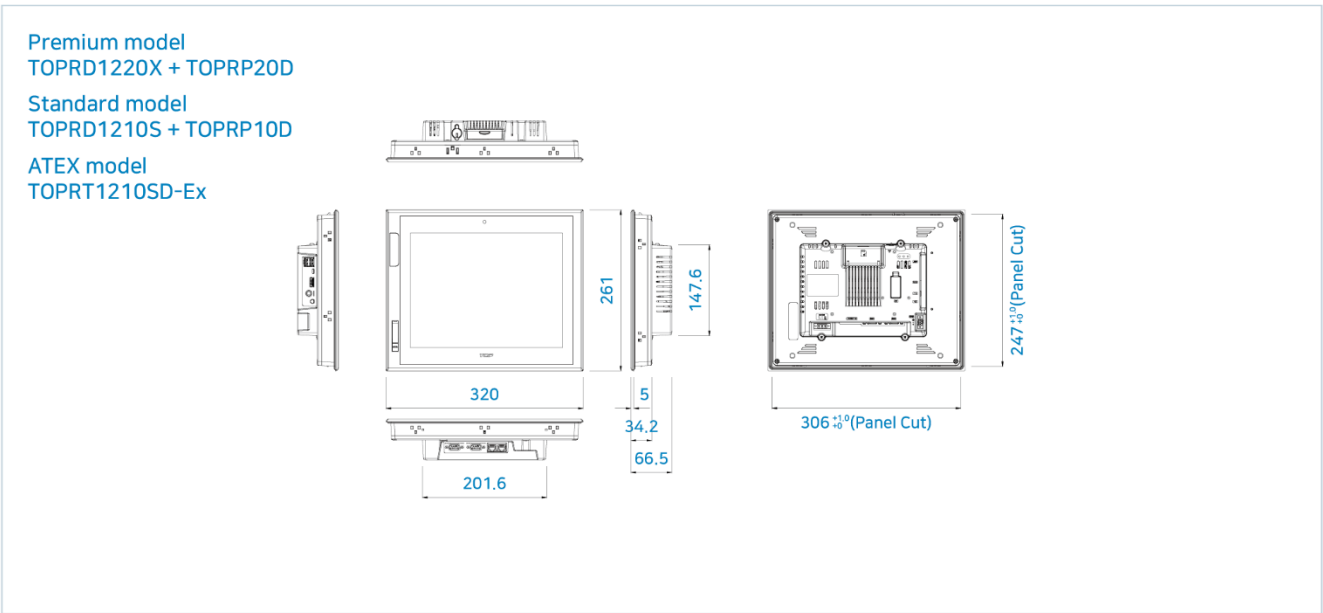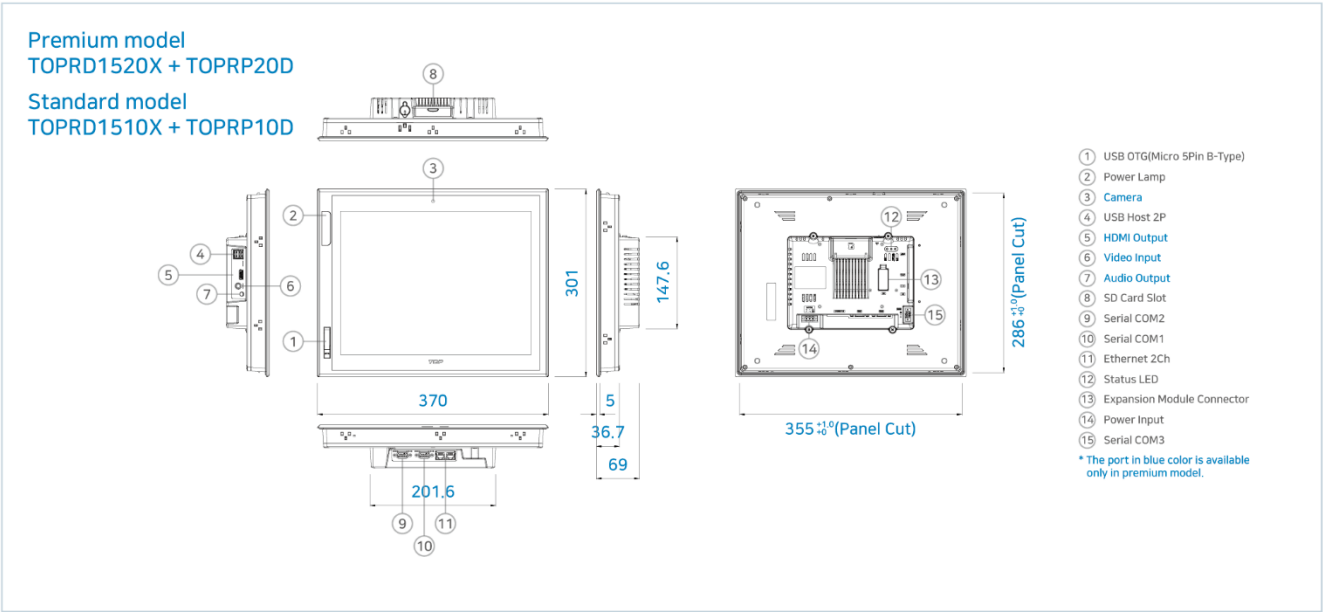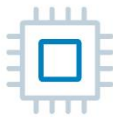| Functional		General model	TOPRX 1500XD	TOPRX 1200XD	TOPRX 1200SD	TOPRX 1000SD	TOPRX 1000VD	TOPRX 0800SD	TOPRX 0800VD	TOPRX 0500VD
		Explosion proof model	TOPRX 1500XD-Ex	TOPRX 1200XD-Ex	TOPRX 1200SD-Ex	TOPRX 1000SD-Ex	TOPRX 1000VD-Ex			
Display	Display Type		15" TFT Color	12.1" TFT Color	12.1" TFT Color	10.4" TFT Color	10.4" TFT Color	8.4" TFT Color	8.4" TFT Color	5.6" TFT Color
	Color		16M Colors							
	Display Area(mm)		304.1x228.1	246x184.5	246x184.5	211.2x158.4	211.2x158.4	170.4x127.8	170.9x128.2	112.9x84.7
	Resolution(dot)		1024x768	1024x768	800x600	800x600	640x480	800x600	640x480	640x480
	Brightness Level		10 Levels(by software)							
	Backlight Type		LED							
	Backlight Life		50,000 hours							
Touch	Touch Type		Analog resistive film							
	Resolution(cell)		1024x768	1024x768	800x600	800x600	640x480	800x600	640x480	640x480
	Touch Life		1 million times or more							
Interface	Serial COM1		RS-232C, RS-422/485 Asynchronous +5Vdc PWR Data bit: 7/8 bits, Stop bit: 1/2 bits, Parity bit: None/Odd/Even Baud rate: 2400~115.2kbps Connector: DSUB 9pin x 1							
	Serial COM2		RS-232C, RS-422/485 Asynchronous Data bit: 7/8 bits, Stop bit: 1/2 bits, Parity bit: None/Odd/Even Baud rate: 2400~115.2kbps Connector: DSUB 9pin x 1							
	Serial COM3		RS-485 Asynchronous Data bit: 7/8 bits, Stop bit: 1/2 bits, Parity bit: None/Odd/Even Baud rate: 2400~115.2kbps Connector: 3.5mm 3pin x 1					Not available		
	Ethernet		IEEE802.3i/IEEE802.3u, 10BASE-T/100BASE-TX Connector: RJ-45 x 2					IEEE802.3i/IEEE802.3u, 10BASE-T/100BASE-TX Connector: RJ-45 x 1		
	USB Host		USB 2.0 Compatible, Output 5Vdc/0.5A Support: USB Storage, USB Barcode Scanner(Standard Keyboard Protocol) Connector: USB Type A x 1							
	USB OTG		USB 2.0 Compatible, Output 5Vdc/0.5A, Max 3m Support: USB Storage, USB Barcode Scanner(Standard Keyboard Protocol) Connector: USB Mini-B(Front) x 1							
Memory & Others	SD Card		SD Card Slot x 1, SDHC(MAX 32GB)							
	Printer		Roll Printer(EPSON protocol)							
	Screen Memory		128MB							
	Backup Memory		512KB: System buffer(10K Word), Including Alarm/Logging/Recipe							
	Backup Period		Permanent							
	Real Time Clock		Built in							
	Status LED		3 LEDs(Power, Operation, Link) Built in							
Power	Input Voltage		24Vdc(20~28Vdc)							
	Power Consumption		18W	15W			12W			
	Voltage Sag		24Vdc, Within 10㎳							
	Insulation Resistance		500Vdc, 10㏁							
Environment	Operation Temperature(℃)		-10 ~ +50							
	Storage Temperature(℃)		-20 ~ +60							
	Operation Humidity(%RH)		0 ~ 90(No dew)							
	Atmosphere		No corrosive gas							
	Vibration Endurance		Amplitude: 10≤F<25Hz(2G) X,Y,Z each direction(for 30 minutes)							
	Noise Immunity		1000Vp-p(Pulse width 1㎲)							
	Static Electricity Discharge		Connective discharge from EN61000-4-2: ±4kW							
	Shock Endurance		10G X,Y,Z each direction(for 3 times)							
	Ground Connection		Class 3(100Ω under)							
	Protection Classification		General model: IP65(Front), Explosion proof model: IP54(Front) for CCC, IP4X(Front) for KCs							
	Certification		General model: CE, KC, UL Explosion proof model: CE, KC, UL, KCs, CCC, ATEX, IECEx, Hazloc							
Structure	Panel Cut(㎜)		355x286	306x247	306x247	260x202	260x202	222x168	222x168	158x126
	External Dimension(㎜)		369x300x67.2	320x261x64.7	320x261x64.7	274x216x64.7	274x216x64.7	236x182x58.9	236x182x58.9	172x140x58
	Weight(㎏)		2.78	2.18	2.18	1.68	1.68	1.06	1.06	0.62
	Cooling System		Natural air circulation							
	Case Material		PC(Resistance to flame)							

