



**MODEL:  
DM2 Series**

**10.1" ~ 23.8" LCD Monitor**

**DisplayPort, HDMI, VGA, IP 65 Protection, RoHS**

# **User Manual**

# Revision

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Date	Version	Changes
December 6, 2024	1.01	Added Chapter 4: Connector Updated Section 1.7: Bottom Panel Updated Section 1.8.1: DM2-W101G(L)~ DM2-121E(L) Specifications Updated Section 1.8.2: DM2-121E(L)-HL ~ DM2-W156K(L) Specifications Updated Section 2.2: Packing List
August 22, 2024	1.00	Initial release



# Safety Instructions

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- en** Warning! Read the user manual before connecting the system to the power source.
  - de** Vorsicht! Bitte lesen Sie die Bedienungsanleitung, bevor Sie das System an eine Stromquelle anschließen.
  - fr** Attention! Avant de brancher le système à la source d'alimentation, consultez le mode d'emploi.
  - it** Avvertenza! Consultare il manuale utente prima di collegare il sistema all'alimentatore.
  - es** Atención! Lea atentamente este manual del usuario antes de operar la fuente de alimentación.
  - zh** 警告! 在將系統連接到電源之前, 請仔細閱讀使用手冊。
  - cn** 警告! 在將系統連接到電源之前, 請仔細閱讀使用手冊。
- 

- en** Warning! To prevent the system from overheating, do not operate it in an area that exceeds the maximum operating temperature described in the user manual.
  - de** Vorsicht! Um eine Überhitzung des Systems zu vermeiden, betreiben Sie es ausschließlich im zulässigen Betriebstemperaturbereich. Dieser ist in der Bedienungsanleitung vermerkt.
  - fr** Attention! Pour éviter la surchauffe du système, ne l'utilisez pas dans une zone dont la température dépasse les limites décrits dans le mode d'emploi.
  - it** Avvertenza! Per evitare che il sistema si surriscaldi, non utilizzarlo in aree che superino la temperatura massima d'esercizio descritta nel manuale utente.
  - es** Atención! Para evitar el excesivo calentamiento del sistema, no opere en las condiciones de temperatura superior a lo recomendado en este manual del usuario.
  - zh** 警告! 為防止系統過熱, 不要在超過使用手冊上記載的產品工作溫度範圍之外操作此系統。
  - cn** 警告! 為防止系統過熱, 不要在超過使用手冊上記載的產品工作溫度範圍之外操作此系統。
-

- en** Warning! Use only the adapter and power cord approved for this system. Use of another type of adapter may risk fire or explosion. Please refer to the user manual for the power adapter specifications.
- de** Vorsicht! Nur zugelassene Netzteile und Netzkabel dürfen verwendet werden. Die Benutzung von anderen Netzteilen kann einen Brand oder eine Explosion zur Folge haben. Prüfen Sie die jeweiligen Spezifikationen in der Bedienungsanleitung.
- fr** Attention! Utilisez exclusivement le câble d'alimentation et l'adaptateur homologués pour ce système. L'utilisation d'un autre type d'adaptateur risquerait de provoquer un incendie ou une explosion. Veuillez référer au mode d'emploi pour les spécifications de l'adaptateur d'alimentation.
- it** Avvertenza! Utilizzare solo l'adattatore e il cavo di alimentazione approvati per questo sistema. L'uso di un altro tipo di adattatore può causare rischio d'incendio o esplosione. Si prega di fare riferimento al manuale utente per le specifiche sull'alimentazione.
- es** Atención! Utilice solamente el adaptador de corriente alterna (CA) con Marcas Conformidad otorgadas. Cualquier otro adaptador no otorgado aumenta el riesgo de explosión o incendio. Por favor consulte el manual del usuario para las especificaciones del adaptador de alimentación.
- zh** 警告! 只能使用經過認證、適用於本系統的電源變壓器與電源線。使用不適用的電源變壓器將可能導致火災或爆炸。電源變壓器規格請參考使用手冊。
- cn** 警告! 只能使用经过认证, 适用于本系统的电源适配器与电源线。使用不适用的电源适配器将可能导致火灾或爆炸。电源适配器规格请参考使用手册。

- 
- en** Warning! Ultimate disposal of this product should be handled according to all national laws and regulations.
- de** Vorsicht! Die Entsorgung dieses Produkts sollte gemäß allen Bestimmungen und Gesetzen des Landes erfolgen.
- fr** Attention! La mise au rebut ou le recyclage de ce produit sont généralement soumis aux lois et/ou directives de respect de l'environnement. Renseignez-vous auprès de l'organisme compétent.
- it** Avvertenza! Lo smaltimento di questo prodotto deve essere eseguito secondo le leggi e i regolamenti locali.
- es** Atención! La disposición final de residuos de este producto se debe cumplir con las normativas y leyes del país.
- zh** 警告! 本產品的廢棄處理應根據該國家的法律和規章進行。
- cn** 警告! 本产品的废弃处理应根据该国家的法律和规章进行。

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\* If you use USB port for charging, please use high wattage power adapter.

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# Manual Conventions

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## **WARNING**

Warnings appear where overlooked details may cause damage to the equipment or result in personal injury. Warnings should be taken seriously.



## **CAUTION**

Cautionary messages should be heeded to help reduce the chance of losing data or damaging the product.



## **NOTE**

These messages inform the reader of essential but non-critical information. These messages should be read carefully as any directions or instructions contained therein can help avoid making mistakes.



## **HOT SURFACE**

This symbol indicates a hot surface that should not be touched without taking care.

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Chapter

1

# Introduction

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## 1.1 Overview



**Figure 1-1: DM2 Series**

The DM2 Series LCD monitor is the latest member of IEI's line of sophisticated LCD designs with flat bezel. It is designed to fit industrial automation. The flat front panel provides IP 65 protection, which effectively wards off dust and water. Flexible analog or digital interfaces are provided for ease of connection with a management computer.

## 1.2 Features

The DM2 Series have the following standard features:

- The aluminum front frame supports IP 65
- The USB 3.2 Gen1 Type-A supports 10 W
- Positioning the speakers at the front ensures clear sound delivery even with panel mounting
- The front OSD offers easy access for setting adjustment
- Supports gloved operation and waterproof protection
- Built-in camera, ideal for AI facial recognition
- Anti-glare and anti-UV PCAP

## DM2 Series Monitor

### 1.3 Model Variations

The DM2 Series LCD monitor base models have a variety of variants. The model variations are listed in the **Table 1-1**.

Model Number	LCD	Touchscreen	Power	VGA	HDMI/DVI	DisplayPort
DM2-W101G(L)	10.1"	Capacitive	9 V~36 V	Yes	HDMI	Yes
DM2-104E(L)	10.4"	Capacitive	9 V~36 V	Yes	HDMI	Yes
DM2-W121G(L)	12.1"	Capacitive	9 V~36 V	Yes	HDMI	Yes
DM2-W121G(L)-HL		Capacitive	9 V~36 V	Yes	HDMI	Yes
DM2-121E(L)	12.1"	Capacitive	9 V~36 V	Yes	HDMI	Yes
DM2-121E(L)-HL		Capacitive	9 V~36 V	Yes	HDMI	Yes
DM2-UW123J(L)	12.3"	Capacitive	9 V~36 V	Yes	HDMI	Yes
DM2-W133K(L)	13.3"	Capacitive	9 V~36 V	Yes	HDMI	Yes
DM2-150E(L)	15"	Capacitive	9 V~36 V	Yes	HDMI	Yes
DM2-W156K(L)	15.6"	Capacitive	9 V~36 V	Yes	HDMI	Yes
DM2-170H(L)	17"	Capacitive	9 V~36 V	Yes	HDMI	Yes
DM2-190H(L)	19"	Capacitive	9 V~36 V	Yes	HDMI	Yes
DM2-W185K(L)	18.5"	Capacitive	9 V~36 V	Yes	HDMI	Yes
DM2-W215K(L)	21.5"	Capacitive	9 V~36 V	Yes	HDMI	Yes
DM2-W238K(L)	23.8"	Capacitive	9 V~36 V	Yes	HDMI	Yes

**Table 1-1: DM2 Series Model Variations**



**NOTE:**

The DM2 Series LCD monitor is offered in two different versions: Full and Lite. The Lite SKU does not include functions such as a camera, speaker, and four USB Type-A ports.

## 1.4 Applications

The DM2 Series LCD monitor is designed for rigorous industrial environments where it may be exposed to both heat and moisture. Its durability and strength also makes it an ideal choice for public access computers. Some potential applications include:

- Digital surveillance
- Multimedia advertising platform
- General computing
  - Computer-based testing center
  - General purpose information system
  - Mobile nursing station
  - Interactive education use
- Automation & Control
  - Plant environment monitoring
  - Factory automation HMI terminal
  - Shop-floor/MES control
- Self-service kiosk
  - Full-service receptionist kiosk
  - Hospital self-registration terminal
  - Interactive photo kiosk
  - Video rental kiosk
  - Self-service POS terminal

## 1.5 Front Panel

The front side of the DM2 Series LCD monitor is a flat panel LCD screen surrounded by an aluminum frame.

The following figure shows a typical monitor front view.

## DM2 Series Monitor



Figure 1-2: Typical Monitor Front View

### 1.6 Rear Panel

The rear panel provides access to retention screw holes that support Video Electronics Standards Association (VESA) mounting.

The following figures show the rear panel of the DM2 Series.

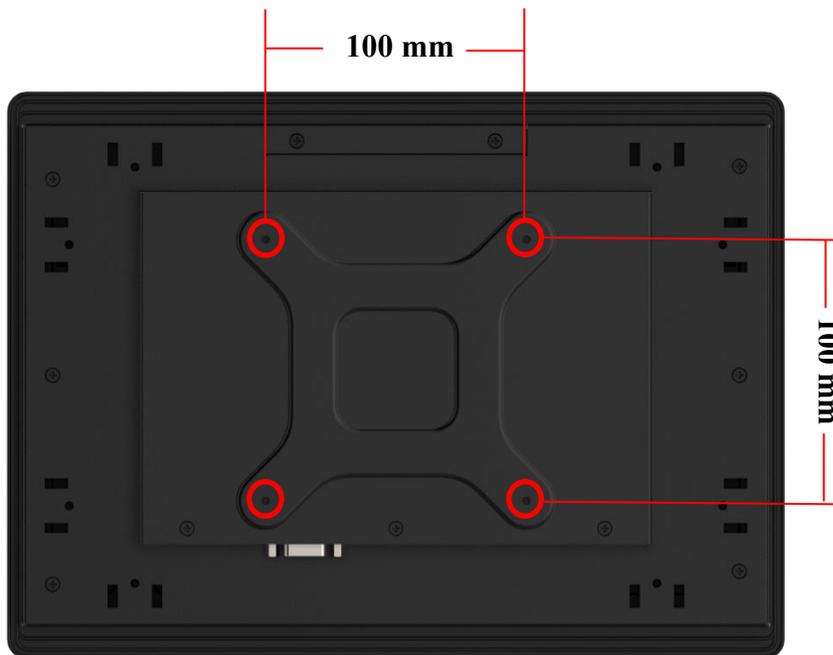


Figure 1-3: DM2 Series Rear View

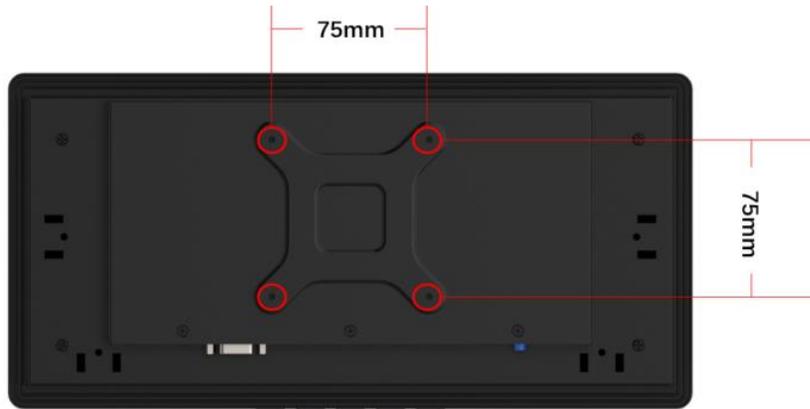


Figure 1-4: DM2-UW123J(L) Rear View

### 1.7 Bottom Panel

The bottom panel of the DM2 Series LCD monitor has the following I/O connectors. All connectors are fully described in the **Chapter 4**.

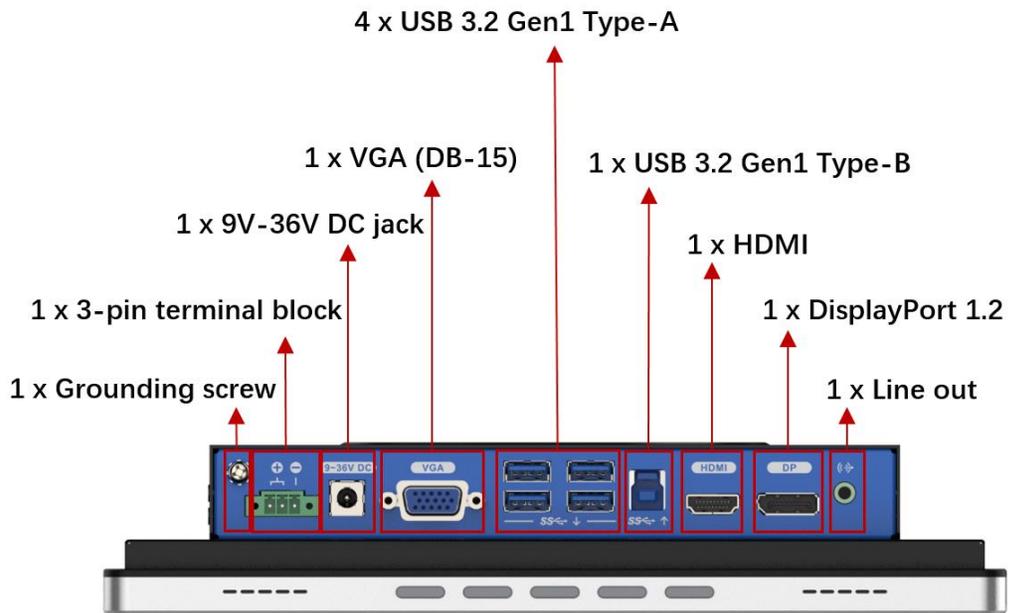


Figure 1-5: DM2 Series Bottom Panel Connectors

## DM2 Series Monitor

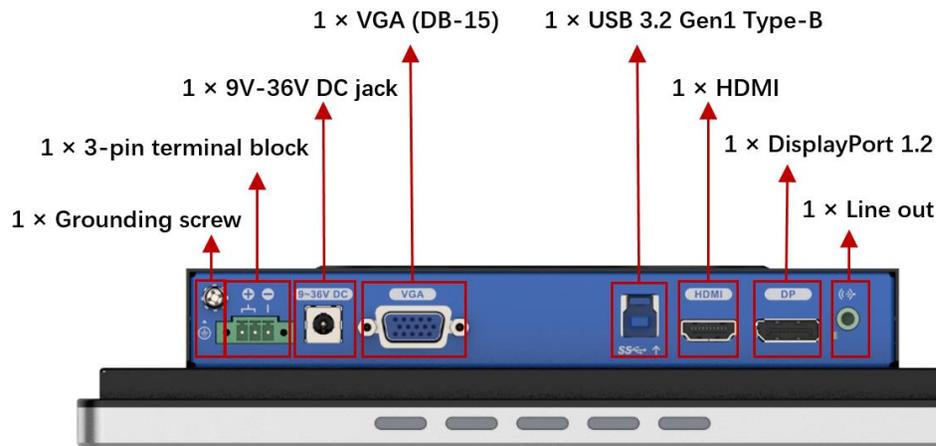


Figure 1-6: DM2 Series (L) Bottom Panel Connectors

## 1.8 Technical Specifications

The following tables show the DM2 Series technical specifications.

