

# **ARC-1200/1500/1700 /10W00/15W00/21W00**

**Rugged PCAP Multi-Touch Monitor**

## **Quick Reference Guide**

**1<sup>st</sup> Ed – 07 September 2021**

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Part No. E2017A121A0R

## FCC Statement



THIS DEVICE COMPLIES WITH PART 15 FCC RULES. OPERATION IS SUBJECT TO THE FOLLOWING TWO CONDITIONS:

(1) THIS DEVICE MAY NOT CAUSE HARMFUL INTERFERENCE.

(2) THIS DEVICE MUST ACCEPT ANY INTERFERENCE RECEIVED INCLUDING INTERFERENCE THAT MAY CAUSE UNDESIRE OPERATION.

THIS EQUIPMENT HAS BEEN TESTED AND FOUND TO COMPLY WITH THE LIMITS FOR A CLASS "A" DIGITAL DEVICE, PURSUANT TO PART 15 OF THE FCC RULES.

THESE LIMITS ARE DESIGNED TO PROVIDE REASONABLE PROTECTION AGAINST HARMFUL INTERFERENCE WHEN THE EQUIPMENT IS OPERATED IN A COMMERCIAL ENVIRONMENT. THIS EQUIPMENT GENERATES, USES, AND CAN RADIATE RADIO FREQUENCY ENERGY AND, IF NOT INSTALLED AND USED IN ACCORDANCE WITH THE INSTRUCTION MANUAL, MAY CAUSE HARMFUL INTERFERENCE TO RADIO COMMUNICATIONS.

OPERATION OF THIS EQUIPMENT IN A RESIDENTIAL AREA IS LIKELY TO CAUSE HARMFUL INTERFERENCE IN WHICH CASE THE USER WILL BE REQUIRED TO CORRECT THE INTERFERENCE AT HIS OWN EXPENSE.

## A Message to the Customer

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Each and every Avalue's product is built to the most exacting specifications to ensure reliable performance in the harsh and demanding conditions typical of industrial environments. Whether your new Avalue device is destined for the laboratory or the factory floor, you can be assured that your product will provide the reliability and ease of operation for which the name Avalue has come to be known.

Your satisfaction is our primary concern. Here is a guide to Avalue's customer services. To ensure you get the full benefit of our services, please follow the instructions below carefully.

### ***Technical Support***

We want you to get the maximum performance from your products. So if you run into technical difficulties, we are here to help. For the most frequently asked questions, you can easily find answers in your product documentation. These answers are normally a lot more detailed than the ones we can give over the phone. So please consult the user's manual first.

To receive the latest version of the user's manual; please visit our Web site at:

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# 1. Getting Started

## 1.1 Safety Precautions

### Warning!



Always completely disconnect the power cord from your chassis whenever you work with the hardware. Do not make connections while the power is on. Sensitive electronic components can be damaged by sudden power surges. Only experienced electronics personnel should open the PC chassis.

### Caution!



Always ground yourself to remove any static charge before touching the CPU card. Modern electronic devices are very sensitive to static electric charges. As a safety precaution, use a grounding wrist strap at all times. Place all electronic components in a static-dissipative surface or static-shielded bag when they are not in the chassis.

## 1.2 Packing List

- 1 x ARC-1200/1500/1700/10W00/15W00/21W00 Rugged PCAP Multi-Touch Monitor
- 1 x Power Adapter
- 1 x Power cord
- 1 x HDMI cable
- 1 x USB cable for Touch (type B)
- 4 x screws for VESA
- 8~12 x screws for Panel Mount
- 8~12 x brackets for Panel Mount
- 8~12 x plastics spacer for Panel Mount



If any of the above items is damaged or missing, contact your retailer.

## 1.3 System Specifications

Component			
Model	ARC-1200	ARC-1500	ARC-1700
Mother Board	ACC-ADBOARD-11R	ACC-ADBOARD-10R	ACC-ADBOARD-16R
	Optional DC to DC convert Board 9V to 36V(ACC-POWERBOARD-01R)		
Chipset	RTD2556T		
CPU Cooler(Type)	Fanless		
Power Supply	DC in		
Adapter	ACC-ADP-060N-07R (AC/DC adapter 12V/5A 90 Plug Type)		
Speaker	2 x Speaker(2W)		
Other Component	OSD control board (OSD-5KEY-A001) Optional DC to DC converter Board 9V to 36V (PB-GL01) Optional Millitronic WiFi 6 Media Server Module		
Panel			
LCD Panel	12.1" XGA LED PANEL InnoLux G121XCE-L01	15" XGA TFT LED Panel CMI G150XNE-L03	17" SXGA TFT LCD AUO G170EG01 V1
LCD Control Board	Built in	Built in	Built in
B/L Inverter/Converter	N/A	N/A	N/A
Touch Screen	12.1" PCAP YFO H8573C+EETI EXC84H4254	15" PCAP Touch YFO H8900A COF	YFO 17" PCAP Touch, YoungFast H8539D
Touch Controller	EETI EXC84H4254	ILITEK ILI2511	EETI
External I/O			
USB Port	1 x USB type B for touch function		
Video Port	1 x VGA, 1 xHDMI 1.4a (HDCP 1.3), 1 x DP 1.2 (HDCP 1.3) input connectors		
Audio Port	1 x Audio phone jack in		
Indicator Light	1 x LED (from OSD 5 keys)		
Others	OSD key(5 keys)		
Mechanical			
Power Type	12V DC in (optional 9~36V)		
Power Connector Type	12V DC jack in (Option for wide voltage 9~36V DC jack & phoenix connector in)		
Dimension	293.77 x 226.31 x 61.5 mm	350.51 x 274.51 x 63.5 mm	392.72 x 325.32 x 70.25 mm
Weight	2.5 Kg	3.7 Kg	4.6 Kg
Color	Black		

<b>Fanless</b>	Fanless
<b>OS Support</b>	Windows, Linux
<b>Reliability</b>	
<b>EMI Test</b>	CE/ FCC Class A
<b>Vibration Test</b>	<p>Random Vibration Operation</p> <p>1 Test PSD : 0.00454G<sup>2</sup>/Hz , 1.5 Grms</p> <p>2 System condition : operation mode</p> <p>3 Test frequency : 5~500 Hz</p> <p>4 Test axis : X,Y and Z axis</p> <p>5 Test time : 30 minutes per each axis</p> <p>6 IEC60068-2-64 Test Fh</p> <p>6 Storage : mSATA</p> <p>Sine Vibration test (Non-operation)</p> <p>1 Test Acceleration : 2G</p> <p>2 Test frequency : 5~500 Hz</p> <p>3 Sweep : 1 Oct/ per one minute. (logarithmic)</p> <p>4 Test Axis : X,Y and Z axis</p> <p>5 Test time :30 min. each axis</p> <p>6 System condition : Non-Operating mode</p> <p>7. Reference IEC 60068-2-6 Testing procedures</p> <p>Package Vibration Test:</p> <p>1 Test PSD : 0.026G<sup>2</sup>/Hz , 2.16 Grms</p> <p>2 Test frequency : 5~500 Hz</p> <p>3 Test axis : X,Y and Z axis</p> <p>4 Test time : 30 minutes per each axis</p> <p>5 IEC 60068-2-64 Test Fh</p>
<b>Mechanical Shock Test</b>	<p>1 Wave from : Half Sine wave</p> <p>2 Acceleration Rate : 10g for operation mode</p> <p>3 Duration Time : 11ms</p> <p>4 No. of shock : Z axis 300 times</p> <p>5 Test Axis : Z axis</p> <p>6 operation mode</p> <p>7 Reference IEC 60068-2-27 testing procedures</p> <p>Test Eb : Shock Test</p>
<b>Drop Test</b>	<p>Package drop test</p> <p>Reference ISTA 2A, Method : IEC-60068-2-32 Test:Ed</p> <p>Test Ea : Drop Test</p> <p>1 Test phase : One corner, three edges, six faces</p>

