M2I Corporation

Industrial PC-HMI
TOP-PCVIEW
Hardware Manual

Thank you for using TOP-PCVIEW series of M2I corporation.

Please read this manual carefully to know installing, wiring, operating, servicing and inspecting this equipment.

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Chapter 1. Safety Precautions

■ **Before using the product**

To use the product safely and effectively, please read the contents of this manual thoroughly before use. Please keep to the safety precaution, for it is to prevent accidents and potential danger from occurring. Safety precaution is classified into 'Warning' and 'Caution' and their meanings are as follows. Also the indicated illustrations on the product and in the manual have the following meanings.

⚠ Warning	Violating the instruction may result in serious personal injury or death.
⚠ Caution	Violating the instruction may result in slight personal injury or product damage.
🚫	Be cautious, for danger may be present.
❗	Be cautious, for there is a possibility of an electric shock.

■ **General Precautions**　⚠ Caution

🚫 Do not press the screen with a hard or sharp object (awl, screwdriver, pen) with too strong a force.
It may cause malfunction of touch due to damage of the front sheet.

🚫 Do not use or store in an environment with high vibration.

❗ Do not allow foreign objects such as water, liquids, or metal powders to enter the product. This may cause breakage or electric shock.

🚫 Do not allow foreign objects such as water, liquids, or metal powders to enter into the front(screen) protective sheet. The screen may be invisible or may cause a malfunction of the touch.

🚫 Use the radio or mobile phone at least 30cm away from the main unit.

🚫 Two or fewer bright spots may appear on the LCD screen, and certain areas may appear brighter, but this is not a defect in LCD characteristics.

🚫 Do not store or operate in direct sunlight. Direct sunlight can change the properties of the LCD.

■ **Design Precautions**　⚠ Warning

Do not install the location which exceeds allowed temperature. Product can be damaged or shorten the life. Especially Install environment as below should be avoided.

❗ As the malfunction & incorrect result of Products could damage the stability of the entire systems and human body, you must install damage preventing interlock circuit such as emergency stop, Protective circuits, positioning upper and lower limit switch and interlock for forward/reverse operation.

❗ When computer or other controllers communicate and exchange data with products or change operation mode of products, set up protective sequence program in PC or Controller for protecting system from communication error.

❗ The output signal or communication lines should be separated from the power line or high tension wire. They should be installed 100mm (3.94 inch) or more from each other

■ **Normal environmental conditions**　⚠ Caution

🚫 Indoor use

🚫 Altitude up to 2000m

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■ **Wiring Precautions** ⚠Warning

❶ Be sure the wiring is done correctly by checking the product's rated voltage and the terminal layout. Incorrect wiring could result in fire, damage or malfunctions.

❶ Tighten the terminal screw with the specified torque. If the screws of terminal are loose, it could result in short circuit, fire, malfunctions.

FG Terminal must be used a dedicated ground. Not doing so could result in malfunctions.

❶ a. Grounding should be the Class 3 grounding. The cable for grounding should be more than 4㎟.

❶ b. grounding point be closed to the products and make short the distance to the ground cable if possible. Please see below.
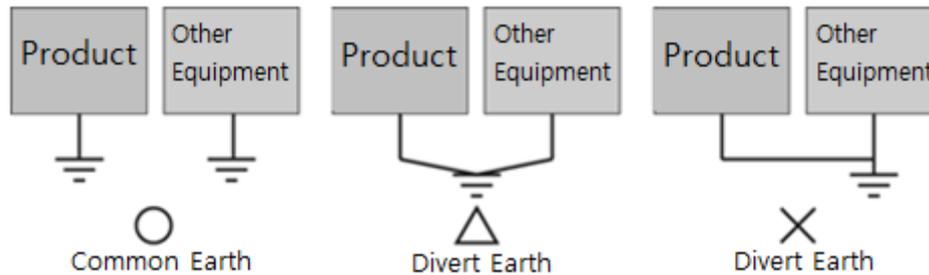
■ **Installation Precaution** ⚠ Caution

Do not install the location which exceeds allowed temperature. Product can be damaged or shorten the life. Especially Install environment as below should be avoided.

🚫 Do not Install product to the place which the ambient temperature is out of limits, from 0℃ to 60℃ or on the surface of control board which high pressure equipment is installed.

🚫 Do not install to the place where strong shock or vibration continuously have impacted on product.

❶ The space between back of product and back of control board must be more than 100mm for maintenance and ventilation.

🚫 Do not storage and operate in the place in direct sunlight. By the strong ultraviolet rays can degrade the quality of LCD Displays.

■ **Disposal Precaution** ⚠ Caution

When you dispose of product, please treat it as industrial waste. It can create poisonous substances or explosion.

■ **Cell Type Battery Specifications and Exchange** ⚠ Caution

If a "CMOS CHECKSUM ERROR" occurs during booting, the BIOS setup can not be saved due to the exhaustion of the CMOS battery, so users should replace the button battery that is fixed in the product.

Item	Content
Battery Voltage	DC 3V
Battery Model	CR2032(lithium Battery)
Battery lifetime	About 3 years (In case of ambient temperature 25℃)
Image	
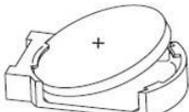
  * Depending on the model specifications are subject to change.

■ **All field-wiring connections to this unit shall be from Limited Voltage / Limited below 24Vdc isolated secondary source with an output fuse, or Class 2.**

Chapter 2. Overview

2.1 Product Introduction

The industrial PC-HMI touch panel with industrial PC is required in industry, Windows applications, and RS-232/422/485, Ethernet-based Control of the other devices that are connected to this unit (PLC) is a device used to communicate with the primary objective.

2.2 Package Contents

please make sure that all of components are in the package.

Pictures shown may vary as a guide for understanding the real.

Item	Figure	Quantity
Main Body		1
User Manual		1
Power Connector		1
Terminal block 5P connector		1
Mounting Clamp		6
Accessories (Sold separate)	USB Memory	User Options
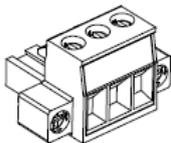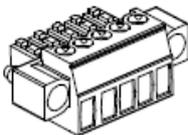
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2.3 Explanation of Model Name

TOP-PCVIEW	□□	□□	□	□	-
Series	**Display Size**	**Option**	**Resolution**	**Power Type**	
	10 : 10.4"	00 : Standard	X : XGA (1024 x 768)	A: AC	
	12 : 12.1"	10 : Premium	S : SXGA (1280 x 1024)	D: DC	
	15 : 15.0″		H : HD (1366 x 768)		
	17 : 17.0"				
	19 : 18.5"				

□□	-	□□	□□	□□
Built-in program		**RAM Capacity**	**O/S installation location**	**SSD Capacity**
WF : WES7, TOPVIEW		R4 : 4GB	H : mSATA	64 : 64GB
WN : WES7		R8 : 8GB	HE : 2.5" SSD	128 : 128GB
NF : TOPVIEW				256 : 256GB
NN : N/A				

* RAM and disk storage are optional.