### 1.8.1 DM2-W101G(L)~ DM2-121E(L) Specifications

Model	DM2-W101G(L)	DM2-104E(L)	DM2-W121G(L)	DM2-W121G(L)-HL	DM2-121E(L)
<b>LCD Display</b>	10.1"(16:10)	10.4" (4:3)	12.1" (16:10)	12.1" (16:10)	12.1"(4:3)
<b>Max. Resolution</b>	1280x800	1024x768	1280 x800	1280 x800	1024x768
<b>Brightness (cd/m<sup>2</sup>)</b>	400	350	500	1000	500
<b>Contrast Ratio</b>	800:1	1000:1	1200:1	1000:1	1000:1
<b>LCD Color</b>	16.7M	16.7M	16.7M	16.7M	16.2M
<b>Viewing Angle (H/V)</b>	178°/178°	176°/176°	170°/170°	170°/170°	178°/178°
<b>Backlight MTBF (hrs)</b>	30,000	50,000	50,000	50,000	30,000
<b>Touchscreen</b>	10-point projected capacitive touch window (anti-UV and anti-glare surface)				
<b>Touch Controller</b>	Capacitive: ilitek				
<b>OSD Button</b>	5-key	5-key	5-key	5-key	5-key
<b>Smart OSD</b>	Yes	Yes	Yes	Yes	Yes
<b>Camera</b>	Support*	Support*	Support*	Support*	Support*

Model	DM2-W101G(L)	DM2-104E (L)	DM2-W121G (L)	DM2-W121G(L)-HL	DM2-121E (L)
<b>Speaker</b>	2 x 2W AMP (internal speaker)*	2 x 2W AMP (internal speaker)*	2 x 2W AMP (internal speaker)*	2 x 2W AMP (internal speaker)*	2 x 2W AMP (internal speaker)*
<b>Dimensions (mm) (W x H x D)</b>	251.00 x 180.95 x 49.30	256.60 x 208.20 x 49.30	298.00 x 218.59 x 49.30	298.00 x 218.59 x 49.30	279.86 x 237.50 x 49.3
<b>Cutout Dimensions (W x H) (mm)</b>	241.80 x 157.80	247.4 x 185.00	288.60 x 195.10	288.60 x 195.10	270.50 x 214.10
<b>Enclosure Color</b>	Black+ Silver				
<b>Front Frame</b>	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
<b>Rear Cover</b>	Sheet metal	Sheet metal	Sheet metal	Sheet metal	Sheet metal
<b>VESA Mount</b>	100	100	100	100	100
<b>Optional Mounting Kit</b>	Wall Rack Panel Arm Stand	Wall Rack Panel Arm Stand	Wall Rack Panel Arm Stand	Wall Rack Panel Arm Stand	Wall Rack Panel Arm Stand
<b>Operating Temp.</b>	-20°C ~ 60°C (with air flow)	-20°C ~ 60°C (with air flow)	-20°C ~ 60°C (with air flow)	-20°C ~ 60°C (with air flow)	-20°C ~ 60°C (with air flow)
<b>Storage Temp.</b>	-20°C ~ 60°C	-20°C ~ 70°C	-20°C ~ 70°C	-20°C ~ 70°C	-20°C ~ 70°C
<b>Humidity</b>	10% ~ 95% (non-condensing)				
<b>I/O Ports and Switches</b>	1 x VGA (DB-15) 1 x HDMI 1 x DisplayPort 1.2 1 x USB 3.2 Gen1 Type-B 4 x USB 3.2 Gen1 Type-A (5V2A)* 1 x Line out 1 x 9 V-36 V DC jack 1 x Terminal block (1x3 pin)				
<b>IP Level</b>	IP 65 compliant front panel				
<b>Safety &amp; EMC</b>	CE/FCC/UKCA Class B				

## DM2 Series Monitor

Model	DM2-W101G(L)	DM2-104E(L)	DM2-W121G(L)	DM2-W121G(L)-HL	DM2-121E(L)
Remarks	*The L (Lite) SKU does not include a camera, speaker, and four USB Type-A ports.				

Table 1-2: DM2-W101G(L) ~ DM2-121E(L) Specifications

### 1.8.2 DM2-121E(L)-HL ~ DM2-W156K(L) Specifications

Model	DM2-121E(L)-HL	DM2-UW123J(L)	DM2-W133K(L)	DM2-150E(L)	DM2-W156K(L)
LCD Display	12.1"(4:3)	12.3"(8:3)	13.3"(16:9)	15"(4:3)	15.6" (16:9)
Max. Resolution	1024x768	1920x720	1920x1080	1024x768	1920x1080
Brightness (cd/m <sup>2</sup> )	1000	850	350	400	450
Contrast Ratio	1000:1	1500:1	1000:1	2500:1	800:1
LCD Color	16.2M	16.7M	16.7M	16.7M	16.2M
Viewing Angle (H/V)	178°/178°	170°/170°	176°/176°	176°/176°	178°/178°
Backlight MTBF (hrs)	50,000	30,000	30,000	70,000	50,000
Touchscreen	10-point projected capacitive touch window (anti-UV and anti-glare surface)				
Touch Controller	Capacitive: ilitek				
OSD Button	5-key	5-key	5-key	5-key	5-key
Smart OSD	Yes	Yes	Yes	Yes	Yes
Camera	Support*	Support*	Support*	Support*	Support*
Speaker	2 x 2W AMP (internal speaker)*	2 x 2W AMP (internal speaker)*	2 x 2W AMP (internal speaker)*	2 x 2W AMP (internal speaker)*	2 x 2W AMP (internal speaker)*
Dimensions (mm) (W x H x D)	279.86 x 237.50 x 49.30	326.60 x 160.60 x 49.40	333.04 x 215.88 x 51.41	353.80 x 287.08 x 50.30	391.50 x 250.00 x 49.60
Cutout Dimensions (W x H) (mm)	270.50 x 214.10	310.80 x 141.00	314.34 x193.55	335.60 x 264.88	373.30 x 269.00
Enclosure Color	Black+ Silver				
Front Frame	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
Rear Cover	Sheet metal	Sheet metal	Sheet metal	Sheet metal	Sheet metal
VESA Mount	100	75	100	100	100

Model	DM2-121E(L)-HL	DM2-UW123J (L)	DM2-W133K(L)	DM2-150E(L)	DM2-W156K (L)
<b>Optional Mounting Kit</b>	Wall Rack Panel Arm Stand	Wall Rack Panel Arm Stand	Wall Rack Panel Arm Stand	Wall Panel Arm Stand	Wall Panel Arm Stand
<b>Operating Temp.</b>	-20°C ~ 60°C (with air flow)	-20°C ~ 60°C (with air flow)	-20°C ~ 60°C (with air flow)	-20°C ~ 60°C (with air flow)	-20°C ~ 60°C (with air flow)
<b>Storage Temp.</b>	-20°C ~ 70°C	-20°C ~ 70°C	-20°C ~ 70°C	-20°C ~ 70°C	-20°C ~ 70°C
<b>Humidity</b>	10% ~ 95% (non-condensing)				
<b>I/O Ports and Switches</b>	1 x VGA (DB-15) 1 x HDMI 1 x DisplayPort 1.2 1 x USB 3.2 Gen1 Type-B 4 x USB 3.2 Gen1 Type-A (5V2A)* 1 x Line out 1 x 9 V-36 V DC jack 1 x Terminal block (1x3 pin)				
<b>IP Level</b>	IP 65 compliant front panel				
<b>Safety &amp; EMC</b>	CE/FCC/UKCA Class B				
<b>Remarks</b>	*The L (Lite) SKU does not include a camera, speaker, and four USB Type-A ports.				

**Table 1-3: DM2-121E(L)-HL ~ DM2-W156K(L) Specifications**

## DM2 Series Monitor

### 1.8.3 DM2-170H(L) ~ DM2-W238K(L) Specifications

Model	DM2-170H (L)	DM2-190H(L)	DM2- W185K(L)	DM2-W215K (L)	DM2-W238K (L)
<b>LCD Display</b>	17"(5:4)	19"(5:4)	18.5" (16:9)	21.5"(16:9)	23.8" (16:9)
<b>Max. Resolution</b>	1280x1024	1280x1024	1920x1080	1920x1080	1920x1080
<b>Brightness (cd/m<sup>2</sup>)</b>	350	450	350	350	350
<b>Contrast Ratio</b>	800:1	1000:1	1200:1	1000:1	1000:1
<b>LCD Color</b>	16.7M	16.7M	16.7M	16.7M	16.7M
<b>Viewing Angle (H/V)</b>	160°/140°	178°/178°	170°/170°	178°/178°	178°/178°
<b>Backlight MTBF (hrs)</b>	50,000	50,000	50,000	50,000	30,000
<b>Touchscreen</b>	10-point projected capacitive touch window (anti-UV and anti-glare surface)				
<b>Touch Controller</b>	Capacitive: ilitek				
<b>OSD Button</b>	5-key	5-key	5-key	5-key	5-key
<b>Smart OSD</b>	Yes	Yes	Yes	Yes	Yes
<b>Camera</b>	Support*	Support*	Support*	Support*	Support*
<b>Speaker</b>	2 x 2W AMP (internal speaker)*	2 x 2W AMP (internal speaker)*	2 x 2W AMP (internal speaker)*	2 x 2W AMP (internal speaker)*	2 x 2W AMP (internal speaker)*
<b>Dimensions (mm) (W x H x D)</b>	385.60 x 331.60 x 50.50	424.50 x 361.57 x 51.20	458.40 x 288.80 x 50.50	519.40 x 327.00 x 50.50	571.40 x 354.50 x 51.20
<b>Cutout Dimensions (W x H) (mm)</b>	367.40 x 309.60	406.30 x 337.57	438.20 x 262.80	501.00 x 302.00	553.20 x 332.50
<b>Enclosure Color</b>	Black+ Silver				
<b>Front Frame</b>	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
<b>Rear Cover</b>	Sheet Metal	Sheet Metal	Sheet Metal	Sheet Metal	Sheet Metal
<b>VESA Mount</b>	100	100	100	100	100
<b>Optional Mounting Kit</b>	Wall Rack Panel Arm Stand	Wall Rack Panel Arm Stand	Wall Rack Panel Arm Stand	Wall Panel Arm Stand	Wall Panel Arm Stand

Model	DM2-170H (L)	DM2-190H(L)	DM2- W185K(L)	DM2-W215K (L)	DM2-W238K (L)
<b>Operating Temp.</b>	-20°C ~ 60°C (with air flow)	-20°C ~ 60°C (with air flow)	-20°C ~ 60°C (with air flow)	0°C ~ 50°C (with air flow)	0°C ~ 50°C (with air flow)
<b>Storage Temp.</b>	-20°C ~ 70°C	-20°C ~ 70°C	-20°C ~ 70°C	-20°C ~ 60°C	-20°C ~ 60°C
<b>Humidity</b>	10% ~ 95% (non-condensing)				
<b>I/O Ports and Switches</b>	1 x VGA (DB-15) 1 x HDMI 1 x DisplayPort1.1 1 x USB 3.2 Gen1 Type-B 4 x USB 3.2 Gen1 Type-A (5V2A) * 1 x Line out 1 x 9 V-36 V DC jack 1 x Terminal block (1x3 pin)				
<b>IP Level</b>	IP 65 compliant front panel				
<b>Safety &amp; EMC</b>	CE/FCC/UKCA Class B				
<b>Remarks</b>	*The L (Lite) SKU does not include a camera, speaker, and four USB Type-A ports.				

**Table 1-4: DM2-170H(L) ~ DM2-W238K(L) Specifications**

## 1.9 Physical Dimensions

The following sections describe the physical dimensions for each model of the DM2 Series LCD monitor.

### 1.9.1 DM2-W101(L) Physical Dimensions

The physical dimensions of the DM2-W101G(L) are shown in the **Figure 1-7**.

DM2 Series Monitor

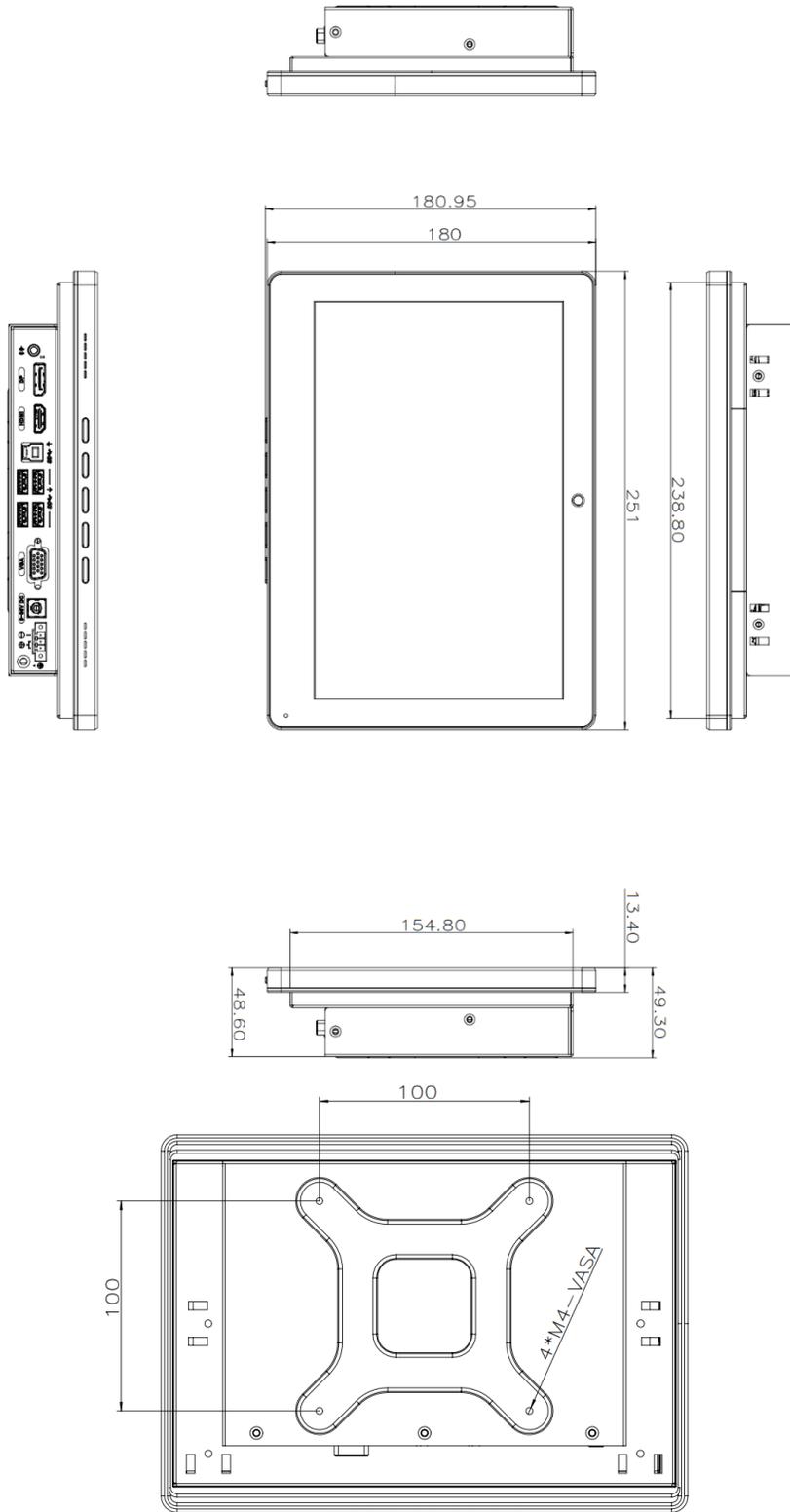
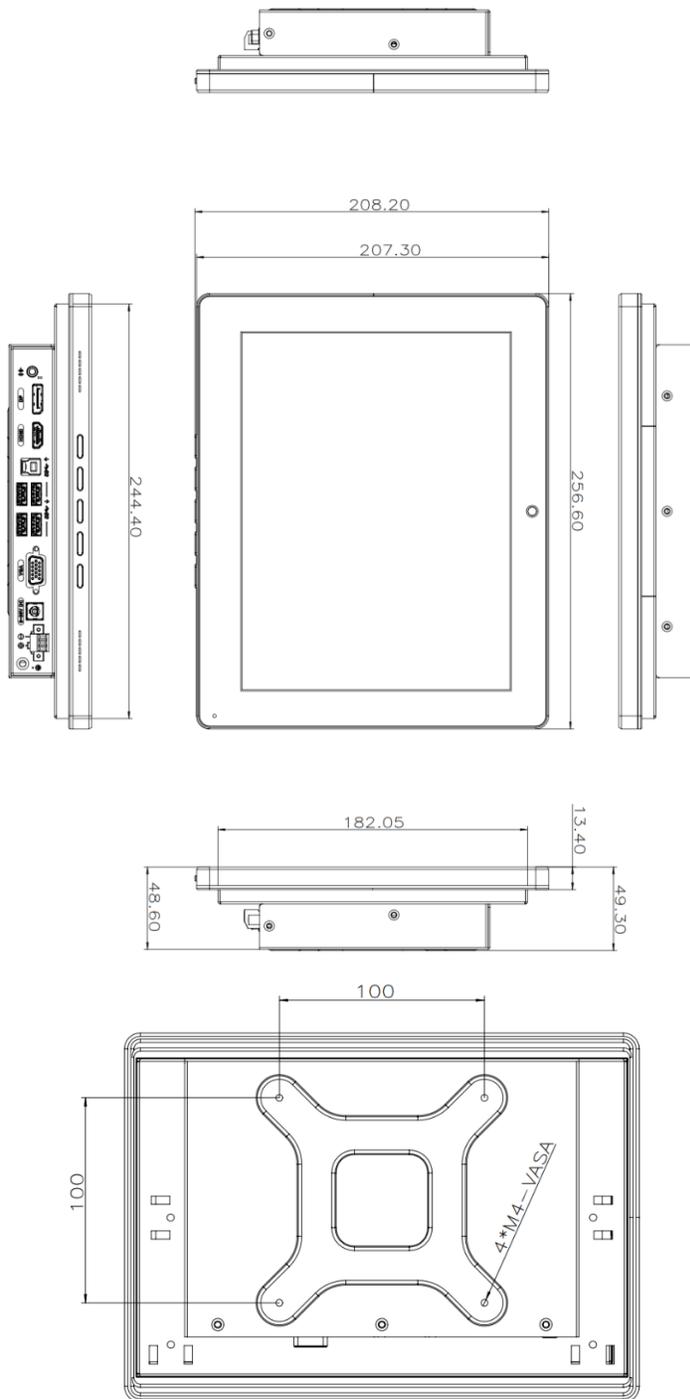


Figure 1-7: DM2-W101G(L) Physical Dimensions (Unit: mm)

**1.9.2 DM2-104E(L) Physical Dimensions**

The physical dimensions of the DM2-104E(L) are shown in the **Figure 1-8**.



