ARISTA
Talk to us. We listen.

ARP-3800AP-E01 Series Fanless Touch Panel Computer

ARP-3815AP-E01 ARP-3817AP-E01 ARP-3819AP-E01
ARP-3821AP-E01 ARP-3824AP-E01

USER MANUAL

This manual is a user guide for ARP-3800AP-E01 Series Fanless Touch Panel Computer. ARP-3800AP-E01 Series of touch panel computers are industrial level all in one computers, delivering high performance while working on low consumption.

Please read carefully the information below to get familiarity with safety installation techniques and precautions. For any questions or support, please call us at 1.877.827.4782 Monday through Friday 8:00am to 5:00PM Pacific Time.

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Product safety precautions

It is recommended to follow the instructions and safety precautions listed below. This manual should be saved for future references and use.

- Relative humidity: 25%~80%
- Storage temperature: -20°C to 60°C(-4F to 140F)
- Operation temperature: 0~50°C(32F to 122F)
- Unplug the unit when not in use for an extended period of time.
- Consult a service technician if the ARP-3800AP-E01 Series touch panel computer does not operate normally when you have followed the instructions in this manual.
- Do not attempt to repair this product yourself. Always get a qualified service technician to carry out adjustments or repairs.
- Do not place heavy objects on the unit.
- Always use the power cord supplied with this unit. For any reason a different power cord has to be used with this unit, it should be certified by local and national standards and used under guidance of authorized technician.
- Never use a faulty power cord with this unit. Please contact the manufacturer or nearest authorized repair service right away for a replacement if damaged power cord is received.
- The power supply cord is used as the main disconnect device. Ensure that the socket outlet is easily accessible after installation.
- Overloaded AC outlets, extension cords, frayed power cords, and broken plugs are extremely dangerous. They may, and can, result in an electrical shock or fire hazard. Call an authorized service technician for any replacements.
- Hands must be dry when plugging the power cord into an AC outlet to prevent electrical shock. Do not damage the power cord by disassembling, bending, pulling or exposing it to heat as it may cause a fire or electrical shock.
- Make sure to completely insert the power plug into an AC outlet. Insecure connections can cause a fire.
- Ensure that the power source is grounded correctly.
- Unplug the ARP-3800AP-E01 Series touch panel computer if cleaning is needed. The

Important: Read all the contents of this instruction manual carefully before you first use the ARP-3800AP-E01 Series touch panel computer.

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Features

- **15”/17”/19”/21.5”/24” LCD**
- **Projected Capacitive Touch Screen**
- **Aluminum or Stainless Steel Flush Bezel**
- **Powered by Intel Low Power E3845 1.91GHz Quad Core Atom CPU**
- **Up to 8GB DDR3 Memory**
- **SATA DOM, 2.5” HDD, 2.5” SSD**
- **Dual Gigabit Ethernet**
- **4 x RS-232/422/485 BIOS Selectable**
- **1 x 8-bit GPIO (4-bit Input, 4-bit Output)**
- **1 x USB 3.0, 3 x USB 2.0 ports**
- **External Smart Battery connector**

Applications

- Office electronics
- Instrumentation and measuring equipment
- Machine tools
- Audiovisual equipment
- Home appliances
- Communication equipment other than trunk lines

Do not use the products covered herein for the following equipment that demands extremely high performance in terms of functionality, reliability, or accuracy.

Aerospace equipment

Communication equipment for trunk lines

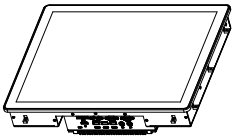
Product specifications

Specifcations	ARP-3815AP-E01	ARP-3817AP-E01	ARP-3819AP-E01
LCD Display			
Display Size (Diagnol)	15.0 inch	17.0 inch	19.0 inch
Resolution	1024 x 768	1280 x 1024	1280 x 1024
Backlight Lifetime (Hours)	50,000	50,000	50,000
Visual Characteristics			
Colors	16.7 millions	16.7 millions	16.7 millions
Aspect ratio	4:3	5:4	5:4
Viewing angle (V/H)	140° / 160°	140° / 160°	160° / 170°
Response time (Typical)	8 ms	30 ms	5 ms
Pixel Pitch (mm)	0.297 x 0.297	0.264 x 0.264	0.294 x 0.294
Contrast ratio	700 : 1	800 : 1	1000 : 1
Brightness	300 nits	350 nits	450 nits
Touch Screen			
Technology	Projected capacitive touch	Projected capacitive touch	Projected capacitive touch
Touch rating	50 Million Touches	50 Million Touches	50 Million Touches
Interface	USB	USB	USB
Front Bezel			
NEMA 4	Aluminum	Aluminum	Aluminum
NEMA 4x	Stainless Steel (Optional)	Stainless Steel (Optional)	Stainless Steel (Optional)
Rack Mount Bezel	N/A	N/A	N/A
System			
CPU	Intel E3845 1.91GHz Quad Core ATOM CPU	Intel E3845 1.91GHz Quad Core ATOM CPU	Intel E3845 1.91GHz Quad Core ATOM CPU
Chipset	Bay Trail	Bay Trail	Bay Trail
Memory	Up to 8GB DDR3 SO-DIMM	Up to 8GB DDR3 SO-DIMM	Up to 8GB DDR3 SO-DIMM
Video Controller	Intel Gen7 Intel Graphics DX 11, OGL3.2	Intel Gen7 Intel Graphics DX 11, OGL3.2	Intel Gen7 Intel Graphics DX 11, OGL3.2
External Video Output	VGA, HDMI	VGA, HDMI	VGA, HDMI
Storage Option	SATA DOM, 2.5" HDD, 2.5" SSD	SATA DOM, 2.5" HDD, 2.5" SSD	SATA DOM, 2.5" HDD, 2.5" SSD
Compact Flash	N/A	N/A	N/A
Keyboard / Mouse	USB / PS2	USB / PS2	USB / PS2
Audio	N/A	N/A	N/A
Watchdog Timer	Programmable 1 - 255 sec	Programmable 1 - 255 sec	Programmable 1 - 255 sec
Remote Boot	PXE	PXE	PXE
Expansion Slot	Mini PCIe x2	Mini PCIe x2	Mini PCIe x2
I/O Communication			
USB Port	1 x USB 3.0, 3 x USB 2.0	1 x USB 3.0, 3 x USB 2.0	1 x USB 3.0, 3 x USB 2.0
Serial Port	4 x RS-232/422/485	4 x RS-232/422/485	4 x RS-232/422/485
IEEE 1394	N/A	N/A	N/A
LAN	2 x Gigabit	2 x Gigabit	2 x Gigabit
Parallel	N/A	N/A	N/A
GPIO	4 x DI, 4 x DO	4 x DI, 4 x DO	4 x DI, 4 x DO
Smart Battery			
External Smart Battery	Optional	Optional	Optional
OS Support			
OS Support	Windows 7 & up	Windows 7 & up	Windows 7 & up
Power / Thermal Specs			
Power Requirement (Max)	110VAC/0.3A, 24VDC/1.3A	110VAC/0.4A, 24VDC/1.8A	110VAC/0.4A, 24VDC/1.8A
Power Consumption (Max)	32W	43W	43W
Recommended Power supply	45W	62W	62W
Heat Dissipation	108 BTU/hr	147 BTU/hr	147 BTU/hr
Physical Information			
Mounting	Panel Mount	Panel Mount	Panel Mount
Physical Dimension	14.09 x 11.10 x 4.33 inch 358.0 x 282.0 x 110.0 mm	15.43 x 12.76 x 4.40 inch 392.0 x 324.0 x 111.7 mm	16.58 x 13.90 x 4.46 inch 428.0 x 353.0 x 113.2 mm
Recommended Cutout Dimension (WxH)	13.44 x 10.45 inch 341.4 x 265.4 mm	14.78 x 12.11 inch 375.4 x 307.4 mm	16.20 x 13.25 inch 411.4 x 336.4 mm
Environmental			
Operating Temperature	0~50°C (32~122°F)	0~50°C (32~122°F)	0~50°C (32~122°F)
Storage Temperature	-20~60°C (-4~140°F)	-20~60°C (-4~140°F)	-20~60°C (-4~140°F)
Relative Humidity	0~95%	0~95%	0~95%
IP/MENA Rating	Bezel meets NEMA 4/4X requirement	Bezel meets NEMA 4/4X requirement	Bezel meets NEMA 4/4X requirement
Certifcation	N/A	N/A	N/A

Specifcations	ARP-3821AP-E01	ARP-3824AP-E01	
LCD Display			
Display Size (Diagnol)	21.5 inch	24 inch	
Resolution	1920 x 1080	1920 x 1080	
Backlight Lifetime (Hours)	50,000	50,000	
Visual Characteristics			
Colors	16.7 millions	16.7 millions	
Aspect ratio	16:9	16:9	
Viewing angle (V/H)	178° / 178°	178° / 178°	
Response time (Typical)	14 ms	25 ms	
Pixel Pitch (mm)	0.248 x 0.248	0.276 x 0.76	
Contrast ratio	1000 : 1	5000 : 1	
Brightness	250 nits	250 nits	
Touch Screen			
Technology	Projected capacitive touch	Projected capacitive touch	
Touch rating	50 Million Touches	50 Million Touches	
Interface	USB	USB	
Front Bezel			
NEMA 4	Aluminum	Aluminum	
NEMA 4x	Stainless Steel (Optional)	Stainless Steel (Optional)	
Rack Mount Bezel	N/A	N/A	
System			
CPU	Intel E3845 1.91GHz Quad Core ATOM CPU	Intel E3845 1.91GHz Quad Core ATOM CPU	
Chipset	Bay Trail	Bay Trail	
Memory	Up to 8GB DDR3 SO-DIMM	Up to 8GB DDR3 SO-DIMM	
Video Controller	Intel Gen7 Intel Graphics DX 11, OGL3.2	Intel Gen7 Intel Graphics DX 11, OGL3.2	
External Video Output	VGA, HDMI	VGA, HDMI	
Storage Option	SATA DOM, 2.5" HDD, 2.5" SSD	SATA DOM, 2.5" HDD, 2.5" SSD	
Compact Flash	N/A	N/A	
Keyboard / Mouse	USB / PS2	USB / PS2	
Audio	N/A	N/A	
Watchdog Timer	Programmable 1 - 255 sec	Programmable 1 - 255 sec	
Remote Boot	PXE	PXE	
Expansion Slot	Mini PCIe x2	Mini PCIe x2	
I/O Communication			
USB Port	1 x USB 3.0, 3 x USB 2.0	1 x USB 3.0, 3 x USB 2.0	
Serial Port	4 x RS-232/422/485	4 x RS-232/422/485	
IEEE 1394	N/A	N/A	
LAN	2 x Gigabit	2 x Gigabit	
Parallel	N/A	N/A	
GPIO	4 x DI, 4 x DO	4 x DI, 4 x DO	
Smart Battery			
External Smart Battery	Optional	Optional	
OS Support			
OS Support	Windows 7 & up	Windows 7 & up	
Power / Thermal Specs			
Power Requirement (Max)	110VAC/0.4A, 24VDC/1.8A	110VAC/0.6A, 24VDC/2.5A	
Power Consumption (Max)	43W	60W	
Recommended Power supply	62W	85W	
Heat Dissipation	147 BTU/hr	203 BTU/hr	
Physical Information			
Mounting	Panel Mount	Panel Mount	
Physical Dimension	20.91 x 12.94 x 4.46 inch 531.0 x 328.8 x 113.3 mm	22.98 x 14.44 x 4.34 inch 583.7 x 366.7 x 110.2 mm	
Recommended Cutout Dimension (WxH)	20.09 x 12.13 inch 510.2 x 308.0 mm	22.33 x 13.79 inch 567.1 x 350.1 mm	
Environmental			
Operating Temperature	0~50°C (32~122°F)	0~50°C (32~122°F)	
Storage Temperature	-20~60°C (-4~140°F)	-20~60°C (-4~140°F)	
Relative Humidity	0~95%	0~95%	
IP/MENA Rating	Bezel meets NEMA 4/4X requirement	Bezel meets NEMA 4/4X requirement	
Certifcation	N/A	N/A	

Unpacking

Before unpacking the unit, inspect the shipped carton for damage. If any visible damage is found, contact the manufacturer or authorized seller for assistance. Otherwise, proceed with unpacking.