Chapter 3. Product Specifications

3.1 Electrical Specifications

Input Voltage	AC Power	AC100~240V, 50/60Hz
	DC Power	DC 24V
Voltage Endurance	AC Power	AC85/170V, Less than 10ms
	DC Power	DC 24V, Less than 10ms
Power Consumption	50W or less	
Insulation resistance	500V DC, 10 ㏁	

3.2 System Specifications

CPU	Standard	Intel® Celeron® Processor J1900
	Premium	Intel® Core-i3™ Processor 4010U
Base/Burst Frequency	Standard	2.0@2.42 GHz
	Premium	1.7GHz
TDP	Standard	10W
	Premium	15W
Main Memory		DDR3L SO-DIMM 8GB. (Max. Capacity 8GB)
Main Disk		2.5" SSD 256GB

3.3 LCD Specifications

BLU		LED
Resolution and Luminance	TOP-PCVIEW10	1024 X 768, 470 cd/m2
	TOP-PCVIEW12	1024 x 768, 700 cd/m2
	TOP-PCVIEW15	1024 x 768, 450 cd/m2
	TOP-PCVIEW17	1280 x 1024, 250 cd/m2
	TOP-PCVIEW19	1366 x 768, 250 cd/m2
Number of Colors	16.7M	

3.4 Touch Specifications

Touch Type	Analog resistive touch

3.5 Ethernet Specifications

Speed	10/100/1000Mbps
Connector	RJ-45 x 2

3.6 Audio Specifications

Audio Codec	Realtek ALC888S
I/O Connector	SPK, Line-in, MIC

3.7 External Display Output Specifications

Controller	Standard	Intel Gen7 Graphic Engine
	Premium	Intel HD Graphics 4400
VGA	Standard	Max. 2560 x 1600 at 60Hz
	Premium	Max. 1920 x 1200 at 60 Hz
HDMI	Standard	HDMI 1.4a for HD video playback, 1080P at 60Hz
	Premium	HDMI 1.4 for HD video playback, 3200 x 2000 1080P at 60Hz
Mulit-Display	Standard	VGA + HDMI, VGA + LVDS, HDMI + LVDS
	Premium	VGA + HDMI, VGA + LVDS, HDMI + LVDS, VGA + HDMI + LVDS

3.8 USB Specifications

Front	Standard	USB 2.0 x 1
	Premium	USB 2.0 x 1
Side	Standard	USB 2.0 x 3, USB 3.0 x 1
	Premium	USB 2.0 x 2, USB 3.0 x 2

3.9 Etc.

HDD RACK	Support 1-Bay 2.5" HDD or SSD RACK

* 10 "product does not support HDD RACK.

* If you need 2-bay HDD RACK, please contact M2I Corporation.

3.10 Options Specifications

O/S	Windows Embedded Standard 7 32/64bit KOR/ENG Ver.
	Windows Professionl for Embedded System Ver.
USB KEY	TOPVIEW usb key certification

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3.11 Environment Specifications

Operation Temperature(℃)	No humidity	0 ~ +60℃
	humidity 95%	0 to +40℃ (Non-Condensing)
Storage Temperature(℃)	-20℃ ~ +60℃	
Atmosphere	No corrosive gas	
Vibration Endurance	Amplitude: 10≤F < 25 Hz(2G) X,Y,Z each direction (for 30 minutes)	
Noise Immunity	1000Vp-p (Pulse width 1 μs)	
Electrostatic Discharge	Electrostatic Discharge from EN61000-4-2:±4 kV	
Shock Endurance	10G X,Y,Z each direction(for 3 times)	
withstand voltage	500V (Line-Line)	
Ground connection	Class 3(Under 100Ω)	
Protection Classification	Front Side: IP65, Rear Side: IP2X	

3.12 Structure Specifications

Dimension(㎜)	TOP-PCVIEW10	276 x 219.5 x 87.9
	TOP-PCVIEW12	320 x 261 x 93.5
	TOP-PCVIEW15	370 x 301 x 87
	TOP-PCVIEW17	414 x 348 x 86.6
	TOP-PCVIEW19	497 x 316 x 86.6
Cooling System	Natural air circulation	
Case Material	AL(Aluminium)	

Chapter 4. Parts Identification and Functions

4.1 TOP-PCVIEW10
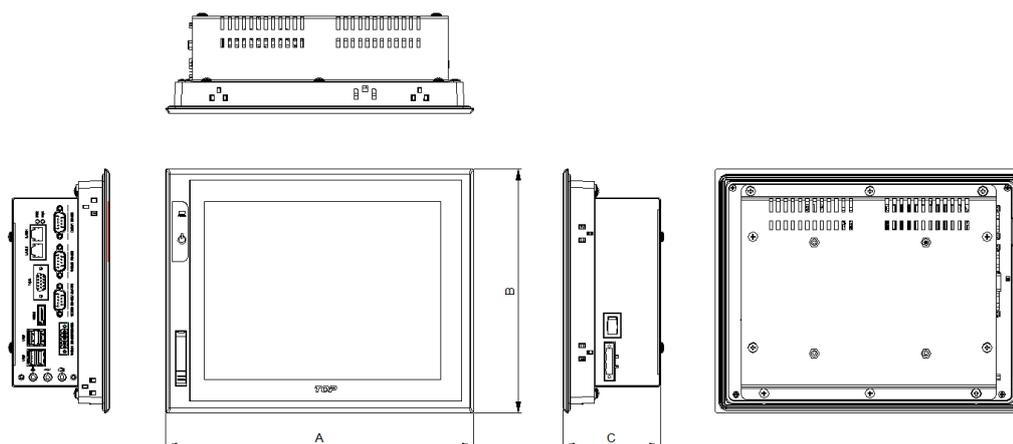
4.2 TOP-PCVIEW12 / 15 / 17
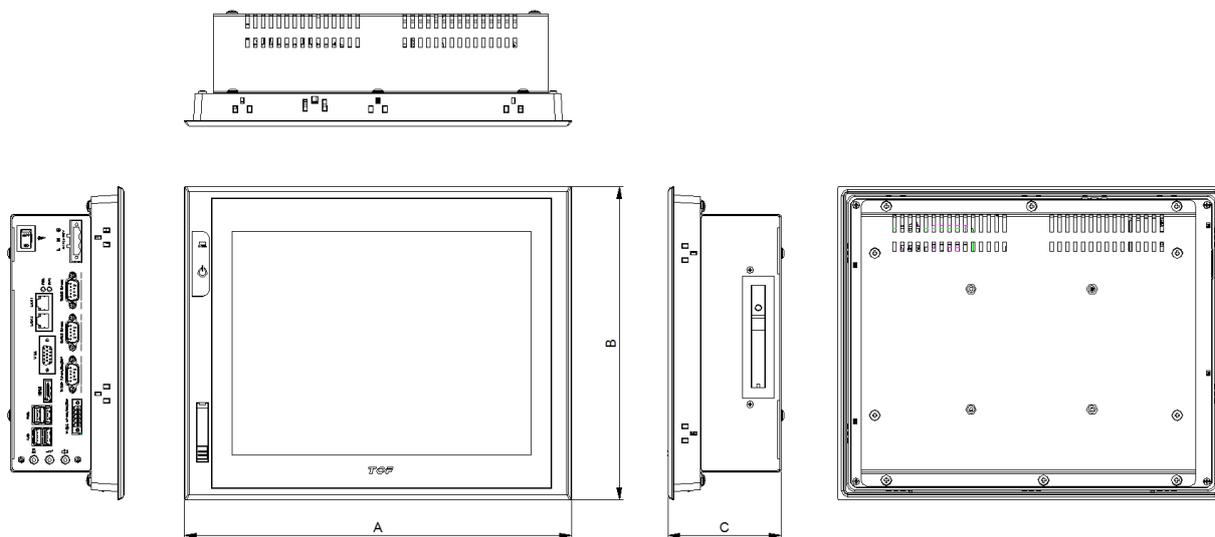
4.3 TOP-PCVIEW19
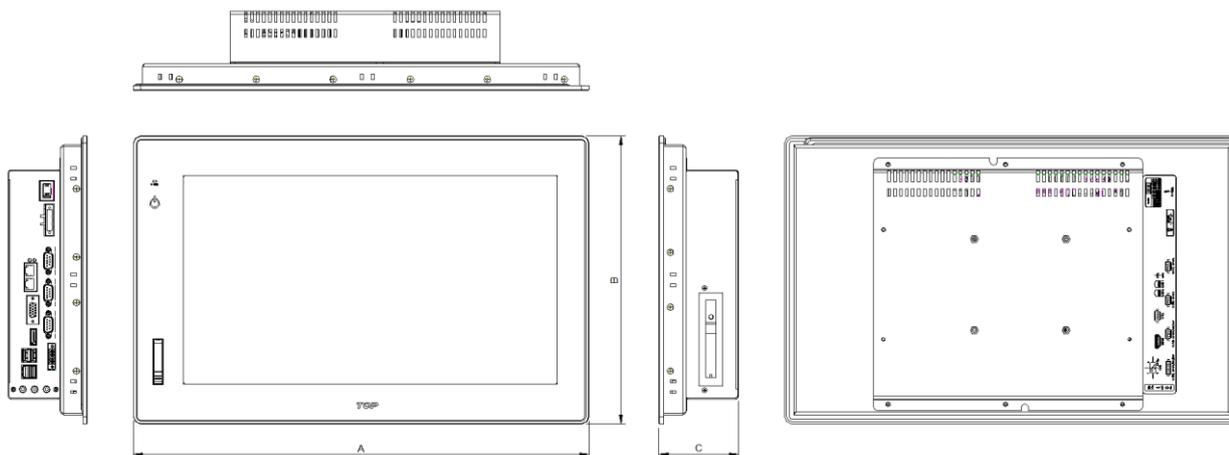
Model	A(mm)	B(mm)	C(mm)
TOP-PCVIEW10	276	219.5	87.9
TOP-PCVIEW12	320	261	93.5
TOP-PCVIEW15	370	301	87
TOP-PCVIEW17	414	348	86.6
TOP-PCVIEW19	497	316	86.6