## Quick Reference Guide

	<p>2 Test high : 96.5cm</p> <p>3 Package weight : 5Kg</p> <p>4 Test drawing</p> <p>4-feet drop resistance without package</p> <p>MIL-STD-810G</p>
<b>Operating Temperature</b>	-10°C ~ 50°C (0 to 40 °C with adapter Safety)
<b>Operating Humidity</b>	40°C @ 95% Relative Humidity, Non-condensing
<b>Storage Temperature</b>	-20°C ~ 60°C (-4°F ~ 140°F)

<b>Component</b>			
<b>Model</b>	<b>ARC-10W00</b>	<b>ARC-15W00</b>	<b>ARC-21W00</b>
<b>Mother Board</b>	ACC-ADBOARD-13R	ACC-ADBOARD-15R	ACC-ADBOARD-12R
	Optional DC to DC convert Board 9V to 36V(ACC-POWERBOARD-01R)		
<b>Chipset</b>	RTD2556T		
<b>CPU Cooler(Type)</b>	Fanless		
<b>Power Supply</b>	DC in		
<b>Adapter</b>	ACC-ADP-060N-07R (AC/DC adapter 12V/5A 90 Plug Type)		
<b>Speaker</b>	2 x Speaker(2W)		
<b>Other Component</b>	OSD control board (OSD-5KEY-A001) Optional DC to DC converter Board 9V to 36V (PB-GL01) Optional Millitronic WiFi 6 Media Server Module		
<b>Panel</b>			
<b>LCD Panel</b>	10.1" TIANMA TM101JDHP03 1280x800	15.6" TFT LED Panel CMI G156BGE-L01 (option for Full HD version)	21.5" INNOLUX M215HJJ-L30 TFT LCD
<b>LCD Control Board</b>	Built in	Built in	Built in
<b>B/L Inverter/Converter</b>	N/A	N/A	LED driving board for D2626514G1PA
<b>Touch Screen</b>	Sense 10.1" PCAP Touch, ST-101C26E	15.6" YFO H8811C PCAP GF1 COB+Weida WDT8752A	YFO 21.5" PCAP Touch for ARC-21W H8593H
<b>Touch Controller</b>	EETI	YW52H456P5656 Control board (Weida WDT8752A)	EETI EXC84H5680
<b>External I/O</b>			

**ARC-1200/1500/1700/10W00/15W00/21W00**

<b>USB Port</b>	1 x USB type B for touch function		
<b>Video Port</b>	1 x VGA, 1 xHDMI 1.4a (HDCP 1.3), 1 x DP 1.2 (HDCP 1.3) input connectors		
<b>Audio Port</b>	1 x Audio phone jack in		
<b>Indicator Light</b>	1 x LED (from OSD 5 keys)		
<b>Others</b>	OSD key(5 keys)		
<b>Mechanical</b>			
<b>Power Type</b>	12V DC in (optional 9~36V)		
<b>Power Connector Type</b>	12V DC jack in (Option for wide voltage 9~36V DC jack & phoenix connector in)		
<b>Dimension</b>	282.36 x 201 x 61.4 mm	391.21 x 239.21 x 68 mm	538.05 x 341.05 x 71 mm
<b>Weight</b>	2 Kg	3.2 Kg	6.5 Kg
<b>Color</b>	Black		
<b>Fanless</b>	Fanless		
<b>OS Support</b>	Windows, Linux		
<b>Reliability</b>			
<b>EMI Test</b>	CE/ FCC Class A		
<b>Vibration Test</b>	<p>Random Vibration Operation</p> <ol style="list-style-type: none"> <li>1 Test PSD : 0.00454G<sup>2</sup>/Hz , 1.5 Grms</li> <li>2 System condition : operation mode</li> <li>3 Test frequency : 5~500 Hz</li> <li>4 Test axis : X,Y and Z axis</li> <li>5 Test time : 30 minutes per each axis</li> <li>6 IEC60068-2-64 Test Fh</li> <li>6 Storage : mSATA</li> </ol> <p>Sine Vibration test (Non-operation)</p> <ol style="list-style-type: none"> <li>1 Test Acceleration : 2G</li> <li>2 Test frequency : 5~500 Hz</li> <li>3 Sweep : 1 Oct/ per one minute. (logarithmic)</li> <li>4 Test Axis : X,Y and Z axis</li> <li>5 Test time :30 min. each axis</li> <li>6 System condition : Non-Operating mode</li> <li>7. Reference IEC 60068-2-6 Testing procedures</li> </ol> <p>Package Vibration Test:</p> <ol style="list-style-type: none"> <li>1 Test PSD : 0.026G<sup>2</sup>/Hz , 2.16 Grms</li> <li>2 Test frequency : 5~500 Hz</li> <li>3 Test axis : X,Y and Z axis</li> <li>4 Test time : 30 minutes per each axis</li> <li>5 IEC 60068-2-64 Test Fh</li> </ol>		



<p><b>Mechanical Shock Test</b></p>	<p>1 Wave from : Half Sine wave                  2 Acceleration Rate : 10g for operation mode                  3 Duration Time : 11ms                  4 No. of shock : Z axis 300 times                  5 Test Axis : Z axis                  6 operation mode                  7 Reference IEC 60068-2-27 testing procedures                  Test Eb : Shock Test</p>
<p><b>Drop Test</b></p>	<p>Package drop test                  Reference ISTA 2A, Method : IEC-60068-2-32 Test:Ed                  Test Ea : Drop Test                  1 Test phase : One corner, three edges, six faces                  2 Test high : 96.5cm                  3 Package weight : 5Kg                  4 Test drawing                    4-feet drop resistance without package                  MIL-STD-810G</p>
<p><b>Operating Temperature</b></p>	<p>-10°C ~ 50°C                  (0 to 40 °C with adapter Safety)</p>
<p><b>Operating Humidity</b></p>	<p>40°C @ 95% Relative Humidity, Non-condensing</p>
<p><b>Storage Temperature</b></p>	<p>-20°C ~ 60°C (-4°F ~ 140°F)</p>