DRAWING

Standard model
TOPRX1500XD

EX model
TOPRX1500XD-Ex

① USB OTG(Mini 5Pin B-Type)
② USB Host 1P
③ Ethernet 2Ch
④ Serial COM2
⑤ Serial COM1
⑥ SD Card Slot
⑦ Status LED
⑧ Power Input
⑨ Serial COM3

300 | 369 | 6 | 67.2 | 286$^{+1}_{0}$(Panel Cut) | 355$^{+1}_{0}$(Panel Cut)

Standard model
TOPRX1200XD
TOPRX1200SD

EX model
TOPRX1200XD-Ex
TOPRX1200SD-Ex

① USB OTG(Mini 5Pin B-Type)
② USB Host 1P
③ Ethernet 2Ch
④ Serial COM2
⑤ Serial COM1
⑥ SD Card Slot
⑦ Status LED
⑧ Power Input
⑨ Serial COM3

261 | 320 | 6 | 64.7 | 247$^{+1}_{0}$(Panel Cut) | 306$^{+1}_{0}$(Panel Cut)

Standard model
TOPRX1000SD
TOPRX1000VD

EX model
TOPRX1000SD-Ex
TOPRX1000VD-Ex

① USB OTG(Mini 5Pin B-Type)
② USB Host 1P
③ Ethernet 2Ch
④ Serial COM2
⑤ Serial COM1
⑥ SD Card Slot
⑦ Status LED
⑧ Power Input
⑨ Serial COM3

216 | 274 | 6 | 64.7 | 202$^{+1}_{0}$(Panel Cut) | 260$^{+1}_{0}$(Panel Cut)

Standard model
TOPRX0800SD
TOPRX0800VD

① USB OTG(Mini 5Pin B-Type)
② USB Host 1P
③ Ethernet 1Ch
④ Serial COM2
⑤ Serial COM1
⑥ SD Card Slot
⑦ Status LED
⑧ Power Input

182 | 236 | 6 | 58.9 | 168$^{+1}_{0}$(Panel Cut) | 222$^{+1}_{0}$(Panel Cut)

Standard model
TOPRX0500VD

① USB OTG(Mini 5Pin B-Type)
② USB Host 1P
③ Ethernet 1Ch
④ Serial COM2
⑤ Serial COM1
⑥ SD Card Slot
⑦ Status LED
⑧ Power Input

140 | 172 | 6 | 58 | 126$^{+1}_{0}$(Panel Cut) | 158$^{+1}_{0}$(Panel Cut)

TOPRW

With a Wider Screen

TOPRW Series

EMBEDDED **HMI**

SMART X HMI

FEATURES

QUAD CORE CPU
Quad core processor supplying rapid processing speed

16M FULL COLOR
Bright and vivid full color, supports vector image library

TOUCH DRAG FEATURE
Available touch drag to make a picture memo or scroll down to appear top-side menu

REFINED INTEGRATED BODY
Refined integrated body with advantage of easy

800x480 HIGH RESOLUTION
With 10", 7", 5" wide screen ratio, expansion of work-area available

COMPATIBILITY WITH XTOP SERIES
With same panel cut size of XTOP, easy to replace discontinued XTOP model

FRONT-SIDE OTG USB
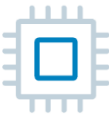Supporting both HOST mode(USB devices i.e.Memory, barcode reader, etc) and program transmission mode

INTERFACE

SERIAL 2 PORTS | ETHERNET 1 CHANNEL | USB HOST | USB OTG | SD CARD

* USB HOST functions is supported only in 10" and 7"

CERTIFICATION

KC   CE   c UL us LISTED

TOPRW SPECIFICATIONS

	Functional	TOPRW1000WD	TOPRW0700WD	TOPRW0700WD NE	TOPRW0500WD
Display	Display Type	10.2" TFT Color	7" TFT Color		5" TFT Color
	Color	16M Colors			
	Display Area(mm)	222x132.48	154x86		108x64.8
	Resolution(dot)	800x480			
	Brightness Level	10 Levels(by software)			
	Backlight Type	LED			
	Backlight Life	50,000 hours			
Touch	Touch Type	Analog resistive film			
	Resolution(Cell)	800x480			
	Touch Life	1 million times or more			
Interface	Serial COM1	RS-232C Asynchronous +5Vdc PWR Data bit: 7/8 bits, Stop bit: 1/2 bits, Parity bit: None/Odd/Even Baud rate: 2400~115.2kbps Connector: DSUB 9pin x 1			
	Serial COM2	RS-232C, RS-422/485 Asynchronous Data bit: 7/8 bits, Stop bit: 1/2 bits, Parity bit: None/Odd/Even Baud rate: 2400~115.2kbps Connector: DSUB 9pin x 1			
	Ethernet	IEEE802.3i/IEEE802.3u, 10BASE-T/100BASE-TX Connector: RJ-45 x 1		Not available	IEEE802.3i/IEEE802.3u, 10BASE-T/100BASE-TX Connector: RJ-45 x 1
	USB Host	USB 2.0 Compatible, Output 5Vdc/0.5A Support: USB Storage, USB Barcode Scanner(Standard Keyboard Protocol) Connector: USB Type A x 1			Not available
	USB OTG	USB 2.0 Compatible, Output 5Vdc/0.5A, Max 3m Support: USB Storage, USB Barcode Scanner(Standard Keyboard Protocol) Connector: USB Mini-B(Front) x 1			Connector: USB Mini-B(Rear) x 1
Memory & Others	SD Card	SD Card Slot x 1, SDHC(MAX 32GB)			
	Printer	Roll Printer(EPSON protocol)			
	Screen Memory	128MB			
	Backup Memory	512KB: System buffer(10K Word), Including Alarm/Logging/Recipe			
	Backup Period	Permanent			
	Real Time Clock	Built in			
	Status LED	3 LEDs(Power, Operation, Link) Built in			
Power	Input Voltage	24Vdc(20~28Vdc)			
	Power Consumption	15W	12W		
	Voltage Sag	24Vdc, Within 10ms			
	Insulation Resistance	500Vdc, 10MΩ			
Environment	Operation Temperature(℃)	-10 ~ +50			
	Storage Temperature(℃)	-20 ~ +60			
	Operation Humidity(%RH)	0 ~ 90(No dew)			
	Atmosphere	No corrosive gas			
	Vibration Endurance	Amplitude: 10≤F<25Hz(2G) X,Y,Z each direction(for 30 minutes)			
	Noise Immunity	1000Vp-p(Pulse width 1μs)			
	Static Electricity Discharge	Connective discharge from EN61000-4-2: ±4kV			
	Shock Endurance	10G X,Y,Z each direction(for 3 times)			
	Ground Connection	Class 3(100Ω under)			
	Protection Classification	IP65(Front)			
	Certification	CE, KC, UL			
Structure	Panel Cut(㎜)	260x202	197x127		136x100
	External Dimension(㎜)	274x216x64.7	212x145x45.6		150x114x41.8
	Weight(kg)	1.7	0.72		0.4
	Cooling System	Natural air circulation			
	Case Material	PC(Resistance to flame)			

DRAWING

* TOPRW0700WD NE model does not support Ethernet

TOPRW1000WD

1. USB OTG(Mini 5Pin B-Type)
2. USB Host 1P
3. Ethernet 1Ch
4. Serial COM2
5. Serial COM1
6. SD Card Slot
7. Status LED
8. Power Input

TOPRW0700WD
TOPRW0700WD NE

1. USB OTG(Mini 5Pin B-Type)
2. Ethernet 1Ch
3. USB Host 1P
4. Serial COM2
5. Serial COM1
6. SD Card Slot
7. Status LED
8. Power Input

* TOPRW0700WD NE model does not support Ethernet

TOPRW0500WD

1. Ethernet 1Ch
2. Serial COM2
3. Serial COM1
4. SD Card Slot
5. USB OTG(Mini 5Pin B-Type)
6. Status LED
7. Power Input

TOP RW I/O

Integrated I/O HMI
with Flexible Composition and Control

TOPRW-IO Series

EMBEDDED **HMI**

SMART X HMI

FEATURES

FLEXIBLE I/O SUPPORT

DIGITAL INPUT 16ch,
DIGITAL OUT SINK 16ch,
* ANALOG INPUT(Voltage 2ch, current 2ch),
* ANALOG OUTPUT(Voltage 2ch, current 2ch),
* RTD 2ch
* Analog and RTD are supported only
  in TOPRW0700WD-IO

QUAD CORE CPU

Quad core processor supplying rapid
processing speed

16M FULL COLOR

Bright and vivid full color,
supports vector image library

TOUCH DRAG FEATURE

Available touch drag to make a picture
memo or scroll down to appear top-side
menu

REFINED INTEGRATED BODY

Refined integrated body with advantage
of easy
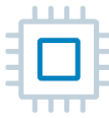
800x480 HIGH RESOLUTION