4.4 Front Parts Names and Specifications

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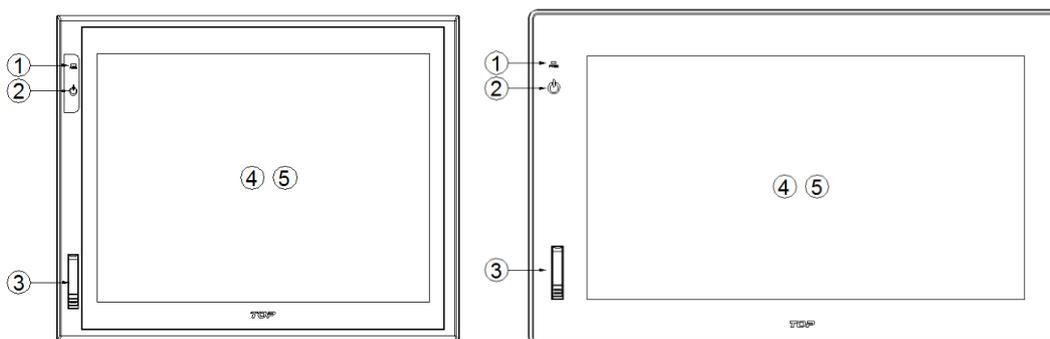
No.	Item	Description
①	Power LED	Display the System Power State
②	Front power switch	System power on / off touch switch (* On/off contact for more than 3 seconds)
③	USB Port	Front USB HOST Port
④	TFT LCD	TFT 16M Color LCD
⑤	Touch Panel	Analog resistive touch type

4.5 Side Parts Names and Specifications
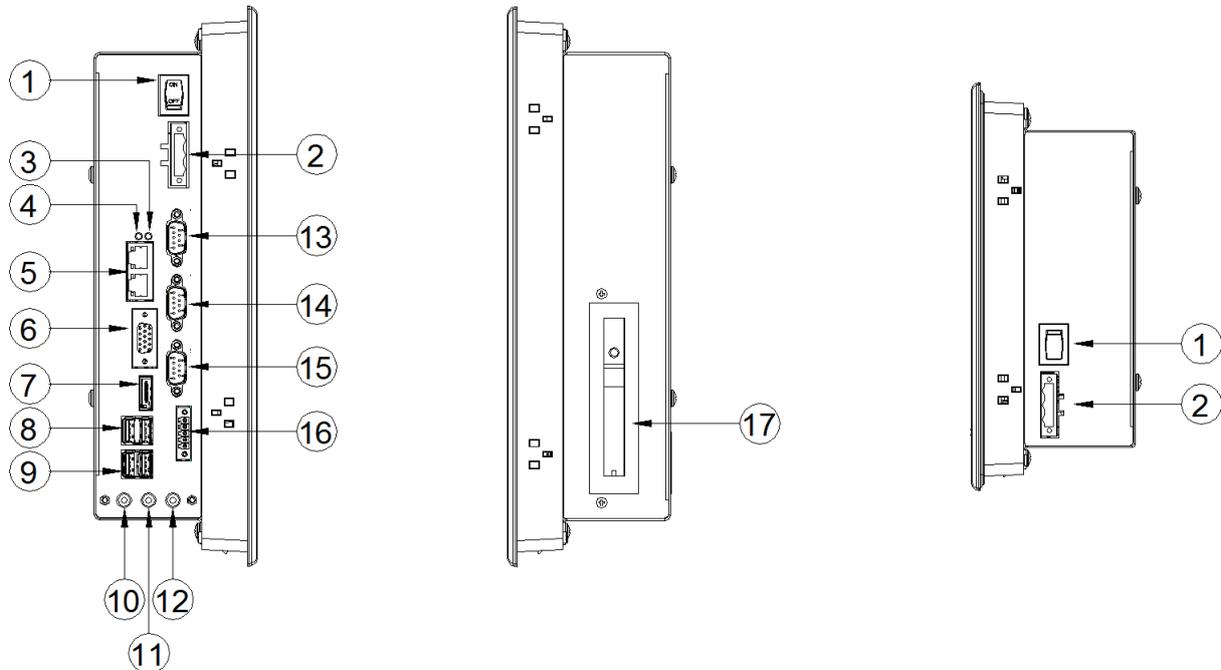
No.	Item	Type	Description
1	Power Switch	Rocker Switch-2P	System power ON / OFF switch
2	Power Connector	Terminal Block-3P	Power input, Pitch 7.62mm
3	Disk LED	LED	Display Disk operation status
4	Power LED	LED	Display Disk operation status
5	LAN Port #1, #2	RJ-45 2Ch.	Ethernet communication ports, configurable independently of IP
6	VGA	DSUB-15P	VGA external monitor connection
7	HDMI	HDMI	HDMI external monitor connection
8	USB #1	USB 2Ch.	USB Ports
9	USB #2	USB 2Ch.	USB Ports
10	SPK	3.5Pi Audio JACK	Audio output
11	LINE-IN	3.5Pi Audio JACK	External Audio input
12	MIC	3.5Pi Audio JACK	External Mic input
13	COM1	DSUB-9 (Male)	RS-232C Port
14	COM2	DSUB-9 (Male)	RS-232C Port
15	COM3	DSUB-9 (Male)	RS-232C/422/485 Port
16	COM4	Terminal Block-5P	RS-232C/422/485 Port, Pitch 3.50mm
17	HDD Rack	2.5" bay Slot	2.5" External Hard drive Rack

Chapter 5. Installation ⚠Warning

5.1 Installation Requirements

(1) To safe use of the product, keep the 100mm space between the wall and the product. And install the cooling fan in an enclosed space to ensure performance and ventilation.
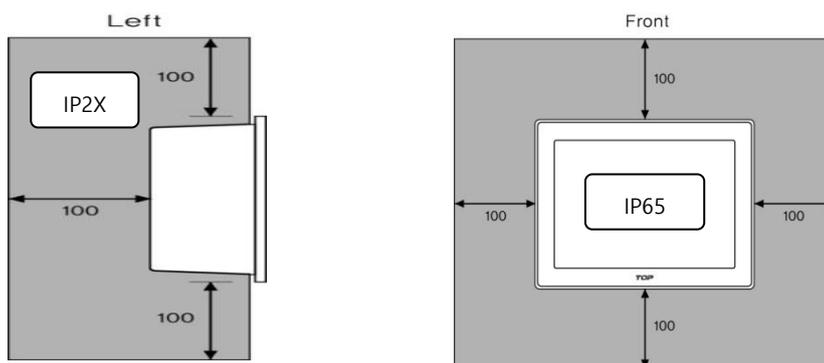
(2) TOP PC should be installed within 0 ~ 60°C(relative-humidity 0%) or 0~40°C(relative-humidity less than 95%, (Non-Condensing)), otherwise the screen may be changed or cause malfunction and damage.