**Figure 1-8: DM2-104E(L) Physical Dimensions (Unit: mm)**

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1.9.3 DM2-W121G(L) / DM2-W121G(L)-HL Physical Dimensions

The physical dimensions of the DM2-W121G(L) / DM2-W121G(L)-HL are shown in the Figure 1-9.

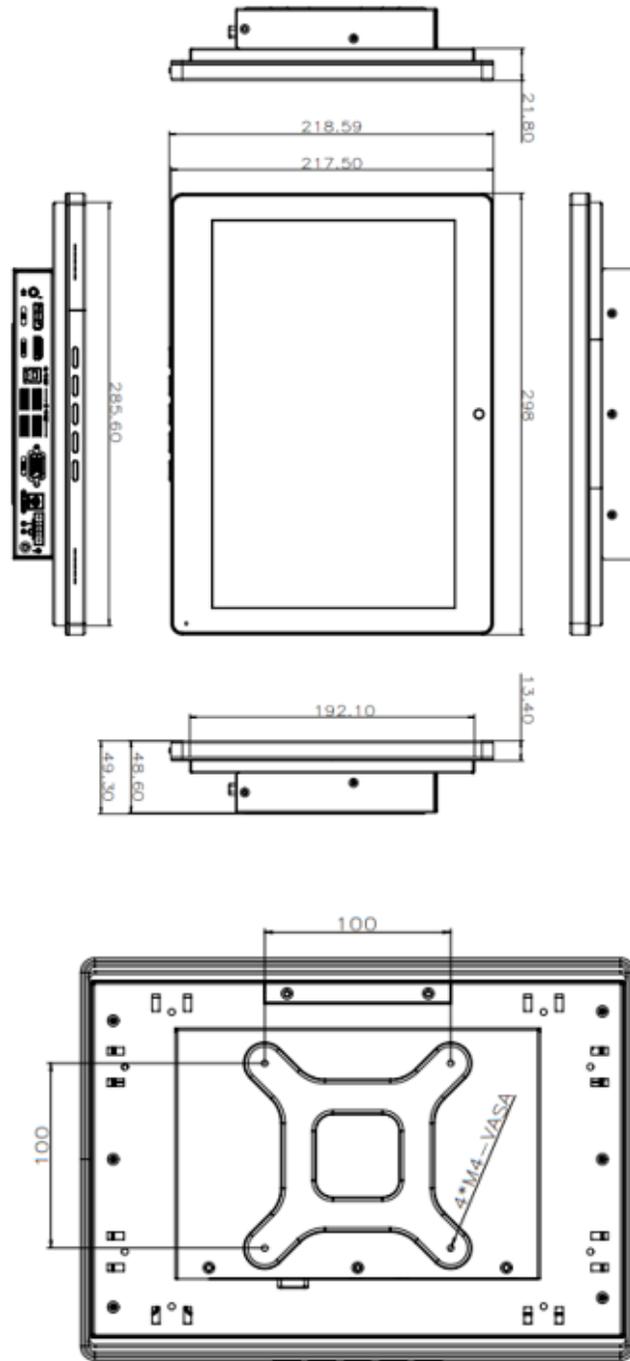
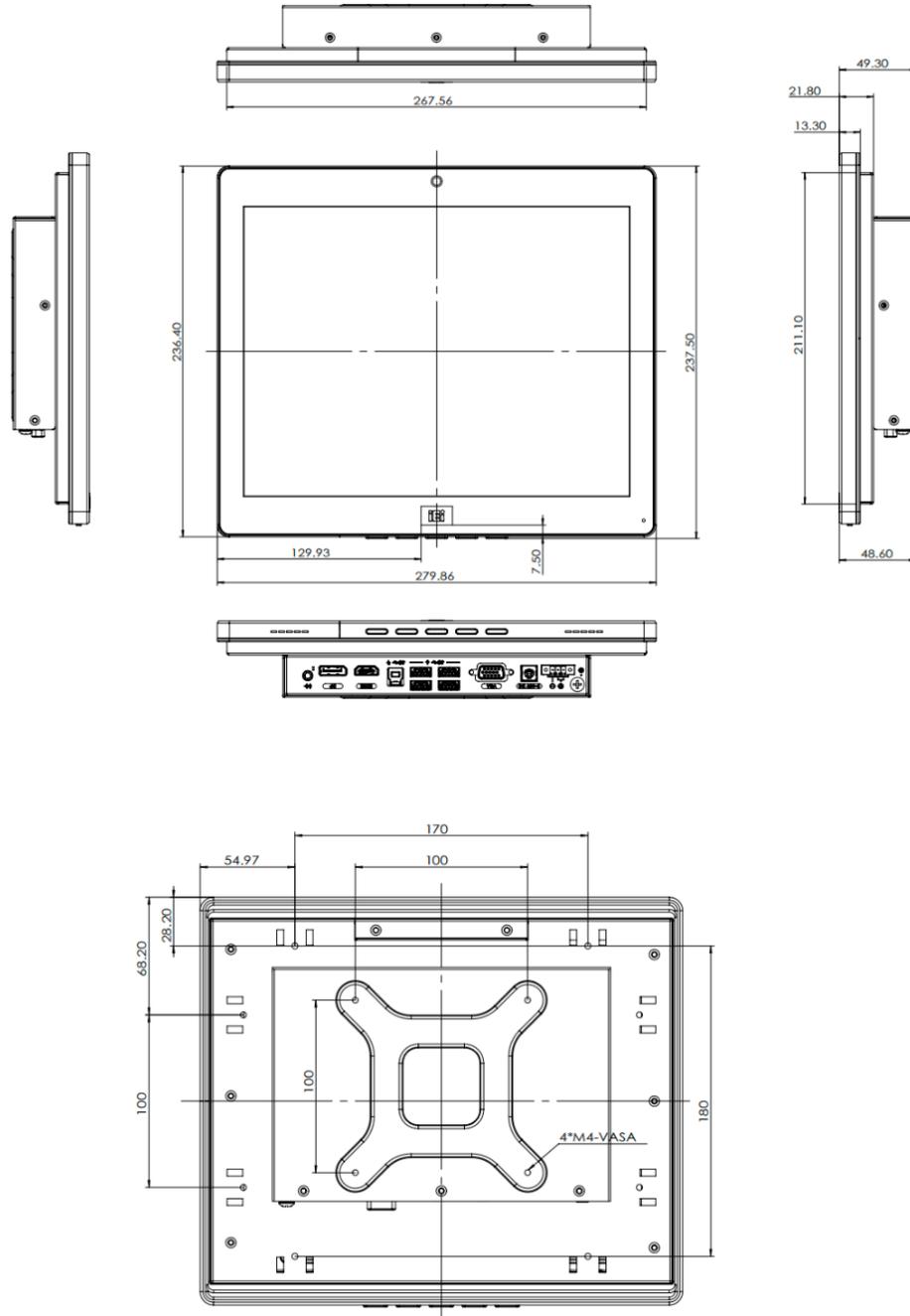


Figure 1-9: DM2-W121G(L) / DM2-W121G(L)-HL Physical Dimensions (Unit: mm)

**1.9.4 DM2-121E(L) / DM2-121E(L)-HL Physical Dimensions**

The physical dimensions of the DM2-121E(L) / DM2-121E(L)-HL are shown in the **Figure 1-10**.

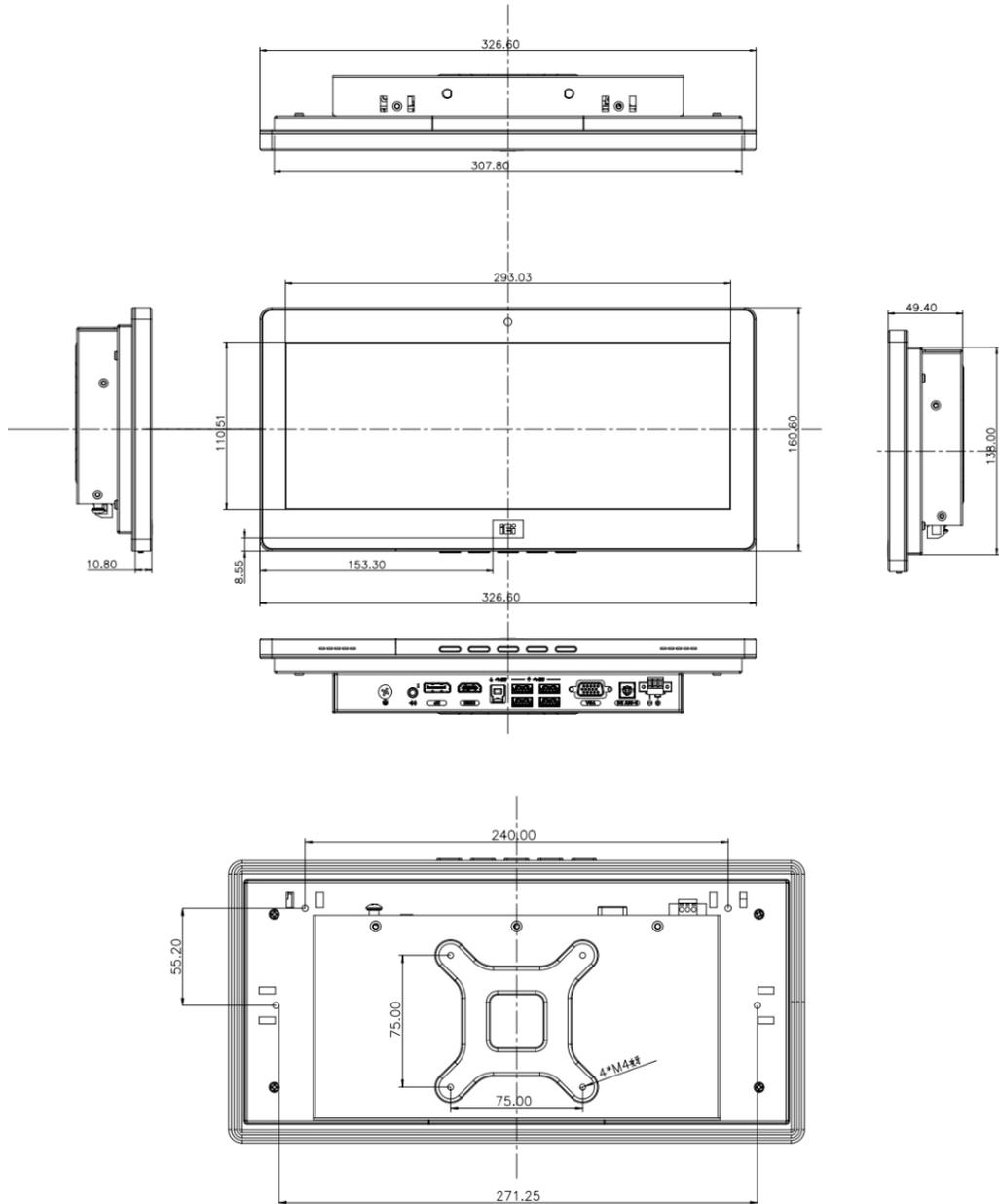


**Figure 1-10: DM2-121E(L) / DM2-121E(L)-HL Physical Dimensions (Unit: mm)**

**DM2 Series Monitor**

**1.9.5 DM2-UW123J(L) Physical Dimensions**

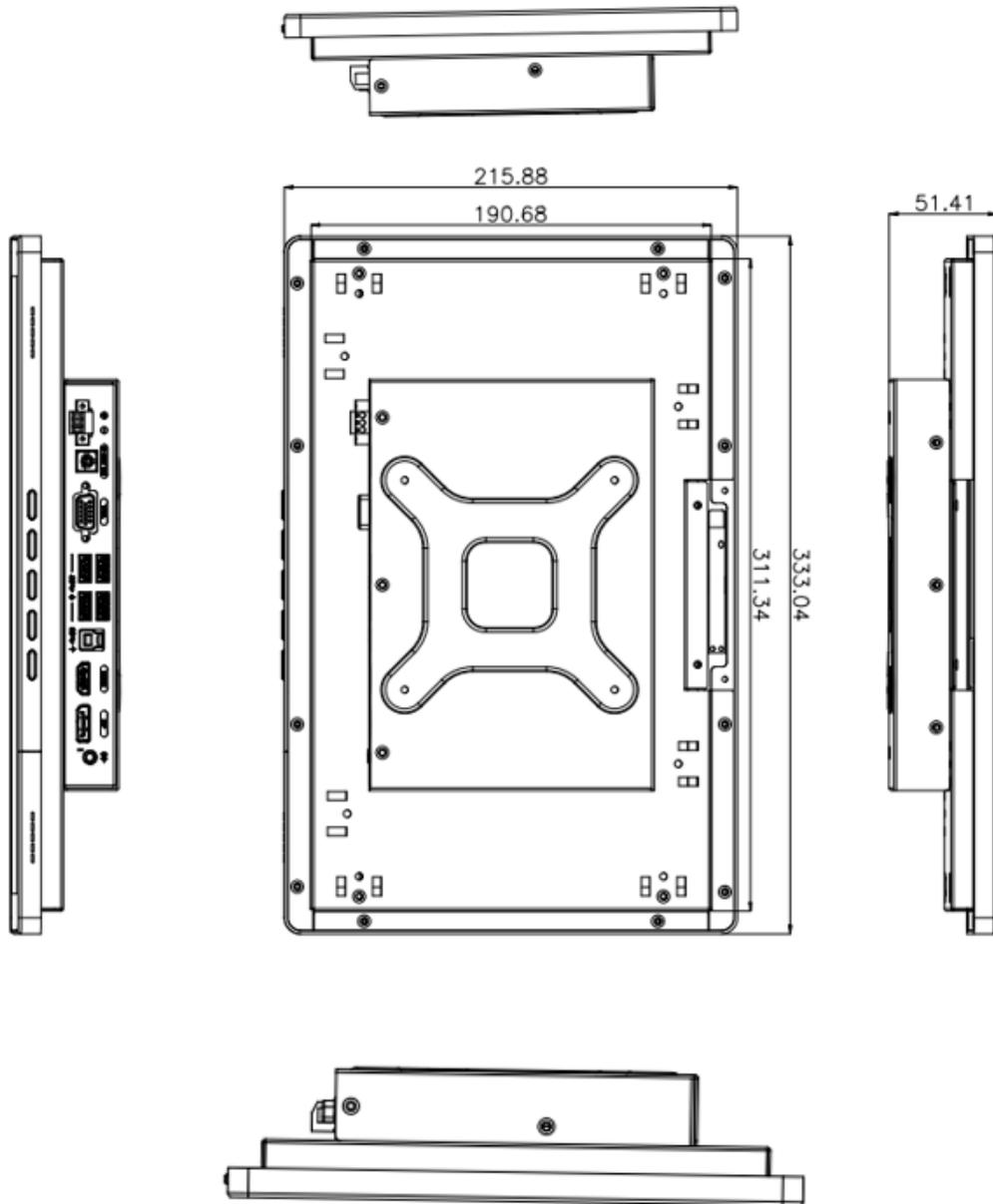
The physical dimensions of the DM2-UW123J(L) are shown in the **Figure 1-11**.



**Figure 1-11: DM2-UW123J(L) Physical Dimensions (Unit: mm)**

### 1.9.6 DM2-W133K(L) Physical Dimensions

The physical dimensions of the DM2-W133K(L) are shown in the **Figure 1-12**.