With 7" wide screen ratio,
expansion of work-area available

COMPATIBILITY WITH XTOP SERIES

With same panel cut size of XTOP,
easy to replace discontinued XTOP model

FRONT-SIDE OTG USB

Supporting both HOST mode(USB devices
i.e.Memory, barcode reader, etc)
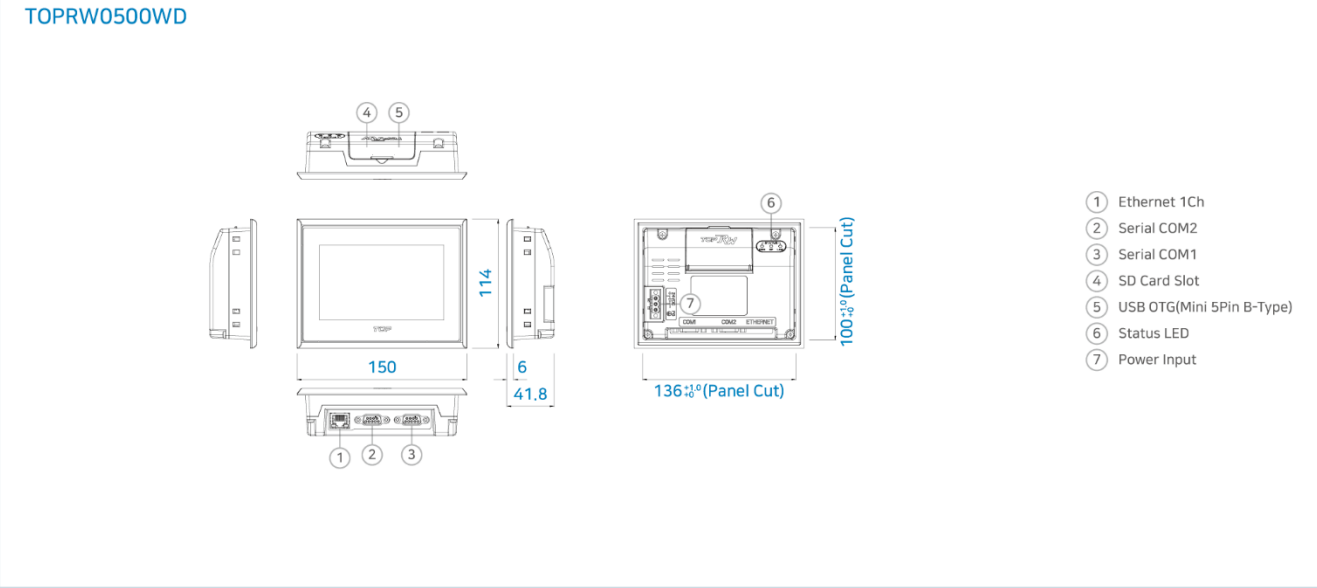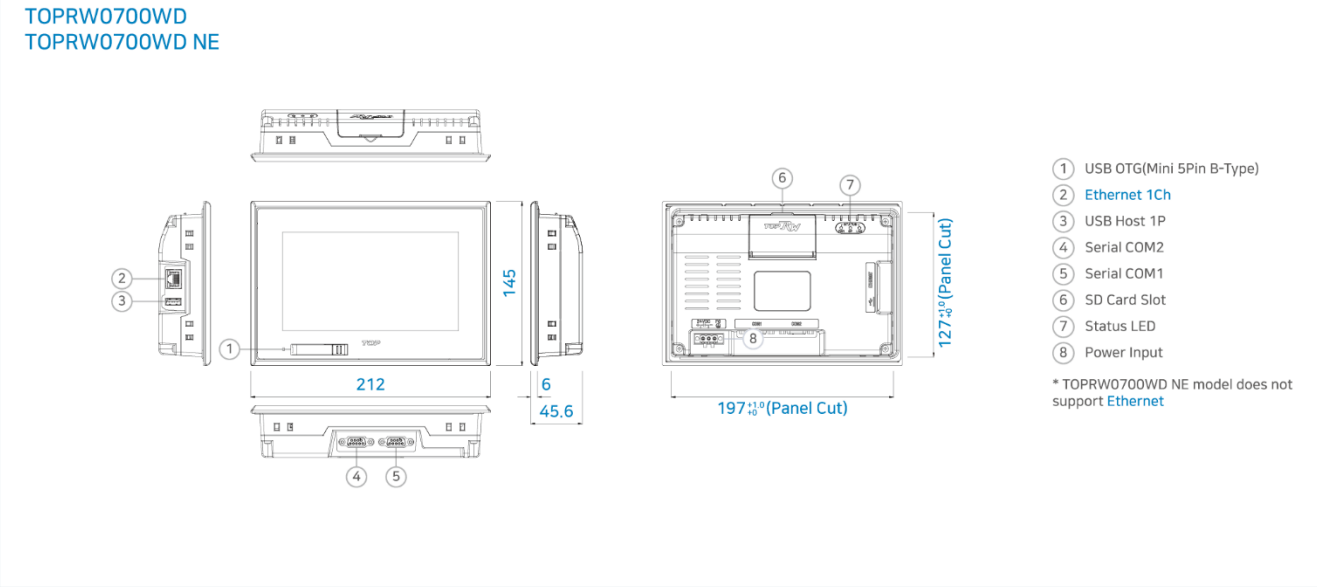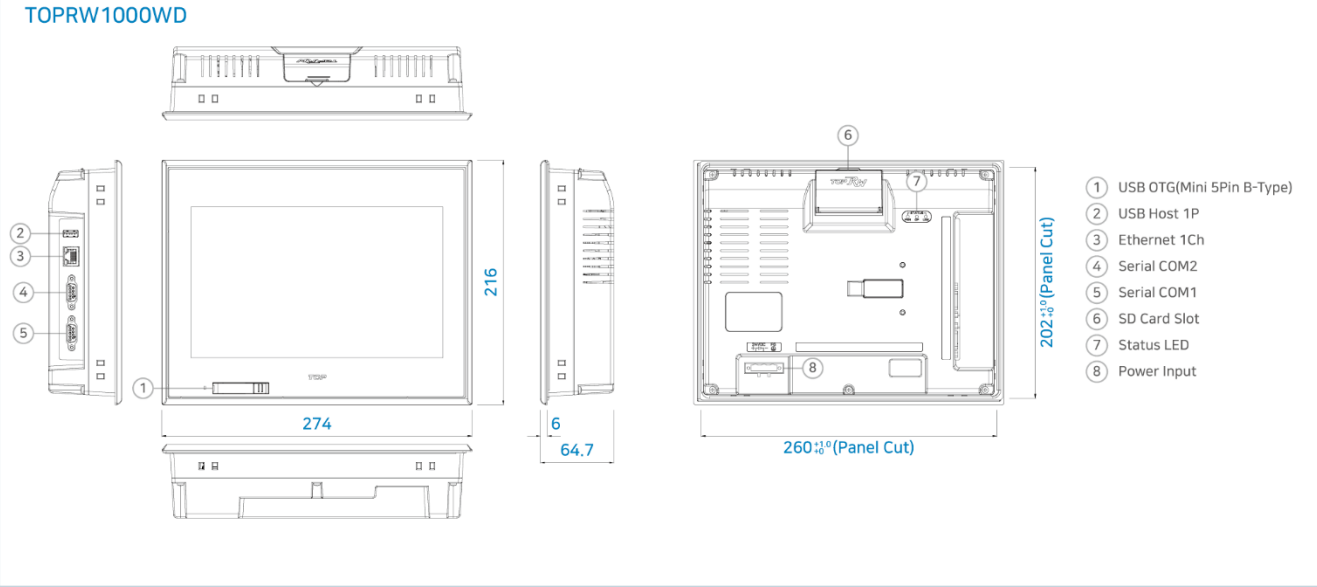and program transmission mode

INTERFACE

SERIAL 2 PORTS | ETHERNET 1 CHANNEL | USB HOST | USB OTG | SD CARD

CERTIFICATION

KC   CE

TOPRW-IO SPECIFICATIONS

Functional		TOPRW0700WD-IO	TOPRW0710WD-IO
Display	Display Type	7" TFT Color	
	Color	16M Colors	
	Display Area(mm)	154x86	
	Resolution(dot)	800x480	
	Brightness Level	10 Levels(by software)	
	Backlight Type	LED	
	Backlight Life	50,000 hours	
Touch	Touch Type	Analog resistive film	
	Resolution(Cell)	800x480	
	Touch Life	1 million times or more	
Interface	Serial COM1	RS-232C Asynchronous +5Vdc PWR	
		Data bit: 7/8 bits, Stop bit: 1/2 bits, Parity bit: None/Odd/Even	
		Baud rate: 2400~115.2kbps	
		Connector: DSUB 9pin x 1	
	Serial COM2	RS-232C, RS-422/485 Asynchronous	
		Data bit: 7/8 bits, Stop bit: 1/2 bits, Parity bit: None/Odd/Even	
		Baud rate: 2400~115.2kbps	
		Connector: DSUB 9pin x 1	
	Ethernet	IEEE802.3i/IEEE802.3u, 10BASE-T/100BASE-TX	
		AUTO MDIX	
		Connector: RJ-45 x 1	
	USB Host	USB 2.0 Compatible, Output 5Vdc/0.5A	
		Support: USB Storage, USB Barcode Scanner(Standard Keyboard Protocol)	
		Connector: USB Type A x 1	
	USB OTG	USB 2.0 Compatible, Output 5Vdc/0.5A, Max 3m	
		Support: USB Storage, USB Barcode Scanner(Standard Keyboard Protocol)	
		Connector: USB Mini-B(Front) x 1	
	SD Card	SD Card Slot x 1, SDHC(MAX 32GB)	
	Printer	Roll Printer(EPSON protocol)	
IO	IO Function	Digital Input 16ch, Digital Output 16ch, Analog Input(Voltage 2ch, Current 2ch), Analog Output(Voltage 2ch, Current 2ch), RTD 2ch	Digital Input 16ch, Digital Output 16ch
Memory & Others	Screen Memory	128MB	
	Backup Memory	512KB: System buffer(10K Word), Including Alarm/Logging/Recipe	
	Backup Period	Permanent	
	Real Time Clock	Built in	
	Status LED	3 LEDs(Power, Operation, Link) Built in	
Power	Input Voltage	24Vdc(20~28Vdc)	
	Power Consumption	15W	
	Voltage Sag	24Vdc, Within 10ms	
	Insulation Resistance	500Vdc, 10MΩ	
Environment	Operation Temperature(℃)	-10 ~ +50	
	Storage Temperature(℃)	-20 ~ +60	
	Operation Humidity(%RH)	0 ~ 90(No dew)	
	Atmosphere	No corrosive gas	
	Vibration Endurance	Amplitude: 10≤F<25Hz(2G) X,Y,Z each direction(for 30 minutes)	
	Noise Immunity	1000Vp-p(Pulse width 1μs)	
	Static Electricity Discharge	Connective discharge from EN61000-4-2: ±4kV	
	Shock Endurance	10G X,Y,Z each direction(for 3 times)	
	Ground Connection	Class 3(100Ω under)	
	Protection Classification	IP65(Front)	
	Certification	CE, KC	
Structure	Panel Cut(㎜)	197x127	
	External Dimension(㎜)	212x145x62.5	
	Weight(kg)	0.81	
	Cooling System	Natural air circulation	
	Case Material	Plastic	