(3) Be sure that heat from surrounding equipment does not cause TOP PC to exceed its standard operating temperature.

(4) When you don't see within 30°, you may not see clearly.

(5) When installing the TOP PC in a slanted position, TOP PC screen should not incline more than 30°
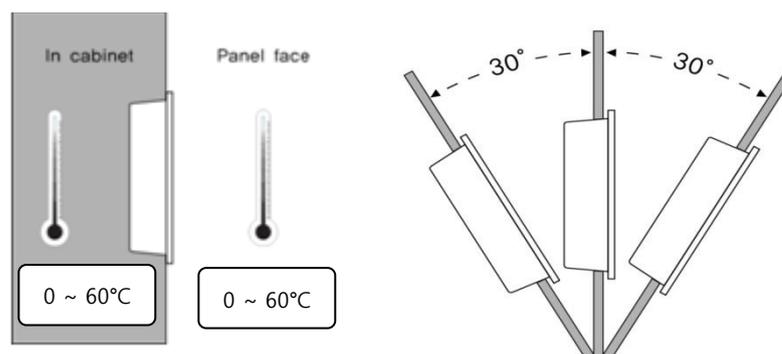
5.2 Installation Procedure ⚠Warning

For mounting product to the control panel, It should be recommended following below items.

5.2.1 Panel Cut-out

Make a panel cut which product is mounted and insert the TOP PC to the panel form the front side.

(1) The Size of Panel Cut (Mounting Place)

Making the Panel Cut (Mounting Size) per each TOP PC Series as below Table, Before Installation.

Model	A(mm)	B(mm)	R(mm)
TOP-PCVIEW10	260.0	202.0	Max. 5.0
TOP-PCVIEW12	306.0	247.0	Max. 5.0
TOP-PCVIEW15	355.0	286.0	Max. 5.0
TOP-PCVIEW17	400.0	334.0	Max. 2.0
TOP-PCVIEW19	479.0	298.0	Max. 2.0

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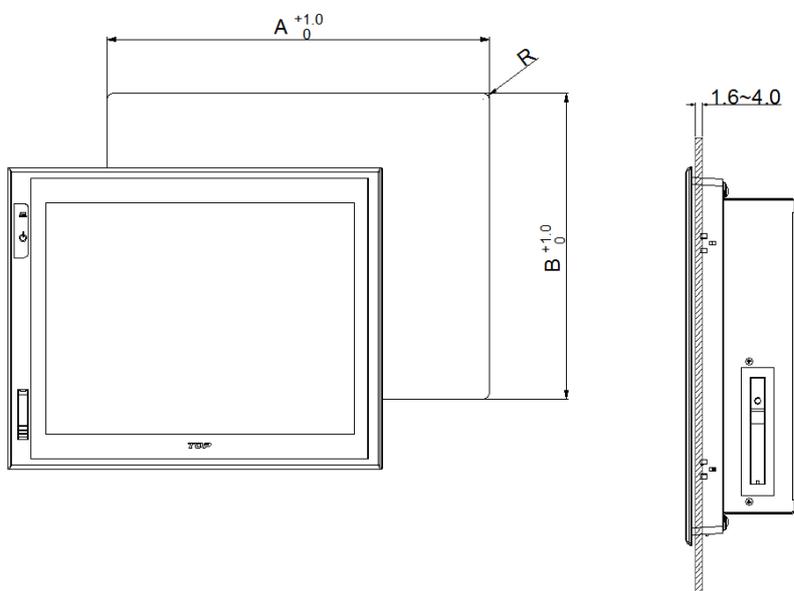
(2) Fixation

Installation methods should be following by using the supplied installation Clamps.

a. Insert the clamp into the slot of Product.
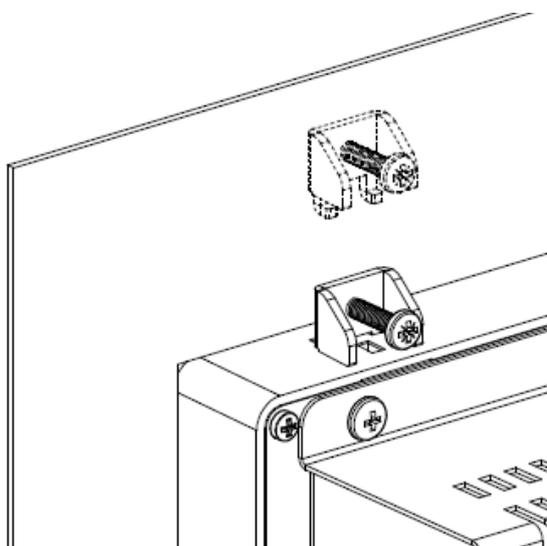
b. Secure the Product in the mounting cut-out from behind with the clamp,
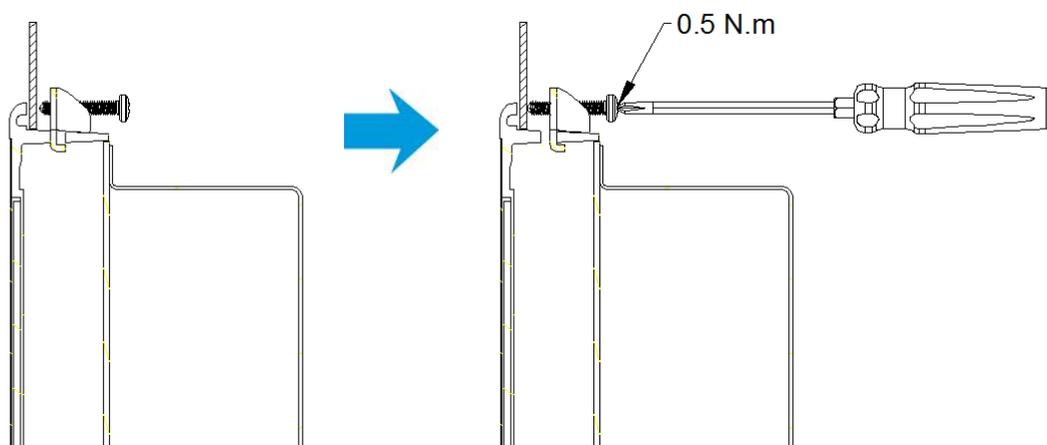
c. If the screw is over tightened, it may cause the front deformation, thus resulting the touch sensor can't work properly

Tighten the screw to 0.5 Nm.

5.3 Front USB (*Locker type, Option)

5.3.1 Opening the Front USB cover

Insert the Micro USB Connector in the hole on the top of the Front USB Cover.

The USB Cover can be opened once you push the Front USB Cover.