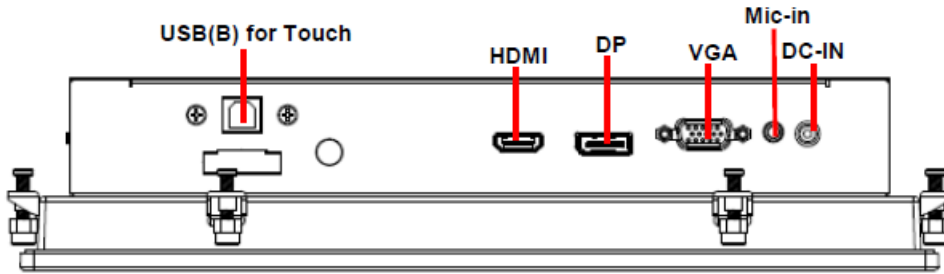


**Note:** Specifications are subject to change without notice.

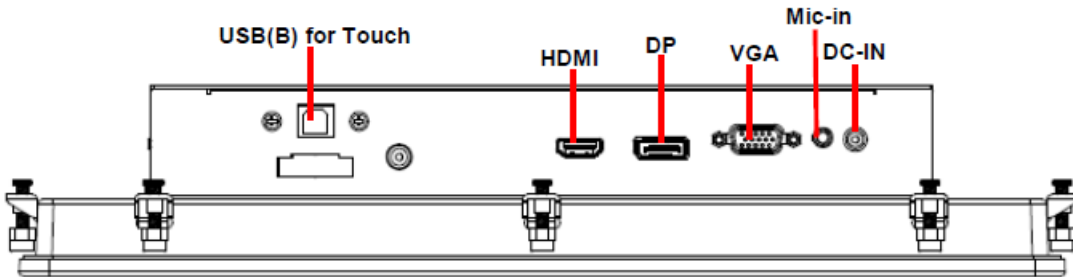
## 1.4 System Overview

### 1.4.1 I/O View

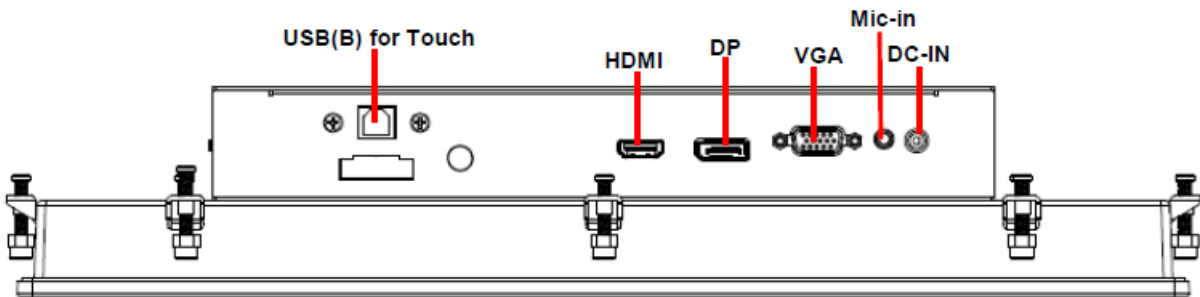
ARC-1200



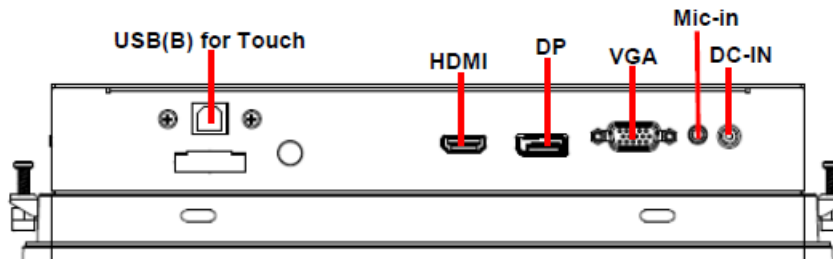
ARC-1500



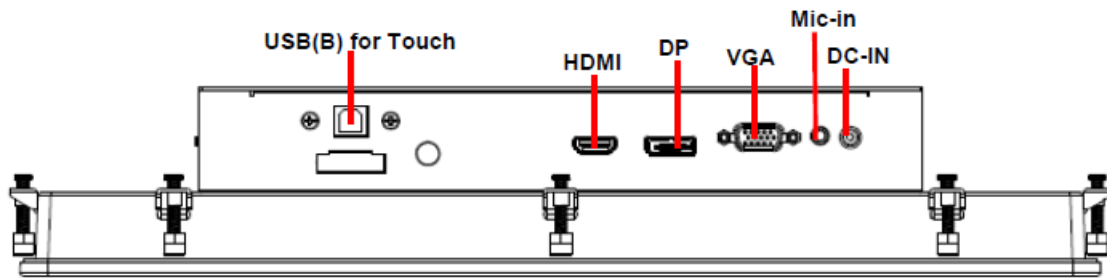