Software Ladder Program

01 Ladder Programing based on IEC-61131-3

02 Ladder Operation by Sending a Program to TOPRW-IO Series

03 Ladder Monitoring on HMI Screen

Ethernet → TOP**RW** IO ← Connection

Ladder Program Operation

- ● FAN
- ● SENSOR
- ● MOTOR
- ● LAMP
- ● ROBOT
- ● SERVO

TOPRW-IO SPECIFICATIONS

Functional		Digital Input	Digital Output
Type	Input/Output Type	16 channels Sink and Source Type	16 channels Sink Type
Power	Input/Output Voltage	24Vdc typ. On-State Min. 11.0Vdc ~ Max. 28.8Vdc, Off-State Max. 5Vdc	24Vdc typ. Min. 11.0Vdc ~ Max. 28.8Vdc, On-State Voltage Drop: Max. 0.3Vdc@25℃ Off-State Leakage Current: Max. 50uA
	System Power Dissipation	Max. 70mA	Max. 120mA
	Input Current in On State	Max. 6mA/Channel@28.8Vdc	N/A
	Output Current in On State	N/A	Max. 0.5A/Channel@28.8Vdc
	Max. On-State Voltage Drop	N/A	Max. 0.3Vdc@25℃
	Off-State Leakage Current	N/A	Max. 50uA
Interface	Typ. Input Impedance	Typ. 4.7KΩ	N/A
	Input/Output Signal Delay	Off to On: Max. 0.1ms On to Off: Max. 0.5ms	Off to On: Max. 0.3ms On to Off: Max. 0.5ms
	Input Filter(Digital)	0.5ms	N/A
	Isolation	I/O to Logic: Photocoupler isolation	
	Field Power	Typ. 24Vdc(11.0Vdc ~ 28.8Vdc)	
Other	Wiring	AWG 26 to 20	
	Pin No.	Removable Terminal Block 20P	

* Analog and RTD are supported only in TOPRW0700WD-IO

Functional		Temperature Input(RTD)	Analog Input (AIV)	Analog Input (AIC)	Analog Output (AOV)	Analog Output (AOC)
Type	Input / Output Type	2 Channels Analog RTD Type	2 Channels Analog Voltage Type	2 Channels Analog Current Type	2 Channels Analog Voltage Type	2 Channels Analog Current Type
	Sensor Type and Input / Ouput Range	PT100 * -200.0 to +850.0℃	0 ~ 5 Vdc	0 ~ 20mA	0 ~ 5 Vdc	0 ~ 20mA
Power	System Power Dissipation	Max. 70mA@5.0Vdc	Max. 200mA			
	Field power	N/A	Max. 60mA@24Vdc			
	Typ. Input Impedance	N/A	Min. 500KΩ	Max. 250Ω	N/A	
	Load		N/A		Min. 5KΩ	Max. 350Ω
	Data Format		16bits Integer			
Characteristic	Resolution	0.0312ºC/1bit	16bits, 0.076mV/1bit	16bits, 0.3uA/Bit	16bits, 0.076mV/1bit	16bits, 0.3uA/Bit
	Conversion Time	Approx. 70ms, All Channel@50Hz	4ms/All Channel			
	Module Error		±0.1% Full Scale@+25℃, ±0.3% Full Scale@0℃, +60℃			
	Isolation		Capacitive isolation			
	Common Type	2COM (1 Common/1 Channel)	2 COM(Single Common)			
Other	Wiring		AWG 26 to 20			
	Pin No.		Removable Terminal Block 10P(3.5mm pitch)			

DRAWING

TOPRW0700WD-IO / TOPRW0710WD-IO

① USB OTG(Mini 5Pin B-Type)
② Ethernet 1Ch
③ USB Host 1P
④ Serial COM2
⑤ Serial COM1
⑥ SD Card Slot
⑦ Status LED
⑧ Power Input
⑨ Digital Input Terminal
⑩ Digital Output Terminal
⑪ Analog I/O Terminal
⑫ RTD Input Terminal

* Analog and RTD are supported only in TOPRW0700WD-IO

TOP R E

Compact Size, Light and Convenient

TOPRE Series

EMBEDDED **HMI**

SMART X HMI

FEATURES

QUAD CORE CPU

Quad core processor supplying rapid processing speed

16M FULL COLOR

Bright and vivid full color, supports vector image library

TOUCH DRAG FEATURE

Available touch drag to make a picture memo or scroll down to appear top-side menu

REFINED INTEGRATED BODY

Refined integrated body with advantage of easy

4.3" COMPACT SIZE

Powerful performance with compact size

FRONT-SIDE OTG USB

Supporting both HOST mode(USB devices i.e.Memory, barcode reader, etc) and program transmission mode

INTERFACE

SERIAL 1 PORT | ETHERNET 1 CHANNEL | USB OTG | SD CARD

CERTIFICATION

KC   CE   c UL us LISTED

TOPRE SPECIFICATIONS

Functional		TOPRE0400WD
Display	Display Type	4.3" TFT Color
	Color	16M Colors
	Display Area(㎜)	95.04x53.85
	Resolution(dot)	480x272
	Brightness Level	10 Levels(by software)
	Backlight Type	LED
	Backlight Life	50,000 hours
Touch	Touch Type	Analog resistance film
	Resolution(Cell)	480x272
	Touch Life	1 million times or more
Interface	Serial COM1 (RS-232C Only)	RS-232C, RS-422/485 Asynchronous
		Data bit: 7/8 bits, Stop bit: 1/2 bits, Parity bit: None/Odd/Even
	Serial COM2 (RS-422/485 Only)	Baud rate: 2400~115.2kbps
		Connector: DSUB 9pin x 1
	Ethernet	IEEE802.3i/IEEE802.3u, 10BASE-T/100BASE-TX
		Connector: RJ-45 x 1
		NE(No Ethernet) model: cannot support Ethernet interface
	USB OTG	USB 2.0 Compatible, Output 5Vdc/0.5A, Max 3m
		Support: USB Storage, USB Barcode Scanner(Standard Keyboard Protocol)
		Connector: USB Mini-B(Side) x 1
	SD Card	SD Card Slot x 1, SDHC(MAX 32GB)
	Printer	Roll Printer(EPSON protocol)
Memory & Others	Screen Memory	64MB
	Backup Memory	512KB: System buffer(10K Word), Including Alarm/Logging/Recipe
	Backup Period	Permanent
	Real Time Clock	Built in
	Status LED	3 LEDs(Power, Operation, Link) Built in
Power	Input Voltage	24Vdc(20~28Vdc)
	Power Consumption	12W
	Voltage Sag	24Vdc, Within 10ms
	Insulation Resistance	500Vdc, 10㏁
Environment	Operation Temperature(℃)	-10 ~ +50
	Storage Temperature(℃)	-20 ~ +60
	Operation Humidity(%RH)	0 ~ 90(No dew)
	Atmosphere	No corrosive gas
	Vibration Endurance	Amplitude: 10≤F < 25Hz(2G) X,Y,Z each direction(for 30 minutes)
	Noise Immunity	1000Vp-p(Pulse width 1μs)
	Static Electricity Discharge	Connective discharge from EN61000-4-2: ±4kV
	Shock Endurance	10G X,Y,Z each direction(for 3 times)
	Ground Connection	Class 3(100Ω under)
	Protection Classification	IP65(Front)
	Certification	CE, KC, UL
Structure	Panel Cut(㎜)	121 x 95
	External Dimension(㎜)	128.6 x 102.6 x 38
	Weight(kg)	0.28
	Cooling System	Natural air circulation
	Case Material	PC(Resistance to flame)

DRAWING

TOPRE0400WD

1 SD Card Slot
2 USB OTG(Mini 5Pin B-Type)
3 Ethernet 1Ch
4 Serial COM1/COM2
5 Power Input

TOP RH

Wireless Handy Type with Egronomic Designed Hand Grip

TOPRH Wireless Model

EMBEDDED **HMI**

SMART X HMI

FEATURES

QUAD CORE CPU
Quad core processor supplying rapid processing speed

16M FULL COLOR
Bright and vivid full color, supports vector image library

HIGH PERFORMANCE WIRELESS CHIP
Wireless control features extended control distance