ARP-3800AP-E01 Series touch panel computer

DIN-Rail AC/DC power supply x1

AC power cable x1

DC power cable x1

Driver CD Rom x1

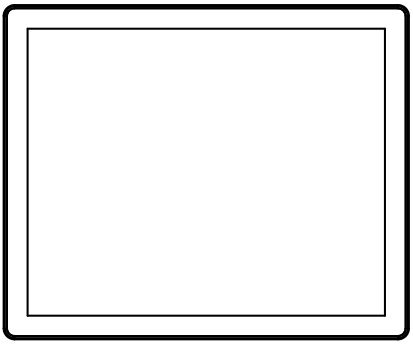
Mounting bolts and screws

Chapter 2 Basics

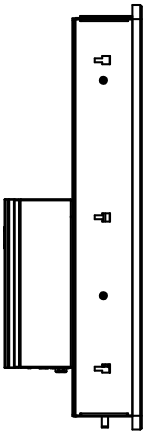
Product overview

ARP-3800AP-E01 Series Touch Panel Computer

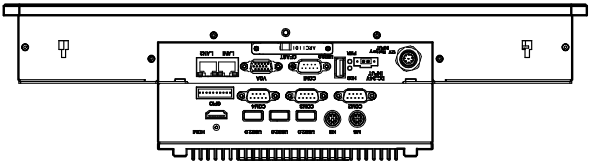
Front

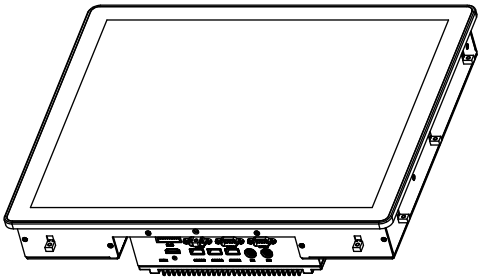


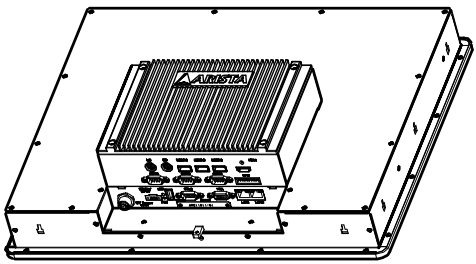
Side

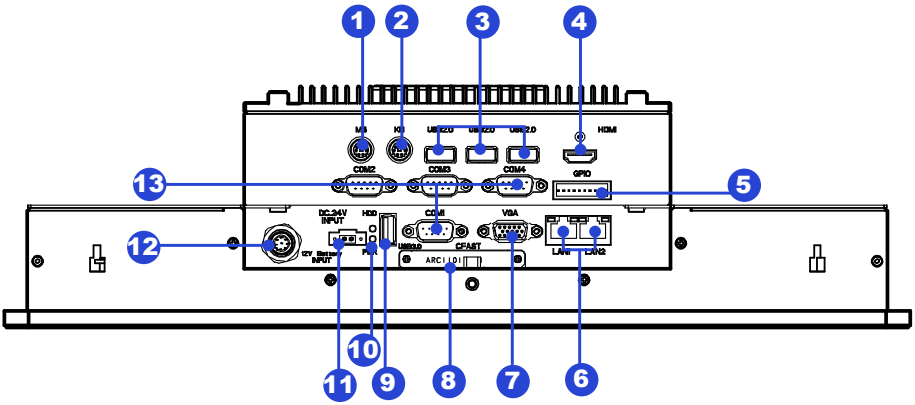


Bottom





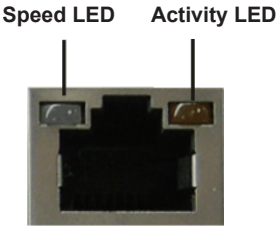




1. **PS/2 Keyboard connector**
2. **PS/2 Mouse connector**
3. **USB ports**
4. **HDMI port**
5. **GPIO port**
6. **RJ45 LAN port**
7. **VGA port**
8. **CFAST card slot**
9. **USB port**
10. **Power LED(up)/HDD LED(down) indicator**
11. **24V DC-IN power connector**
12. **Battery power input connector**
13. **Serial ports (COM1~COM4)**

PWR LED: Power LED indicator -The LED lights up when you turn on the system, and be off when the system is in standby mode.
HDD LED: Hard Disk Activity LED indicator-The read or write activities of the hard disk cause the LED to light up.

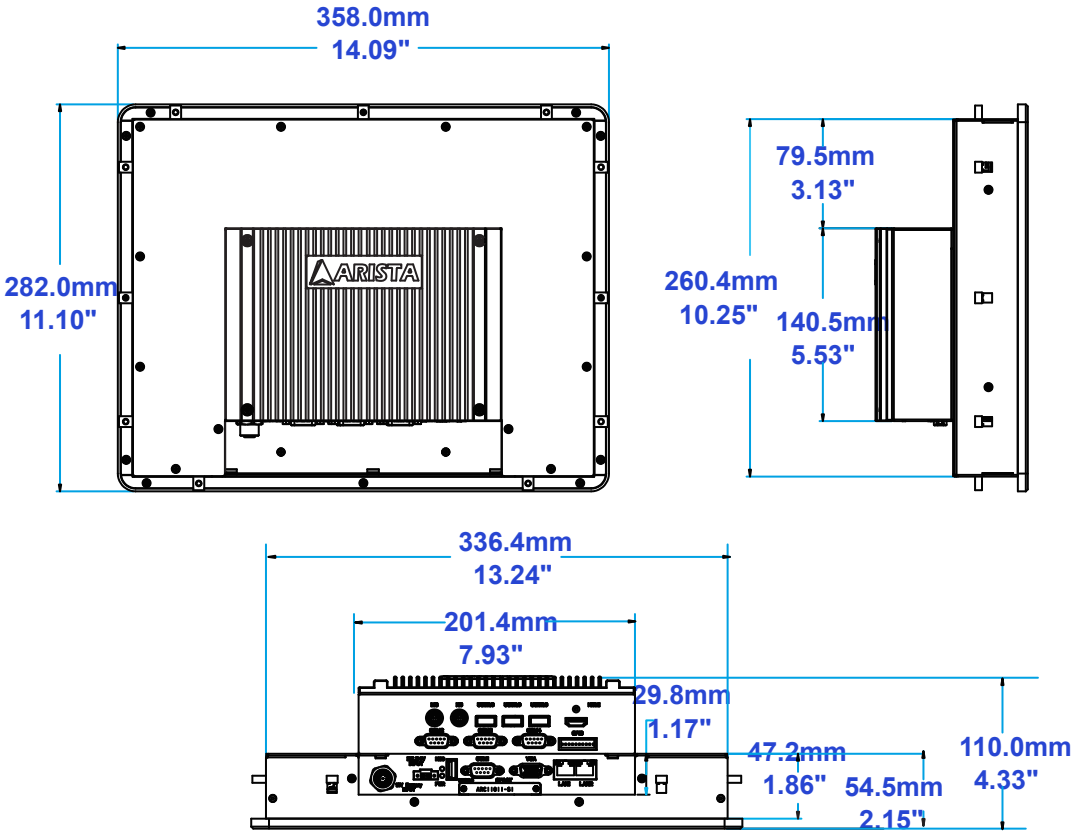
LED Indications on the LAN port		
	Status	Description
Activity LED	Off	No network connection
	On	Data transmission activity
Speed LED	Off	Data transmission at the rate of 10Mbps
	Orange	Data transmission at the rate of 1Gbps
	Green	Data transmission at the rate of 100Mbps



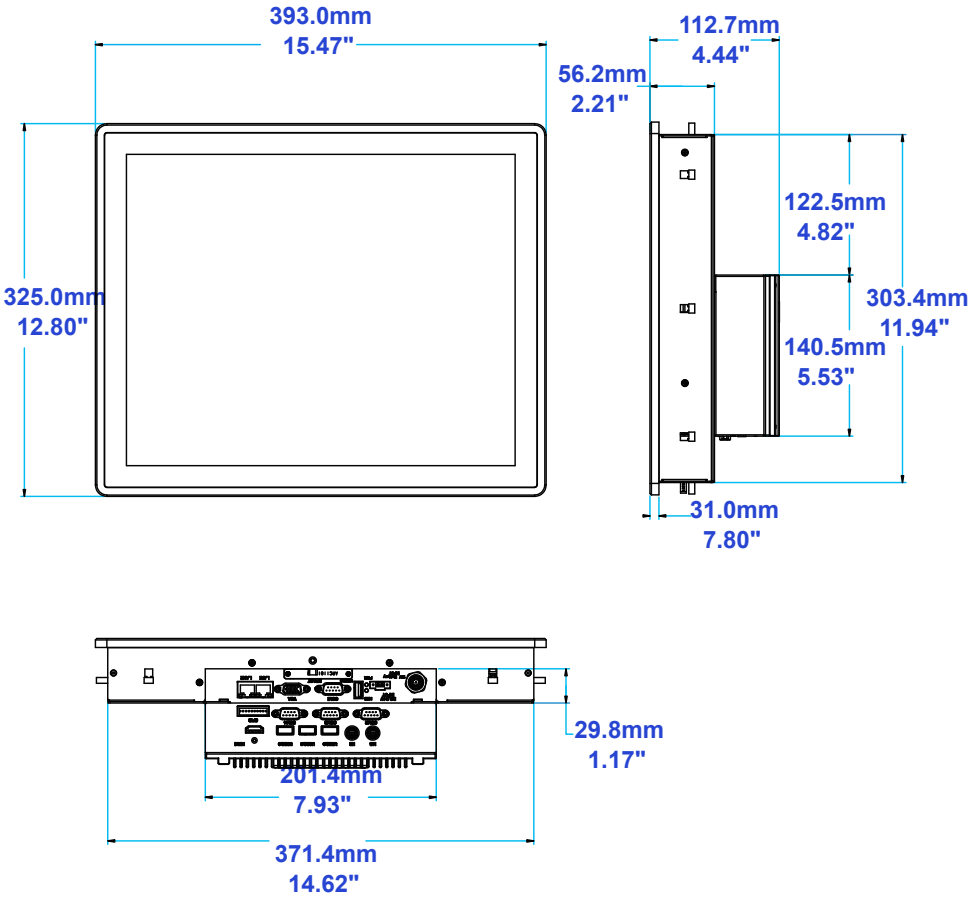
Physical dimension

The diagrams below show the physical and specific dimensions of the ARP-3800AP-E01 Series touch panel computer.