ARC-1700



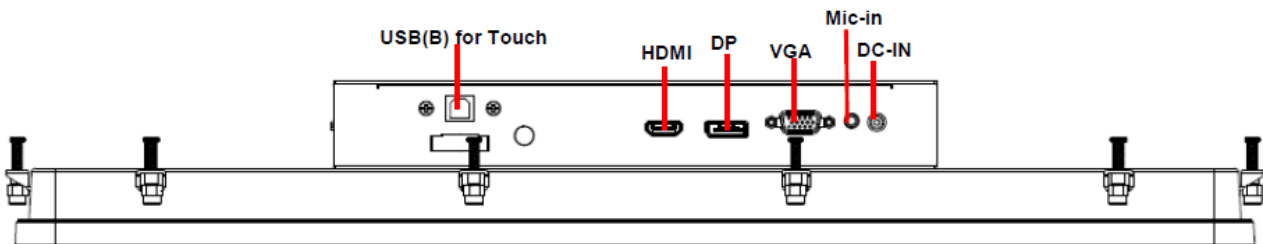
ARC-10W00



**ARC-15W00**



**ARC-21W00**

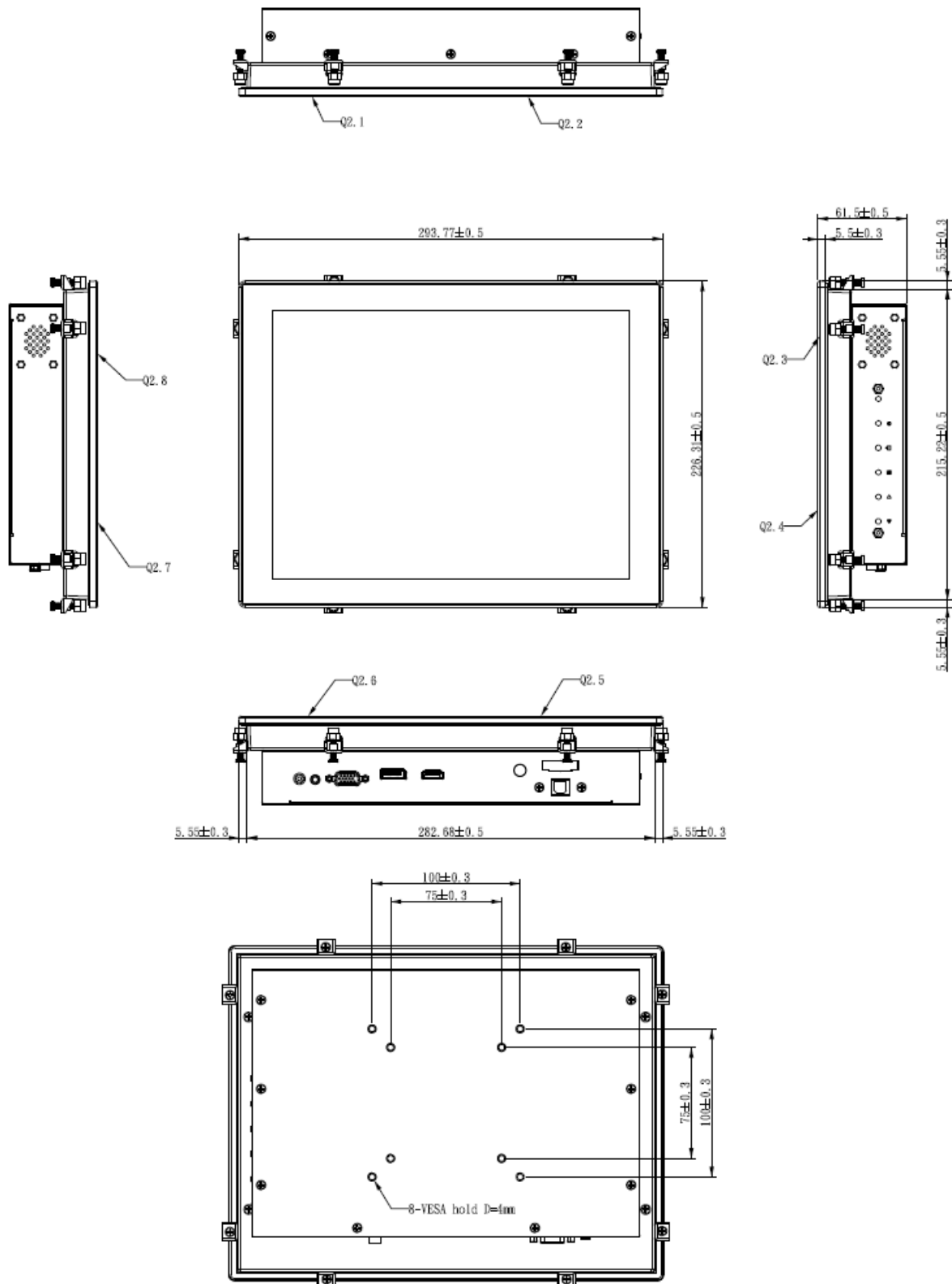


**Connectors**

Label	Function	Note
DP	DP connector	
HDMI	HDMI connector	
VGA	VGA connector	
USB(B) for Touch	USB(B) connector for Touch	
Mic-in	Mic-in audio jack	
DC-IN	DC power-in connector	