ERGONOMIC AND REFINED DESIGN
Stable and comfortable grip

KEY LOCK/3 POSITION SWITCH /FUNCTION KEYS/TOUCH PENCIL
6 Function keys including LED light, and touch pencil to easy operation

SHOCK PREVENTING BUMPER
Solid body and added silicon bumper for safer use

TOUCH DRAG FEATURE
Available touch drag to make a picture memo or scroll down to appear top-side menu

SUPPORT HIGH RESOLUTION
Support 1024x600 high resolution screen

INTERFACE
WIFI | USB HOST 2 PORTS | USB OTG | SD CARD

CERTIFICATION

TOPRH WIRELESS / CHARGING CRADLE SPECIFICATIONS

Functional		TOPRH0700WD-W
Display	Display Type	7" TFT Color
	Color	16M Colors
	Display Area(mm)	154.21x85.92
	Resolution(dot)	1024x600
	Brightness Level	10 Levels(by software)
	Backlight Type	LED
	Backlight Life	50,000 hours
Touch	Touch Type	Analog resistive film
	Resolution(Cell)	1024x600
	Touch Life	1 million times or more
Interface	Wireless LAN	2.4G: 2.4000GHz ~ 2.4835GHz 5G: 5.150GHz ~ 5.725GHz WLAN Standard: IEEE802.11 a/b/g/n Operation Range Up to 150meters in open space Security: WEP,TKIP,AES,WPA,WPA2
	USB Host	USB 2.0 Compatible, Output 5Vdc/0.5A Support: USB Storage, USB Barcode Scanner(Standard Keyboard Protocol) Connector: USB Type A x 2
	USB OTG	USB 2.0 Compatible, Output 5Vdc/0.5A, Max 3m Support: USB Storage, USB Barcode Scanner(Standard Keyboard Protocol) Connector: USB Mini-B x 1
	SD Card	SD Card Slot x 1, SDHC(MAX 32GB)
	Function Key	6Position with LED
	Machenical Switchs	Keylock Switch 1A, 3Position enable Switch OFF-ON-OFF(1CH)
	Power Switch	Push-Push power on-off switch built in
Memory & Others	Screen Memory	128MB
	Backup Memory	512KB: System buffer(10K Word), Including Alarm/Logging/Recipe
	Backup Period	Permanent
	Real Time Clock	Built in
	Status LED	3 LEDs(Power, Operation, Link) Built in
Battery	Rechargable & Extractable Battery Pack	2S-2P Li-ion 4Cells 7.2Vdc 6800mAh Charging time 3 hours(Non-operating) Running time: 7 hours with wireless communication
Power	Consumption	20W(In Battery Pack)
Environment	Operation Temperature(℃)	+10 ~ +45
	Storage Temperature(℃)	-20 ~ +60
	Operation Humidity(%RH)	0 ~ 90(No dew)
	Atmosphere	No corrosive gas
	Vibration Endurance	Amplitude: 10≤F<25Hz(2G) X,Y,Z each direction(for 30 minutes)
	Static Electricity Discharge	Connective discharge from EN61000-4-2: ±4kV
	Shock Endurance	10G X,Y,Z each direction(for 3 times)
	Protection Classification	IP65
	Certification	CE, KC, UL
Structure	External Dimension(㎜)	237x205x103
	Weight(kg)	1.32(Including Battery Pack)
	Cooling System	Natural air circulation
	Case Material	PC(Resistance to flame)

Functional		TOPRH-CRDL
Power	Input Voltage	24Vdc(20~28Vdc)
	Output Voltage	8.4Vdc
	Power Consumption	60W(with Main Body + Extra Battery Pack)
	Voltage Sag	24Vdc, Within 10ms
	Insulation Resistance	500Vdc, 10㏁
	Status LED	3 LEDs(Main Battery Pack, Power, Sub Battery Pack) Built in
Environment	Operation Temperature(℃)	-10 ~ +50
	Storage Temperature(℃)	-20 ~ +60
	Operation Humidity(%RH)	0 ~ 90(No dew)
	Atmosphere	No corrosive gas
	Vibration Endurance	Amplitude: 10≤F < 25Hz(2G) X,Y,Z each direction(for 30 minutes)
	Noise Immunity	1000Vp-p(Pulse width 1㎲)
	Static Electricity Discharge	Connective discharge from EN61000-4-2: ±4kV
	Shock Endurance	10G X,Y,Z each direction(for 3 times)
	Ground Connection	Class 3(100Ω under)
	Certification	CE, KC
Structure	External Dimension(㎜)	214.5x125x154
	Weight(kg)	0.6
	Cooling System	Natural air circulation
	Case Material	PC(Resistance to flame)

PRODUCT COMPOSITION

TOPRH0700WD-W

TOPRH-CRDL
charging cradle

TOPRH-BAT
2 batteries with main unit

TOPRH
router option

PLC

TOPRH0700WD-W   AP   CONVERTER

Ethernet

Serial to Ethernet Converter

DRAWING

TOPRH0700WD-W

203.93
237.4
58.1
103.1

1. Status LED
2. Function Switch(with LED)
3. Key Lock Switch
4. SD Card Slot
5. USB Host 2P
6. USB OTG(Mini 5Pin B-Type)
7. Charging Terminal
8. Power Switch
9. 3Position Switch
10. Touch Pen
11. Handle
12. Option Pack(Battery Pack)

TOPRH-CRDL

45.6
214.5
86.75
48
125
154

1. Charging Auxiliary Battery
2. Charging Terminal
3. Status LED
4. Power Input

TOP RH

Wired Handy Type with Egronomic Designed Hand Grip
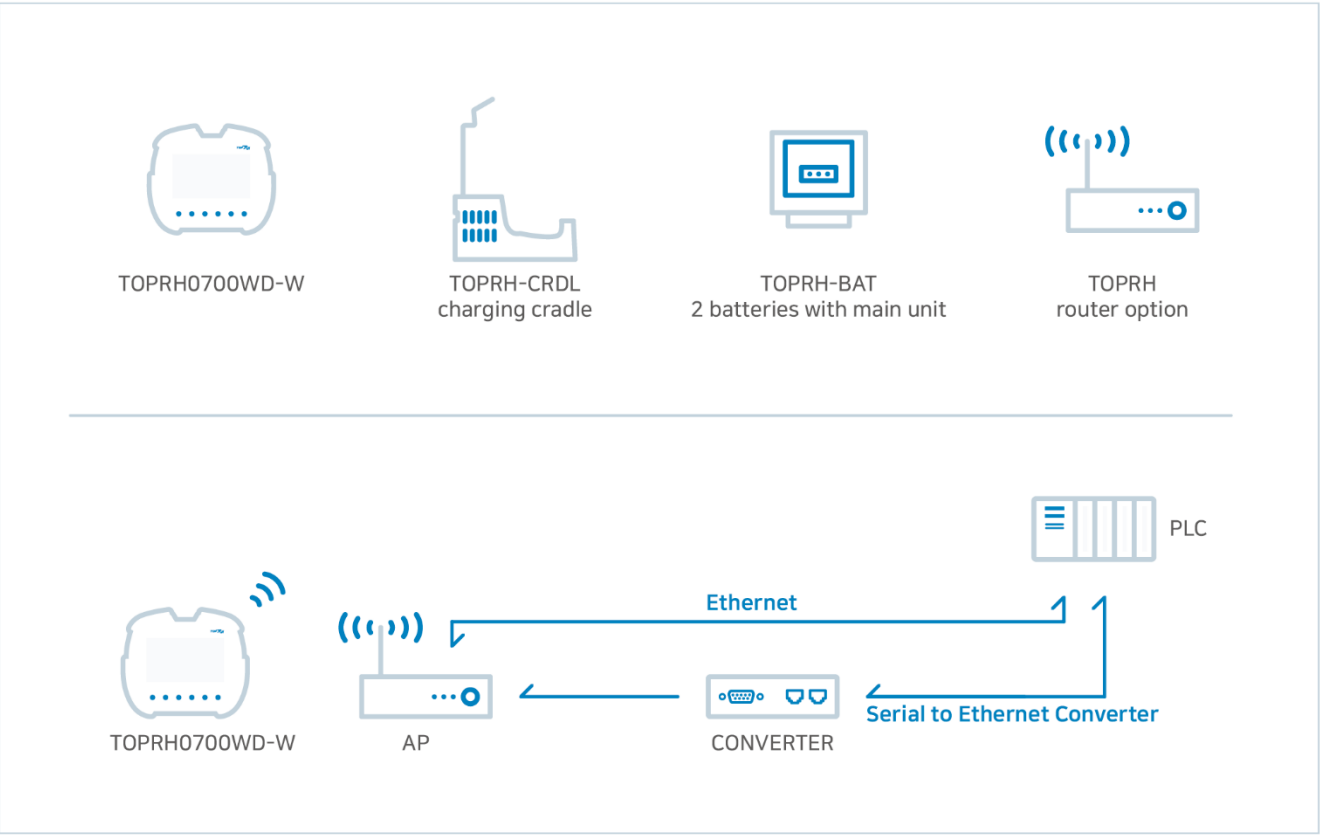
TOPRH Wired Series

EMBEDDED **HMI**

SMART X HMI

FEATURES
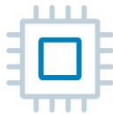
QUAD CORE CPU
Quad core processor supplying rapid processing speed