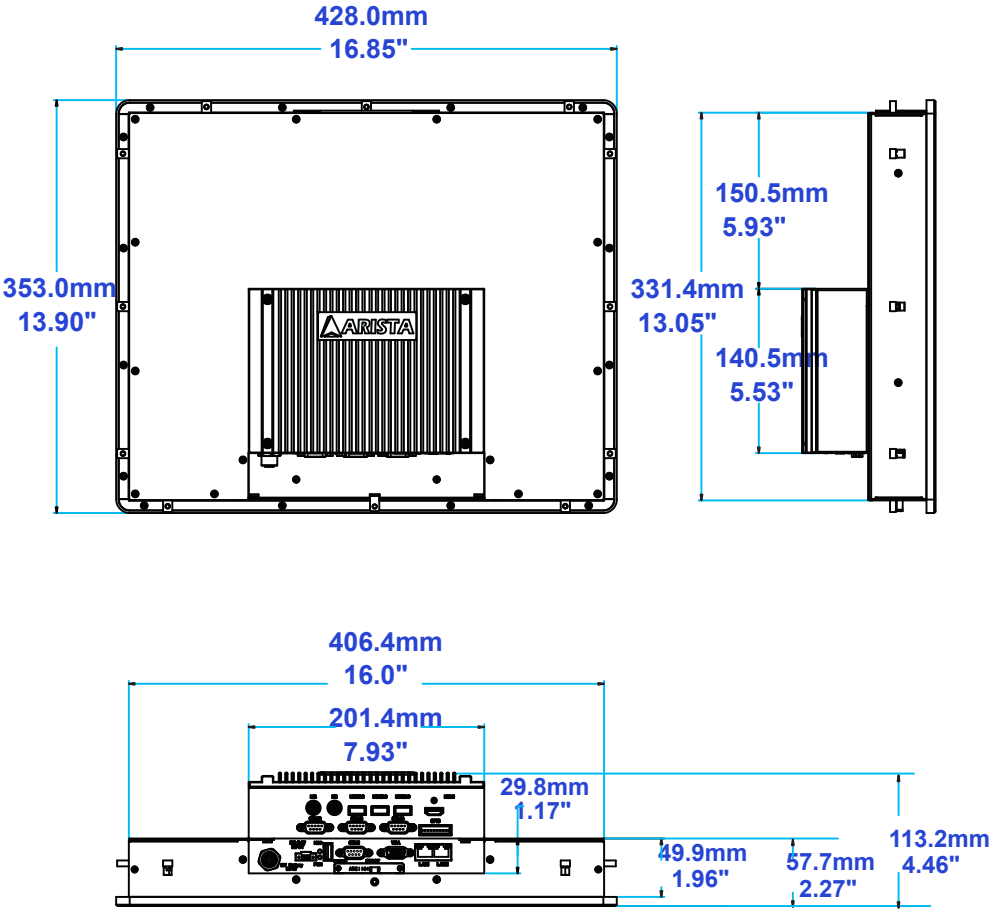
For ARP-3815AP-E01



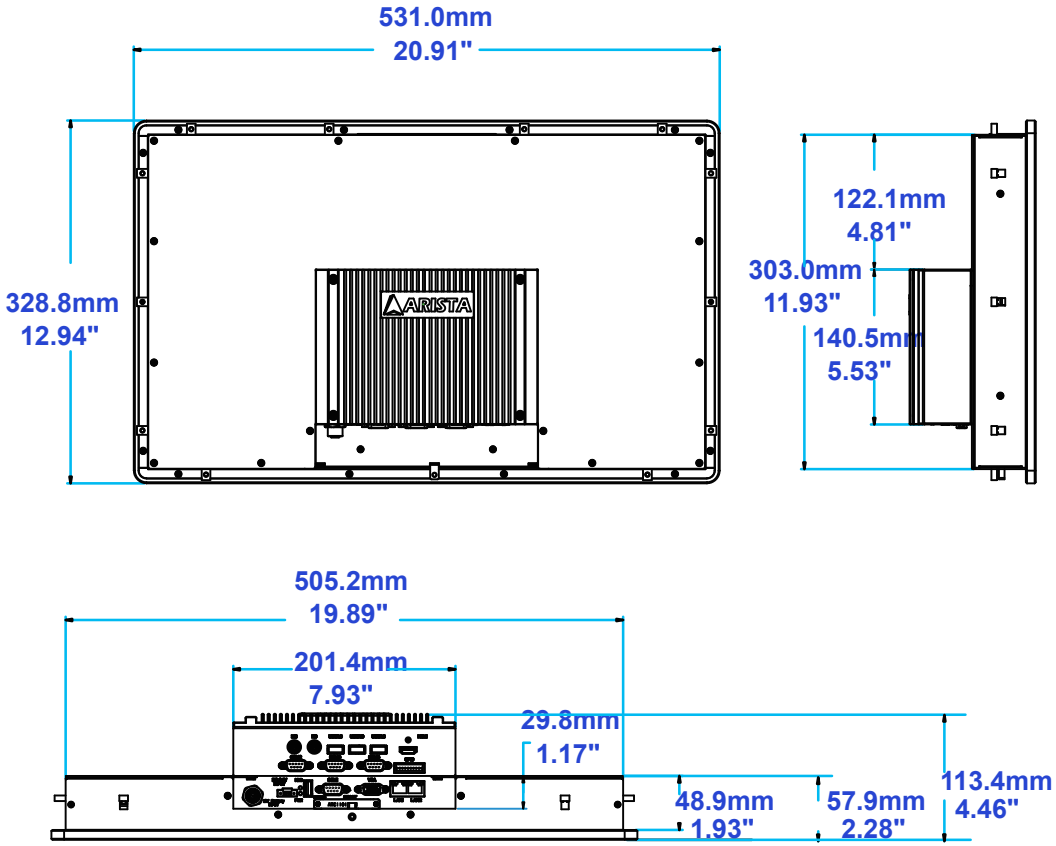
For ARP-3817AP-E01



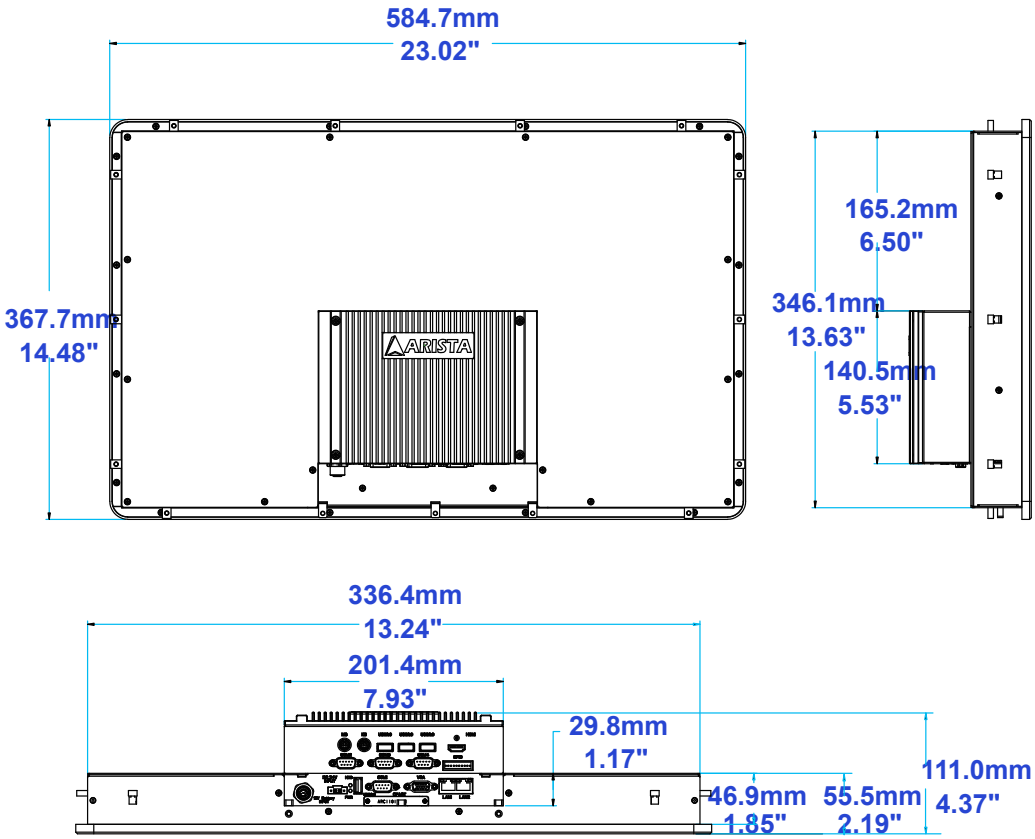
For ARP-3819AP-E01



For ARP-3821AP-E01



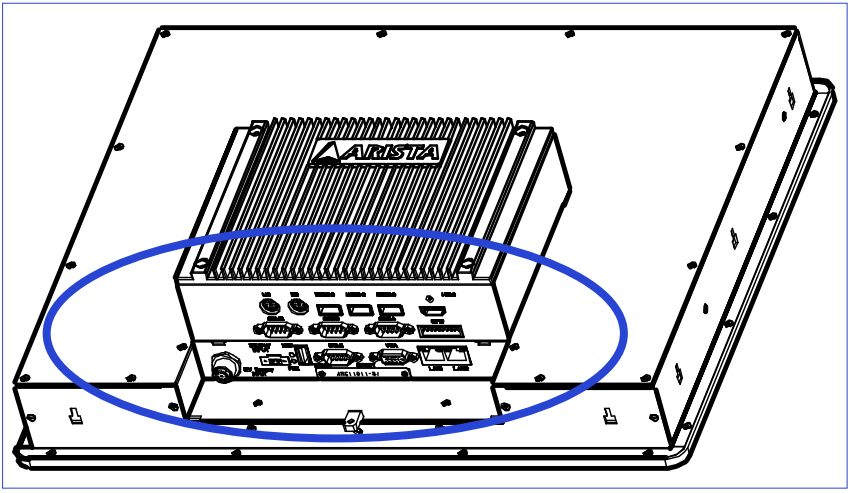
For ARP-3824AP-E01



	L(Overall Length)	W(Overall width)	H(Overall Height)
ARP-3815AP-E01	14.09”/358.0mm	11.10”/282.0mm	4.33”/110.0mm
ARP-3817AP-E01	15.47”/393.0mm	12.80”/325.0mm	4.44”/112.7mm
ARP-3819AP-E01	16.85”/428.0mm	13.90”/353.0mm	4.46”/113.2mm
ARP-3821AP-E01	20.91”/531.0mm	12.94”/328.8mm	4.46”/113.4mm
ARP-3824AP-E01	23.02”/584.7mm	14.48”/367.7mm	4.37”/111.0mm

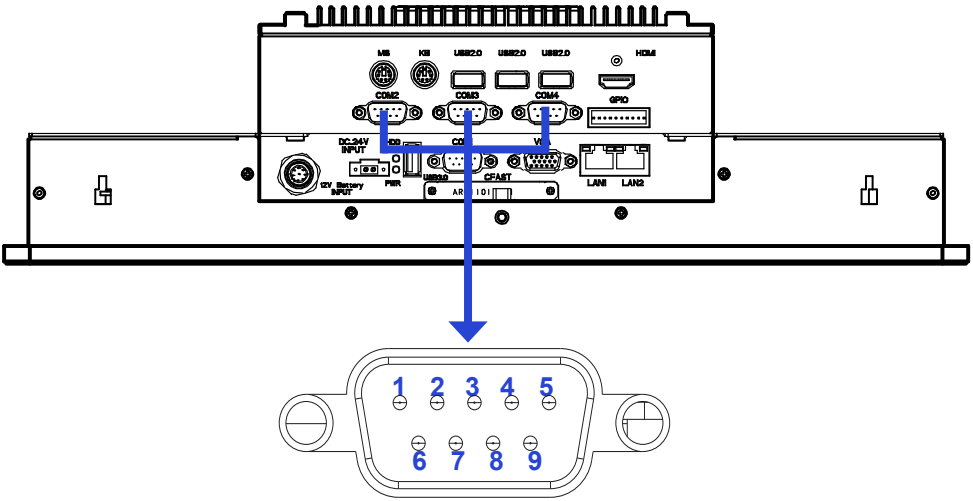
Chapter 3 Connections

This section describes the connections/connectors available on the ARP-3800AP-E01 Series touch panel computer.



Connectors are located at the bottom of ARP-3800AP-E01 Series touch panel computer.

Pins in the serial port(COM1~COM4)

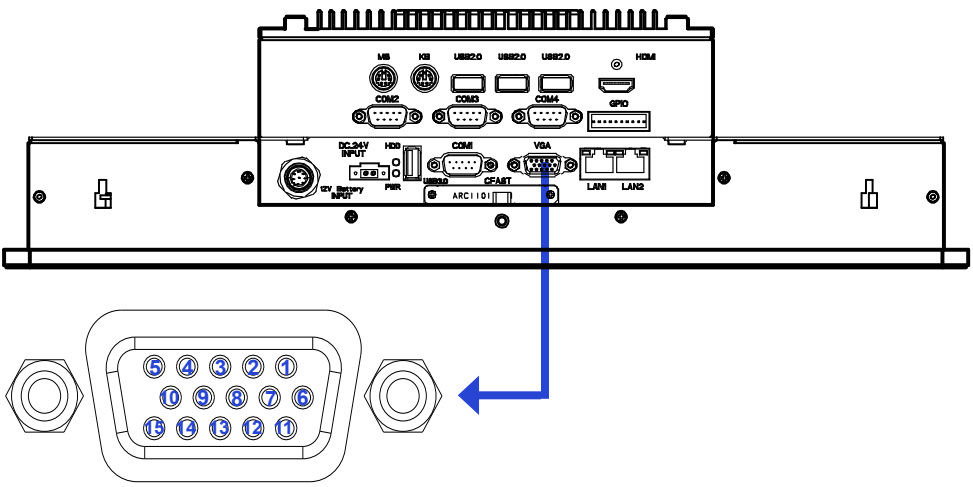


Pin NO.	Definition(RS-232 mode)	Definition(RS-422/RS-485 mode)
1	DCD, data carrier detect	TX-, Transmit data ground (RS422/RS485)
2	RXD, Receive data	TX+, Receive data(RS422/RS485)
3	TXD, Transmit data	RX+, Transmit data (RS422)
4	DTR, Data terminal ready	RX-, Receive data ground (RS422)
5	GND, Signal ground	GND, Signal ground
6	DSR, Data set ready	N.C.
7	RTS, Request to send	N.C
8	CTS, Clear to send	N.C
9	Ring-IN, Ring indicator	N.C.

Note: COM1 port can be set to RS-232 mode(default), RS-422 mode or RS-485 Mode, and the COM2~COM4 ports only can be used in RS-232 mode. User can make mode selection for the COM1 connector by the COM1 port setting jumper on the B059 motherboard built in the ARP-3800AP-E01 Series touch panel computer.

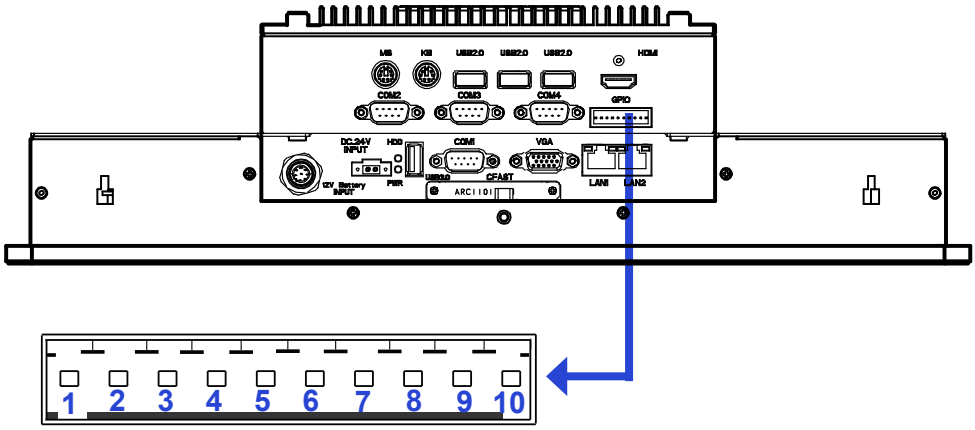
Description	Pin setting(COM1 port setting jumper)
RS-485 mode (Default)	Pin1-2 Closed, Pin 9-7 Closed, Pin10-8 Closed
RS-232 mode	Pin5-6 Closed, Pin 9-11 Closed, Pin10-12 Closed Pin 15-17 Closed, Pin 16-18 Closed
RS-422 mode	Pin3-4 Closed, Pin 9-7 Closed, Pin10-8 Closed Pin 15-13 Closed, Pin 16-14 Closed

Pins in the VGA port



Pin NO.	Pin Assignment	Definition
1	VGA R	VGA Red signal
2	VGA G	VGA Green signal
3	VGA B	VGA Blue signal
4	NC	No connection
5	GND	Ground
6	GND	Ground
7	GND	Ground
8	GND	Ground
9	NC	No connection
10	GND	Ground
11	NC	No connection
12	CRT DDC Data	The data of display data channel
13	VGA HS	VGA H-Sync signal
14	VGA VS	VGA V-Sync signal
15	CRT DDC Clock	The clock of display data channel

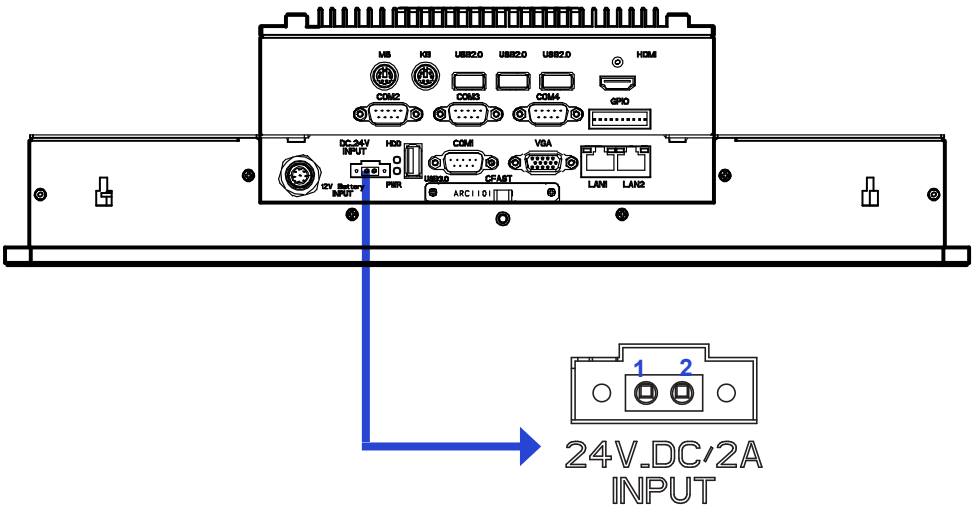
Pins in the GPIO port



The GPIO (General Purpose Input/Output) port is optional and can be used as expansion input or output ports by software routines as needed.