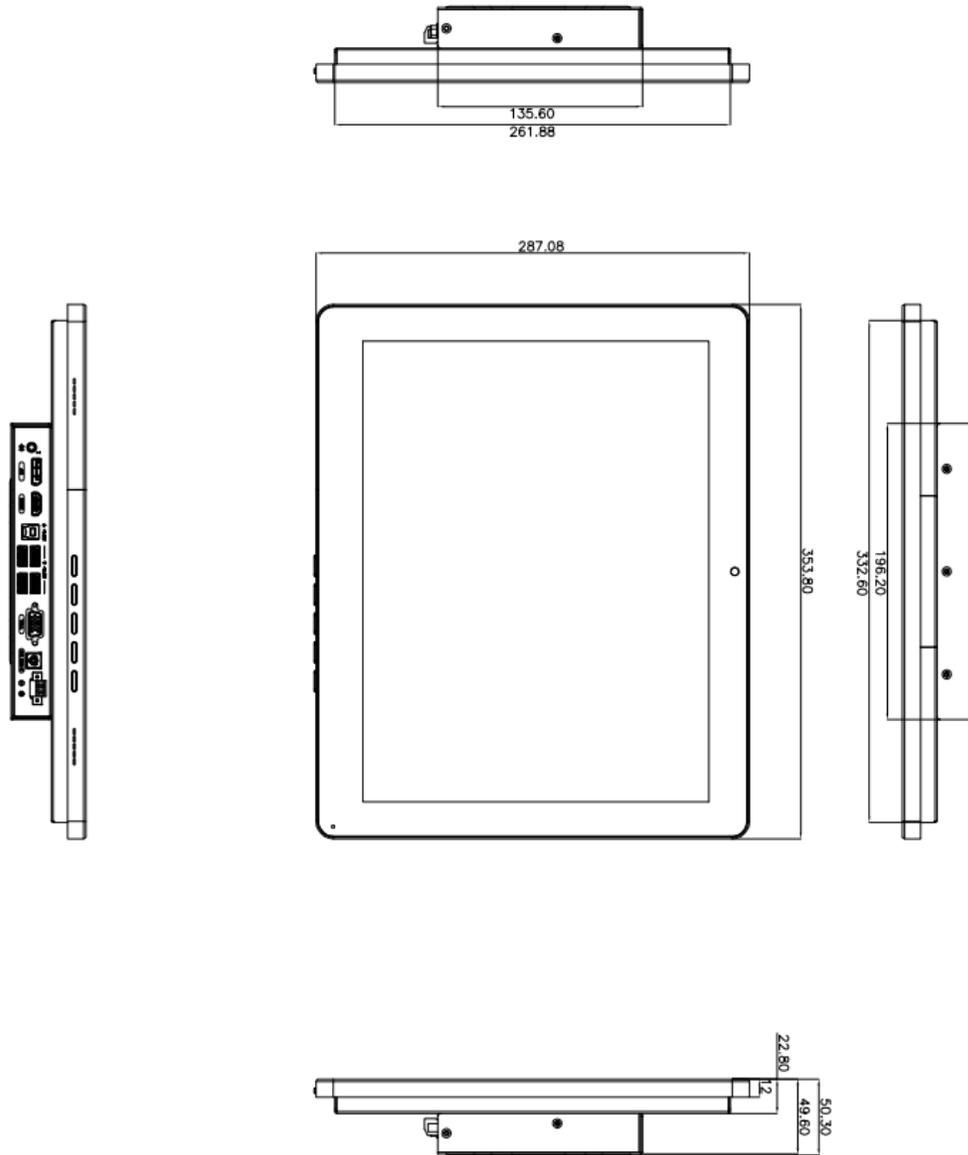


**Figure 1-12: DM2-W133K(L) Physical Dimensions (Unit: mm)**

**DM2 Series Monitor**

**1.9.7 DM2-150E(L) Physical Dimensions**

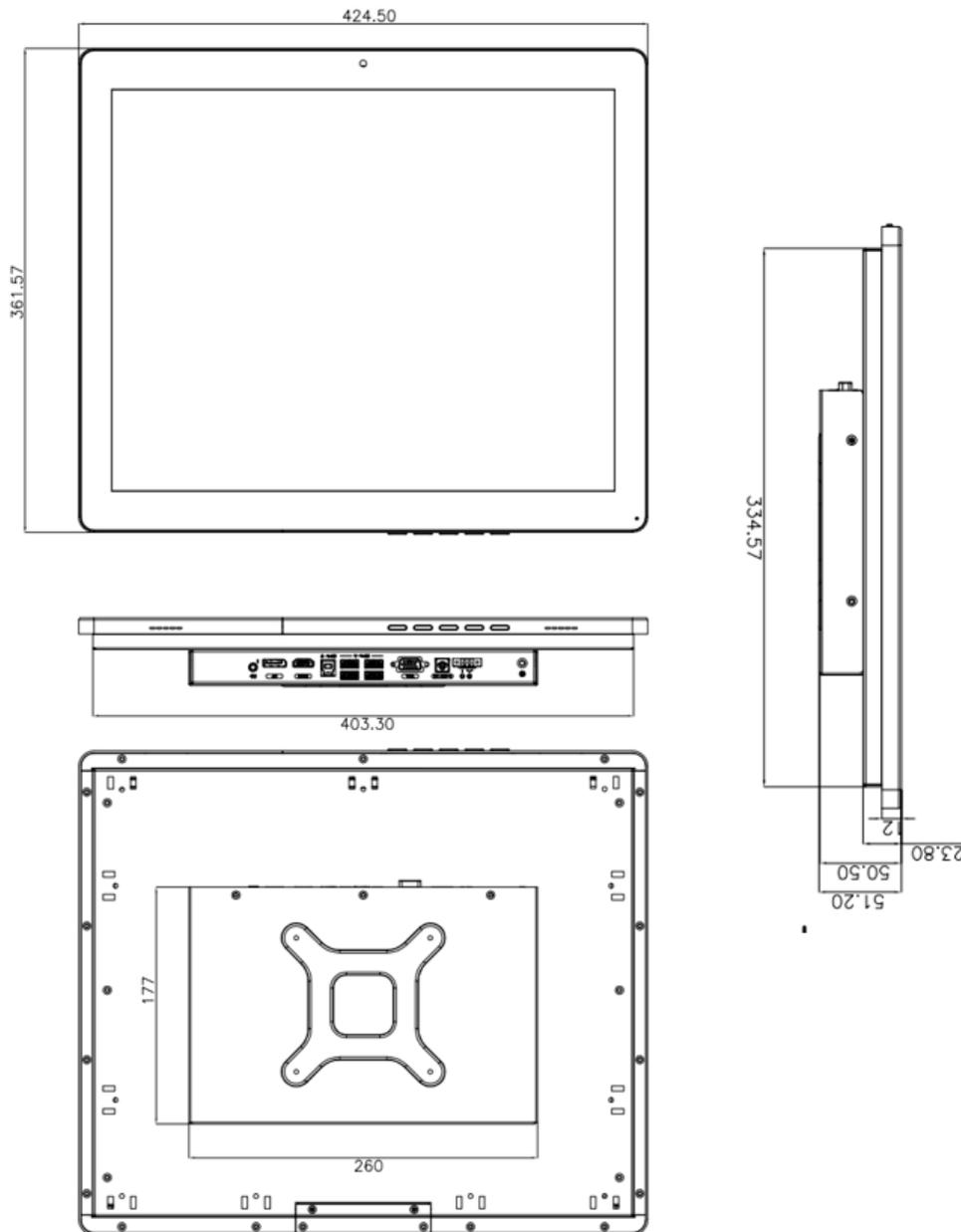
The physical dimensions of the DM2-150E(L) are shown in the **Figure 1-13**.



**Figure 1-13 :DM2-150E(L) Physical Dimensions (Unit: mm)**

### 1.9.8 DM2-190H(L) Physical Dimensions

The physical dimensions of the DM2-190H(L) are shown in the **Figure 1-14**.



**Figure 1-14: DM2-190H(L) Physical Dimensions (Unit: mm)**

## DM2 Series Monitor

### 1.9.9 DM2-W185K(L) Physical Dimensions

The physical dimensions of the DM2-W185K(L) are shown in the **Figure 1-15**.

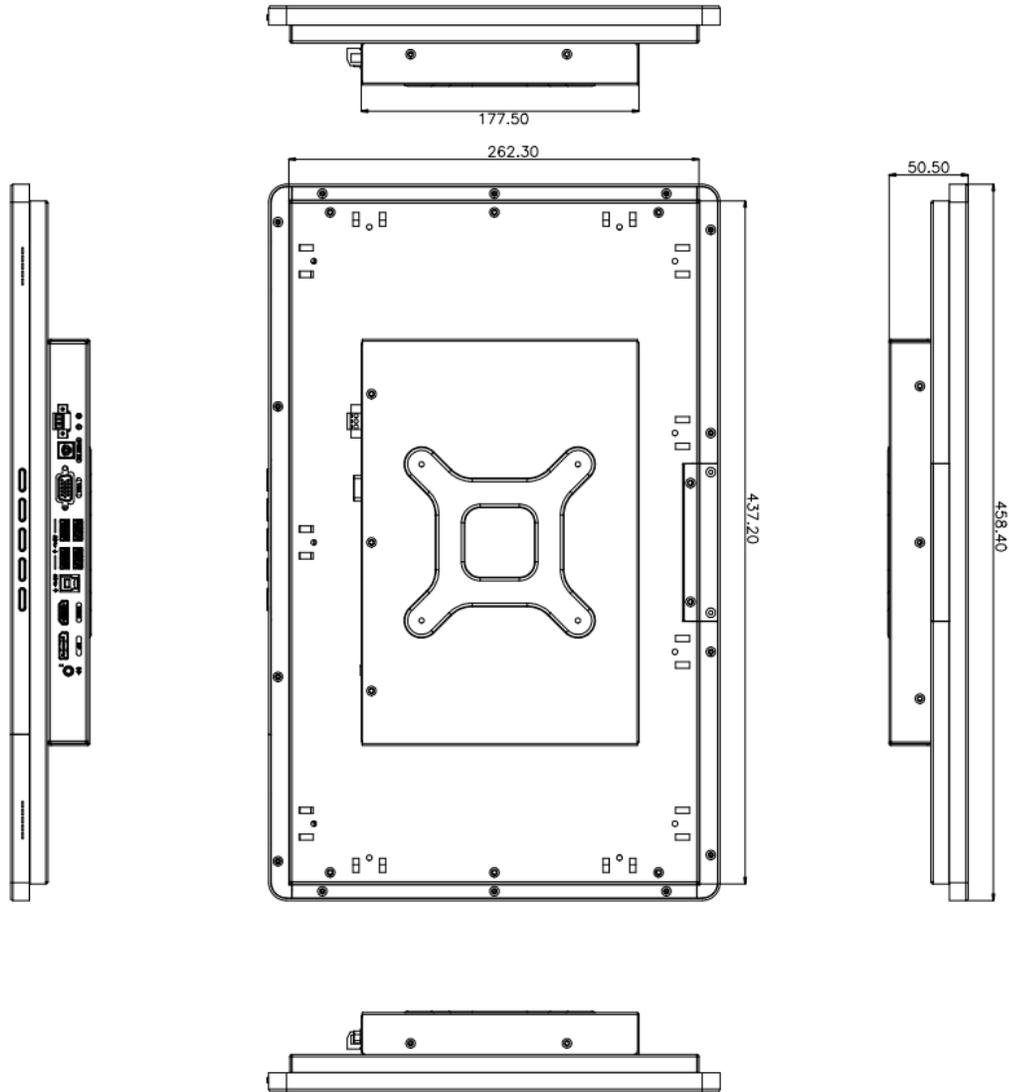
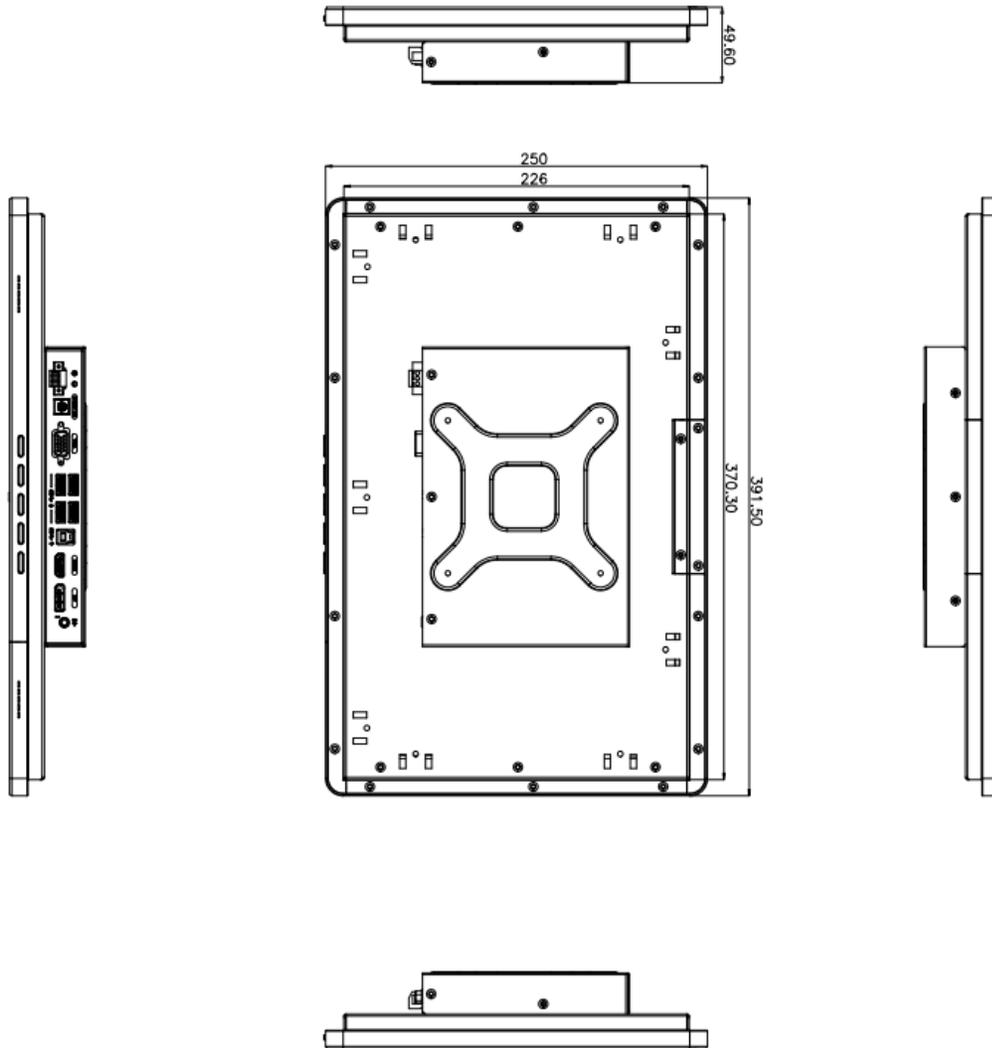


Figure 1-15: DM2-W185K(L) Physical Dimensions (Unit: mm)

### 1.9.10 DM2-W156K(L) Physical Dimensions

The physical dimensions of the DM2-W156K(L) are shown in the **Figure 1-16**.



**Figure 1-16: DM2-W156K(L) Physical Dimensions (Unit: mm)**

DM2 Series Monitor

1.9.11 DM2-170H(L) Physical Dimensions

The physical dimensions of the DM2-170H(L) are shown in the **Figure 1-17**.