16M FULL COLOR
Bright and vivid full color, supports vector image library

ERGONOMIC AND REFINED DESIGN
Stable and comfortable grip

KEY LOCK/EMERGENCY /3 POSITION SWITCH
Safe use with KEY lock/Emergency /3 Position switch

FUNCTION KEY, TOUCH PENCIL
6 Function keys including LED light, and touch pencil to easy operation

SHOCK PREVENTING BUMPER
Solid body and added silicon bumper for safer use

TOUCH DRAG FEATURE
Available touch drag to make a picture memo or scroll down to appear top-side menu

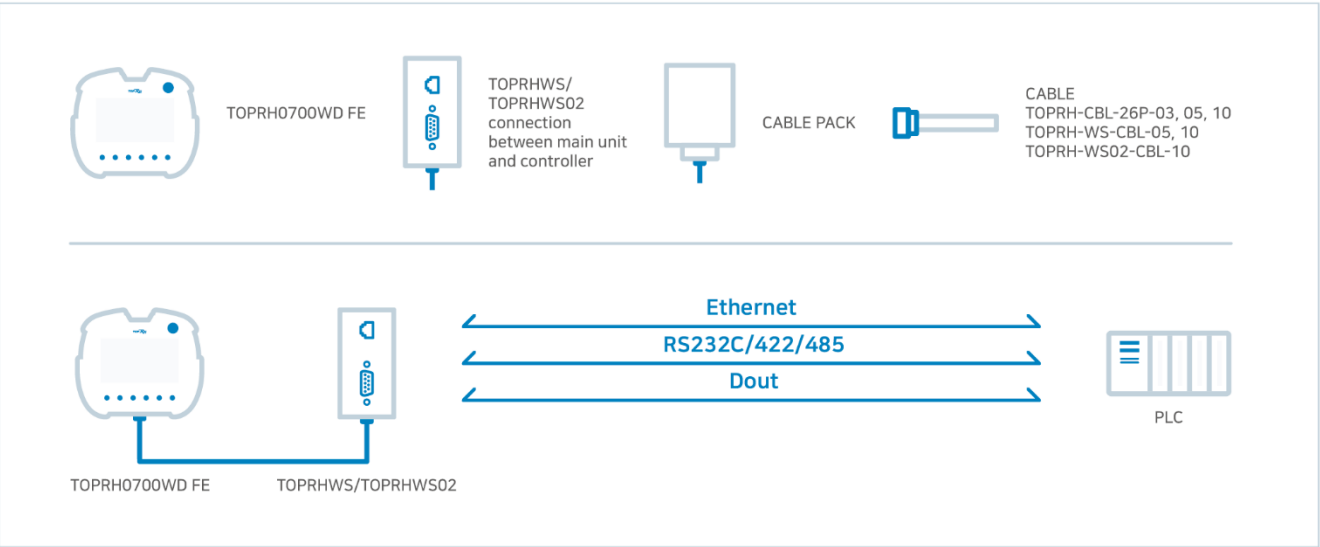### SUPPORT HIGH RESOLUTION
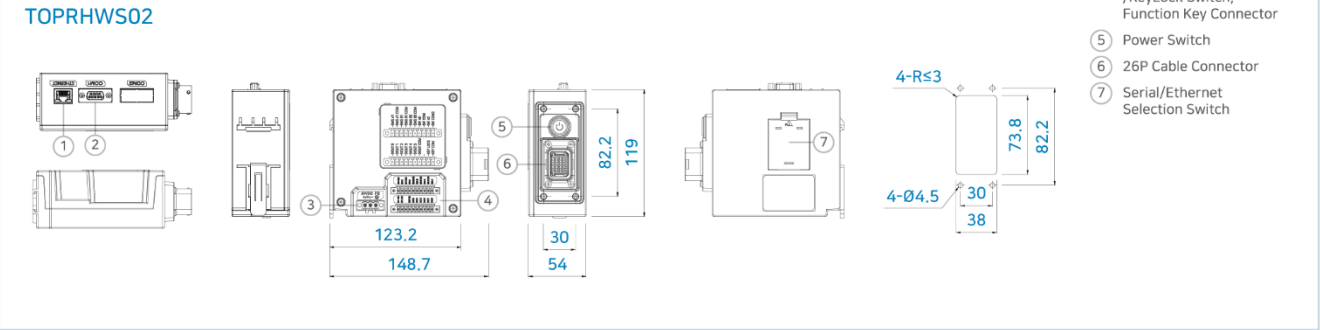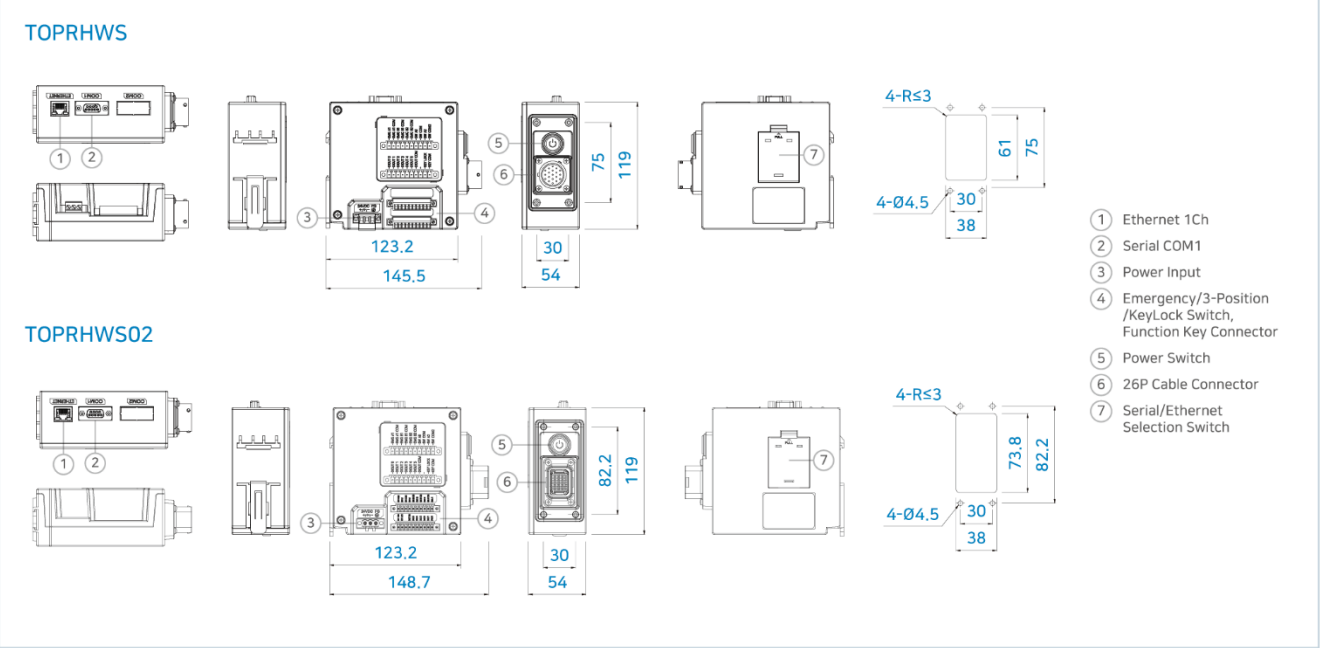Support 1024x600 high resolution screen

INTERFACE
SERIAL 2 PORTS | ETHERNET 1 CHANNEL | USB HOST 2 PORTS | USB OTG | SD CARD

CERTIFICATION

TOPRH WIRED / TOPRHWS SPECIFICATIONS

Functional		TOPRH0700WD FE
Display	Display Type	7" TFT Color
	Color	16M Colors
	Display Area(㎜)	154.21x85.92
	Resolution(dot)	1024x600
	Brightness Level	10 Levels(by software)
	Backlight Type	LED
	Backlight Life	50,000 hours
Touch	Touch Type	Analog resistive film
	Resolution(Cell)	1024x600
	Touch Life	1 million times or more
Interface	Serial COM1	RS-232C, RS-422/485 Asynchronous Data bit: 7/8 bits, Stop bit: 1/2 bits, Parity bit: None/Odd/Even, Baud rate: 2400~115.2kbps
	Serial COM2	RS-232C, RS-422/485 Asynchronous Data bit: 7/8 bits, Stop bit: 1/2 bits, Parity bit: None/Odd/Even, Baud rate: 2400~115.2kbps
	Ethernet	IEEE802.3i/IEEE802.3u, 10BASE-T/100BASE-TX
	USB Host	USB 2.0 Compatible, Output 5Vdc/0.5A Support: USB Storage, USB Barcode Scanner(Standard Keyboard Protocol) Connector: USB Type A x 2
	USB OTG	USB 2.0 Compatible, Output 5Vdc/0.5A, Max 3m Support: USB Storage, USB Barcode Scanner(Standard Keyboard Protocol) Connector: USB Mini-B x 1
	SD Card	SD Card Slot x 1, SDHC(MAX 32GB)
	Function Key	6Position with LED
	Printer	Roll Printer(EPSON protocol)
	Machenical Switchs	Emergency Switch 1A-2B, Keylock Switch 1A, 3Position enable Switch OFF-ON-OFF(2CH)
	Power Switch	Push-Lock power on-off switch built in
Memory & Others	Screen Memory	128MB
	Backup Memory	512KB: System buffer(10K Word), Including Alarm/Logging/Recipe
	Backup Period	Permanent
	Real Time Clock	Built in
	Status LED	3 LEDs(Power, Operation, Link) Built in
Power	Consumption	20W
	Voltage Sag	24Vdc, Within 10㎳
	Insulation Resistance	500Vdc, 10㏁
Environment	Operation Temperature(℃)	-10 ~ +45
	Storage Temperature(℃)	-20 ~ +60
	Operation Humidity(%RH)	0 ~ 90(No dew)
	Atmosphere	No corrosive gas
	Vibration Endurance	Amplitude: 10≤F < 25Hz(2G) X,Y,Z each direction(for 30 minutes)
	Noise Immunity	1000Vp-p(Pulse width 1㎲)
	Static Electricity Discharge	Connective discharge from EN61000-4-2: ±4kV
	Shock Endurance	10G X,Y,Z each direction(for 3 times)
	Ground Connection	Class 3(100Ω under)
	Protection Classification	IP4X
	Certification	CE, KC, UL
Structure	External Dimension(㎜)	237x205x103
	Weight(㎏)	1.1(Except Cable Pack)
	Cooling System	Natural air circulation
	Case Material	PC(Resistance to flame)