Pin NO.	Pin Assignment	Definition
1	+V5S	+V5S
2	I/O_BUS_GPIO1	GPIO input
3	I/O_BUS_GPIO2	GPIO output-
4	I/O_BUS_GPIO3	GPIO input
5	I/O_BUS_GPIO4	GPIO output
6	I/O_BUS_GPIO5	GPIO input
7	I/O_BUS_GPIO6	GPIO output
8	I/O_BUS_GPIO7	GPIO input
9	I/O_BUS_GPIO8	GPIO output
10	GND	Ground
GPIO settings	**Input**	**Ouput**
	I/O_BUS_GPIO1 GPIO42 0xFFF240 bit2	**I/O_BUS_GPIO2 GPIO71 0xFFF270 bit1**
	I/O_BUS_GPIO3 GPIO50 0xFFF250 bit0	**I/O_BUS_GPIO4 GPIO16 0xFFF210 bit6**
	I/O_BUS_GPIO5 GPIO52 0xFFF250 bit2	**I/O_BUS_GPIO6 GPIO75 0xFFF270 bit5**
	I/O_BUS_GPIO7 GPIO43 0xFFF240 bit3	**I/O_BUS_GPIO8 GPIO81 0xFFF280 bit1**

Pins in the DC-IN power connector



Pin NO.	Definition
1	GND
2	24V

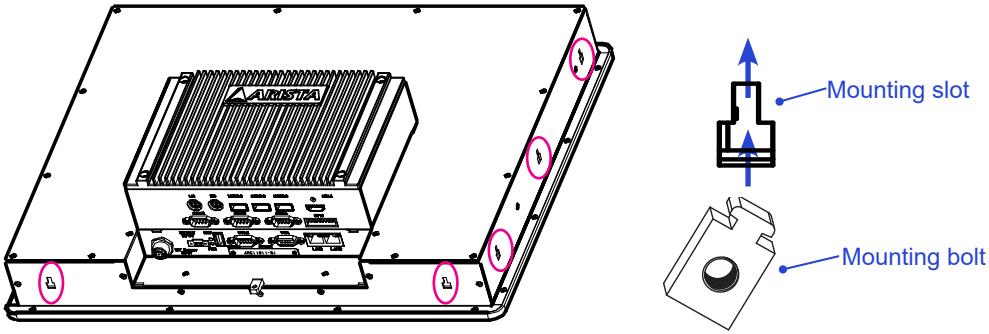
Mounting the computer

1. Panel mounting

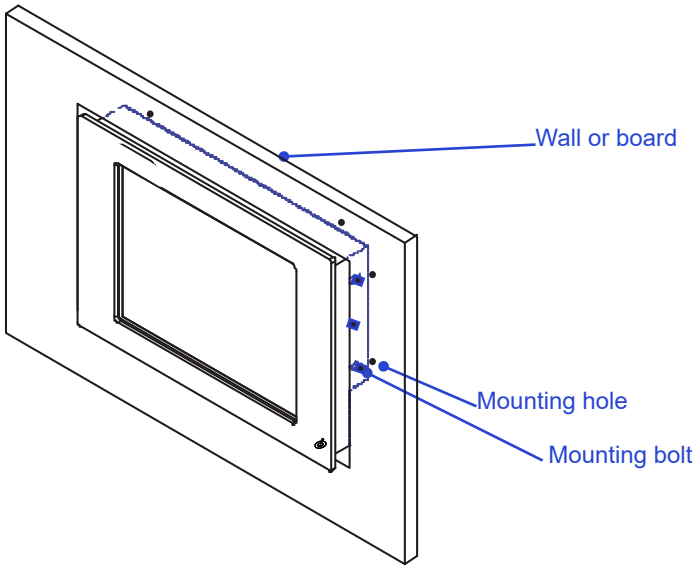
The ARP-3800AP-E01 Series touch panel computer can be placed on a shelf, table, or mounted onto a wall or board. To mount it onto a wall or board, you will require the mounting bolts and screws found in the accessory box.

Please follow the steps shown in the diagram below:

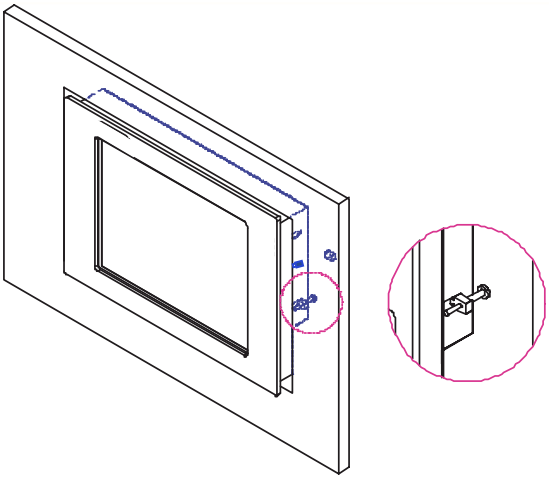
Step1. There are mounting slots located on the four sides of the ARP-3800AP-E01 Series touch panel computer. As shown in the figure below, put and slide the supplied mounting bolts into the mounting slots.



Step2. Situate the bottom cover of ARP-3800AP-E01 Series touch panel computer within the place on a board or a wall where the mounting holes are pre-drilled. And align the mounting bolts installed on the four sides of ARP-3800AP-E01 Series touch panel computer with the mounting holes on the wall or board.



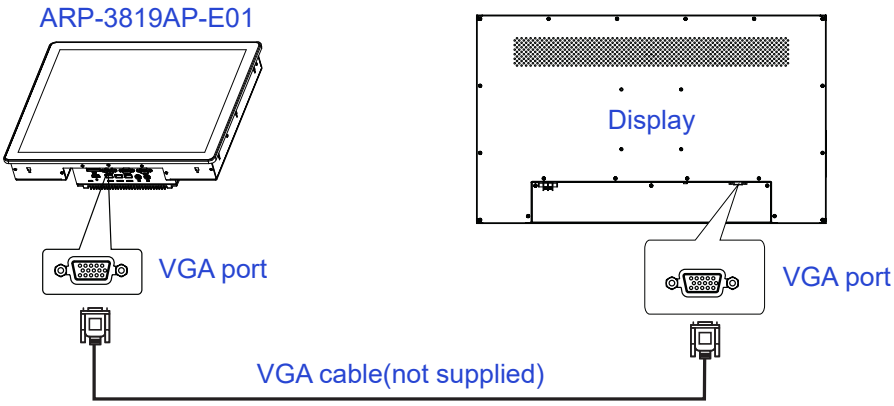
Step3. Tighten the "M4" sized mounting screws into the wall and board through the mounting bolts and mounting holes and make sure the ARP-3800AP-E01 Series touch panel computer is correctly and securely seated onto the board or wall.



Connecting to a display

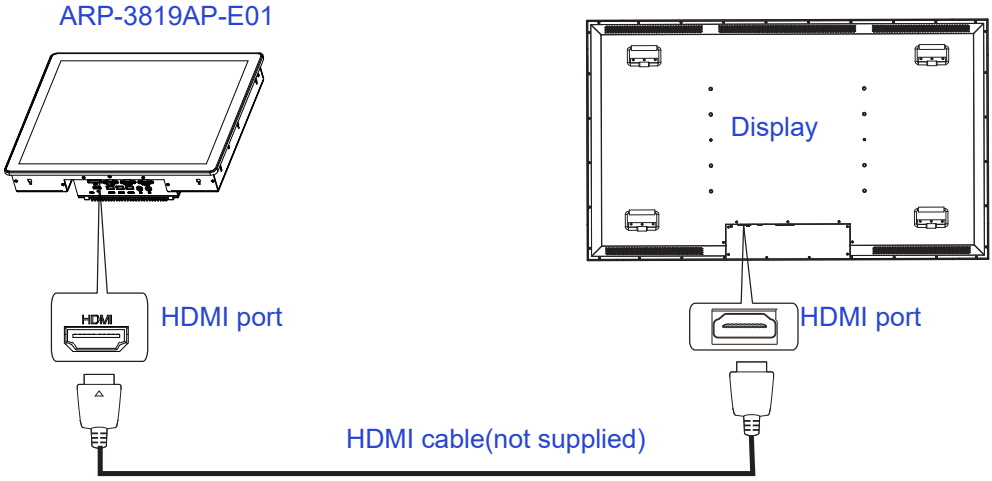
1. Connecting to a display through VGA port

- Connect one end of the VGA cable to the VGA port of the ARP-3800AP-E01 Series touch panel computer. Connect the other end of the VGA cable to the VGA port of a display.



2. Connecting to a display through HDMI port

- Connect one end of the HDMI to the HDMI port of the ARP-3800AP-E01 Series touch panel computer. Connect the other end of the HDMI to the HDMI port of a display.



Connecting to keyboard and mouse

• Insert a USB keyboard and a USB mouse(not supplied) to ARP-3800AP-E01 Series touch panel computer for controlling on the computer(Figure 1). You can also insert a PS2 type keyboard or a PS2 type mouse(not supplied) to your computer(Figure 2).

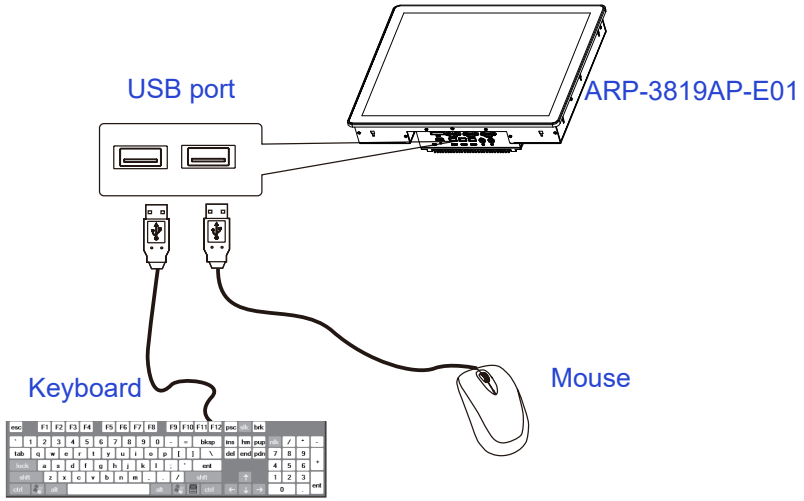


Figure 1

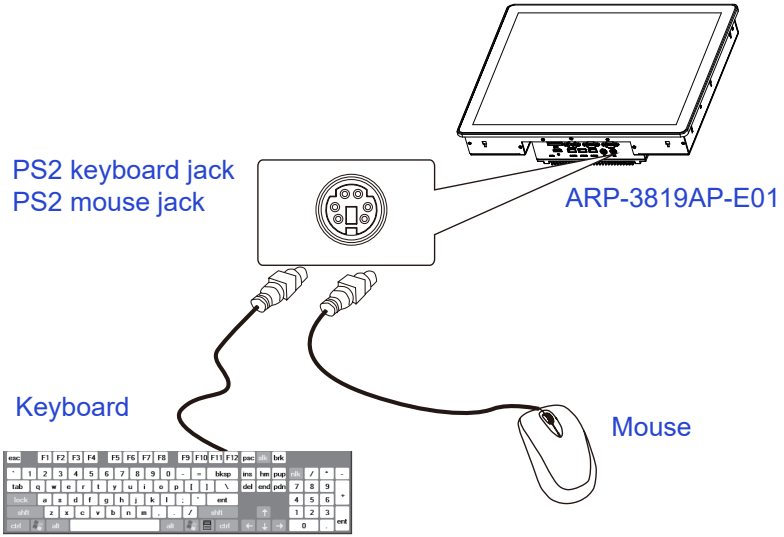
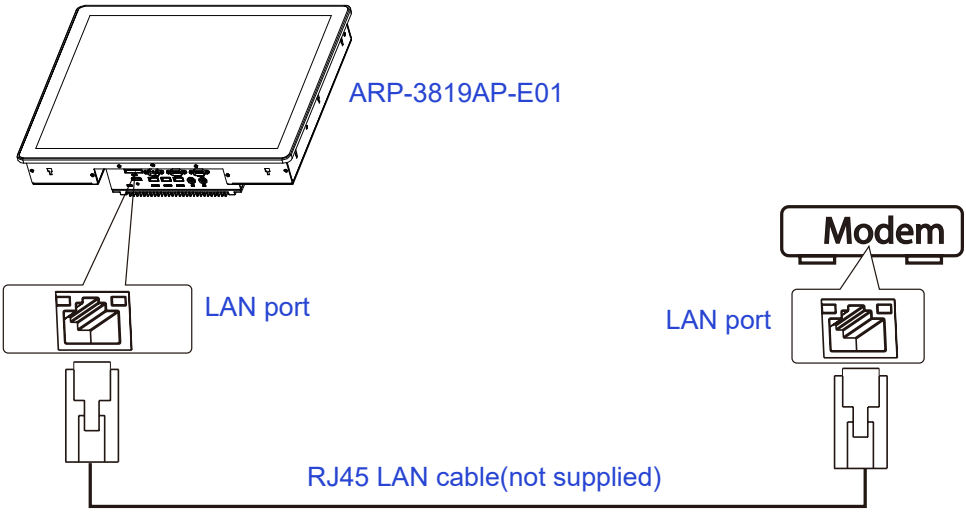