(1) Open the cover: The cover opens when you insert the USB connector into the front USB Home.
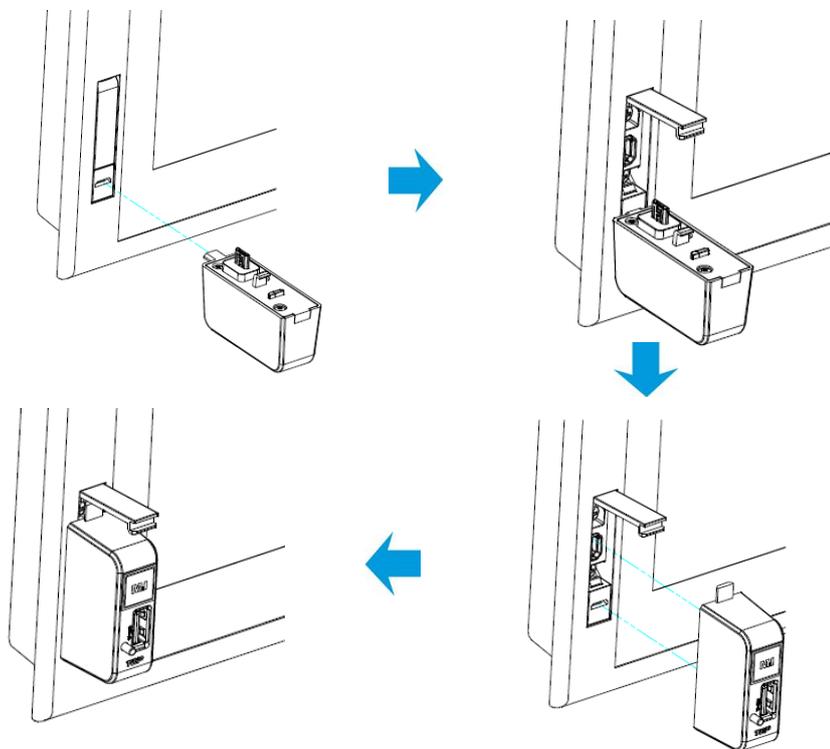
(2) Gender Remove: Hold down the button below and pull back the USB gender.

Push
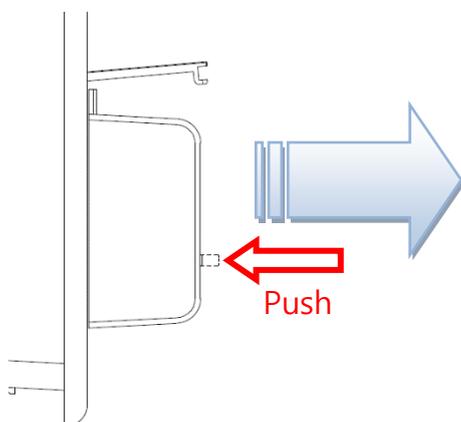
(3) Close the cover: Close and slide the cover of the connector.
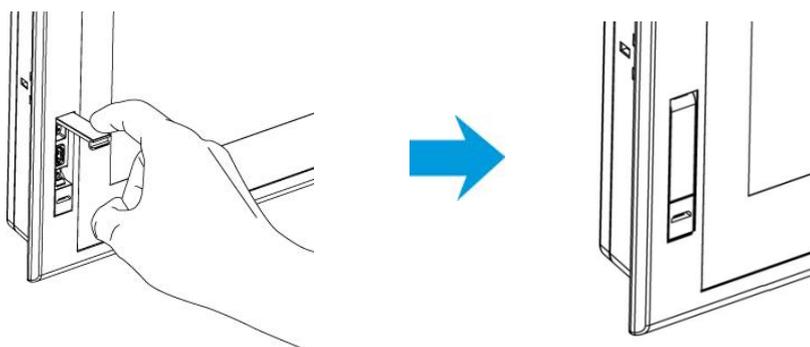
- **Locker type USB cover is required for front USB gender use.**

Please contact M2I Corporation.

Chapter 6. peripheral device Interface

For Serial communication, please refer below tables of each TOP-PCVIEW Model.

6.1 Serial Communication Mode setting and specifications

6.1.1. Set serial communication mode

(1) Boot <DEL> or <ESC> Press the key to set the communication mode can be changed in CMOS.

(2) Advanced -> IT8768(E) Super IO Configuration -> Select the appropriate serial port -> [Serial Port] Mode
Select one of the [RS-232 Mode], [RS-422 Mode], [RS-485 Mode]

a. Standard Type
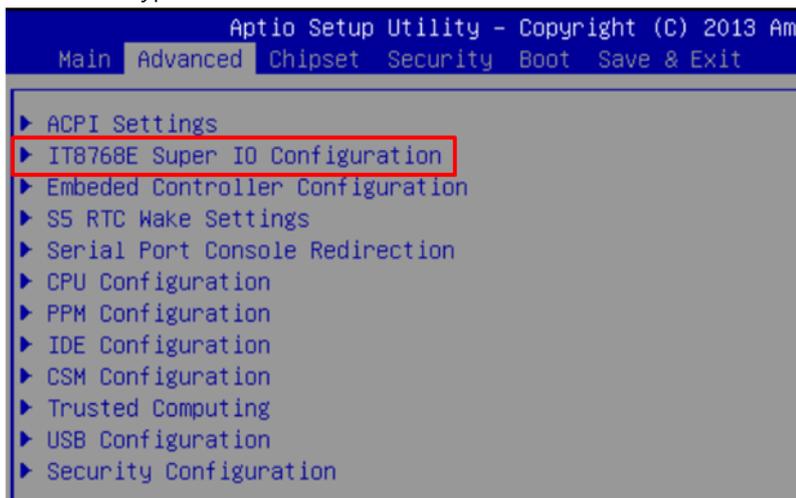
b. Premium Type
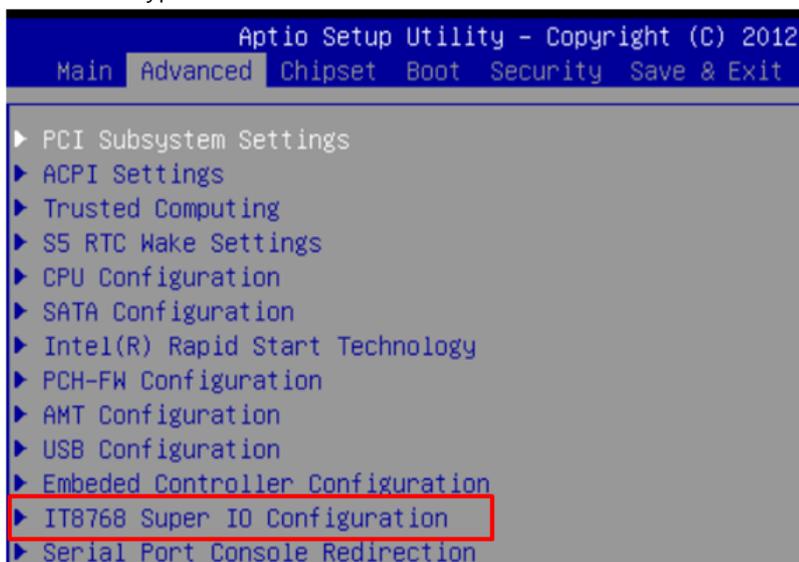
(3) Serial communication modes to choose from depending on the serial communication port.

(4) The communication mode can be set as the table below.