Functional		TOPRHWS	TOPRHWS02
Interface	Serial COM1	RS-232C, RS-422/485 Asynchronous Data bit: 7/8 bits, Stop bit: 1/2 bits, Parity bit: None/Odd/Even Baud rate: 2400~115.2kbps, Connector: DSUB 9pin x 1	
	Ethernet	IEEE802.3i/IEEE802.3u, 10BASE-T/100BASE-TX, Connector: RJ-45 x 1	
	Power Switch	Push-Push power on-off switch built in	
	26P Connector	To TOPRH, SRC6A21-26P	To TOPRH, 1981919-1 or 1981921-1
	Function Connector	Emergency Switch 1A-2B, Keylock Switch 1A, 3Position enable Switch OFF-ON-OFF(2CH), DOUT(6CH)	
Power	Input Voltage	24Vdc(20~28Vdc)	
	Power Consumption	20W	
	Voltage Sag	24Vdc, Within 10㎳	
	Insulation Resistance	500Vdc, 10㏁	
Environment	Operation Temperature(℃)	-10 ~ +50	
	Storage Temperature(℃)	-20 ~ +60	
	Operation Humidity(%RH)	0 ~ 90(No dew)	
	Atmosphere	No corrosive gas	
	Vibration Endurance	Amplitude: 10≤F < 25Hz(2G) X,Y,Z each direction(for 30 minutes)	
	Noise Immunity	1000Vp-p(Pulse width 1㎲)	
	Static Electricity Discharge	Connective discharge from EN61000-4-2: ±4kV	
	Shock Endurance	10G X,Y,Z each direction(for 3 times)	
	Ground Connection	Class 3(100Ω under)	
	Certification	CE, KC, UL	
Structure	External Dimension(㎜)	145x119x54	148x119x54
	Weight(㎏)	0.3	
	Cooling System	Natural air circulation	
	Case Material	PC(Resistance to flame)	

PRODUCT COMPOSITION

DRAWING

TOPRH0700WD FE

1. Status LED
2. Function Switch(with LED)
3. Emergency Switch
4. Key Lock Switch
5. SD Card Slot
6. USB Host 2P
7. USB OTG(Mini 5Pin B-Type)
8. Power Switch
9. 3Position Switch
10. Touch Pen
11. Handle
12. Option Pack(Cable)

TOPRHWS

TOPRHWS02

1. Ethernet 1Ch
2. Serial COM1
3. Power Input
4. Emergency/3-Position /KeyLock Switch, Function Key Connector
5. Power Switch
6. 26P Cable Connector
7. Serial/Ethernet Selection Switch

TOP RP

Miniaturized New Form Factor,
Smaller and Simple

TOPRP Series

BOX **HMI**

SMART X HMI

Model: TOPRP1000D

INTERFACE
SERIAL 2 PORTS | ETHERNET 2 CHANNEL | USB HOST 2 PORTS | USB OTG | SD CARD | HDMI OUT

CERTIFICATION

FEATURES

MINIATURIZED BODY FRAME
Small size able to install in a minimum space

STANDARD DIN RAIL /VESA HALL SUPPORTED
Easy installation by standard DIN rail
simple assemble with monitors by standard
VESA bracket(*Option)

HDMI OUTPUT
Connection with various monitors through
HDMI and DP
M2I's exclusive touch monitor(MDP)
compatible

COMPATIBILITY WITH TOP SERIES
Quad core cpu supplying rapid processing
speed
Same menu and instructions as TOP series

SUPPORTING ETHERNET 2 CHANNELS
2 Ethernet channels with different IP
VNC(Remote Monitor/Control)
Function Support

SUPPORTING SERIAL 2 PORTS
COM1/COM2 DSUB 9pin
RS-232C, RS-422/485 support

SUPPORTING USB HOST 2 PORTS
Connecting mouse, keyboard, USB memory,
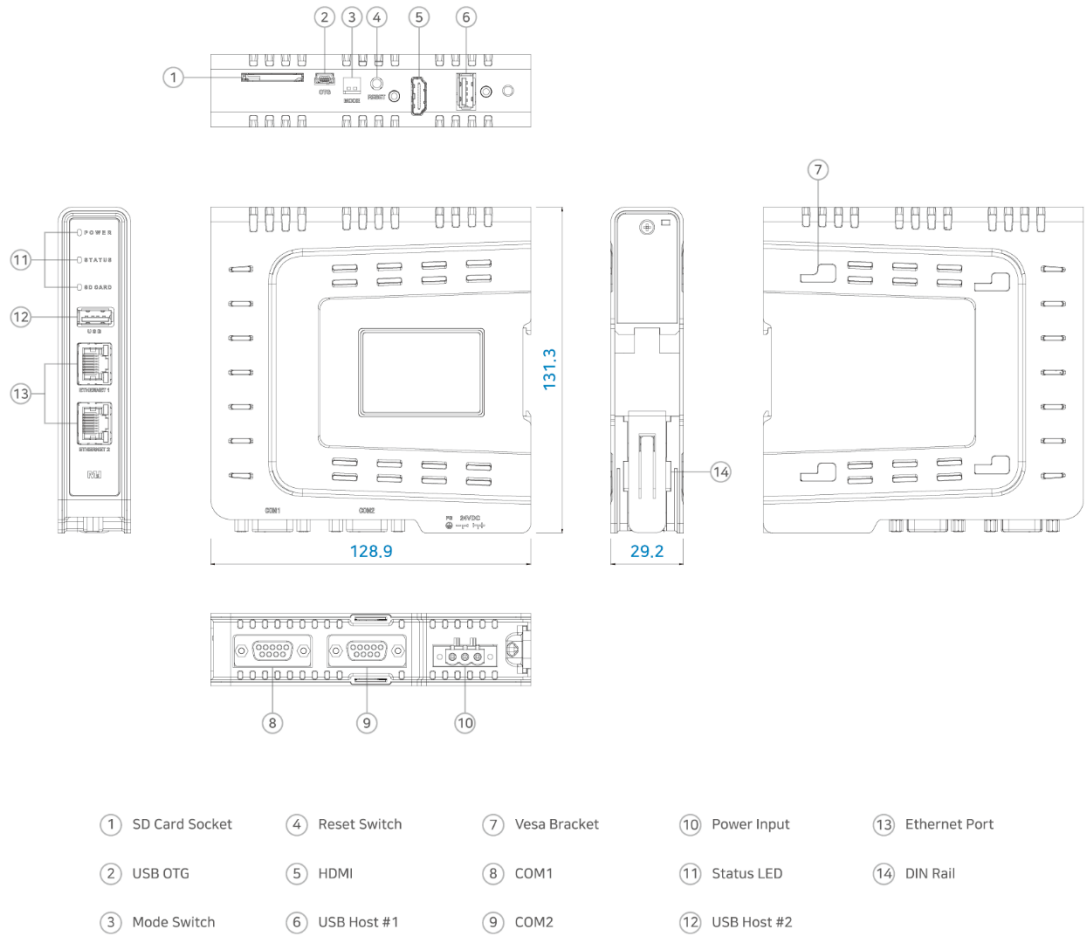barcode scanner etc.

OTG USB
Mode switch between transmission mode
(Program transfer) and host mode
(Connecting USB devices as mouse,
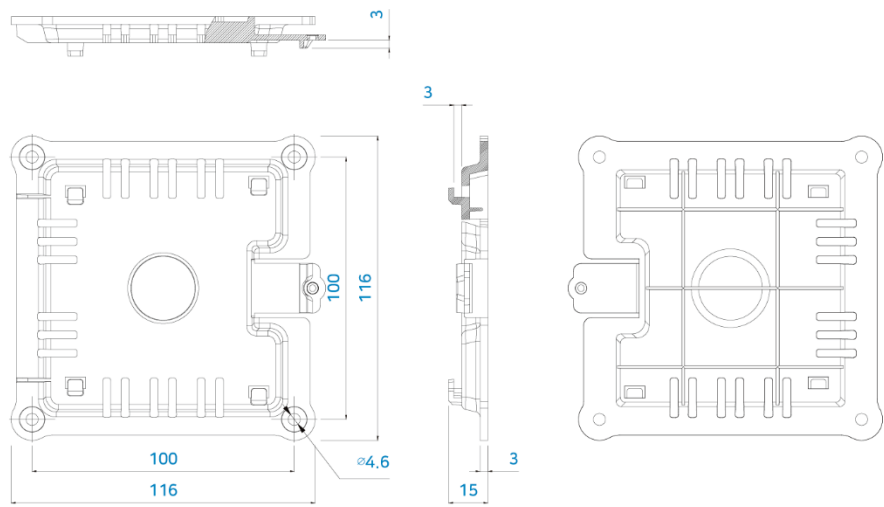keyboard, USB memory, barcode scanner
etc.)