Figure 2

Connecting to network

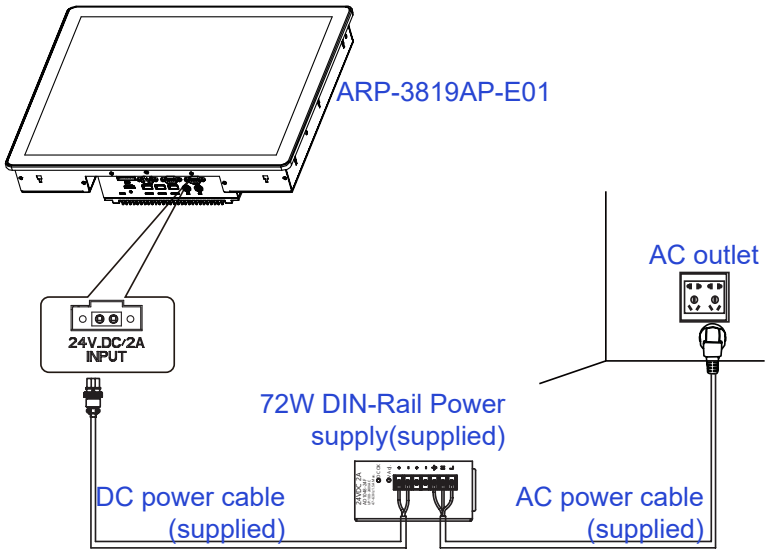
- Connect one end of the RJ45 LAN cable to the LAN port of the ARP-3800AP-E01 Series touch panel computer. Connect the other end of the RJ45 LAN cable to the LAN port of a modem.



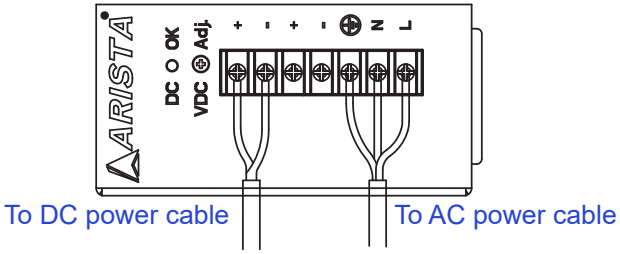
Connecting the power supply

Follow the steps below to connect the power supply.

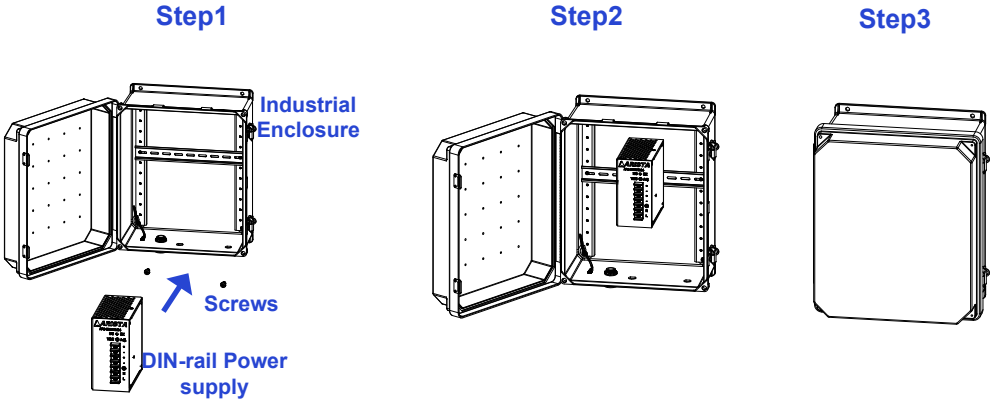
- Connect one end of the 72W DIN-Rail AC/DC power supply(Only ARP-3824AP-E01 uses150W DIN-Rail AC/DC power supply.) to the DC-in(24V) power connector of the ARP-3800AP-E01 Series touch panel computer. Connect the other end of DIN-Rail AC/DC power supply to an AC outlet.



Important: **Before you use the power supply, please correctly and securely connect the supplied AC power cable to the terminal of "L"(for live wire), "N"(for neutral wire) and "⏚"(Ground) on the power supply, and connect the supplied DC power cable to the "+"(Power) and "-"(Ground) terminals.**

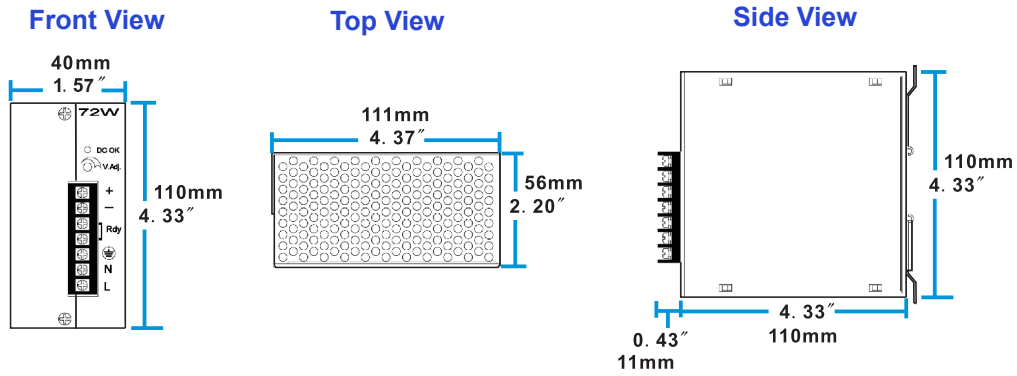


The AC to DC 24V power supply provided with the ARP-3800AP-E01 Series touch panel computer does not have environmental protection. In order to meet a degree of protection, the power supply has to be installed in a specific IP rating enclosure.

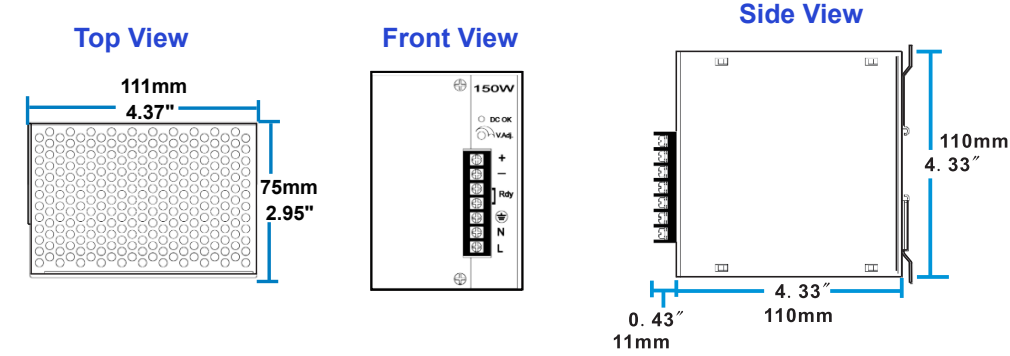


In order to correctly install the power supply, the specific dimensions for the power supply are indicated in the diagram below.

72W power supply



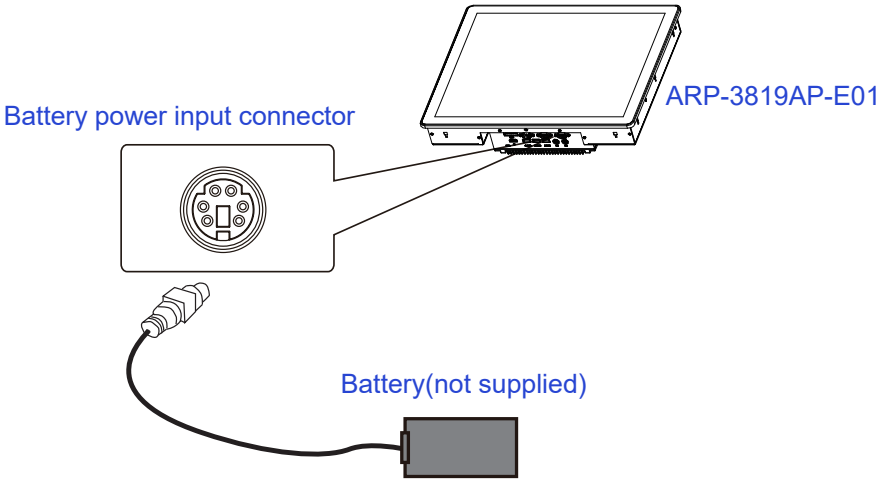
150W power supply



Connecting to battery power

Use battery power when you're away from a power AC outlet. Follow the steps below to connect to the battery. The additional battery are optional and can be purchased serparately through Arista Corporation.

• Connect one end of the battery cable to the Battery power input connector of the ARP-3800AP -E01 Series touch panel computer. Connect the other end of battery cable to a battery(12V).



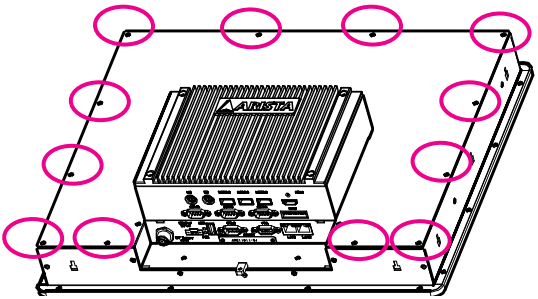
Note

• If all the required cable and the power cable are connected correctly, the ARP-3800AP-E01 Series touch panel computer will be automatically turned on.

Installing memory module/expansion card

Before you install the memory module or expansion card, please follow the instructions below to open the bottom cover of the ARP-3800AP-E01 Series touch panel computer.

1. As shown in the figure below, remove the screws on the sides of the bottom cover.



2. Then remove the bottom cover of the ARP-3800AP-E01 Series touch panel computer, you will find the DDR3 SO-DIMM slot, MINI_PCIE1 slot and PCIE x 16 slot.

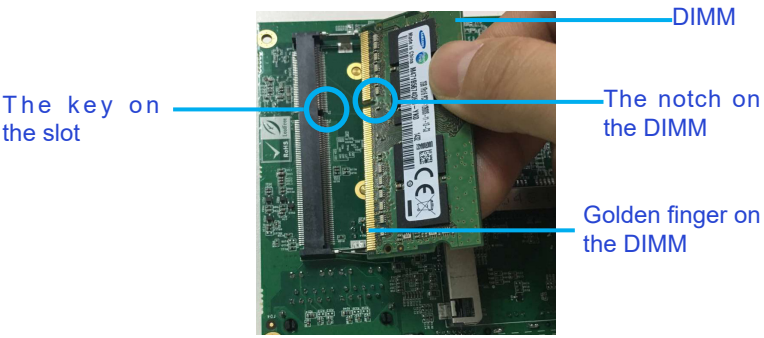
The ARP-3800AP-E01 Series touch panel computer comes with the B059 motherboard, and the DDR3 SO-DIMM slot and MINI-PCIE slot are built on the motherboard, so user can refer to the steps outlined in the User Manual for B059 motherboard to install the memory module and expansion card.

Installing the memory module

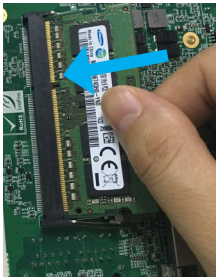
The B059 motherboard provides one SO-DIMM slot for DDR3 1333MHz SDRAM memory modules and supports memory size up to 8GB.

1. Locate the DIMM on the SO-DIMM slot and align the notch on the DIMM with the key on the slot.

Note: DO NOT force a DIMM into a slot to avoid damaging the DIMM.



2. Insert the DIMM into the slot at 45-degree angle, then push it in until the golden finger on the DIMM is deeply inserted into the DIMM slot.



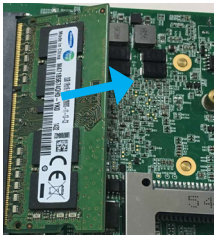
3. Firmly press the DIMM down to lock the module in place.

Removing the memory module

Follow these steps to remove the DIMM.