	COM1	COM2	COM3	COM4
Manufacturer status	**RS-232C**	**RS-232C**	**RS-485**	**RS-485**
Available settings	Not available	Not available	RS-232C	RS-232C
			RS-422	RS-422

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6.1.2 Serial Communication Specification

(1) RS-232C - (COM1, COM2, COM3, COM4)

Item		Description
Protocol		Full Duplex
Synch.		Asynchronous
Communication Distance		About 15m
Type of connection		1:1
Control Code		ASCII Code or HEXA Code
Baud Rate		Max. 115,200 bps
Data Type	Data Bit	7, 8 bit
	Parity Bit	NONE,ODD, EVEN Parity
	Stop Bit	1, 2 bit
Connector Type		DSUB-9 (Male)

(2) RS-422/485 - (COM3, COM4)

Item		Description
Protocol		Full Duplex, Half Duplex
Synch.		Asynchronous
Communication Distance		About 500m
Type of connection		1:N (N ≤ 31)
Control Code		ASCII Code or HEXA Code
Baud Rate		Max. 115,200 bps
Data Type	Data Bit	7, 8 bit
	Parity Bit	NONE,ODD, EVEN Parity
	Stop Bit	1, 2 bit
Connector Type		DSUB-9 (Male), Terminal Block 5P (3.50mm)

(3) COM1, COM2 Pin Number and Signals
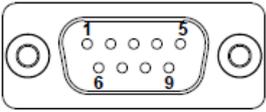
Type	Pin No.	Signal	Direction	Meaning
9Pin male	1	DCD	I	Data Carrier Detect
	2	RXD	I	RS-232C Receive Data
	3	TXD	O	RS-232C Transmit Data
	4	DTR	O	Data Terminal Ready
	5	SG	GND	Signal Ground
	6	DSR	O	Data Set Ready
	7	RTS	O	Request to Send
	8	CTS	I	Clear to Send
	9	RI	I	Ringing Indicator

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(4) COM3 Pin Number and Signals
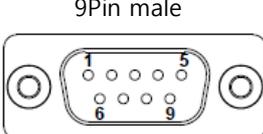
Type	Pin No.	Signal	Direction	Meaning
9Pin male	1	TXD(-)	I/O	422: TXD(-)
		TRX(-)		485: TRX(-)
	2	TXD(+)	I/O	422: TXD(+)
		TRX(+)		485: TRX(+)
		RXD		232C: Receive
	3	RXD(+)	I/O	422: RXD(+)
		TXD		232: Transmit
	4	RXD(-)	I	422: RXD(-)
	5	SG	GND	Signal Ground
	6	DSR	O	Data Set Ready
	7	RTS	O	Request to Send
	8	CTS	I	Clear to Send
	9	RI	I	Ringing Indicator

(5) COM4 Pin Number and Signals

Type	Pin No.	Signal	Direction	Meaning
	1	TXD(+)	I/O	422: TXD(+)
		TRX(+)		485: TRX(+),
		RXD		232: Receive
	2	TXD(-)	O	422: TXD(-)
		TRX(-)		485: TRX(-)
	3	SG	GND	Signal Ground
	4	RXD(+)	I/O	422: RXD(+)
		TXD		232: Transmit
	5	RXD(-)	O	422: RXD(-)

- For Serial Communication with RS-232C, Twisted Pair Cable must be used to communication cable corresponding to each Signal Pins such as RXD & TXD and SG. The RD & SD should be wired by cross connection.
  SG must be wired direct connection.
- For Serial Interface with RS-422/485, Twisted Pair Cable must be used to communication cable corresponding to each Signal Pins such as [TXD+, TXD-], [RXD+, RXD-] and [TRX+, TRX-].
- The shield cable of communication should not be used to signal ground. It may cause failure of communication.
- Serial port is not isolated.
- SG (Signal Ground) and FG (Frame Ground) are connected internally.
- If you are connecting external devices SG careful not to have a short circuit.

6.2 Ethernet Mode setting and specifications

6.2.1 Ethernet Communication Specification

(1) Ethernet Specification

Item	Description
Ethernet Method	IEEE802.3i/IEEE802.3u/IEEE802.3ab,10BaseT/100BaseT/1000BaseT
Speed	10M / 100M / 1000M bps
Communication Method	Base Band
Communication Cable	UTP (Unshielded Twisted Pair)
Modular Jack	RJ-45 x 2

(2) RJ45 PinMap

Type	Pin No.	color	Signal
	1	Orange/White	TX+(10/100M),BI_DA+(GHz)
	2	Orange	TX-(10/100M),BI_DA-(GHz)
	3	Green/White	RX+(10/100M),BI_DB+(GHz)
	4	Blue	BI_DC+(GHz)
	5	Blue/White	BI_DC-(GHz)
	6	Green	RX-(10/100M),BI_DB-(GHz)
	7	Brown/White	BI_DD+(GHz)
	8	Brown	BI_DD-(GHz)
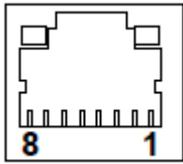
- IP configuration when connecting separated by internal / external network, you must enter each separate IP.
- Use a 1Gbps UTP cable is required standard Cat 5e or CAT 6 confirmation.

UTP Cable Compare	Cat 5e	Cat 6
Speed	Max. 1Gbps	More 1Gbps
Band width	100Mhz	250Mhz
Data Loss	100m Increase data loss	No data loss over 100m intervals

6.3 USB Specification

6.3.1 USB Port - (1)
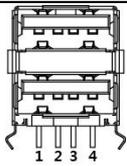
Type	Item	Description
	USB Interface	Supports USB3.0/2.0/1.1
	Speed	Max. 480Mb/s, Max. 5Gb/s
	Current Consumption	USB 2.0: 5.0V@500mA, USB3.0 : 5.0V@900mA
	Connector type	Type A(2ch)

6.3.2 USB Port - (2)
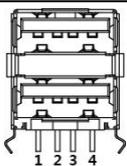
Type	Item	Description
	USB Interface	Supports USB3.0/2.0/1.1
	Speed	Max. 480Mb/s
	Current Consumption	USB 2.0 : 5.0V@500mA, USB3.0 : 5.0V@900mA
	Connector type	Type A(2ch)

* To use USB 3.0, your device must also support USB 3.0 specification.

* Ports with blue color inserts support USB 3.0.

6.3.3 Front USB
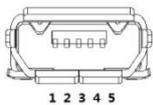
Type	Item	Description
	USB Interface	Supports USB2.0/1.1
	Speed	Max. 480Mb/s
	Current Consumption	5.0V@500mA
	Cable length	1.5m(Recommended retail cables, compliance with the length.)
	Connector type	Micro USB B, Female

Chapter 7. Wiring ⚠Warning

7.1 Power wiring

(1) The Power cable should have the following specification

Power Cable Specification	0.75~2.5mm²(18~12AWG)
F.G Cable Specification	Over 4mm²(11AWG)
Conductor type	Simple or Stranded wire(Use Copper Condeuctors only)
Bolt tightening force	≥ 0.5N.m ⚠Warning
Conductor length	
Temperature rating of the field installed conductors	65℃ Only
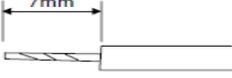
(2) The Power terminal should have the following specification.
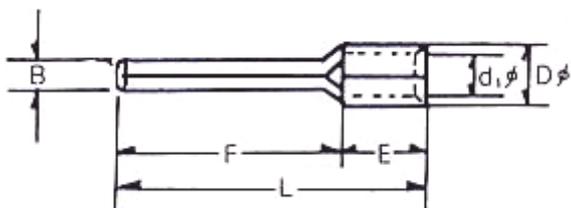
B	L	F	E	D	d
1.8~2.0	22~18	12~14	5	3.3~3.8	2~2.5

(3) Wiring of power is as follows ⚠Warning

AC Power Type	DC Power Type
F.G N L	+ - FG
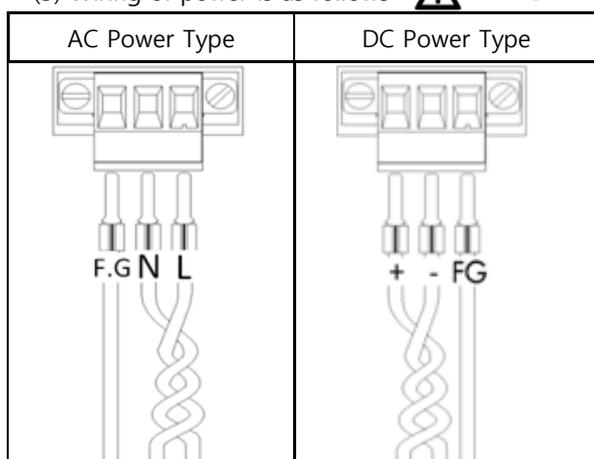
7.2 Ground wiring ⚠Warning

(1) The Product has enough anti-noise measure, so except that there are many noises specially, the ground is not needed. When doing ground, please refer to the followings.