TOPRP SPECIFICATIONS

Functional		TOPRP1000D
Interface	Serial COM1	RS-232C, RS-422/485 Asynchronous +5Vdc PWR Data bit: 7/8 bits, Stop bit: 1/2 bits, Parity bit: None/Odd/Even Baud rate: 2400~115.2kbps Connector: DSUB 9pin x 1
	Serial COM2	RS-232C, RS-422/485 Asynchronous Data bit: 7/8 bits, Stop bit: 1/2 bits, Parity bit: None/Odd/Even Baud rate: 2400~115.2kbps Connector: DSUB 9pin x 1
	Ethernet	IEEE802.3i/IEEE802.3u, 10BASE-T/100BASE-TX Connector: RJ-45 x 2
	USB Host	USB 2.0 Compatible, Output 5Vdc/0.5A Support: USB Storage, USB Barcode Scanner(Standard Keyboard Protocol) Connector: USB Type A x 2
	USB OTG	USB 2.0 Compatible, Output 5Vdc/0.5A, Max 3m Support: USB Storage, USB Barcode Scanner(Standard Keyboard Protocol) Connector: USB Mini-B x 1
	SD Card	SD Card Slot x 1, SDHC(MAX 32GB)
	HDMI Output	HDMI v1.4, HDMI Output, Max. Resolution: 1280x720 at 60Hz Connector: HDMI x 1
	Printer	Roll Printer(EPSON protocol)
Memory & Others	Screen Memory	128MB
	Backup Memory	512KB: System buffer(10K Word), Including Alarm/Logging/Recipe
	Backup Period	Permanent
	Real Time Clock	Built in
	Status LED	3 LEDs(Power, Operation, SD Card) Built in
Power	Input Voltage	24Vdc(20~28Vdc)
	Power Consumption	10W
	Voltage Sag	24Vdc, Within 10ms
	Insulation Resistance	500Vdc, 10MΩ
Environment	Operation Temperature(℃)	-10 ~ +50
	Storage Temperature(℃)	-20 ~ +60
	Operation Humidity(%RH)	0 ~ 90(No dew)
	Atmosphere	No corrosive gas
	Vibration Endurance	Amplitude: 10≤F<25㎐(2G) X,Y,Z each direction(for 30 minutes)
	Noise Immunity	1000Vp-p(Pulse width 1μs)
	Electrostatic Discharge	Connective discharge from EN61000-4-2: ±4kV
	Shock Endurance	10G X,Y,Z each direction(for 3 times)
	Ground Connection	Class 3(100Ω or less)
	Protection Classification	IP20
	Certification	CE, KC
Structure	External Dimension(㎜)	128.9x131.2x29.2
	Weight(kg)	0.23
	Installation Method	Standard DIN Rail(35mm), VESA
	Cooling System	Natural air circulation
	Case Material	Plastic

DRAWING

TOPRP1000D

① SD Card Socket	④ Reset Switch	⑦ Vesa Bracket	⑩ Power Input	⑬ Ethernet Port
② USB OTG	⑤ HDMI	⑧ COM1	⑪ Status LED	⑭ DIN Rail
③ Mode Switch	⑥ USB Host #1	⑨ COM2	⑫ USB Host #2	

VESA Braket(*Option)

MDP

Capacitive Touch, FHD LCD Monitor

MDP Series

TOUCH MONITOR

INTERFACE

HDMI | USB | DP

* **Port** Interface is different from each model.

CERTIFICATION

FEATURES

2 CHANNELS / 1 CHANNEL MODEL SELECTIVE

Display Change by Switching Button

EXPLOSION-PROOF STRUCTURE

The first monitor which has explosion-proof structure

CAPACITIVE TOUCH

Clear display with capacitive touch
IK7 grade tempered glass

FHD LCD

16 : 9, 19 inch, FHD LCD(1920 x 1080)

FRONT USB PORT

Connection ports to connect Mouse,
Keyboard, USB Memory, Barcode Reader

ALUMINUM FRAME

Strong durability and refined design
of aluminum body

HDMI / DP / USB

2 Channels
(HDMI 2 ports, USB 5 ports)
1 Channel
(HDMI 1 port, DP 1 port, USB 2 ports)

VESA HALL ON REAR SIDE

Convenient attachment with M2I's box HMI
and box PC

MDP SPECIFICATIONS

	Functional	MDP-DC1900WD	MDP-SC1900WD
Display	Display Type	18.5" TFT Color	
	Color	16M Colors	
	Aspect Ratio	16:9	
	Display Area(㎜)	409.8x230.4	408.96x230.04
	Recommend Resolution	1920 x 1080	
	Viewing Angle(H/V)	89/89/89/89	85/85/85/85
	Contrast Ratio	1000 : 1	1200 : 1
	Response Time	20ms	30ms
	Brightness	350Cd/m²	
	Backlight Type	LED	
	Backlight Life	50,000 hours	
Touch	Touch Type	Capacitive Touch	
Interface	HDMI Input	2 Ports	1 Port
	DP Input	-	1 Port
	USB Up Stream	2 Ports	1 Port
	USB Down Stream	2 Ports	-
	USB Host	1 Port	
OSD Controls	Capacitive Touch Button	KVM/Up/Down/Menu, Select/Power	
	Button(Tact Switch)	-	Up/Down/Menu, Select/Power
Power	Input Voltage	24Vdc(20~28Vdc)	
	Power Consumption	40W	
	Voltage Sag	24Vdc, Within 10ms	
	Insulation Resistance	500Vdc, 10㏁	
Environment	Operation Temperature(℃)	-10 ~ +50	
	Storage Temperature(℃)	-20 ~ +60	
	Operation Humidity(%RH)	0 ~ 90(No dew)	
	Atmosphere	No corrosive gas	
	Vibration Endurance	Amplitude: 10≤F < 25㎐(2G) X,Y,Z each direction(for 30 minutes)	
	Noise Immunity	1000Vp-p(Pulse width 1μs)	
	Electrostatic Discharge	Connective discharge from EN61000-4-2: ±4kV	
	Shock Endurance	10G X,Y,Z each direction(for 3 times)	
	Ground Connection	Class 3(100Ω under)	
	Protection Classification	IP65(Front)	
	Certification	CE, KC, UL(On Progress)	
Structure	External Dimension(㎜)	477.4 x 328.4 x 63.5	477.4 x 328.4 x 71.4
	Panel Cut(㎜)	463 x 314	
	Weight(kg)	5.0	4.7
	VESA Wall Mount Holes(㎜)	100 x 100	
	Cooling System	Natural air circulation	
	Case Material	Aluminum + Plastic	

DRAWING

MDP-DC1900WD

① Power LED & Button	④ Display Change Button	⑦ USB Cover	⑩ USB Downstream Port 1, 2
② OSD MENU Button	⑤ LCD Panel	⑧ USB Downstream Port 3	⑪ USB Upstream Port 1, 2
③ Up/Down Button	⑥ Touch Panel	⑨ Power Input	⑫ HDMI Input 1, 2

MDP-SC1900WD

① Status LED	④ LCD Panel	⑦ Power Input	⑩ USB Type A	⑬ Up Button
② USB Host	⑤ Touch Panel	⑧ HDMI Input	⑪ Power Button	⑭ Down Button
③ USB Cover	⑥ Speaker	⑨ DP Port	⑫ Menu Button	⑮ Select Button

Agency Introduction

HMI Specialized Company

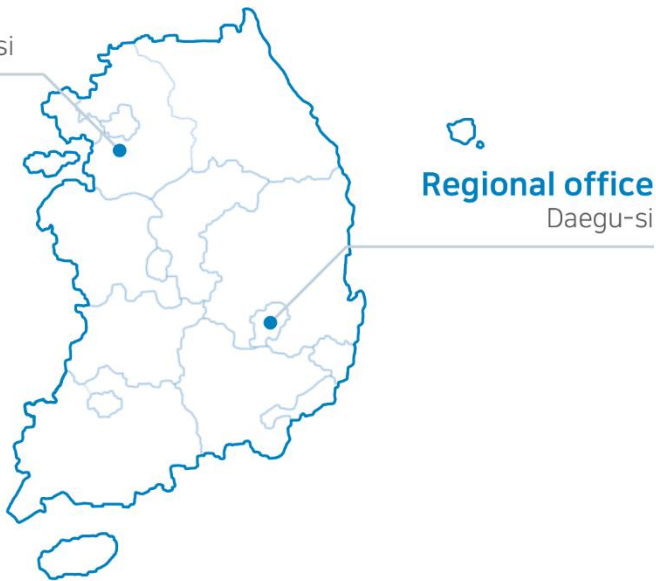### ■ More than 20 oversea sales agencies ■

China

China, Japan, Singapore, India, Turkey, Vietnam, Israel,
Malaysia, Thailand, Greece, France, Iran, Jordan, etc.

■ More than 36 domestic sales agencies ■

Headquaters
Gyeonggi-do Anyang-si

Regional office
Daegu-si

Seoul, Gyeonggi, Daejeon, Daegu, Gwangju,
Ulsan, Changwon, Busan, etc.

Promise to Customer

HMI Specialized Company

PROMISE

M2I Corporation
Man · Machine · Interface

01   02   03

PROMISE 1	PROMISE 2	PROMISE 3
Communicating(Interact) with Customer	**Continuous Growth**	**Brand New Change**
Customer to be first, on their side	Constant development, improvement of reliability and productivity	Change to become leader of field of Smart Factory Automation

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For customer's satisfaction, M2I will keep communicate,
to improve quality of product, M2I will keep research and develop
no fear to change.

We are M2I,
the HMI Specialized Company