1. Use your finger to simply push away the retaining clips on both sides of the DIMM outward to unlock the DIMM.

2. Then, the retaining clip will release, and gently remove the DIMM from the module.



Note: Make sure to unplug the power supply before adding or removing DIMM or other system components. Failure to do so may cause severe damage to both motherboard and the components.

Installing expansion card

The MINI-PCIE slot supports PCIE cards such as a Wi-Fi LAN card, mSATA SSD, SCSI card, USBcard, and other cards that comply with PCIE specifications. The following figure shows a Wi-Fi LAN card installed on the MINI-PCIE slot.

Follow the steps outlined below to install a Wi-Fi LAN card.

1. Locate the Wi-Fi LAN card on MINI-PCIE slot and align the notch on the card with the key on the slot.

2. Insert the card into the slot at 45-degree angle, then push it in until the golden finger on the card is deeply inserted into the slot.

3. Press the Wi-Fi LAN card down and secure the card to the B059 motherboard with the screws.

Chapter 4 BIOS Setup

Introduction

The computer uses the latest "American Megatrends Inc. " BIOS with support for Windows Plug and Play. The CMOS chip on the motherboard contains the ROM setup instructions for configuring the built-in motherboard BIOS.

The BIOS (Basic Input and Output System) Setup Utility displays the system's configuration status and provides you with options to set system parameters. The parameters are stored in battery-backed-up CMOS RAM that saves this information when the power is turned off. When the system is turned back on, the system is configured with the values you stored in CMOS.

The BIOS Setup Utility enables you to configure:

- Hard drives, diskette drives and peripherals
- Video display type and display options
- Password protection from unauthorized use
- Power Management features

The settings made in the Setup Utility affect how the computer performs. Before using the Setup Utility, ensure that you understand the Setup Utility options.

The Standard configuration

A standard configuration has already been set in the Setup Utility. However, we recommend that you read this chapter in case you need to make any changes in the future.

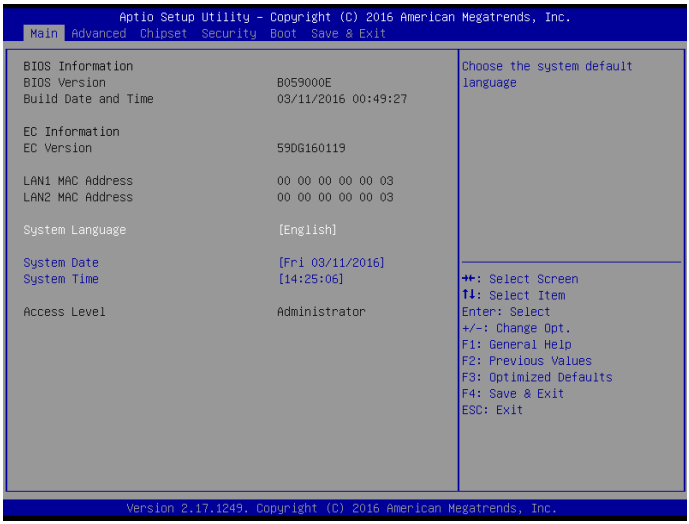
This Setup Utility should be used:

- when changing the system configuration
- when a configuration error is detected and you are prompted to make changes to the Setup Utility
- when trying to resolve IRQ conflicts
- when making changes to the Power Management configuration
- when changing the password or making other changes to the Security Setup

Entering the Setup

When you power on the system, BIOS enters the Power-On Self Test (POST) routines. POST is a series of built-in diagnostics performed by the BIOS. After the POST routines are completed, the following message appears:

Press the **Delete key** to access BIOS Setup Utility.



Resetting the default CMOS values

When powering on for the first time, the POST screen may show a “CMOS Settings Wrong” message. This standard message will appear following a clear CMOS data at factory by the manufacturer. You simply need to Load Default Settings to reset the default CMOS values.

Note: Changes to system hardware such as different CPU, memories, etc. may also trigger this message.

Using BIOS

When you start the Setup Utility, the main menu appears. The main menu of the Setup Utility displays a list of the options that are available. A highlight indicates which option is currently selected. Use the cursor arrow keys to move the highlight to other options. When an option is highlighted, execute the option by pressing <Enter>.

Some options lead to pop-up dialog boxes that prompt you to verify that you wish to execute that option. Other options lead to dialog boxes that prompt you for information.

Some options (marked with a triangle ▶) lead to submenus that enable you to change the values for the option. Use the cursor arrow keys to scroll through the items in the submenu.

In this manual, default values are enclosed in parenthesis. Submenu items are denoted by a triangle ▶.

The default BIOS setting for this built-in motherboard apply for most conditions with optimum performance. We do not suggest users change the default values in the BIOS setup and take no responsibility to any damage caused by changing the BIOS settings.

BIOS navigation keys

The BIOS navigation keys are listed below:

KEY	FUNCTION
ESC	Exits the current menu
→ ← ↑ ↓	Scrolls through the items on a menu
+/-	Modifies the selected field's values
Enter	Select
F1	General Help
F2	Previous Value
F3	Optimized Defaults
F4	Save & Exit

For the purpose of better product maintenance, the manufacture reserves the right to change the BIOS items presented in this manual. The BIOS setup screens shown in this chapter are for reference only and may slightly differ from what you see on your screen. Please visit the manufacture's website to download the latest product and BIOS information.

Main Menu

When you enter the BIOS SETUP UTILITY, the Main menu will appear and display the system overview. You can set the system clock in this main menu.

BIOS Information

This item shows the current BIOS information, including BIOS Version, Build date and time.

EC Information

This item shows the current EC information, including EC Version.

LAN1/LAN2 MAC Address

Use this item to view the LAN1/LAN2 Mac address.

System Language

This item allows you to choose the system default language.

System Date

Use this item to specify the system date. Manually enter the day, month and year.

System Time

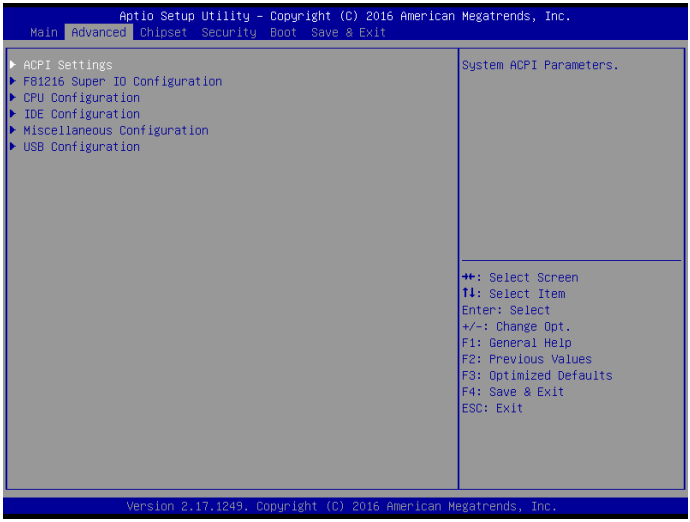
Use this item to specify the system time. Manually enter the hours, minutes and seconds.

Press <Esc> to return to the Main Menu screen.

Advanced Menu

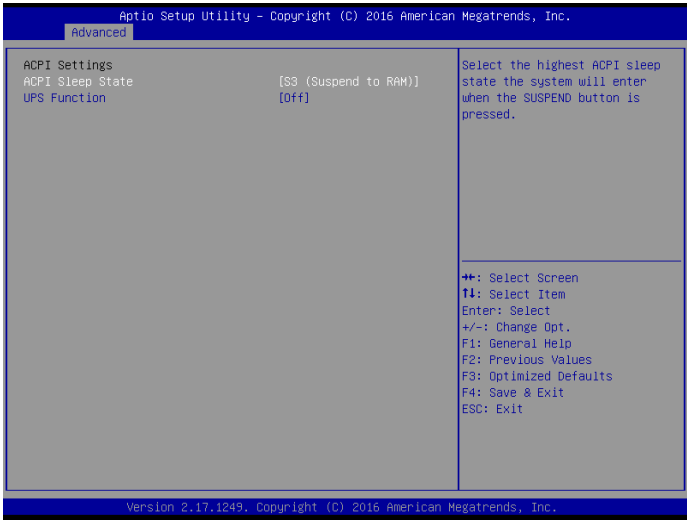
This section allows you to configure and improve your system and allows you to set up some system features according to your preference.

Important: The default valu Be cautious when changing the setting of the Advanced menu items. Incorrect field values can cause the system to malfunction.



ACPI Settings

Scroll to this item and press <Enter> to view the following screen:



ACPI Sleep State [S3 (Suspend to RAM)]

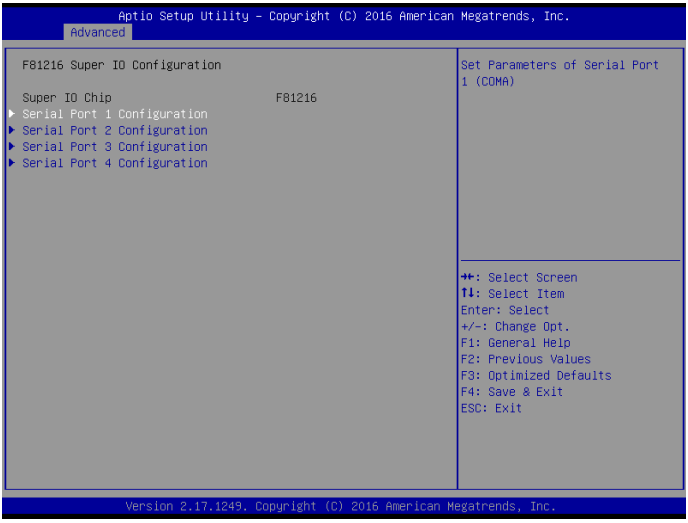
Select the highest ACPI sleep state, the system will resume when the SUSPEND button is pressed.

UPS Function (OFF)

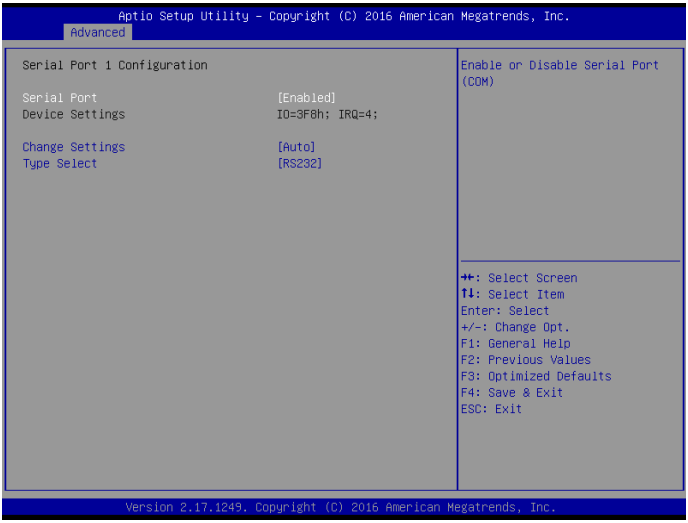
Power on or off the Uninterruptible Power Supply(UPS) system.

FB1216 Super IO Configuration

Scroll to this item and press <Enter> to view the following screen:



Serial Port1/Port2/Port3/Port4 Configuration



Serial port1/port2/port3/port4(Enabled)

Use this option to enable or disable the use of serial ports.

Change settings(Auto)

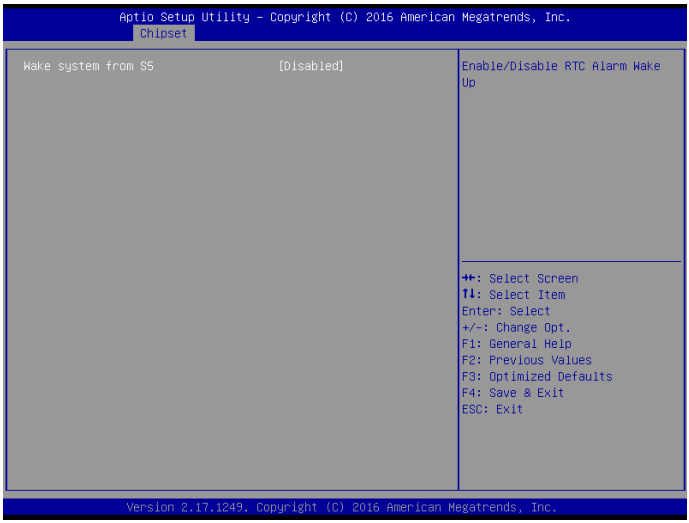
Select an optimal settings for Super IO device.

Type select(RS232)

Select serial port type(RS232,RS422,RS485).

S5 RTC Wake Settings

Scroll to this item and press <Enter> to view the following screen:



Wake system from S5(Disabled)

Use this item to enable or disable system wake on alarm event. Select Fixed Time. system will wake on the hr::min::sec specified. Select Dynamic Time, system will wake on the current time + Increase minute(s).

CPU Configuration

Scroll to this item and press <Enter> to view the following screen:

Socket 0 CPU information

Use this item to view Socket 0 CPU information.