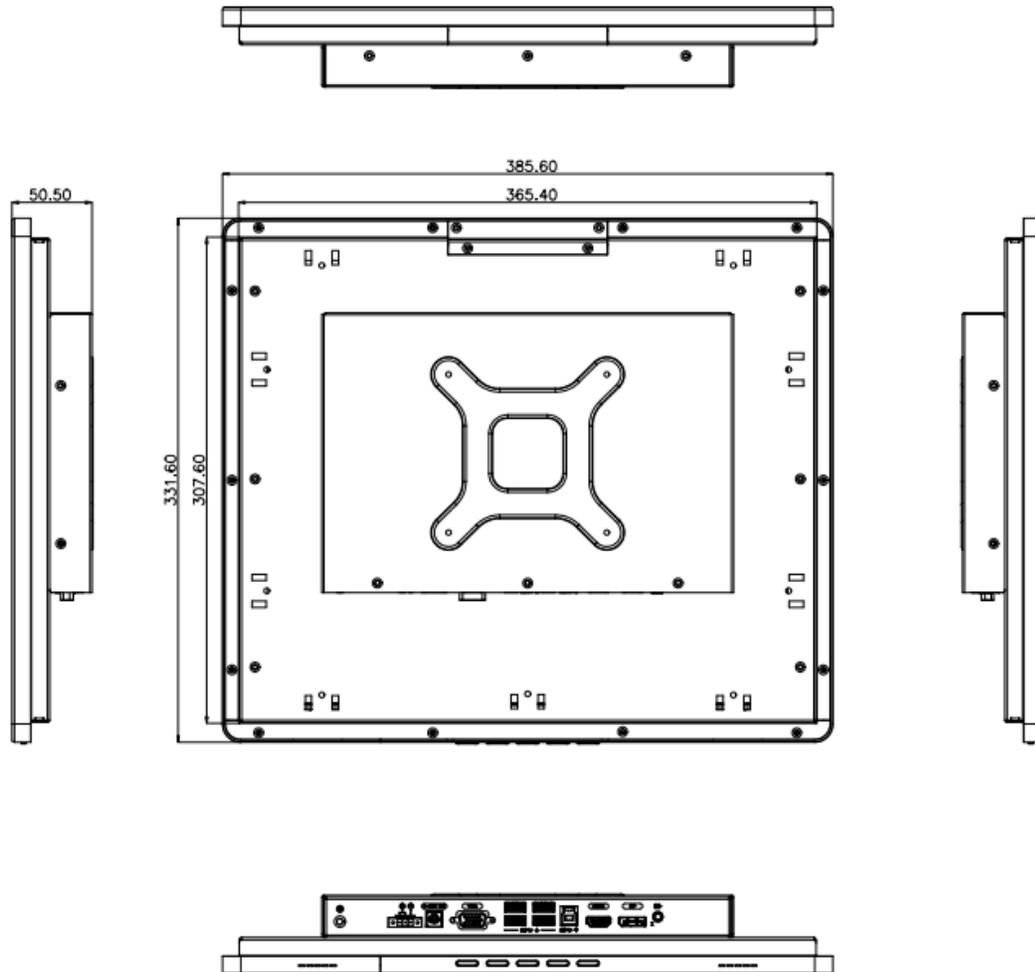
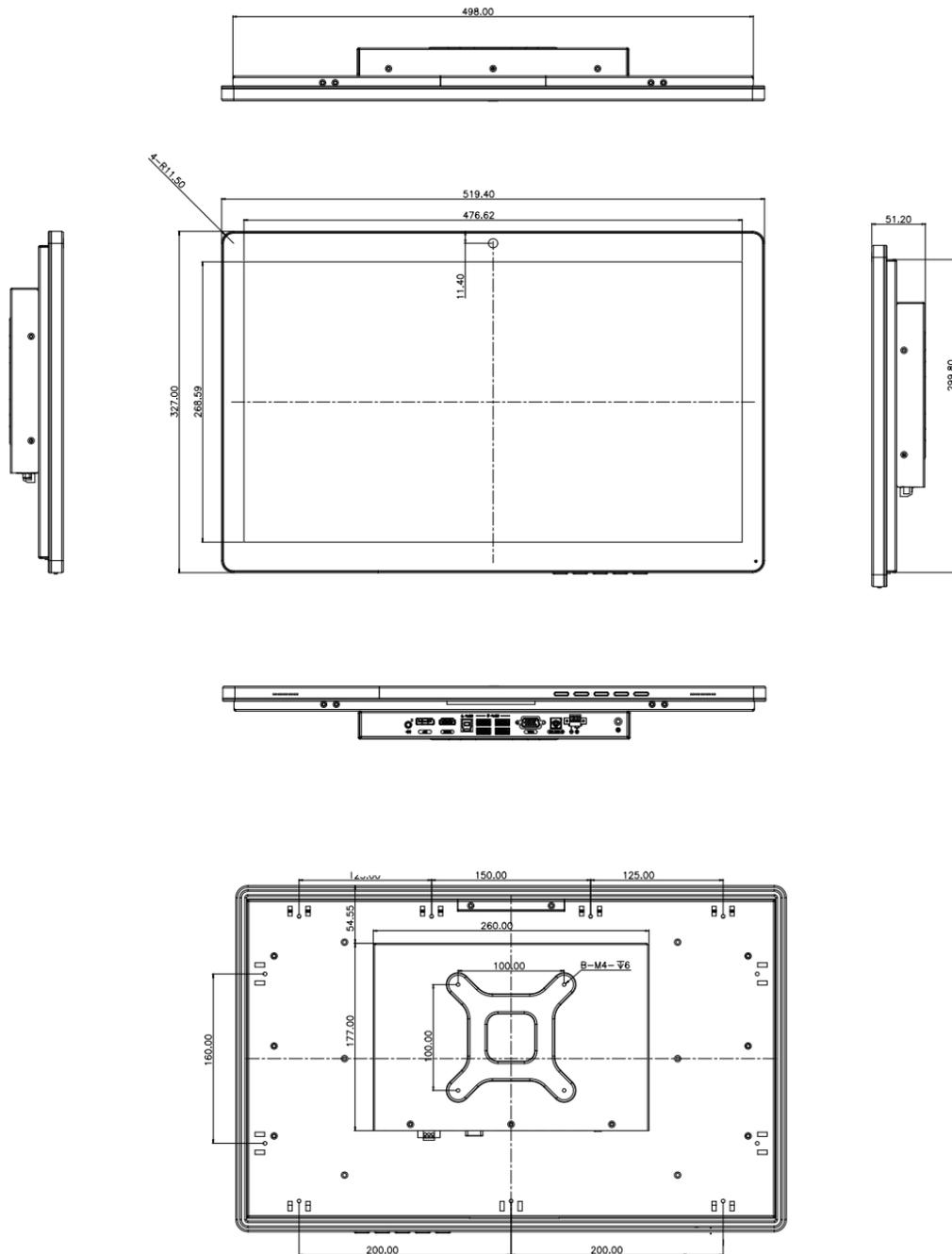


Figure 1-17: DM2-170H(L) Physical Dimensions (Unit: mm)

**1.9.12 DM2-W215K(L) Physical Dimensions**

The physical dimensions of the DM2-W215K(L) are shown in the **Figure 1-18**.

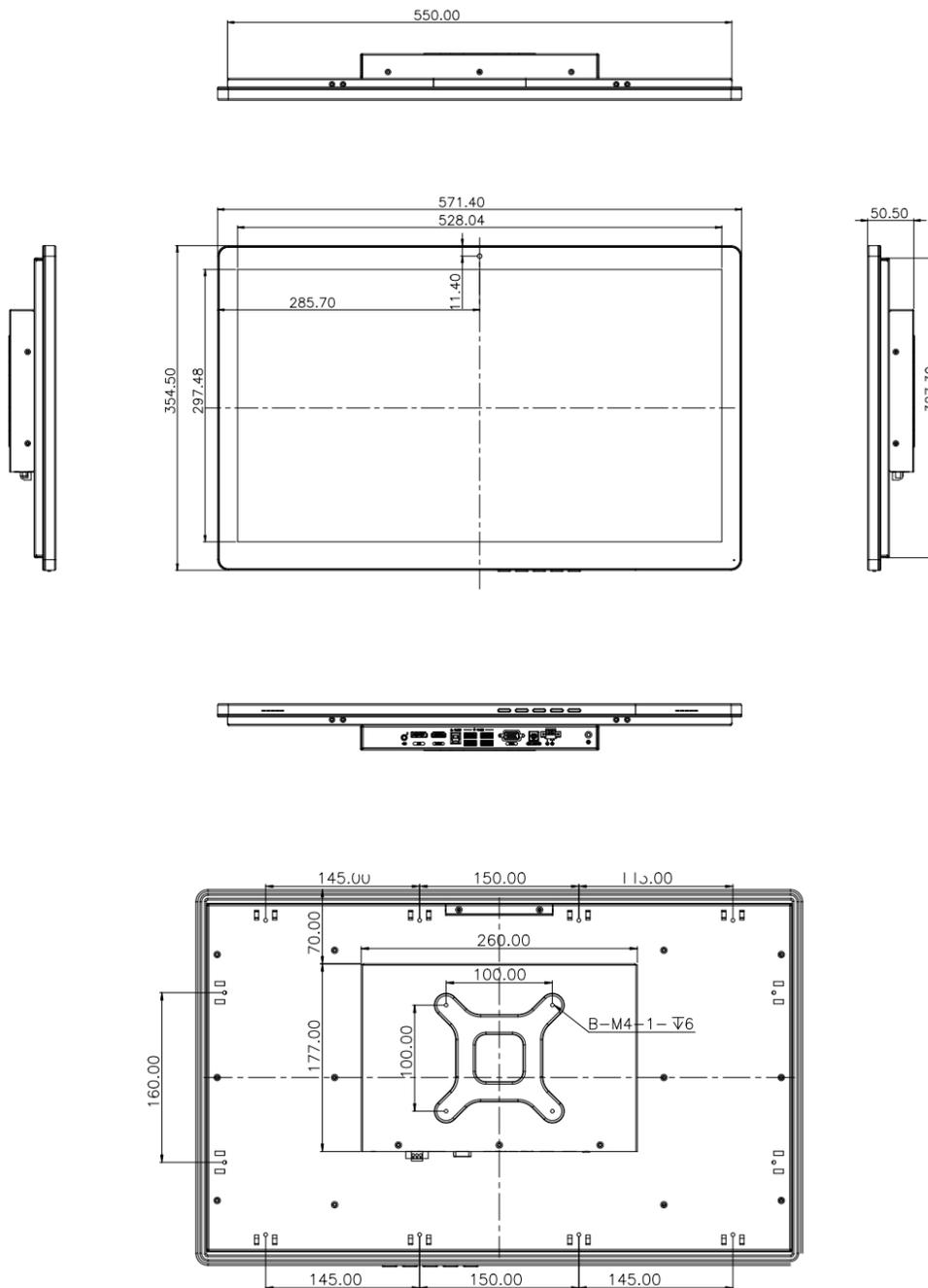


**Figure 1-18: DM2-W215K(L) Physical Dimensions (Unit: mm)**

**DM2 Series Monitor**

**1.9.13 DM2-W238K(L) Physical Dimensions**

The physical dimensions of the DM2-W238K(L) are shown in the **Figure 1-19**.



**Figure 1-19: DM2-W238K(L) Physical Dimensions (Unit: mm)**

Chapter

**2**

# Unpacking

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## DM2 Series Monitor

### 2.1 Unpacking Procedure

To unpack the DM2 Series LCD monitor, follow the steps below:



#### **WARNING:**

The front side LCD screen has a protective plastic cover stuck to the screen. Only remove the plastic cover after the DM2 Series LCD monitor has been properly installed. This ensures the screen is protected during the installation process.

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- Step 1:** Use box cutters, a knife or a sharp pair of scissors to cut the sealed top of the external (second) box.
- Step 2:** Open the external (second) box.
- Step 3:** Use box cutters, a knife or a sharp pair of scissors to cut the sealed top of the internal (first) box.
- Step 4:** Lift the monitor out of the boxes.
- Step 5:** Remove both polystyrene ends, one from each side.
- Step 6:** Remove the plastic cover from the DM2 Series LCD monitor.
- Step 7:** Make sure all the components listed in the packing list are present.

## 2.2 Packing List

The DM2 Series monitor is shipped with the following components:

Quantity	Item	Image
1	DM2 Series	
1	USB 3.2 Gen 1 Type A to Type B cable	
1	3-pin terminal block	
4	VESA screws	
Refer to the <b>Table 3-1</b> for the specific quantity	Panel mount kit	

**Table 2-1: Packing List**

If any of the above items are missing or damaged, contact the distributors or sales representatives immediately.

## DM2 Series Monitor

### 2.3 Optional Items

The following items are optional accessories for the DM2 Series monitor:

	<b>DM2-W101G(L)</b>	<b>DM2-104E(L)</b>	<b>DM2-W121G(L)/ DM2-W121G(L)-HL</b>	<b>DM2-121E(L)/ DM2-121E(L)-HL</b>	<b>DM2-UW123J(L)</b>
<b>Stand</b>	STAND-C19-R10 STAND-A21-R10	STAND-C19-R10 STAND-A21-R10	STAND-C19-R10 STAND-A21-R10	STAND-C19-R10 STAND-A21-R10	STAND-C19-R10 STAND-A21-R10
<b>Wall Mount Kit</b>	AFLWK-19B	AFLWK-19B	AFLWK-19B	AFLWK-19B	AFLWK-12
<b>Power Adapter</b>	63040-010096-050-RS 63040-010060-200-RS (Lite Version)				
	<b>DM2-W133K(L)</b>	<b>DM2-150E(L)</b>	<b>DM2-W156K(L)</b>	<b>DM2-170H(L)</b>	<b>DM2-190H(L)</b>
<b>Stand</b>	STAND-C19-R10 STAND-A21-R10	STAND-C19-R10 STAND-A21-R10	STAND-C19-R10 STAND-A21-R10	STAND-C19-R10 STAND-A21-R10	STAND-C19-R10 STAND-A21-R10
<b>Wall Mount Kit</b>	AFLWK-19B	AFLWK-19B	AFLWK-19B	AFLWK-19B	AFLWK-19B
<b>Power Adapter</b>	63040-010096-050-RS 63040-010060-200-RS (Lite Version)				
	<b>DM2-W185K(L)</b>	<b>DM2-W215K(L)</b>	<b>DM2-W238K(L)</b>		
<b>Stand</b>	STAND-C19-R10 STAND-A21-R10	STAND-C19-R10 STAND-A21-R10	STAND-C19-R10 STAND-A21-R10		
<b>Wall Mount Kit</b>	AFLWK-19B	AFLWK-19B	AFLWK-19B		
<b>Power Adapter</b>	63040-010096-050-RS 63040-010060-200-RS (Lite Version)				

**Table 2-2: Optional Accessories for the DM2 Series Monitor**

Chapter

**3**

# Installation

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## DM2 Series Monitor

### 3.1 Installation Precautions

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#### CAUTION:

Some SKUs of the DM2 Series have more than one power supply connection point. To reduce the risk of electric shock, disconnect all power sources before installing or maintaining the DM2 Series.

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When installing the DM2 Series LCD monitor, please follow the precautions listed below:

- **Read the user manual:** The user manual provides a complete description of the DM2 Series LCD monitor, installation instructions and configuration options.
- **DANGER! Disconnect power:** Power to the monitor must be disconnected when installing the DM2 Series LCD monitor, or before any attempt is made to access the rear panel. Electric shock and personal injury might occur if the rear panel of the monitor is opened while the power cord is still connected to an electric outlet.
- **Qualified personnel:** The DM2 Series LCD monitor must be installed and operated only by trained and qualified personnel. Maintenance, upgrades, or repairs may only be carried out by qualified personnel who are familiar with the associated dangers.
- **Mounting:** Since the monitor may weigh up to 8 kg (excluding a swing arm or other accessories), please ensure at least two people assist in mounting the monitor.
- **Air circulation:** Make sure there is sufficient air circulation when installing the monitor. Leave at least 5 cm of clearance around the monitor to prevent overheating.
- **Grounding:** The monitor should be properly grounded. The voltage feeds must not be overloaded. Adjust the cabling and provide external overcharge protection according to the electrical values indicated on the label attached to the back of the monitor. Ensure the power cord is connected to a grounded socket-outlet.
- **Anti-static discharge:** The rear panel of the monitor must to be removed to configure the monitor's AD board. When doing so, be sure the monitor is disconnected from its power source and take all necessary safety precautions to

avoid electrocution and static discharge to the AD board. The use of a grounded wrist strap and an anti-static work pad is recommended.

### 3.2 Mounting the Monitor

The DM2 Series LCD monitor can be mounted in a panel, cabinet, rack or wall. The monitor can also be mounted on a monitor arm or stand. The mounting methods are described below.



**CAUTION:**

When mounting the monitor, ensure the retention screws or bolts are tightened securely, but avoid over tightening. Over tightening the retention screws or bolts may cause them to become stripped, rendering them useless.

#### 3.2.1 Panel Mounting

Each model of the DM2 Series LCD monitor has a series of mounting slots located on the top, side and bottom panels for mounting the monitor to a panel.

The **Table 3-1** lists the number of mounting clamps and holders required to mount the monitor to a panel.

<b>Model</b>	<b>Panel Mount Kit 19XM0SFE0-0004601-000-RS</b>	<b>Panel Mount Kit 19XM0SFE0-0004602-000-RS</b>
DM2-W101G(L)	4	2
DM2-104E(L)	6	N/A
DM2- W121G(L)/ DM2-W121G(L)- HL	8	N/A
DM2-121E(L)/ DM -121E(L)-HL	8	N/A

## DM2 Series Monitor

Model	Panel Mount Kit	Panel Mount Kit
	19XM0SFE0-0004601-000-RS	19XM0SFE0-0004602-000-RS
DM2-UW123J(L)	2	4
DM2-W133K(L)	8	N/A
DM2-150E(L)	9	N/A
DM2-W156K(L)	9	N/A
DM2-170H(L)	9	N/A
DM2-190H(L)	11	N/A
DM2-W185K(L)	11	N/A
DM2-W215K(L)	11	N/A
DM2-W238K(L)	12	N/A

**Table 3-1: Panel Mount Kit**



**Figure 3-1: Panel Mount Kit 19XM0SFE0-0004601-000-RS**

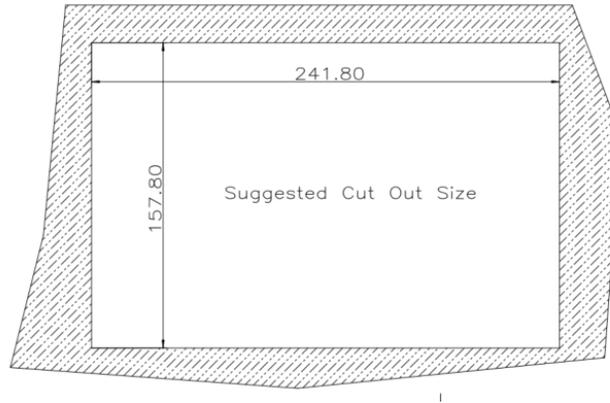


**Figure 3-2: Panel Mount Kit 19XM0SFE0-0004602-000-RS**

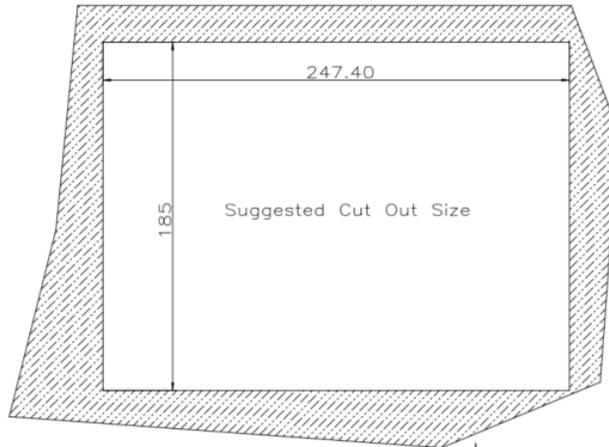
To mount the DM2 Series LCD monitor into a panel, please follow the steps below.