**1.5 System Dimensions (with Panel Mounting's Bracket)**

**1.5.1 ARC-1200 Front and Rear side**

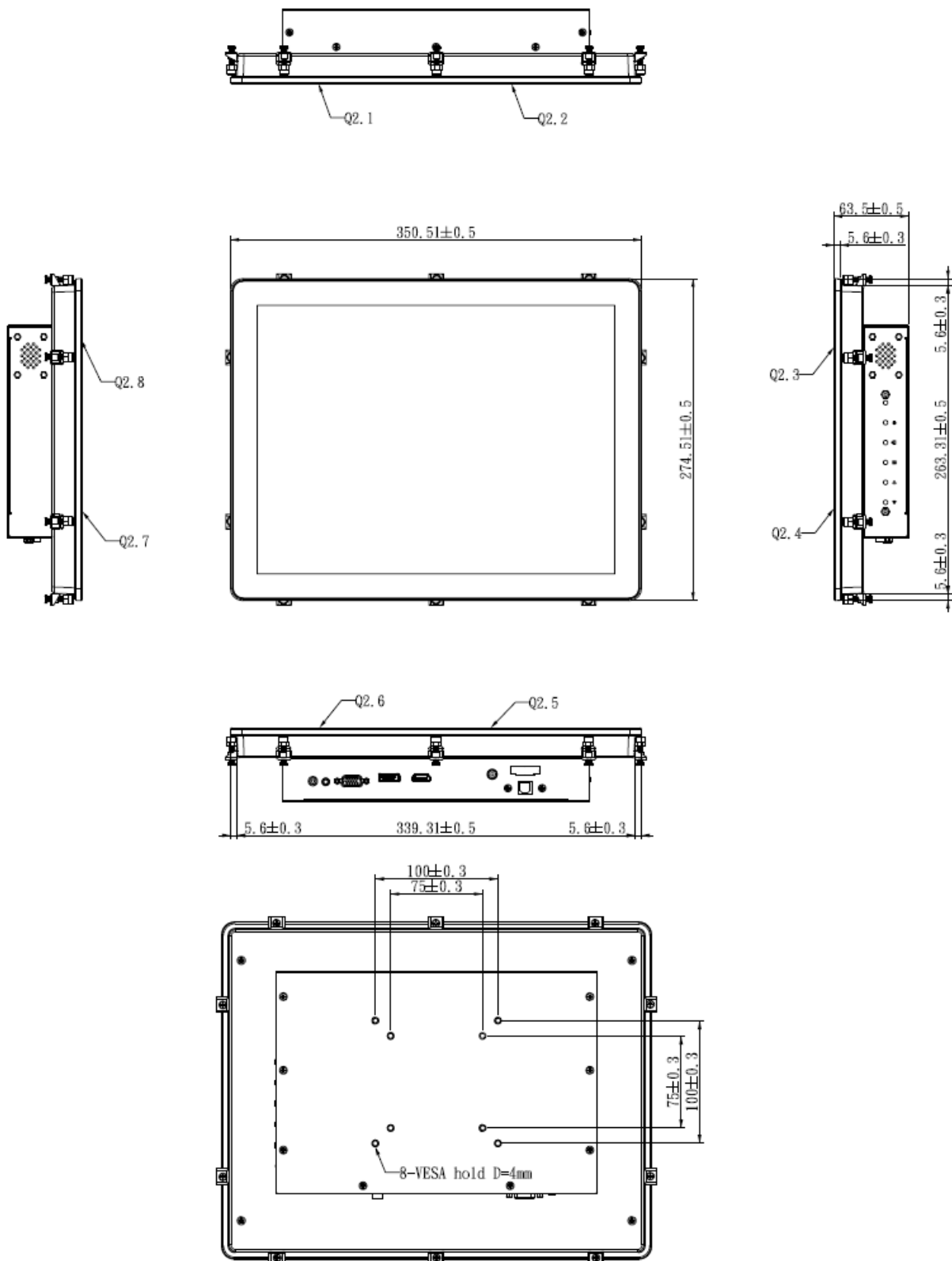


**Note:**

Cut Out Dimension:  $283.5 \pm 0.3 \times 216.5 \pm 0.3$  mm

**(Unit: mm)**

1.5.2 ARC-1500 Front and Rear side



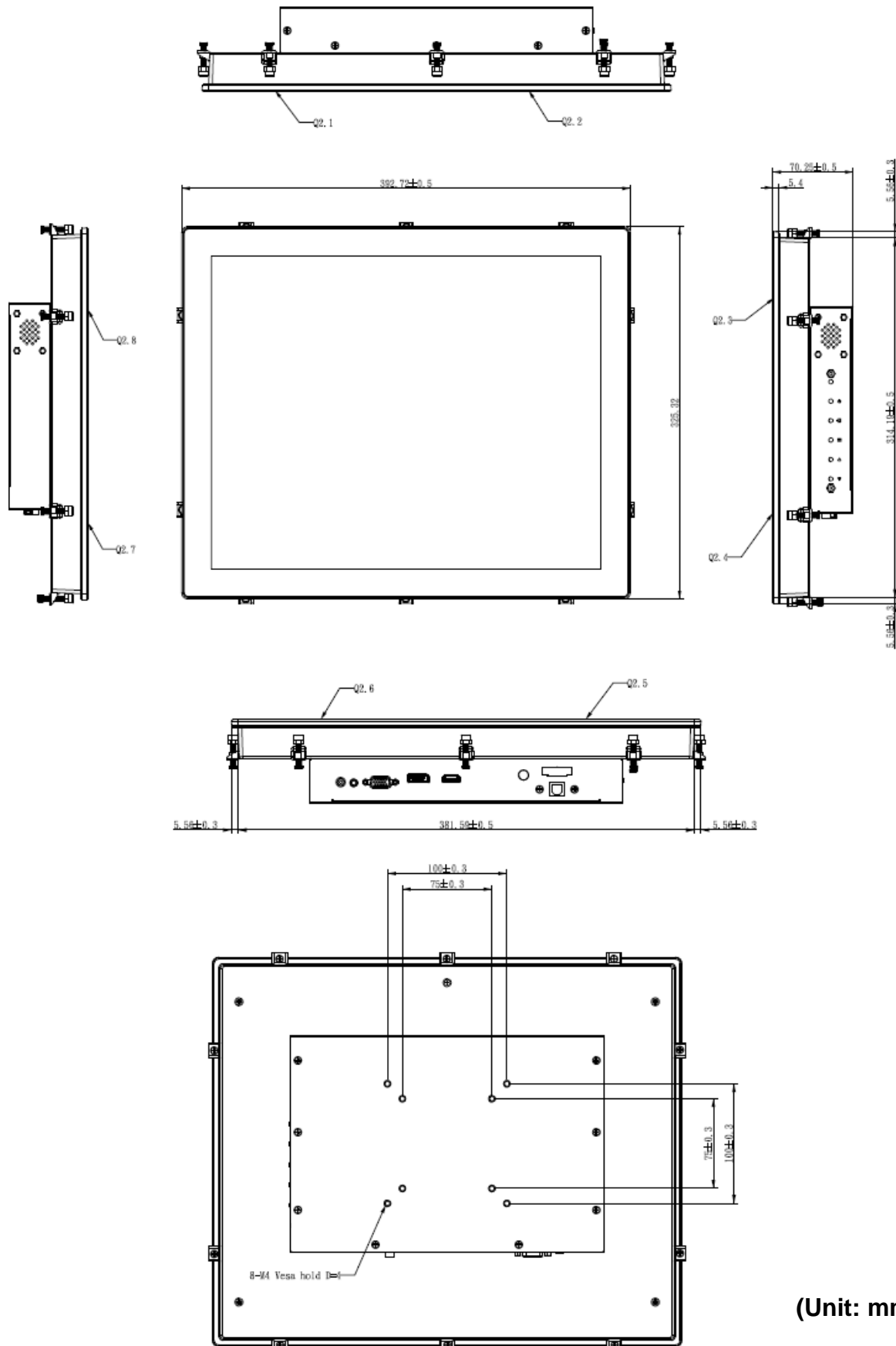
**Note:**

Cut Out Dimension:  $340.2 \pm 0.3 \times 264.2 \pm 0.3$  mm.