(2) The ground should be the exclusive ground.

The ground should be type 3 ground (ground resistor is less than 100Ω).

(3) When not doing the exclusive ground, do common ground like figure B).

Exclusive ground　　**Common ground**　　**Common ground**
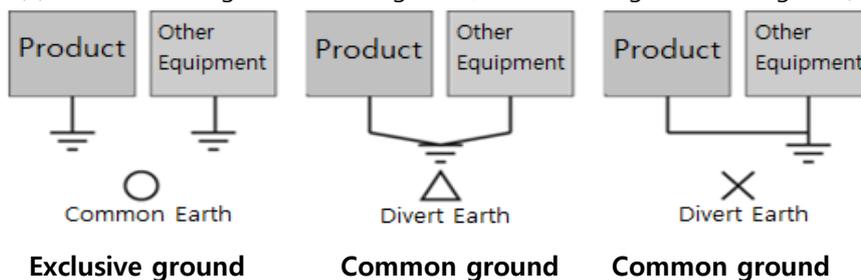
(4) Use the cable more than 4mm². Put the point of the ground near TOP PC and shorten ground line.

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Chapter 8. System Utilities ⚠Warning

8.1. System Recovery Solution

User error or virus, warm a system file is corrupted, you can recover to the factory default state.
Although the recovery program is built into the body, it is recommended to produce a recovery USB memory stick.

(1) Pressing F11 during boot a recovery program runs.
(2) Available to the recovery of the factory default state following a recovery procedure.
(3) The factory default recovery time is approximately 10 minutes.
(4) Use existing recovery storage so that data is carefully deleted.

1. Select the Acronis True Image.
* At this time, do value using a mouse or touch screen, you should always select only the keyboard.
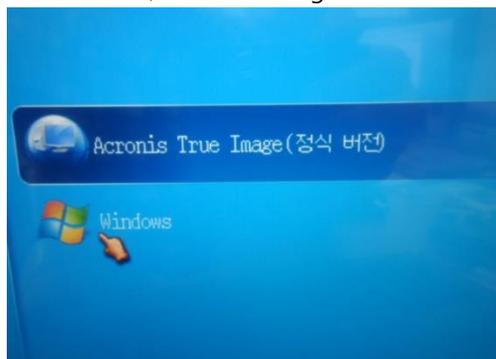
2. Run the following order.

1. The initial screen	2. "Browse backup" -> "Acronis Secure Zone" -> "Choose File" -> Choose the right recovery button
3. Select Recover whole disks and partitions	4. Select all items you want to recover

* If an error occurs during recovery or if it has been stopped for a long time, please exit the program or turn off the power, and then un-check "MBR and Track 0" from the "Recovery Target" of the recovery program.

8.2. Touch panel compensation

(1) Calibration settings are used when the user wants a touch panel coordinates and the coordinates do not match.

(2) It is also possible for users to interact with the touch at different points where desired.

(3) Calibration settings are as follows:

1. Run eGalaxTouch - Configure Utility Program.
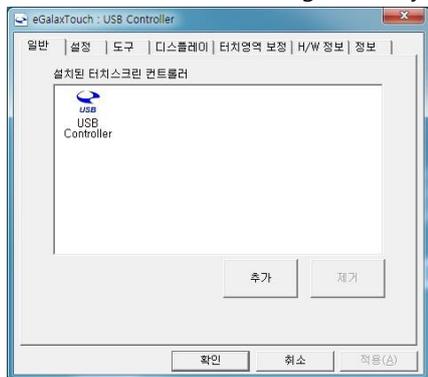
2. Run - tool - Linearization Calibration
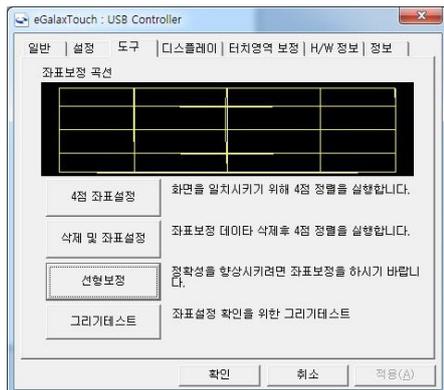
3. Click and hold the pointer is displayed correctly.

- Do not correction from a sharp object.
- improve accuracy when you hold down the exact location, such as a stylus pen.

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8.3. EWF (Enhanced Write Filter) Set

EWF is to prevent a direct write to the disk, a technology that allows you to give the OS partition and the protection of unit. When using the EWF, all write operations are being written in physical memory, when the reboot is initialized, and it will save to disk when needed. The physical memory is called an overlay the information related to the write operation on the overlay will be accumulated.

The Product can be set easily by built-in applications.
- "Enable": EWF is active by using the write protection on the disc.
- "commit": information is stored in a temporary space on the active state of EWF (write operation) to the storage on
     the disk.
- "Disable": deactivate the EWF creates the disk as normal.
- "Activate HORM": all disks are available from the state and the EWF is enabled, the system shut down like hibernation
     Decorate it to the boot prompt.

1. When you run the EWFManager of the Start menu as shown below will run the program.
2. The default status of EWFManager is set to DISABLED.

3. Set to ENABLED.

Select the partition or disk to apply the EWF

EWF Activate button
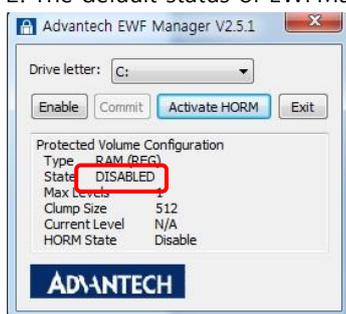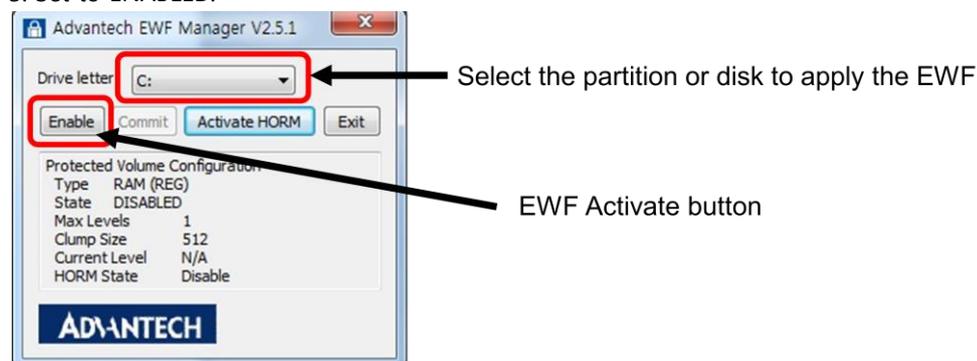
4. reboot will be ENABLED state.
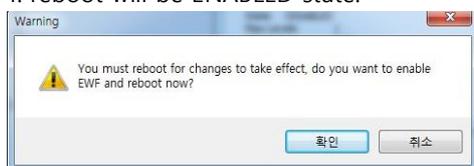
5. After rebooting ENABLED status.
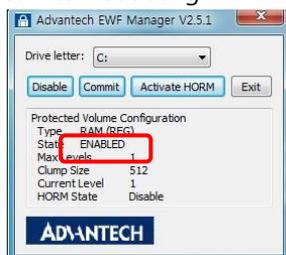
6. Press the button DISABLED during commit, press the Disable button.