**Step 1:** Select the position on the panel to mount the monitor.

**Step 2:** Cut out a section of the panel that corresponds to the rear panel dimensions of the monitor. Take care that the panel section that is cut out is smaller than the overall size of the metal frame that surrounds the monitor but just large enough for the rear panel of the monitor to fit through.



**Figure 3-3: DM2-W101G(L) Cutout Dimensions (Unit: mm)**



**Figure 3-4: DM2-104E(L) Cutout Dimensions (Unit: mm)**

## DM2 Series Monitor

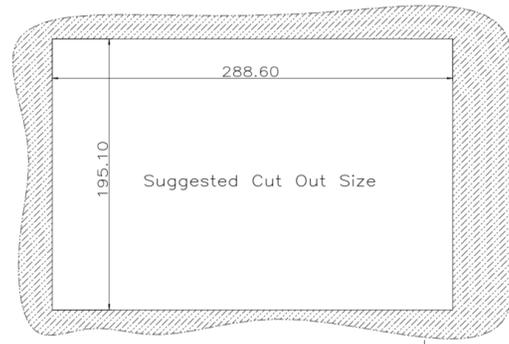


Figure 3-5: DM2-W121G(L) / DM2-W121G(L)-HL Cutout Dimensions (Unit: mm)

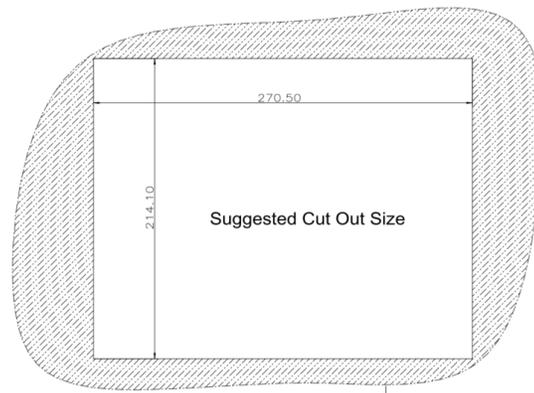
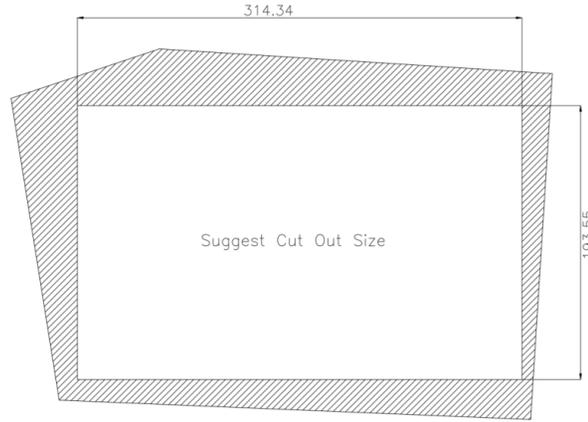


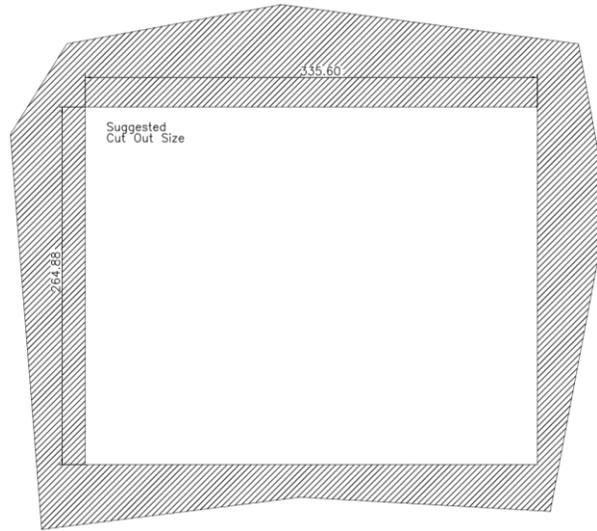
Figure 3-6: DM2-121E(L) / DM2-121E(L)- HL Cutout Dimensions (Unit: mm)



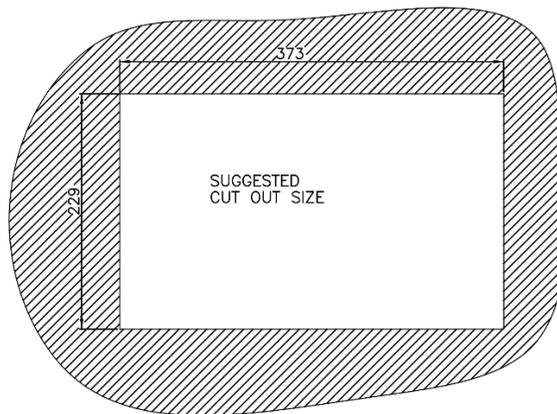
Figure 3-7: DM2-UW123J(L) Cutout Dimensions (Unit: mm)



**Figure 3-8: DM2-W133K(L) Cutout Dimensions (Unit: mm)**



**Figure 3-9: DM2-150E(L) Cutout Dimensions (Unit: mm)**



**Figure 3-10: DM2-W156K(L) Cutout Dimensions (Unit: mm)**

## DM2 Series Monitor

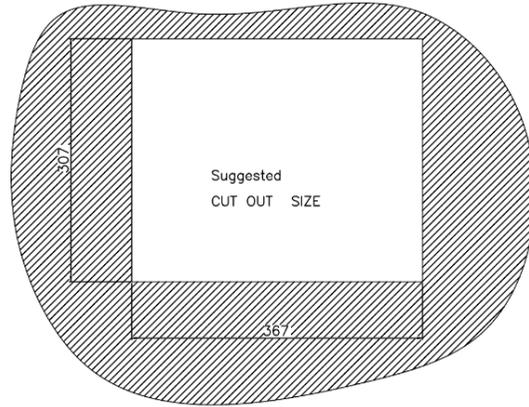


Figure 3-11: DM2-170H(L) Cutout Dimensions (Unit: mm)

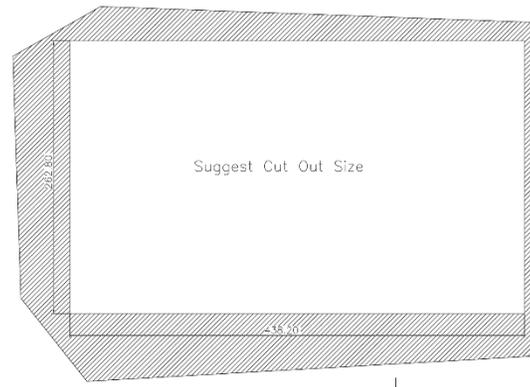


Figure 3-12: DM2-W185K(L) Cutout Dimensions (Unit: mm)

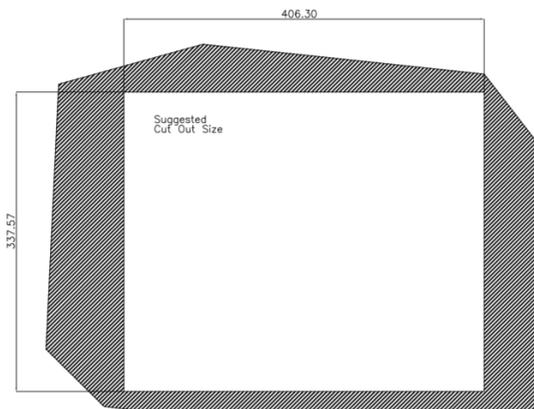
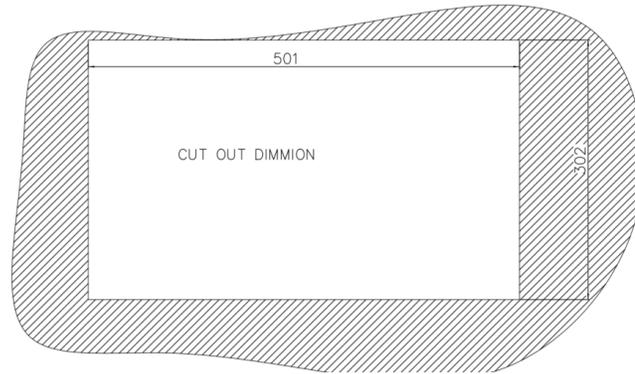
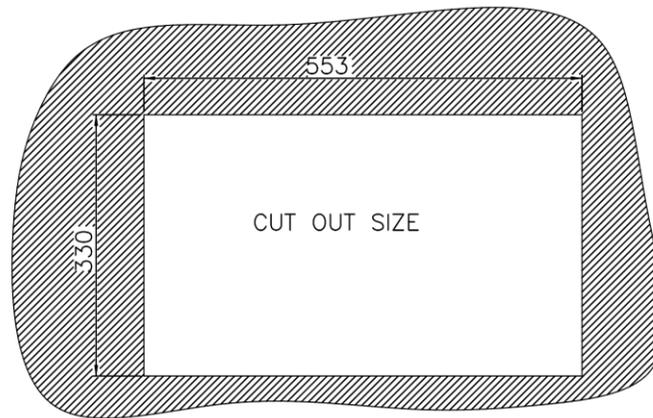


Figure 3-13: DM2-190H(L) Cutout Dimensions (Unit: mm)

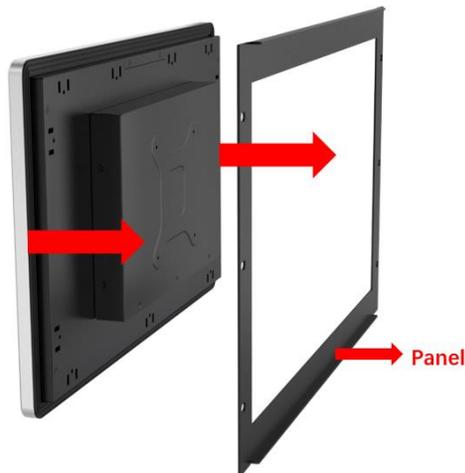


**Figure 3-14: DM2-215K(L) Cutout Dimensions (Unit: mm)**



**Figure 3-15: DM2-238K(L) Cutout Dimensions (Unit: mm)**

**Step 3:** Slide the monitor through the hole until the aluminum frame is flush with the panel (Figure 3-16).



**Figure 3-16: Slide into the Panel**

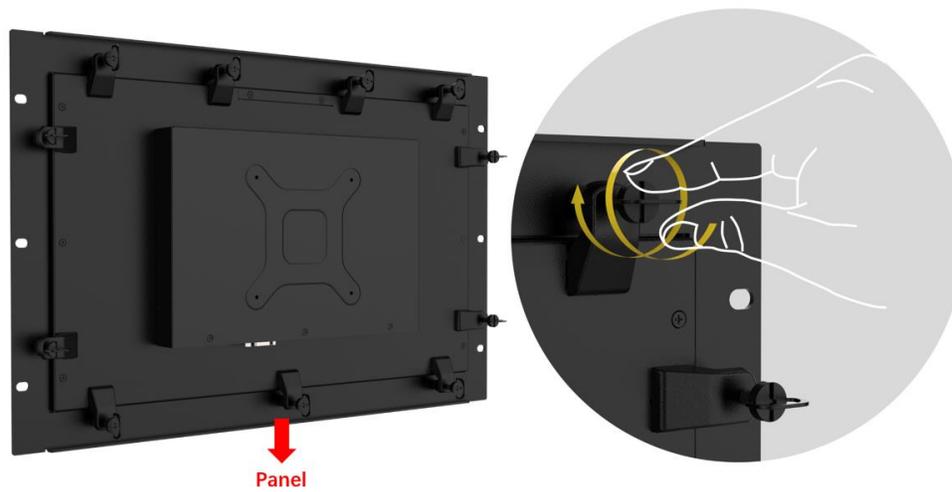
## DM2 Series Monitor

**Step 4:** Insert the panel mounting clamps into the pre-formed holes of the clamp holders (Figure 3-17).



**Figure 3-17: Secure the Mounting Clamp Holders**

**Step 5:** Tighten the screws that pass through the panel mounting clamps until the plastic caps at the front of all the screws are firmly secured to the panel (Figure 3-18).



**Figure 3-18: Panel Mounting Clamp Installation**

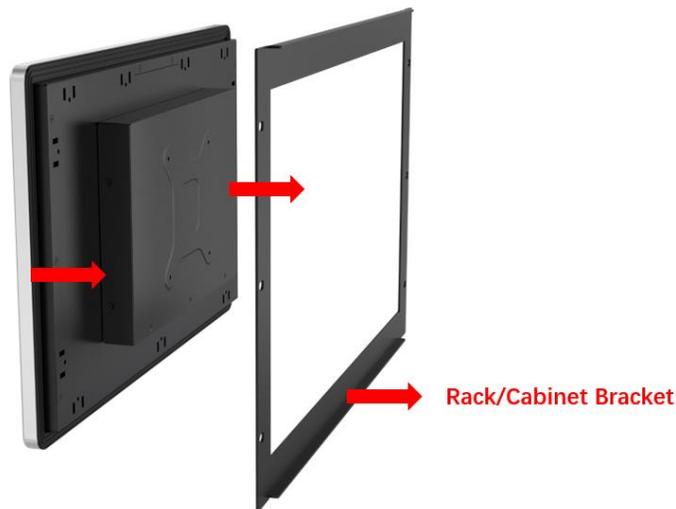
### 3.2.2 Rack Installation

**NOTE:**

When purchasing a cabinet/rack installation bracket, make sure it is compatible with both the monitor and the cabinet/rack where the monitor will be installed.

The DM2 Series LCD monitor can be installed into rack. The installation procedures are similar to the panel mounting installation. To do this, please follow the steps below:

- Step 1:** Slide the rear of the DM2 Series LCD monitor through the rack/cabinet bracket until the aluminum frame is flush with the front of the bracket (**Figure 3-19**).



**Figure 3-19: Slide into the Rack/Cabinet Bracket**

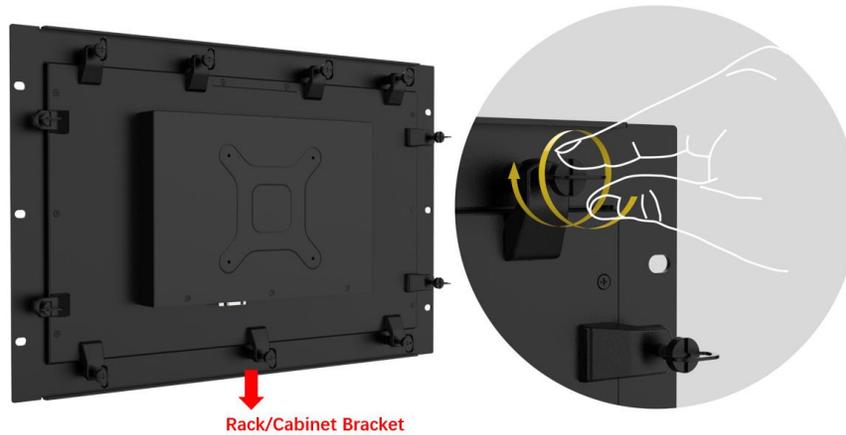
- Step 2:** Insert the panel mounting clamps into the pre-formed holes of the clamp holders (**Figure 3-20**).

## DM2 Series Monitor



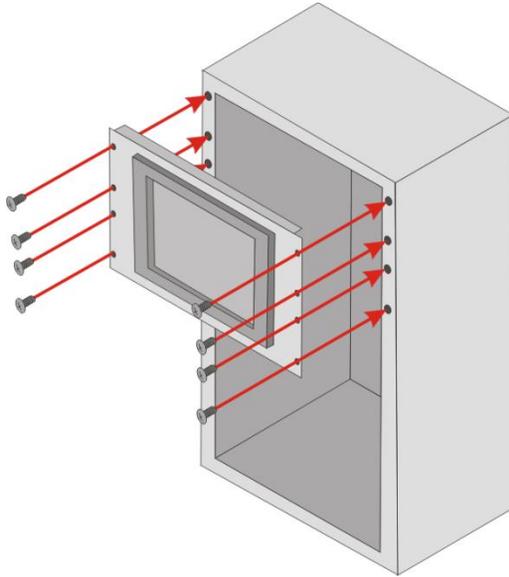
**Figure 3-20: Secure the Mounting Clamp Holders**

**Step 3:** Tighten the screws that pass through the rack mounting clamps until the plastic caps at the front of all the screws are firmly secured to the bracket (**Figure 3-21**).