**(Unit: mm)**

# ARC-1200/1500/1700/10W00/15W00/21W00

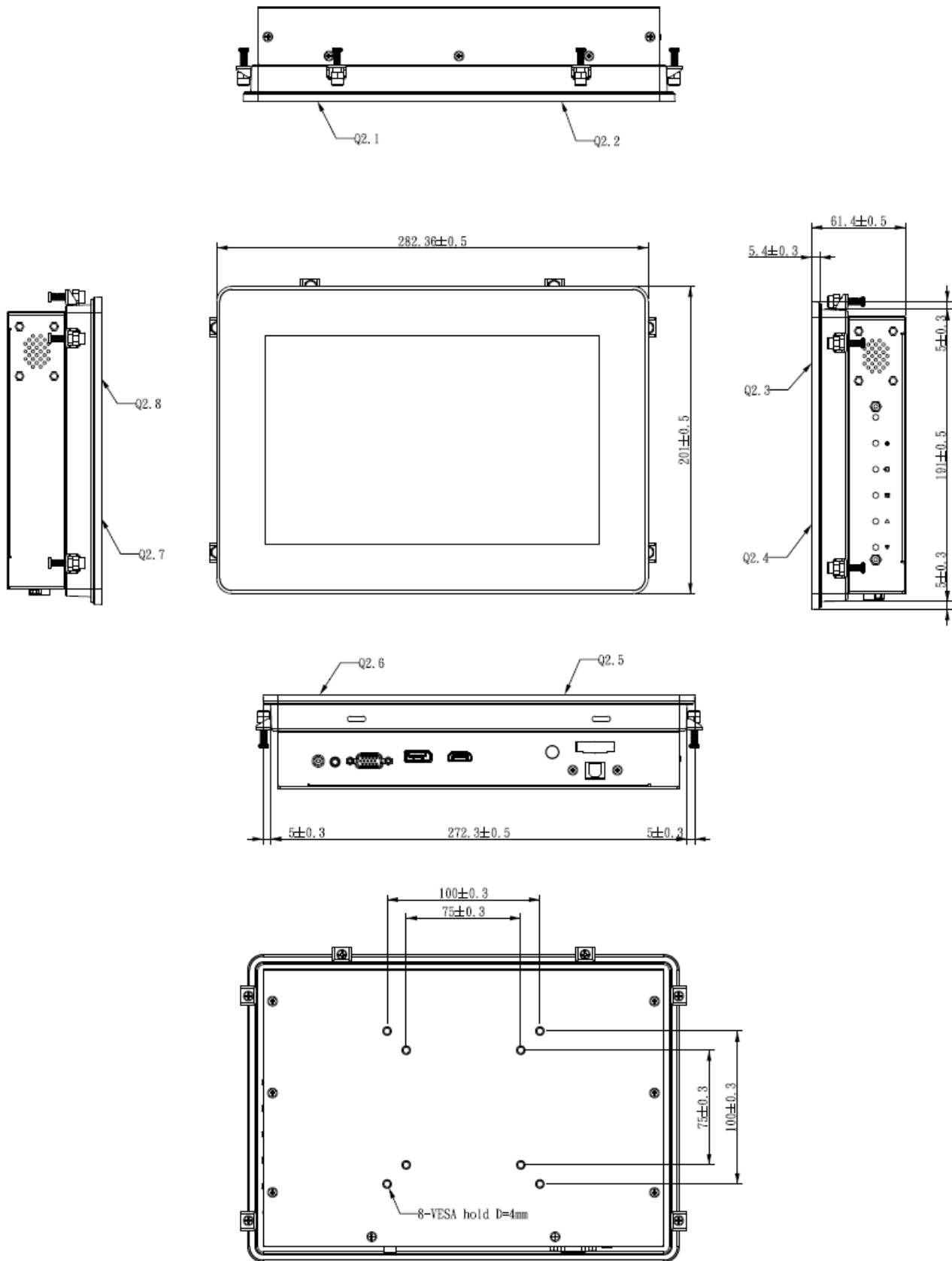
## 1.5.3 ARC-1700 Front and Rear side



(Unit: mm)

**Note:** Cut Out Dimension: 382.5+/-0.3\*315.2+/-0.3mm.

1.5.4 ARC-10W00 Front and Rear side

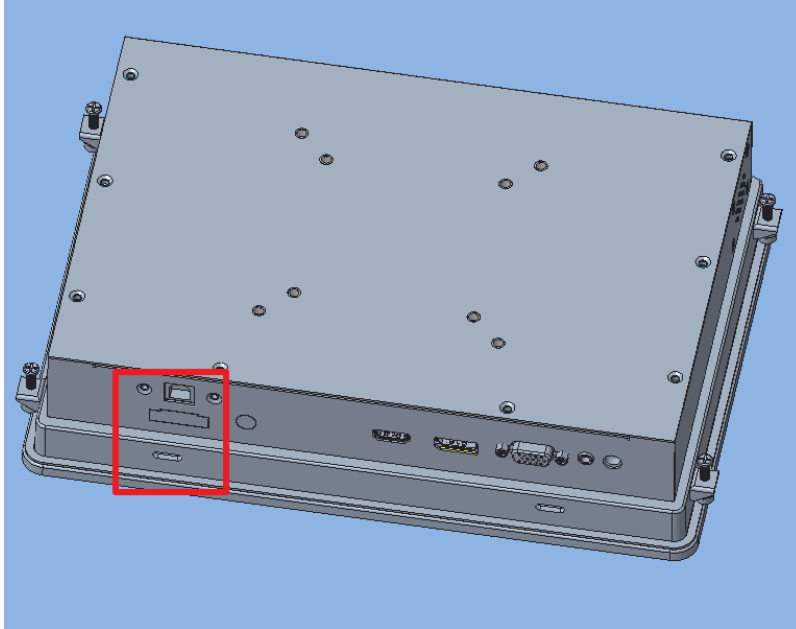


(Unit: mm)

## ARC-1200/1500/1700/10W00/15W00/21W00

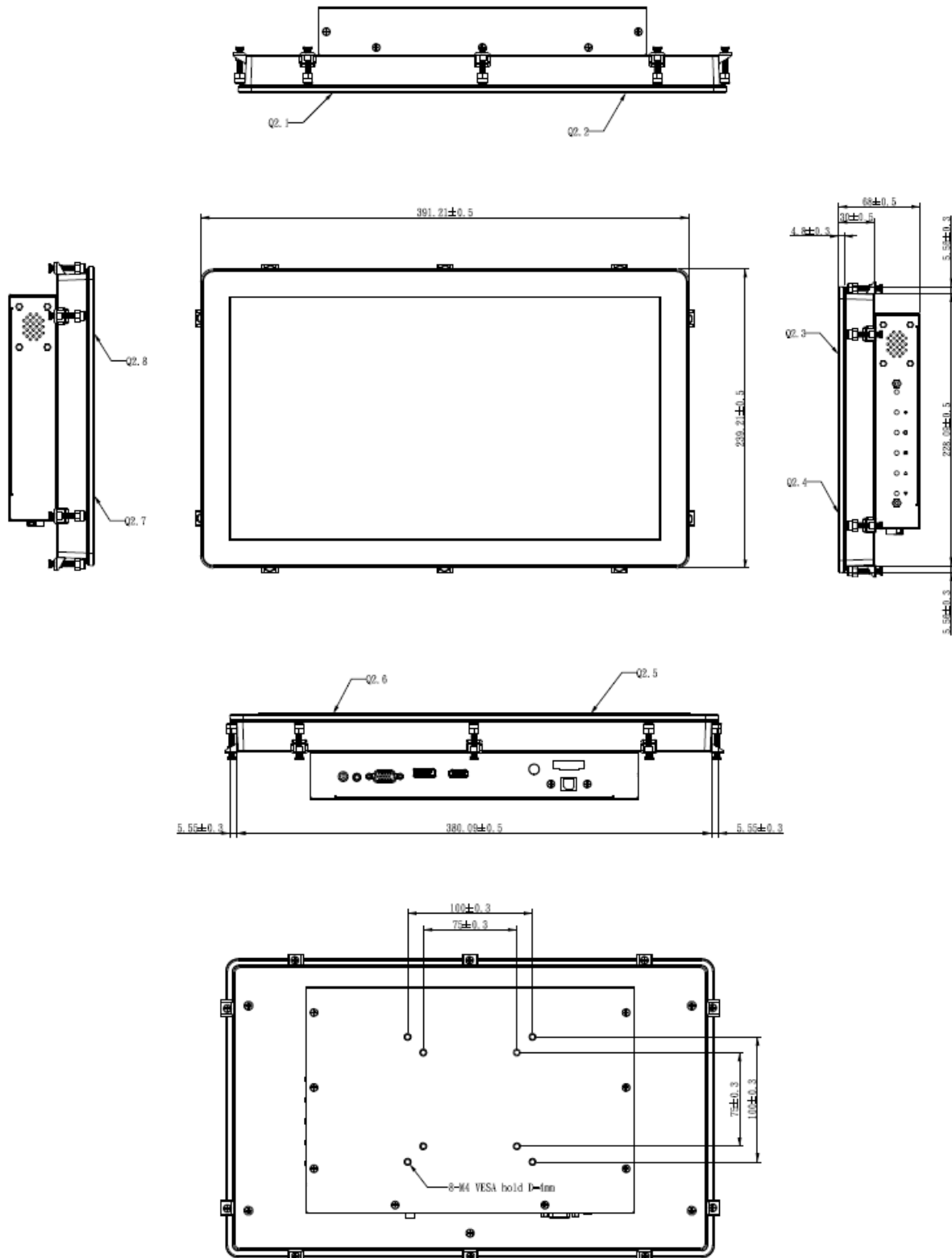
### Note:

1. Cut Out Dimension: 273+/-0.2\*191.6+/-0.2mm.
2. Wide voltage version ARC-10W00 will remove one Panel Mounting's Bracket for using phoenix connector.





1.5.5 ARC-15W00 Front and Rear side



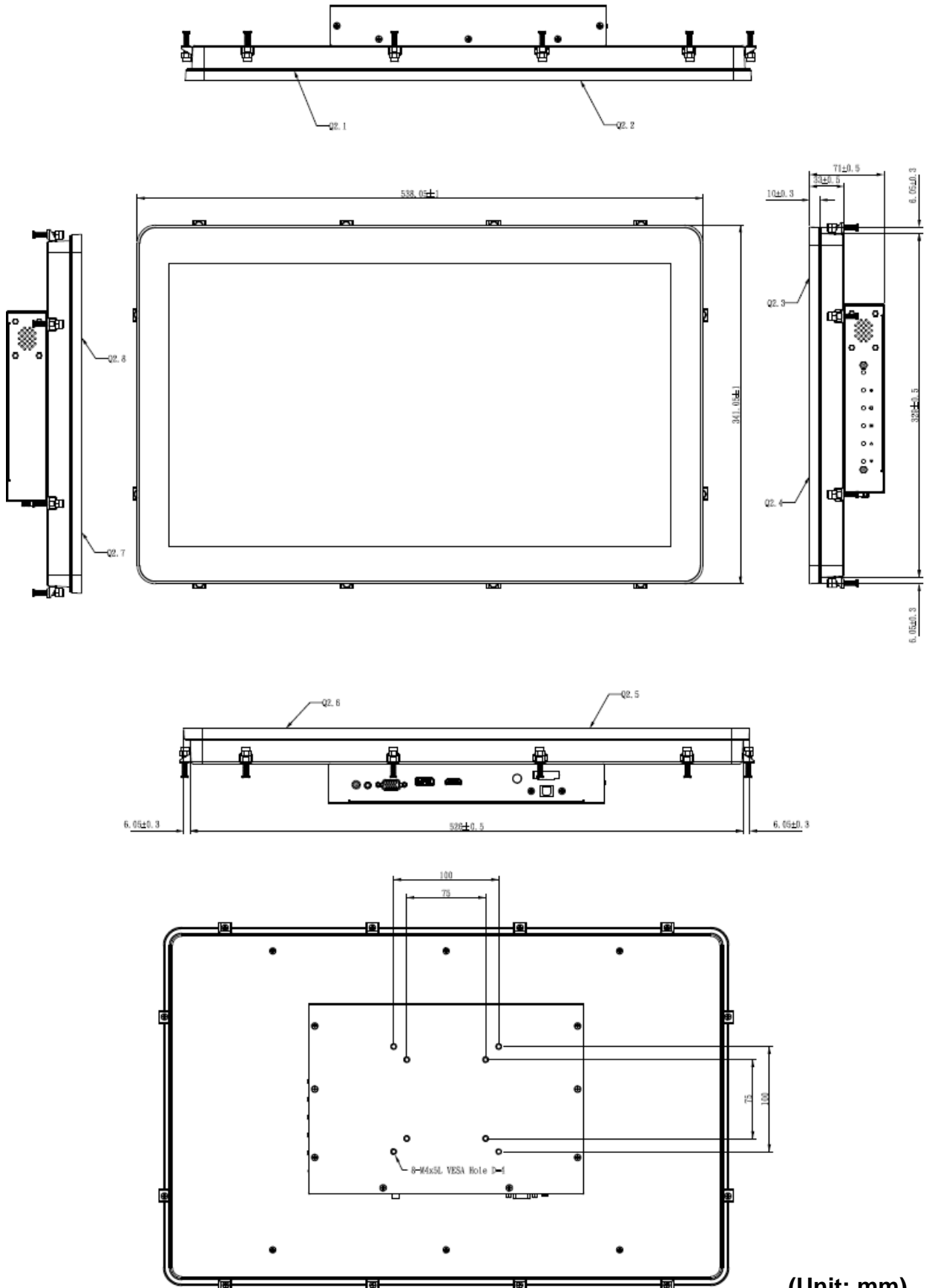
**Note:**

Cut Out Dimension:  $380.4 \pm 0.3 \times 228.4 \pm 0.3$  mm.

**(Unit: mm)**

# ARC-1200/1500/1700/10W00/15W00/21W00

## 1.5.6 ARC-21W00 Front and Rear side



(Unit: mm)

**Note:**

Cut Out Dimension:  $527 \pm 0.5 \times 330 \pm 0.5$  mm.

# 2. Hardware Configuration

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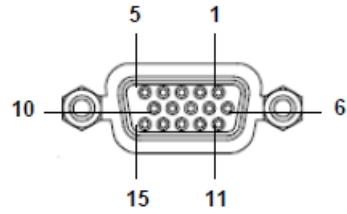
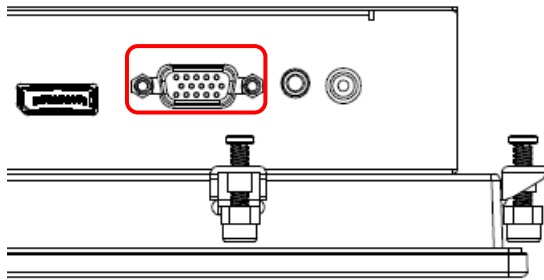