- If you do not press all of the contents in the temporary space had to switch to DISABLED state as initialized commit.

* The EWF function may not work normally when restoring to the factory default state. If you need the function, please contact M2I Corporation.

8.4. Backlight brightness settings

You can adjust the display brightness to suit your needs.
Adjustable in five steps, and the default settings are to Highest.
To use other settings must be selected in CMOS.

1. boot <DEL> or <ESC> Press the key to enter the CMOS screen.
2. Select the Advanced -> Embedded Controller Configuration -> Backlight Level.

3 Adjust the desired brightness at the bottom of the screen.

4. Select the Save & Exit -> Save changes and Exit.

8.5. RAID Setting (*Premium Model)
For Premium products, RAID configuration can be done using the 2-Bay hard disk provided.
Note that existing data can be initialized when converting to AHCI <-> RAID mode.
In order to prevent data loss, you need to modify the Windows registry after installation with AHCI and convert it to RAID.
Normal operation can not be guaranteed.
Be sure to use RAID mode after disk initialization.

1. RAID 0 - Striping
  RAID 0 or striping spreads data across array drives, which improves read and write throughput in many environments
  because the workload is parallelized and distributed to each drive.
  Because of the way data is distributed, the total capacity of the array drives is consolidated into one.
  For example, in a striped RAID 0 configuration, two 1TB drives paired are recognized as one 2TB volume.
  However, since RAID 0 does not mirror or store parity data, if one disk fails, the data stored on the remaining disk
  will be destroyed.

2. RAID 1 - Mirroring
  RAID 1 or mirroring requires a minimum of two drives. However, instead of striping the data, the data stored in one drive
  is replicated to the other array drive.
  RAID 1 provides a certain amount of data redundancy and allows you to reconfigure arrays without losing data in the
  event of a drive failure.
  The total capacity of RAID 1 is equal to the capacity of a single drive due to redundancy.
  With two 1TB drives, the total capacity of RAID 1 is still recognized as 1TB.
  * Two discs are recommended by the same manufacturer. When configured with third-party manufacturers, stability
    may be reduced.
  ** RAID is configured based on small capacity when using different capacities.

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Chapter 9. Maintenance ⚠Warning

9.1 Cleaning the Display

When the surface or frame of the display become dirty, spray the cleaning solution onto a soft cloth and wipe the device. Do not spray the cleaning solution directly onto the device.

9.2 Periodic Check Points

Check the followings periodically for best condition of the device.

(1) Environment

   a. Is the operating temperature within the allowable range?

   b. Is the operating humidity within the allowable range?

   c. Is the Surrounding pollution no corrosive gas?

(2) Power

   a. Is the input voltage within the change range?

   b. Check the front power switch surface for damage, scratches, and contamination.

(3) Related Items

   a. Check the touch pad there is no damage, scratch or pollution by eye.

   b. Check the guarantee duration of LCD Backlight by eye.

9.3 Problems with the Device ⚠Warning

a. If there is a problem during operation, stop using it and contact the A/S department of M2I Corporation, which is indicated on the product label.

b. Only the authorized worker from M2I Corporation can check and repair problems related to malfunction of the machine.

c. If the problem cannot be solved at the installation site, the equipment can be collected and moved to M2I Corporation.

d. The manufacturer, M2I Corporation, is not responsible for damage or malfunction of the equipment caused by the use conditions of the user beyond the installation and use standards described in the manual.

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Chapter 10. Products and Warning Label Location

10.1 TOP-PCVIEW12x0X / 15x0X
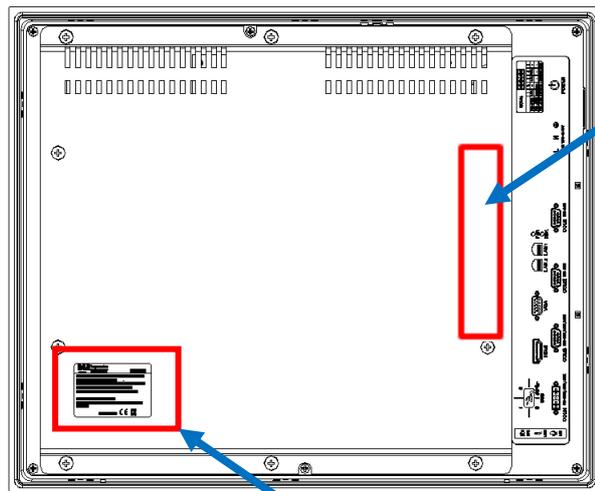
⚠ Warning

! Do not connect or disconnect all cables when energized.

Product Label

10.2 TOP-PCVIEW19x0H
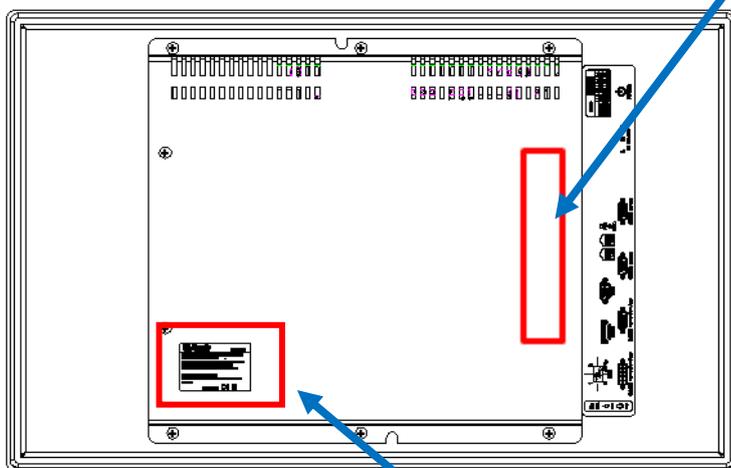
⚠ Warning

! Do not connect or disconnect all cables when energized.

Product Label

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Chapter 11. Products Label

11.1 AC Power Models

Manufacture(AS): M2I Corporation

11-35, Simin-daero 327beon-gil, Dongan-gu, Anyang-si, Gyeonggi-do 14055, Korea

Tel: 82-31-465-3366

Product Name: Industrial PC-HMI Touch Panel

Model Name: **TOP-PCVIEW**□□ □□ □**A**

Operating Temp: 0 ℃ ≤ Ta ≤ +60 ℃ (No humidity) / +40 ℃ (RH 95%)

Power specification: TOP-PCVIEW Series...**A**, AC 100-240V, 50/60 Hz, 50W

KC Certificate NO.:

Internal Cell: Model Name CR2032 (lithium Battery)

Serial Number:

11.2 DC Power Models

Manufacture(AS): M2I Corporation

11-35, Simin-daero 327beon-gil, Dongan-gu, Anyang-si, Gyeonggi-do 14055, Korea

Tel: 82-31-465-3366

Product Name: Industrial PC-HMI Touch Panel

Model Name: **TOP-PCVIEW**□□ □□ □**D**

Operating Temp: 0 ℃ ≤ Ta ≤ +60 ℃ (No humidity) / +40 ℃ (RH 95%)

Power specification: TOP-PCVIEW Series...D, 24 Vdc, 50W

UL Certificate Models: TOP-PCVIEW12/15/17/19□□ □□ □D

KC Certificate NO.:

Internal Cell: Model Name CR2032 (lithium Battery)

Serial Number:

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- **When using M2I equipment, thoroughly read this datasheet and associated manuals introduced in this datasheet, also pay careful attention to safety and handle the module properly.**
- **Store this datasheet in a safe place so that you can take it out read it whenever necessary.**

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