**Figure 3-21: Secure the Rack/Cabinet Bracket**

**Step 4:** Slide the LCD monitor with the attached rack/cabinet bracket into a rack or cabinet (**Figure 3-22**).



**Figure 3-22: Install into a Rack/Cabinet**

- Step 5:** Once the LCD monitor with the attached rack/cabinet bracket has been properly inserted into the rack or cabinet, secure the front of the rack/cabinet bracket to the front of the rack or cabinet (**Figure 3-22**).

### 3.2.3 Wall Mounting



**CAUTION:**

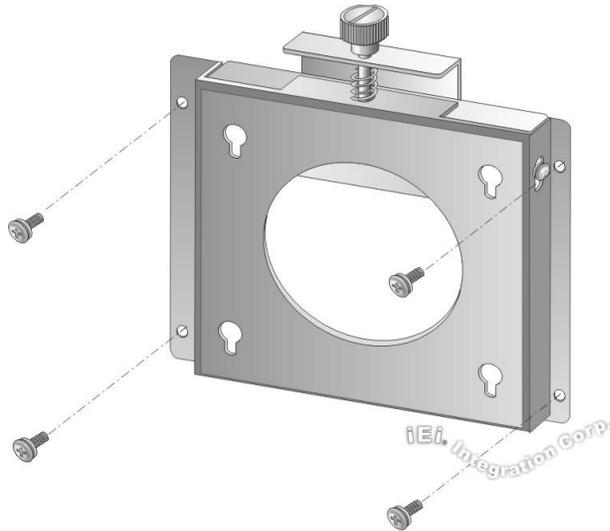
Due to safety concerns, it is highly recommended to use the VESA mounting kits provided by IEI for wall, stand and arm mounting. If the VESA mounting kit is purchased separately, please make sure the mounting kit is UL-listed.

---

Each model of the DM2 Series LCD monitor has four holes located on the rear panel for mounting the monitor to a wall. To mount the DM2 Series LCD monitor onto a wall, please follow the steps below.

- Step 1:** Attach the wall mounting kit to the mounting surface with the included screws. Make sure it is attached securely (**Figure 3-23**).

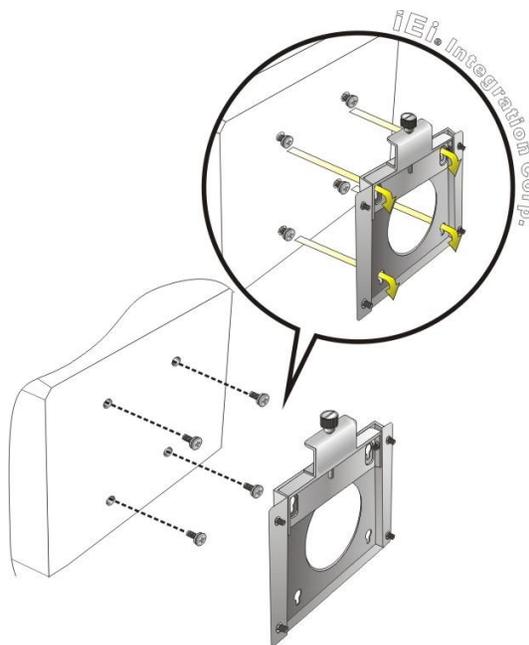
## DM2 Series Monitor



**Figure 3-23: Attach Wall Mounting Kit to the Wall**

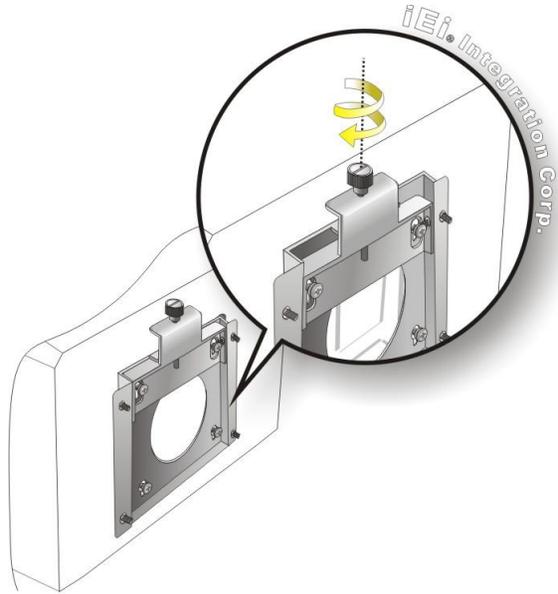
**Step 2:** Screw the mounting screws to the mounting holes on the rear of the DM2 Series (Figure 3-24).

**Step 3:** Hook the DM2 Series onto the mounting holes of the wall mounting kit (Figure 3-24).



**Figure 3-24: Hook onto the Wall Mounting Kit**

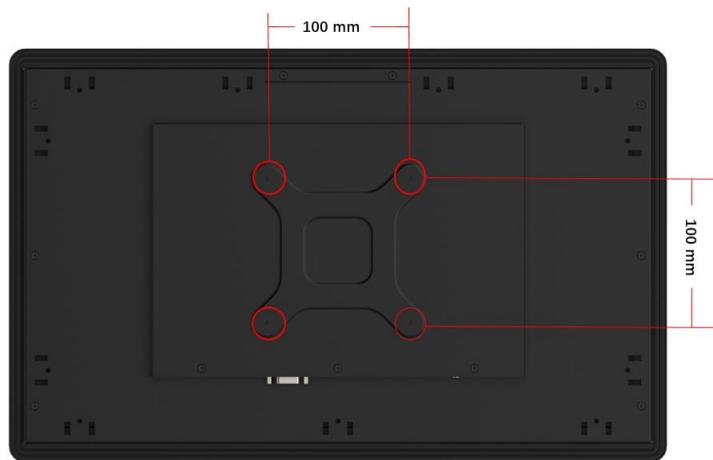
**Step 4:** Tighten the top screw on the wall mounting kit to securely hold the DM2 Series in place. After this screw is tightened, the DM2 Series should not be able to move.



**Figure 3-25: Tighten Retention Screw**

### 3.2.4 Stand Installation

The DM2 Series LCD monitor has VESA standard mounting holes preformed in the rear panel. The standard holes are M4 set at 100 mm x 100 mm apart (**Figure 3-26**).



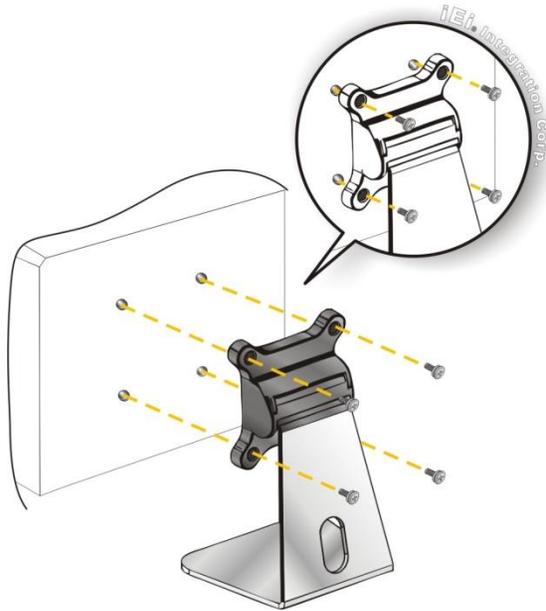
**Figure 3-26: VESA Mounting Holes**

To mount the DM2 Series LCD monitor onto a stand, please follow the steps below.

## DM2 Series Monitor

**Step 1:** Line up the threaded holes on the monitor rear panel with the screw holes on the monitor stand mounting plate.

**Step 2:** Secure the monitor to the stand with the supplied retention screws (**Figure 3-27**).



**Figure 3-27: Monitor Stand Mounting**

Chapter

**4**

# Connectors

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## DM2 Series Monitor

### 4.1 Peripheral Interface Connectors

The DM2 Series LCD monitor AD board comes with a number of peripheral interface connectors and configuration jumpers. The connector locations are shown in the Internal Peripheral Connectors

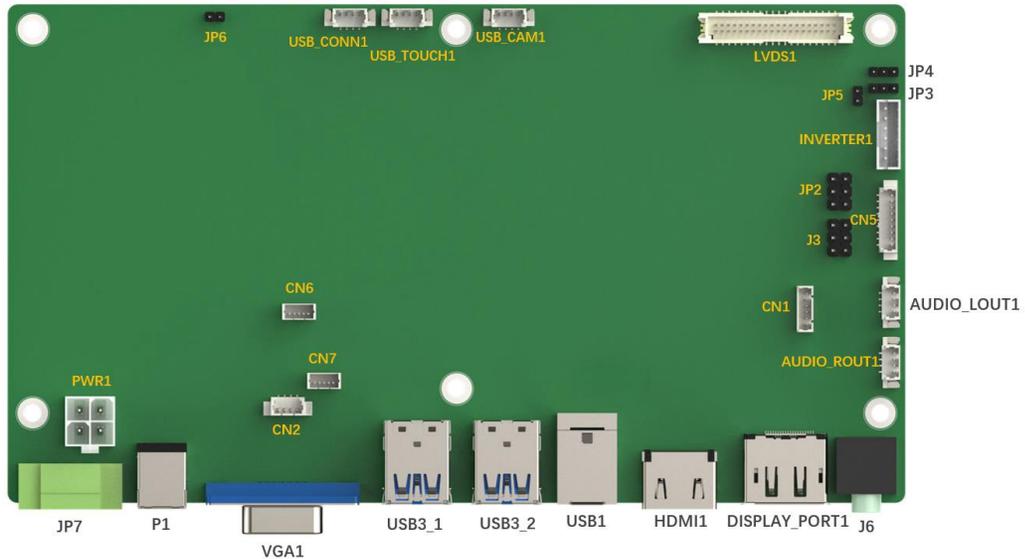


Figure 4-1: AD Board Layout Diagram

### 4.2 Internal Peripheral Connectors

Internal peripheral connectors are found on the motherboard and are only accessible when the motherboard is outside of the chassis. The **Table 4-1** below shows a list of the internal peripheral connectors on the DM2 Series LCD monitor AD board.

Connector	Type	Label
COM Port	2-pin header	JP6
Internal USB 2.0 connector	4-pin wafer	USB_CONN1
USB Connector for Touchscreen	4-pin wafer	USB_TOUCH1
USB_CAM Connector	4-pin wafer	USB_CAM1
LVDS Connector	40-pin FPC connector	LVDS1

Connector	Type	Label
PWM Control Voltage Level Jumper	3-pin header	JP4
Backlight Enable Jumper	3-pin header	JP3
PWM/DC Jumper	2-pin header	JP5
Backlight Inverter Connector	6-pin wafer	INVERTER1
LVDS Panel Power Switch	6-pin header	JP2
Backlight Power Connector	6-pin header	J3
OSD Keypad Connector	9-pin wafer	CN5
Ambient Light Sensor Connector	6-pin wafer	CN1
Left Audio Output	4-pin wafer	AUDIO_LOUT1
Right Audio Output	4-pin wafer	AUDIO_ROUT1
MCU ICE Connector	5-pin wafer	CN6
LED Indicator Interface	5-pin wafer	CN7
VGA_EDID Port	4-pin wafer	CN2
Power Input Connector	4-pin connector	PWR1

**Table 4-1: Internal Peripheral Interface Connectors**

#### 4.2.1 COM Port (JP6)

STATUS	DESCRIPTION
Open	PNP
Short	NonPNP

**Table 4-2: COM Port (JP6) Pinouts**

## DM2 Series Monitor

### 4.2.2 Internal USB 2.0 Connector (USB\_CONN1)

PIN	DESCRIPTION	PIN	DESCRIPTION
1	+5V_USB2-1	2	DM5_L
3	DP5_L	4	GND

**Table 4-3: Internal USB 2.0 Connector (USB\_CONN1) Pinouts**

### 4.2.3 USB Connector for Touchscreen (USB\_TOUCH1)

PIN	DESCRIPTION	PIN	DESCRIPTION
1	+5V_USB2-2	2	DM6_L
3	DP6_L	4	GND

**Table 4-4: USB Connector for Touchscreen (USB\_TOUCH1) Pinouts**

### 4.2.4 USB\_CAM1 Connector (USB\_CAM1)

PIN	DESCRIPTION	PIN	DESCRIPTION
1	+5V_USB2-3	2	DM7_L
3	DP7_L	4	GND

**Table 4-5: USB\_CAM1 Connector (USB\_CAM1) Pinouts**

### 4.2.5 LVDS Connector (LVDS1)

PIN	DESCRIPTION	PIN	DESCRIPTION
1	GND	2	GND
3	A0M_C	4	A1M_C
5	A0P_C	6	A1P_C
7	GND	8	GND
9	A2M_C	10	CLK1M_C
11	A2P_C	12	CLK1P_C
13	GND	14	GND
15	A3M_C	16	A4M_C
17	A3P_C	18	A4P_C
19	GND	20	GND
21	A5M_C	22	A6M_C
23	A5P_C	24	A6P_C

PIN	DESCRIPTION	PIN	DESCRIPTION
25	GND	26	GND
27	CLK1M_C	28	A7M_C
29	CLK1P_C	30	A7P_C
31	GND	32	GND
33	GND	34	GND
35	VCC_LCD_BEAD	36	VCC_LCD_BEAD
37	VCC_LCD_BEAD	38	VCC_LCD_BEAD
39	VCC_LCD_BEAD	40	VCC_LCD_BEAD
G1	NC	G2	NC

**Table 4-6: LVDS Connector (LVDS1) Pinouts**

#### 4.2.6 PWM Control Voltage Level Jumper (JP4)

PIN	DESCRIPTION
1-2	5V
3-2	3.3V

**Table 4-7: PWM Control Voltage Level Jumper (JP4) Pinouts**

#### 4.2.7 Backlight Enable Jumper (JP3)

PIN	DESCRIPTION
1-2	5V
3-2	3.3V

**Table 4-8: Backlight Enable Jumper (JP3) Pinouts**

#### 4.2.8 PWM/DC Jumper (JP5)

STATUS	DESCRIPTION
Open	PWM
Short	DC

**Table 4-9: PWM/DC Jumper (JP5) Pinouts**

## DM2 Series Monitor

### 4.2.9 Backlight Inverter Connector (INVERTER1)

PIN	DESCRIPTION	PIN	DESCRIPTION
1	12V	2	12V
3	ON/OFF	4	ADJ
5	GND	6	GND

**Table 4-10: Backlight Inverter Connector (INVERTER1) Pinouts**

### 4.2.10 LVDS Panel Power Switch (JP2)

PIN	DESCRIPTION
1-2	VCC_3V3
3-4	5V
5-6	12V

**Table 4-11: LVDS Panel Power Switch (JP2) Pinouts**

### 4.2.11 Backlight Power Connector (J3)

PIN	DESCRIPTION	PIN	DESCRIPTION
1	+5V	2	BKL_VCC
3	BKL_VCC	4	+12V
5	BKL_VCC	6	+12V

**Table 4-12: Backlight Power Connector (J3) Pinouts**

### 4.2.12 OSD Keypad Connector (CN5)

PIN	DESCRIPTION	PIN	DESCRIPTION
1	+5V_B	2	+12V_B
3	KEYPAD_AUTO	4	KEYPAD_LEFT
5	KEYPAD_RIGHT	6	KEYPAD_ENTER
7	KEYPAD_POWER	8	GND
9	SC_3V3_B		

**Table 4-13: OSD Keypad Connector (CN5) Pinouts**

#### 4.2.13 Ambient Light Sensor Connector (CN1)

PIN	DESCRIPTION	PIN	DESCRIPTION
1	VCC_3V3	2	NC
3	GND	4	VCC_3V3
5	RX-SCL	6	TX-SDA

Table 4-14: Ambient Light Sensor Connector (CN1) Pinouts

#### 4.2.14 Left Audio Output (AUDIO\_LOUT1)

PIN	DESCRIPTION	PIN	DESCRIPTION
1	GND	2	SPK_L+
3	SPK_L-	4	GND

Table 4-15: Left Audio Output (AUDIO\_LOUT1) Pinouts

#### 4.2.15 Right Audio Output (AUDIO\_ROUT1)

PIN	DESCRIPTION	PIN	DESCRIPTION
1	GND	2	SPK_R+
3	SPK_R-	4	GND

Table 4-16: Right Audio Output (AUDIO\_ROUT1) Pinouts

#### 4.2.16 MCU ICE Connector (CN6)

PIN	DESCRIPTION	PIN	DESCRIPTION
1	VCC_MCU_3V3	2	MCU_SWDIO
3	MCU_SWDCLK	4	MCU_RST
5	GND	6	

Table 4-17: MCU ICE Connector (CN6) Pinouts

## DM2 Series Monitor

### 4.2.17 LED Indicator Interface (CN7)

PIN	DESCRIPTION	PIN	DESCRIPTION
1	GND	2	LED3
3	LED2	4	LED1
5	SYS_3V3	6	

**Table 4-18: LED Indicator Interface (CN7) Pinouts**

### 4.2.18 VGA\_EDID Port (CN2)

PIN	DESCRIPTION	PIN	DESCRIPTION
1	NC	2	DDCSDA_VGA
3	DDCSCL_VGA	4	GND

**Table 4-19: VGA\_EDID Port (CN2) Pinouts**

### 4.2.19 Power Input Connector (PWR1)

PIN	DESCRIPTION	PIN	DESCRIPTION
1	GND	2	GND
3	DC_IN	4	DC_IN

**Table 4-20: Power Input Connector (PWR1) Pinout**

## 4.3 External Peripheral Connectors

The **Table 4-21** below lists the bottom panel connectors on the DM2 Series industrial monitors. Pinouts of these connectors can be found in the following sections.