**Note:** If you need more information, please visit our website:

<http://www.avalue.com.tw>

**2.1 ARC-1200/1500/1700/10W00/15W00/21W00 connector mapping**

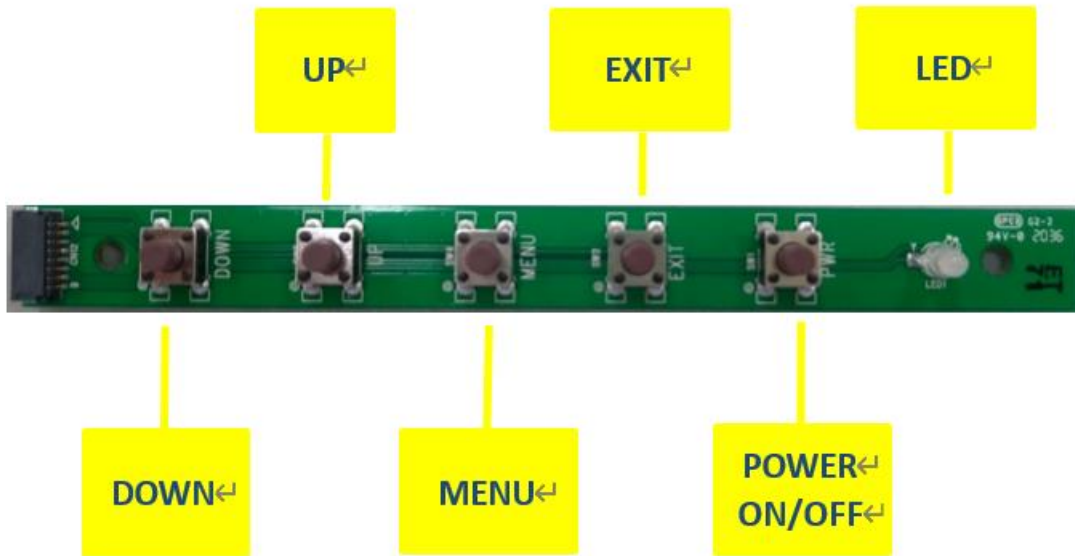
**2.1.1 VGA connector (VGA)**



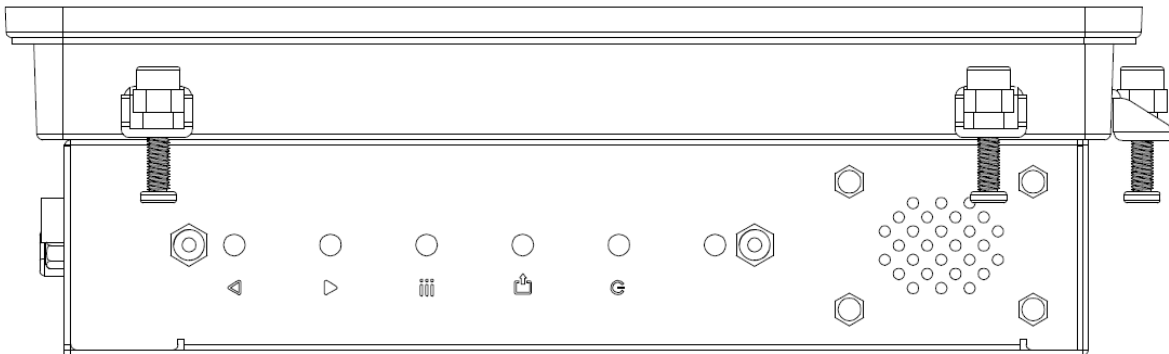
PIN	Signal	PIN	Signal	PIN	Signal
1	RED	6	GND	11	NC
2	GREEN	7	GND	12	DDCDAT
3	BLUE	8	GND	13	HSYNC
4	NC	9	+5V	14	VSYS
5	GND	10	GND	15	DDCCLK

## 2.2 OSD Key Setting

### 2.2.1 OSD Key Function:



◀	▶	⋮	⏪	Ⓜ	LED
DOWN	UP	MENU	EXIT	POWER ON/OFF	LED (Two Color LED)



2.2.2 OSD Key TREE Table:

OSD Key TREE Table				Range	default	
Picture	Backlight			0 - 100	100	
	Auto Sensor	ON / OFF			ON	
	Brightness			0 - 100	50	
	Contrast			0 - 100	50	
	Sharpness			0 - 4	2	
Display	Auto Adjust (VGA signal only, with auto gain)					
	H Position (VGA signal only)			0 - 100	50	
	V Position (VGA signal only)			0 - 100	50	
	Clock (VGA signal only)			0 - 100	50	
	Phase (VGA signal only)			0 - 100	29	
	Disp Rotate	0 / 180			0	
Color	Panel Uniformity	ON / OFF			ON	
	Gamma	OFF / 1.8 / 2.0 / 2.2 / 2.4			OFF	
	Temperature	VGA signal: 9300 / 7500 / 6500 / 5800 / sRGB HDMI / DP signal: sRGB				User
		User	R		0 - 255	128
			G		0 - 255	128
	B			0 - 255	128	
	Color Effect	Standard / Game / Movie / Photo / Vivid				Standard
		R	HUE		0 - 100	50
			SAT		0 - 100	50
		Y	HUE		0 - 100	50
			SAT		0 - 100	50
		G	HUE		0 - 100	50
			SAT		0 - 100	50
		C	HUE		0 - 100	50
			SAT		0 - 100	50
		B	HUE		0 - 100	50
			SAT		0 - 100	50
M	HUE		0 - 100	50		
	SAT		0 - 100	50		
DEMO	OFF / TYPE1 / TYPE2 / TYPE3 / TYPE4 / TYPE5				OFF	
Color Format	RGB / YUV (VGA signal only)				RGB	

## Quick Reference Guide

	PCM	User / Native		Native
	HUE		0 - 100	50
	SAT		0 - 100	50
Advance	Aspect Ratio	Full / 16:9 / 4:3 / 5:4 / 1:1 / User		Full
	Over Scan	ON / OFF		ON
	Over Drive	ON / OFF	ON / OFF	OFF
		OD Gain		0 - 100
DDCCI	ON / OFF		ON	
Input	Auto Select / A0:VGA / D1:DP / D2:HDMI			Auto Select
Audio	Volume		0 - 100	50
	Mute	ON / OFF		OFF
	Stand Along	ON / OFF		OFF
	Audio Source	Analog / Digital		Base on conector signal HDMI /DP: default Digital VGA: only Analog
	Sound Mode			
Other	Reset			
	Menu Time		5 - 60	10
	OSD H Position		0 - 100	50
	OSD V Position		0 - 100	50
	Language	English / Chinese		English
	Transparency		0 - 255	0
	Rotate	0 / 90 / 270 / 180		0
Information	Base on LCD type information			

### Note:

Into test mode: No Signal input, then press menu key + right (up) key at the same time.

Release test mode: Signal input will release test mode.

Hot Key: Down/Backlight-, UP/Backlight+, Exit/Auto adjust(no auto gain)

## **ARC-1200/1500/1700/10W00/15W00/21W00**

### **When display input signal is DP/HDMI:**

Menu -> Audio -> Audio Source -> Digital (default) / Analog (optional)

Select Digital to input from DP/HDMI audio source

Select Analog to input from Audio jack

### **When the display input signal is VGA:**

Menu -> Audio -> Audio Source -> Analog (not selectable, only input from Audio Jack)