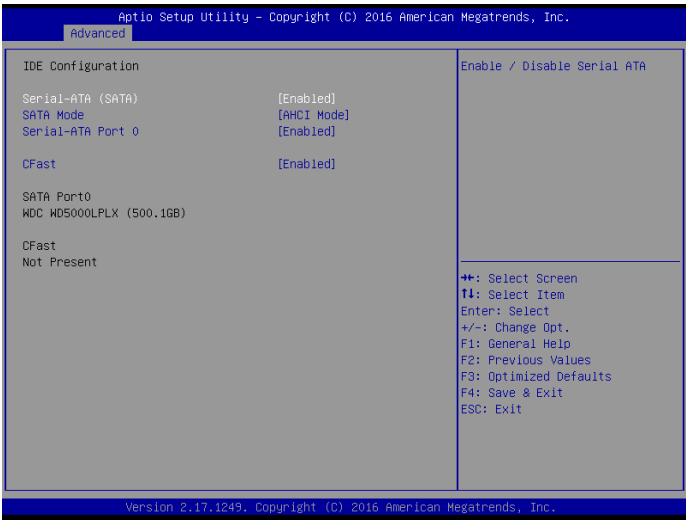
Intel Virtualization Technology(Enabled)

Most of the time, hardware virtualization technology extensions should be enabled in motherboard BIOS in order to run recent OS and applications. When enabled, a VMM can utilize the additional hardware capabilities provided by Vanderpool Technology.

Press <Esc> to return to the Advanced Menu screen.

IDE Configuration

Scroll to this item and press <Enter> to view the following screen:



SATA Port1~2 dynamically detect whether there are SATA devices on motherboard. If devices are connected with the corresponding ports, then it will display the SATA device type. Otherwise, it will display “Not Present”.

SATA Controllers (Enabled)

Use this option to enable or disable the use of SATA devices.

SATA Mode (AHCI mode)

Use this option to configure SATA devices as normal IDE devices. The options are IDE and AHCI.

SATA Port 0 (Enabled)

Use this item to enable or disable onboard IDE controller. The default value is [Enabled].

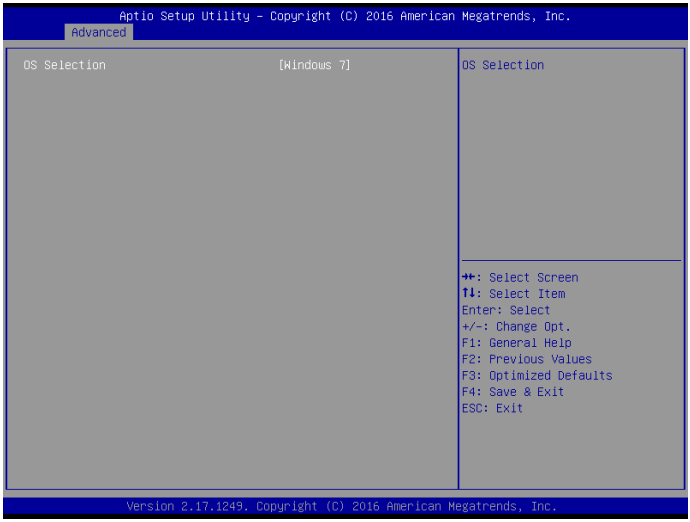
CFast card(Enabled)

Use this item to enable or disable the use of CFast card. The default value is [Enabled].

Press <Esc> to return to the Advanced Menu screen.

Miscellaneous Configuration

Scroll to this item and press <Enter> to view the following screen:



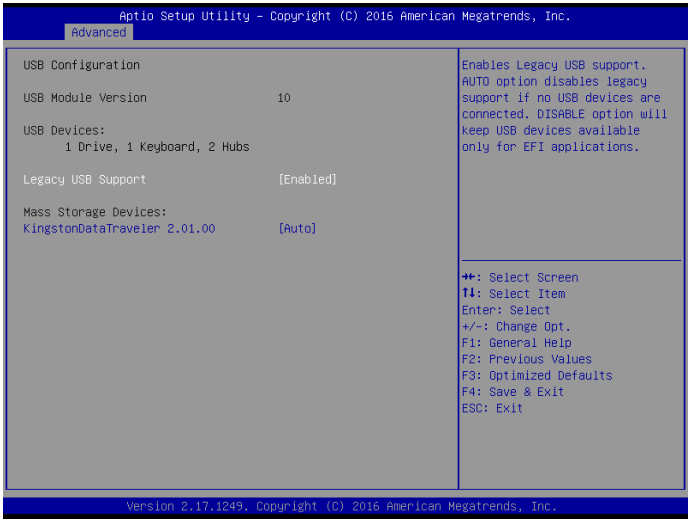
OS selection (Windows 7)

Use this option to select the operating system for the computer.

Press <Esc> to return to the Advanced Menu screen.

USB Configuration

Scroll to this item and press <Enter> to view the following screen:



Legacy USB Support (Enabled)

Use this option to enable USB mouse and USB keyboard support.

ENABLED option enables legacy USB support.

AUTO option disables legacy support if no USB devices are connected. DISABLED option will keep USB devices available only for EFI applications.

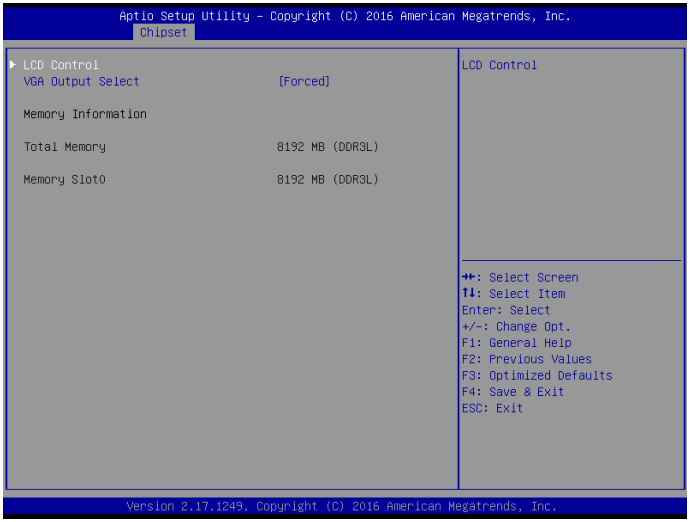
Press <Esc> to return to the Advanced Menu screen.

Chipset Menu

The chipset menu allows you to change the settings for the Host Bridge chipset, South Bridge chipset and other system.Since the features in this section are related to the chipset on the CPU board and are completely optimized, you are not recommended to change the default settings in this setup table unless you are well oriented with the chipset features.

North Bridge

Scroll to this item and press <Enter> to view the following screen:



LCD Control

Scroll to this item and press <Enter> to view the following screen:

Primary IGFx Boot display (VBIOS Default)

Select the video device which will be activated during POST. This has no effect if external graphics present. Secondary boot display selection will appear based on your selection. VGA modes will be supported only on primary display.

Secondary IGFx Boot display(LVDS)

Select the secondary IGFx video device.

LCD Panel Type(1920 x 1080 8 bit Dual LVDS)

This option is used to choose the resolution of the Flat Panel.

LVDS(Enabled)

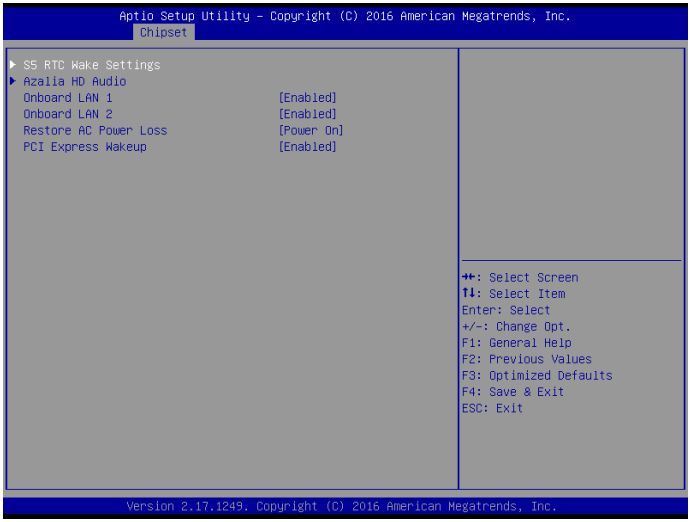
Use this item to enable or disable the LVDS video signal output.

VGA Output Select(Forced)

This option is used to choose VGA signal output, the available options are Forced and Auto.

South Bridge

Scroll to this item and press <Enter> to view the following screen:



Azalia HD Audio

Use this option to control detection of the Azalia device.
Azalia controller(Enabled)
Disabled: Azalia will be unconditionally disabled.
Enabled: Azalia will be unconditionally enabled.
Auto: Azalia will enabled if present disabled otherwise.

USB Configuration

Use this option to configure USB settings.
XHCI Mode(Auto)
This item allows you to select the mode of operation of xHCI controller.

Onboard LAN1/LAN2(Enabled)

This item allows you to enable or disable the onboard LAN1 or LAN2.

Restore AC Power Loss(Power on)

This item allows you to select AC power state when power is re-applied after a power failure.

PCI Express Wakeup(Enabled)

This item allows you to enable or disable PCI Express Wakeup feature.

Press <Esc> to return to the Chipset Menu screen.

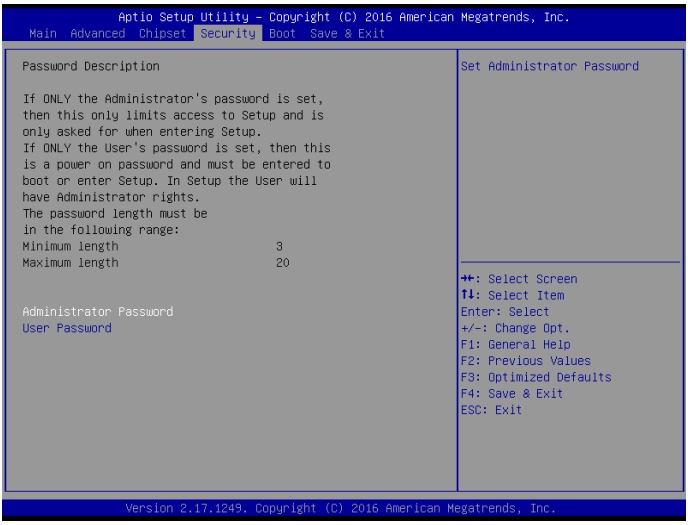
Security Menu

The Security Menu allows you to set Administrator and User password.

If ONLY the Administrator's password is set, then this only limits access to setup and is only asked for when entering Setup.

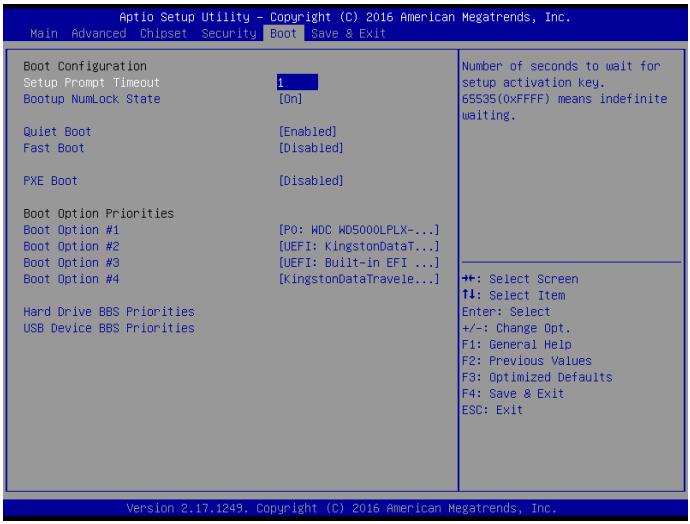
If ONLY the user's password is set, then this is a power on password and must be entered to boot or enter Setup. In Setup, user will have administrator rights.

The password length must be in the following range: Minimum length:3, Maximum:20.



Boot Menu

The Boot Menu allows you to change the system boot options.



Bootup Num-lock state (ON)

If this item is set to “On”, it will automatically activate the Numeric Lock funcition after boot-up.

UPS FUNCTION (OFF)

This item allows you to configure the Uninterruptible Power System(UPS) setting. Set this item to “OFF”, you can still work well with the system unit using battery power when sudden power lost occurs. And set this item to “ON”, the system will automatically power off without any damage on the data of the hard disk.

Quiet Boot (Enabled)

This item allows the bootup screen options to be modified between POST messages or the OEM logo. Select “Disabled” to display the POST messages. Select “Enabled” to display the OEM logo instead of the normal POST messages.

Fast Boot (Disabled)

This item enables the BIOS to skip certain tests in order to speed up the boot sequence. This feature has two options: [Enabled] [Disabled].

PXE Boot(Disabled)

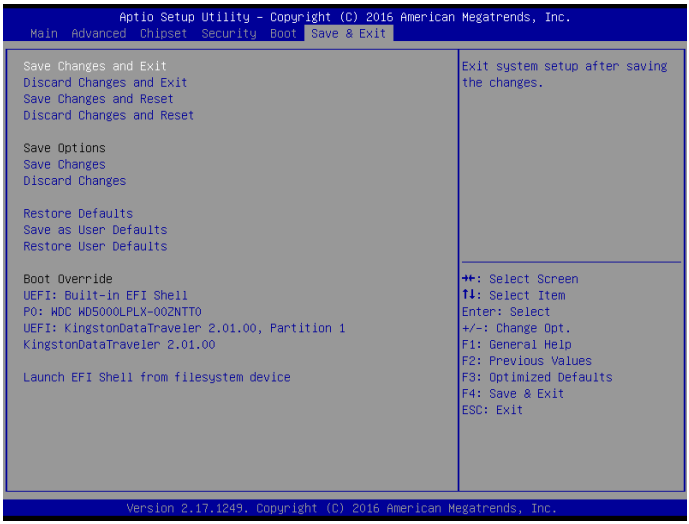
This item allows you to control the execution of UEFI and Legacy PXE OpROM.

Boot Option Priorities

This item allows you to select system boot order.

Save & Exit Menu

The Save & Exit Menu allows you to save the changes that you have made in the Setup Utility and exit the Setup Utility.



Save Changes and Exit

When you select this option, it will pop-out the following message, “Save configuration changes and exit setup?” Select [OK] to save the changes and exit the UEFI SETUP UTILITY.

Discard Changes and Exit

When you select this option, it will pop-out the following message, “Discard changes and exit setup?” Select [OK] to exit the UEFI SETUP UTILITY without saving any changes.

Save Changes

Use this item to save the changes made to the BIOS options and reset the system.

Discard Changes

Use this item to exit the system without saving the changes made to the BIOS configuration setup program.

Restore Defaults

This option restores all BIOS settings to the factory default. This option is useful if the controller exhibits unpredictable behavior due to an incorrect or inappropriate BIOS setting.

Save as user defaults

Use this item to save the settings as user defaults.

Restore User defaults

Use this item to restore user defaults.

Boot Override

This option lists all the booting options; users may choose one of the options and press <Enter>, then you may boot according to the option.

Chapter 5 Appendix

Care and Maintenance

Regular maintenance of the ARP-3800AP-E01 Series touch panel computer can help prevent damage or downtime.

Service should only be performed by qualified and authorized personnel. Make sure your touch panel computer is powered down and unplugged before removing the cover or working on internal components.

- Keep the ARP-3800AP-E01 Series touch panel computer in a dry, clean space. Minimize exposure to dust - don't get the power switches or other controls wet.
- If the ARP-3800AP-E01 Series touch panel computer gets wet, power it off immediately. Wait for the ARP-3800AP-E01 Series touch panel computer to dry completely before powering it on again.
- If you move it from a very cold environment to a warm environment, give the components time to reach room temperature before powering it on.
- Clean the exterior surfaces of the unit with a soft, damp cloth. Never use alcohol, paint thinner or benzene to clean this unit.
- Occasionaly remove dust from interior surfaces, taking care not to touch or damage connections or chips.
- Position your system unit away from direct sunlight, moisture, dust, oil and thoroughfare.
- Never expose the unit to harsh jarring.
- Ensure that all ventilation outlets are always free from obstruction.
- To protect components against damage from static electric discharge, you should: Use a grounding wrist strap. The strap will have an "alligator"clip at the end of a shielded wire lead. Clip it to a grounded object. Put on and connect the strap before you handle the components. Also, you can use an anti-static pad. Put any components on the pad whenever you work on them outsidethe computer. If you don't have a pad, put the components on the anti-static bag them came in.
- Back up all the critical data,in a situation of unit being moved there are chances of hard disk getting damaged Before moving,remove all data disks from the drive,turn off the computer and all the peripherals. Also unplug the power and disconnect cables.
- In the event of mechanical/power failure or damage, do not attempt to repair the system unit or wires. Refer all such problems to experienced personnel.
- If the touch panel computer needs service, please consult the authorized dealer through the contact information provided on the warranty card. Faulty service may void the warranty.

Product Limited Warranty

1. Product Limited Warranty

Arista Corporation ARP-3800AP-E01 Series touch panel computer purchased in the U.S. and Canada come with a 2-year limited warranty. The following sections describe the limited warranties and return policies for the North America region.

1) Limited Warranty Coverage

- If a product does not work properly because of a defect in materials or workmanship, Arista Corporation will, for the length of a period of three years, starting with the date of the original purchase (invoice date), at its discretion, either repair your product with new or refurbished parts, or replace it with a new or refurbished product.
- The decision to repair or replace will be made by Arista Corporation. During the “Labor” Limited Warranty period, there will be no charge for labor. During the “Parts” Limited Warranty period, there will be no charge for parts.
- The customer pays the freight for shipping the defective products to Arista Corporation. After repairs or replacement, Arista Corporation will ship and pay UPS Ground for the products being shipped back to the customer.
- This Limited Warranty only applies to products purchased and serviced in the North America region. Customers outside of the United States will need to pay the freight for shipping to Arista Corporation and shipping back to the customer after repairs or replacement.

2) Limited Warranty Limits and Exclusions

- Limited Warranty only covers failures due to defects in material or workmanship,and does not cover general wear and tear,or cosmetic damages.
- The Limited Warranty does not cover damages due to external causes including, but not limited to, failures which are caused by products not supplied by Arista Corporation.
- The Limited Warranty does not cover damages and/or failures which result from negligence, accidents, misuse, abuse, mishandling, misapplication, alteration, faulty installation, set-up adjustment, improper maintenance, power surge, problems with electrical stability, failure to maintain environmental conditions within operating range specified by the manufacturer, relocations or attempts to relocate systems, lightning damage, modification, service by anyone other than authorized service providers, usage not in accordance with product instructions, failure to perform required preventative maintenance, problems caused by use of parts and components not supplied by Arista, and/or adding or altering components without concurrence from Arista Technical Support.
- Any signs showing that the serial numbers have been altered or tampered with will void this warranty.
- There is no expressed warranty except as stated under “Limited Warranty Coverage”. Under no equitable theory shall Arista Corporation be held liable for monetary and/or non-monetary damages resulting from the normal or abnormal usage of our products. Use, distribution and/or similar engagement of our products constitute implied agreement to these and similar Arista Corporation Limited Liability policies.

2.Technical Support

1) Technical Support Availability

- Arista Corporation is dedicated to your satisfaction. Arista’s Technical Support Team will make every effort to solve the problem over the phone or through e-mail. If required,an RMA number will be issued to resolve the problem.
- If you are calling regarding a technical problem,please keep product serial number and nature of problem handy to provide the technician.

2) Technical Support Contact Information

- Technical Support Hours: Monday through Friday: 8:00 am to 5:00 pm PST
- Technical Support Phone Number : Phone: (510) 226-1800 ext. 400, Fax: (510) 226-1890

3. RMA Procedures

Return Material Authorizations

- All returns require an RMA (Return Material Authorization) number. Please contact Arista's customer service representative or complete the RMA request form to obtain an RMA number prior to returning a product(s).
- Returns will be authorized in accordance with the following policy: If it is deemed that the unit/part should be returned, Arista's customer service representative will give the customer a return authorization number and a ship to address to return the product.
- Products will not be accepted by Arista Corporation's RMA department for return if not accompanied by a valid RMA number, which must be clearly marked on the outside of the package.
- Products must be returned within 30 days after the date of when the RMA number was issued. After the 30-day period, the RMA number issued will be invalid. Please do not return products with an invalid RMA number; Contact Arista's customer service representative if your RMA number is invalid.

Warranty Returns

- Products to be returned must be within the applicable warranty period. If the warranty period is over, the original product will be returned to the customer.
- The RMA number for Warranty Return will be issued within 24 hours from the time that the RMA application form is received by Arista.

Non-Warranty Returns

- If the customer wishes to return a product for repair that is no longer within the warranty period, or for damage not covered by the warranty, an Arista sales representative will inform the customer of the estimated cost of the repair.
- Return of the product will count as the authorization to repair and agreement to pay for the cost of repair, whether or not it exceeds the original estimate.

4. RMA Credit Policy

Returns for Credit & Credit Types

Returns for credit that require Arista's management approval may take up to 48 hours for processing/approval. Products can be returned for credit with the following conditions:

Dead on Arrival (DOA): The customer must report DOA units to Arista's RMA department in 14 calendar days after the product is received. Customer can request either return for credit or replacement. If replacement is requested, Arista will ship the replacement in 7 calendar days and invoice the customer for the replacement. A credit memo will be issued to the customer after the DOA product is received and verified.

Evaluation Return: The customer must notify Arista's RMA department before or at the end of the evaluation period if the customer decides to return the evaluation unit. An RMA number must be obtained from Arista prior to returning the unit.

Short Shipment: The customer must report for any item received short-shipped or wrong products received in 7 calendar days after the product is received. The customer can request either: shipment of missing items, replacement of wrong items or return for credit. If shipment of missing items or replacement of wrong items is requested, Arista will ship the replacement in 7 calendar days. A credit memo will be issued to the customer after the returned product is received and verified.

Non-Open-Box Return: In the event where a customer places an incorrect order, over stock or double orders, the customer can request return for credit with the following restocking fees applied.

Restocking Fee: A 15% restocking fee will apply to non-open-box returns when returned within 3 months after invoice date. A 30% restocking fee will apply to non-open-box returns returned within 6 months. Beyond 6 months after invoice date, a 50% restocking fee will apply to non-open-box returns returned within 12 months. Beyond 12 months after invoice date, Arista will not grant authorization to return non-open-box returns for credit.

Return Condition: All valid returns for credit products must be returned in its original packaging and in good condition along with all the items and accessories originally shipped with the product. Any damages will be assessed and the cost of repair or refurbishment will be deducted from the credit issued.

No Credit DOA: No credit will be given to the customer for DOA products received by Arista beyond 30 calendar days after the invoice date. No credit will be given to all non-cancellable, non-returnable, custom order parts.

5. RMA Transportation Policy

Transportation Charges

- All customers are responsible for all freight charges involved in shipping the defective products back to Arista Corporation. Arista Corporation will cover the cost of returning products that are under warranty via UPS Ground to customers in the United States after repairs or replacement.
- International customers are responsible for all transportation, insurance, duties and other similar charges for all returned products shipped outside of the United States and must ensure that the product is appropriately packaged. Shipping damages resulting from improper packaging will be the customer's responsibility. there is no response
- Arista is not responsible for products lost during shipment. All products being returned for Limited Warranty repair or replacement must be sent freight prepaid.

Transportation Damages

- In cases of transportation damage, the customer is responsible for filing any and all claims with the shipping carrier.
- To avoid any potential risk that an RMA product is lost or damaged while in transit to Arista, it is recommended that the customer insures and declares the full value of the RMA product. The customer is 100% responsible for the RMA product while in transit to Arista.
- We urge customers to pack the RMA product carefully to avoid transit damage.

Refused Shipment Restocking Fees

- If a customer refuses a shipment, credit will be issued after the refused product is received and verified by Arista. The shipping charge plus 15% restocking fees will be billed to the customer.

6. RMA Shipping Instruction

Product Non-Acceptance

- Products will not be accepted by Arista Corporation if not accompanied by a valid RMA number, which must be clearly marked on the outside of the package.
- Any products refused by Arista will incur the fees and/or charges applied by the shipping carrier, and shall be the sole liability of the original shipper.

Sample RMA Shipping Label

ARISTA CORPORATION
Attention: RMA Department
40675 Encyclopedia Circle
Fremont, CA 94538
RMA: # _____

Package Identification

- Each box must reference the following information: Customer/Contact Name · Return Address · Phone Number · RMA Number (issued by an authorized ARISTA source).
- The RMA number must be written on the outside of the shipping container for identification purposes.
- Shipments not properly identified will be refused.
- To avoid any discrepancy of items received, please do not return accessories (manuals, driver CDs, OS CDs, cables, etc.) with the RMA unit in need of repair.
- If available, use the original box/packaging to ship back RMA units to avoid transit damage.

RMA Rejection Policy

Products will not be accepted by Arista Corporation if not accompanied by a valid RMA number, which must be clearly marked on the outside of the package. Arista reserves the rights to return any RMA product received that does not comply with the information given on the original Return Material Authorization (RMA) request, such as:

- Invalid RMA number
- RMA number not visible and/or not on the box shipping label
- RMA condition described by the customer differs from the actual condition of the product
- Expired RMA number
- Unauthorized return (no RMA # was issued)
- No Arista serial number on the product
- Product is physically damaged

If you have any questions regarding Arista's RMA procedures, product return policies and/or other similar issues, please call Arista's Customer Service and RMA Department during office hours, Monday through Friday (8:30am-5:30pm PST)

- Phone: (510) 226-1800 ext. 400
- Fax: (510) 226-1890
- Email: RMA@goaristaIPC.com

7. Arista's Limited Liability

- Arista Corporation is not liable for incidental or consequential damages resulting from the use of Arista products or arising out of any breach of Arista's full limited warranty.
- Under no equitable theory shall Arista Corporation be held liable for monetary and/or non-monetary damages resulting from the normal or abnormal usage of our products. Use, distribution and/or similar engagement of our products constitute implied agreement to these and similar Arista Corporation Limited Liability policies.
- Arista Corporation is not liable for damages or reimbursement for lost time, lost revenue, cost of having someone remove or re-install an installed unit if applicable, or travel to and from the service providers.
- All expressed and implied warranties, including the limited warranty of Merchantability are limited to the period of the limited warranty, unless, otherwise, indicated in writing by Arista Corporation.

Customer Responsibilities

- By requesting service, the eligible customer acknowledges the terms of the limited warranty, including the disclaimer and limitation of liability provision.
- Prior to seeking service, customers must back-up all data, programs, files and/or similar digital documents that may become damaged and/or lost due to service.
- Arista Corporation, WITHOUT LIMITATION, is not responsible for lost, damaged or otherwise destroyed data due to service.

8. Disclaimer

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Disposal and Recycling Information

Your ARP-3800AP-E01 Series touch panel computer must be disposed of properly according to local laws and regulations.
When your computer reaches the end of its life cycle, contact your local authorities to know about recycling options.

This symbol on the product or in the manual means that your electrical or electric equipment should be disposed at the end of its life-cycle separately from your household waste. There are separate collection systems for recycling in the EU. For more information, please contact your local authorities or your retailer where you purchased the product.

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