Connector	Type	Label
Grounding Screw	Screw	N/A
9V–36V Terminal Block	3-pin terminal	JP7
DC-in Jack	2-pin jack	P1
VGA Connector	15-pin female	VGA1
USB 3.2 Gen 1 Connector	USB 3.2 Gen 1 Type A	USB3_1

Connector	Type	Label
USB 3.2 Gen 1 Connector	USB 3.2 Gen 1 Type A	USB3_2
USB for Touch Panel Connector	USB 3.2 Type B	USB1
HDMI Connector	HDMI Connector	HDMI1
DisplayPort Connector	DisplayPort	DISPLAY_PORT1
Audio Jack (Line-out)	5-pin jack	J6

**Table 4-21: External Peripheral Interface Connectors**

### 4.3.1 Grounding Screw

The grounding screw attaches the grounding wire to the monitor, ensuring that any unintended electrical surge is safely diverted away from other components or users and towards the earth.



**Figure 4-2: Grounding Screw**

### 4.3.2 9V – 36V Terminal Block (JP7)

Connect the leads of 9V–36V DC power supply into the terminal block. Make sure that the power and grounding wires are attached to the correct sockets of the connector.

PIN	DESCRIPTN
1	DC_IN
2	DC_IN
3	GND

**Table 4-22: 9V–36V Terminal Block (JP7) Pinouts**

## DM2 Series Monitor

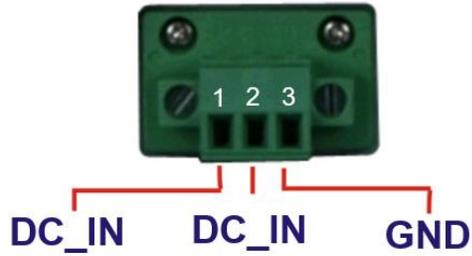


Figure 4-3: 3-Pin Terminal Block

### 4.3.3 DC-in Jack (P1)

The lockable power connector connects to the power adapter and provides 9V~36V power to the monitor.

PIN	DESCRIPTN
1	DC_IN
2	GND

Table 4-23: DC-in Jack (P1) Pinouts



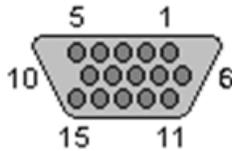
Figure 4-4: DC-in Jack

### 4.3.4 VGA Connector (VGA1)

Use the bottom panel standard 15-pin female VGA connector to connect the monitor to the system graphics interface.

PIN	DESCRIPTION	PIN	DESCRIPTION	PIN	DESCRIPTION
1	RED	6	GROUND	11	NC
2	GREEN	7	GROUND	12	DDCDAT
3	BLUE	8	GROUND	13	HSYNC
4	NC	9	NC	14	VSYNC
5	GROUND	10	GROUND	15	DDCCLK

**Table 4-24: VGA Connector (VGA1) Pinouts**



**Figure 4-5: VGA Connector**

#### 4.3.5 USB 3.2 Gen 1 Connector (USB3\_1)

PIN	DESCRIPTION	PIN	DESCRIPTION
1	+5V_USB3-1	12	DP2_L
2	DM1_L	13	GND
3	DP1_L	14	RXN_DS2_L
4	GND	15	RXP_DS2_L
5	RXN_DS1_L	16	GND
6	RXP_DS1_L	17	TXN_DS2_L
7	GND	18	TXP_DS2_L
8	TXN_DS1_L		
9	TXP_DS1_L		
10	+5V_USB3-2		
11	DM2_L		

**Table 4-25: USB 3.2 Gen 1 Connector (USB3\_1) Pinouts**

#### 4.3.6 USB 3.2 Gen 1 Connector (USB3\_2)

## DM2 Series Monitor

PIN	DESCRIPTION	PIN	DESCRIPTION
1	+5V_USB3-3	12	DP4_L
2	DM3_L	13	GND
3	DP3_L	14	RXN_DS4_L
4	GND	15	RXP_DS4_L
5	RXN_DS3_L	16	GND
6	RXP_DS3_L	17	TXN_DS4_L
7	GND	18	TXP_DS4_L
8	TXN_DS3_L		
9	TXP_DS3_L		
10	+5V_USB3-4		
11	DM4_L		

**Table 4-26: USB 3.2 Gen 1 Connector (USB3\_2) Pinouts**

### 4.3.7 USB for Touch Panel Connector (USB1)

Use the bottom panel standard USB touch panel connector to connect the monitor to the system graphics interface.

PIN	DESCRIPTION	PIN	DESCRIPTION
1	VBUS	2	D-
3	D+	4	GND
5	StdA_SSTX-	6	StdASSTX+
7	GND_DRAIN	8	StdA_SSRX-
9	StdA_SSRX+		

**Table 4-27: USB for Touch Panel Connector (USB1) Pinouts**



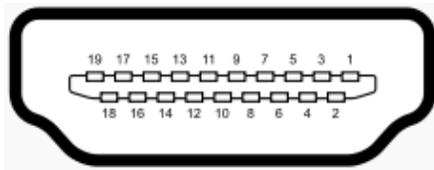
**Figure 4-6: USB for Touch Panel Connector**

### 4.3.8 HDMI Connector (HDMI1)

The HDMI connector connects to a display device with HDMI interface.

PIN	DESCRIPTION	PIN	DESCRIPTION
1	HDMI_TMDS_C_DATA2	2	GND
3	HDMI_TMDS_C_DATA2#	4	HDMI_TMDS_C_DATA1
5	GND	6	HDMI_TMDS_C_DATA1#
7	HDMI_TMDS_C_DATA0	8	GND
9	HDMI_TMDS_C_DATA0#	10	HDMI_TMDS_C_CLK
11	GND	12	HDMI_TMDS_C_CLK#
13	NC	14	NC
15	HDMI_DDC_SCLK	16	HDMI_DDC_SDATA
17	GND	18	+5V_HDMI
19	HDMI_HPD		

**Table 4-28: HDMI Connector (HDMI1) Pinouts**



**Figure 4-7: HDMI Connector**

### 4.3.9 DisplayPort Connector (DISPLAY\_PORT1)

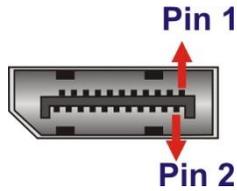
The DisplayPort connector transmits a digital signal to compatible DisplayPort display devices such as a TV or computer screen.

PIN	DESCRIPTION	PIN	DESCRIPTION
1	ML_L3N	2	GND
3	ML_L3P	4	ML_L2N
5	GND	6	ML_L2P
7	ML_L1N	8	GND
9	ML_L1P	10	ML_L0N
11	GND	12	ML_L0P
13	GND	14	GND
15	C_DDI0_DP_AUXP	16	GND
17	C_DDI0_DP_AUXN	18	C_DDI0_DP_HPD
19	GND	20	VCC

## DM2 Series Monitor

PIN	DESCRIPTION	PIN	DESCRIPTION
21	GND	22	GND
23	GND	24	GND

**Table 4-29: DisplayPort Connector (DISPLAY\_PORT1) Pinouts**



**Figure 4-8: DisplayPort Connector**

### 4.3.10 Audio Jack (Line-out) (J6)

PIN	DESCRIPTION	PIN	DESCRIPTION
1	AUDIO_GND	2	AUDIO_SOUT_L
3	AMP_INL	4	AMP_INR
5	AUDIO_SOUT_R	6	

**Table 4-30: Audio Jack (Line-out) (J6) Pinouts**

Chapter

**5**

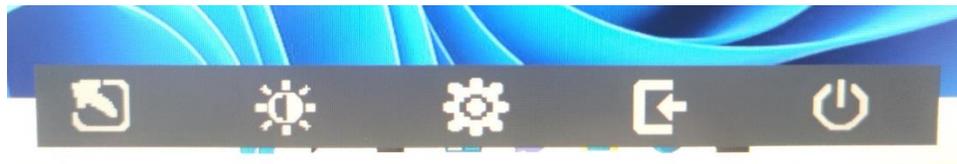
# **On-Screen-Display (OSD) Controls**

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## DM2 Series Monitor

### 5.1 OSD Keypad

The DM2 Series features an On-Screen Display (OSD) menu, allowing users to adjust device settings through on-screen menus and information. These settings include brightness, contrast, color, input source selection, volume control, and more. Users can easily optimize display effects to enhance their experience. The **Figure 5-1** shows the OSD keypad of the DM2 Series LCD monitors.



**Figure 5-1: OSD Keypad**

The functions of each button is described in the following table.

<b>Exit</b>	Exit the main menu or the submenu.
<b>Brightness</b>	Adjust screen Brightness.
<b>Settings</b>	Adjust screen Picture, Display, Color, Input, and others.
	View monitor Information. Exit the main menu or the submenu.
<b>Input</b>	Quickly select the input interface.
<b>LCD ON/OFF</b>	Turn on or turn off the LCD screen.

**Table 5-1: OSD Control Buttons**

## 5.2 OSD Menu Structure

The following table shows the OSD menu structure for all models of the DM2 Series LCD monitor.

Level 1	Level 2	Value	Default Value
<b>Picture</b>	<b>Backlight</b>	0 to 100	100
	<b>Brightness</b>	0 to 100	78
	<b>Contrast</b>	0 to 100	50
	<b>Sharpness</b>	1 to 5	3
<b>Display*</b>	<b>Auto Adjust</b>		
	<b>H Position</b>	0 to 100	50
	<b>V Position</b>	0 to 100	50
	<b>Clock</b>	0 to 100	50
	<b>Phase</b>	0 to 100	50
<b>Color</b>	<b>Gamma</b>	OFF, 2.2	OFF
	<b>Temperature</b>	9300K, 7500K, 6500K, User	6500K
<b>Input</b>	<b>Auto Select</b>		Auto Select
	<b>VGA</b>		
	<b>DP</b>		
	<b>HDMI</b>		
<b>Other</b>	<b>Reset</b>		
	<b>Menu Time</b>	10 to 60	10
	<b>OSD H Position</b>	0 to 100	50
	<b>OSD V Position</b>	0 to 100	97
	<b>Transparency</b>	0 to 7	0
	<b>USB Power</b>		USB Full ON
<b>Information</b>			

\*The "Display" menu is only available when using VGA connection.

Table 5-2: OSD Menu Structure

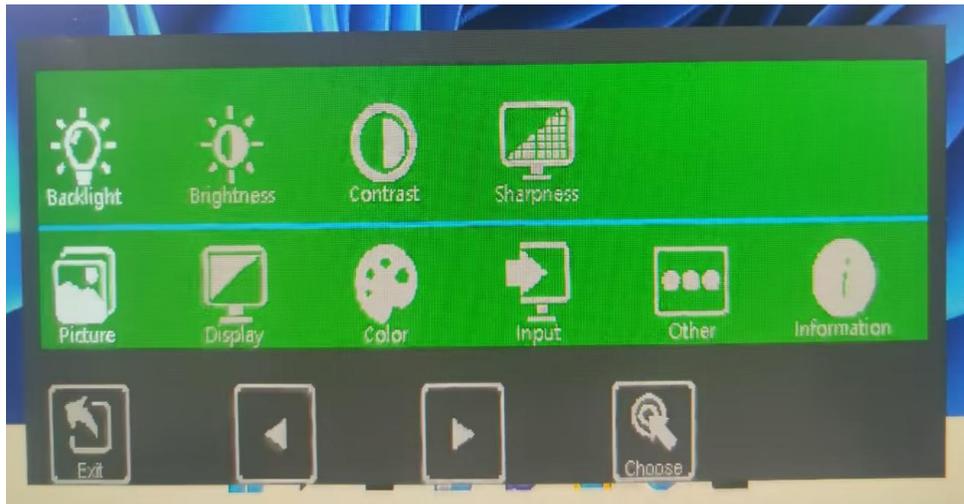
## DM2 Series Monitor

### 5.3 Using the OSD

The OSD menu options are described below.

#### 5.3.1 Picture Menu

The Image menu features are shown in **Figure 5-2**.



**Figure 5-2: Picture Menu**

<b>Backlight</b>	Adjusts the intensity of the LCD backlight.
<b>Brightness</b>	The brightness option adjusts the brightness of screen. This function adjusts the offset value of ADC. Setting this value too high or too low will affect the quality of image.
<b>Contrast</b>	This function adjusts the gain value of ADC. Adjusting this value too high or too low will affect the quality of image.
<b>Sharpness</b>	Adjusts the sharpness level. This option softens the edges around objects on the screen.

### 5.3.2 Display Menu

The Display menu features are shown in **Figure 5-3**. The Display menu is only available when using VGA connection.



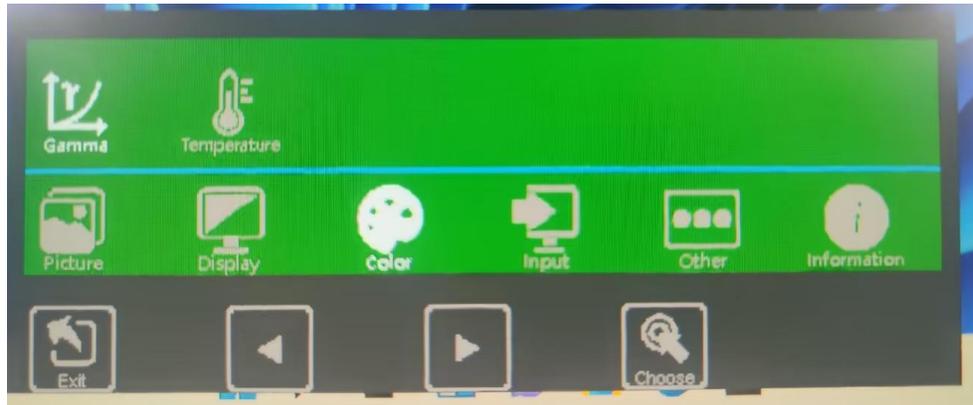
**Figure 5-3: Display Menu**

- Auto Adjust**      Automatically adjusts the LCD screen position.
- H Position**      Adjusts the horizontal position of the display screen.
- V Position**      Adjusts the vertical position of the display screen.
- Clock**              Adjusts frequency to fill display.
- Phase**              Adjusts the phase control of image.

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### 5.3.3 Color Setting

Color settings are shown in **Figure 5-4**.



**Figure 5-4: Color Menu**

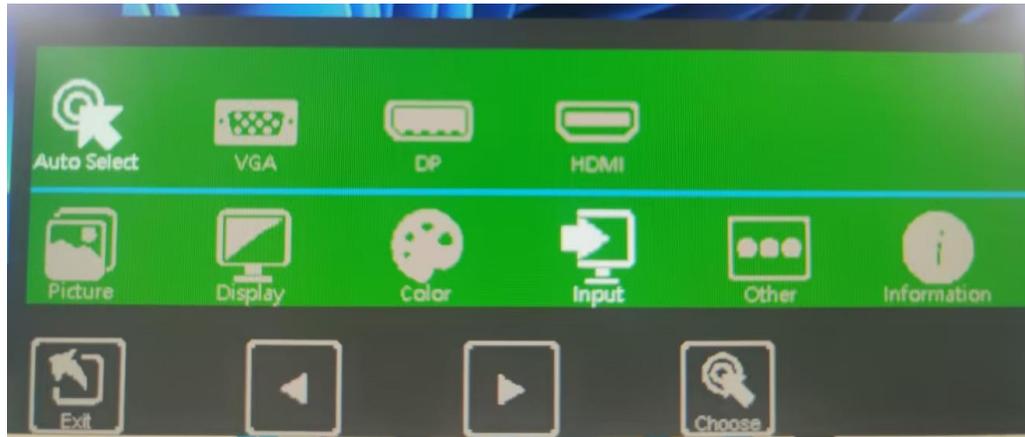
**Gamma** This item allows adjustment of the Gamma.

**Color temp** This item allows adjustment of the following items.

- **9300k** – NTSC standard Kelvin
- **7500k** – NTSC standard Kelvin
- **6500k** – NTSC standard Kelvin
- **User** – This item allows fine-tuning for color hue balance among Red, Green, and Blue if images look garish or unrealistic.

### 5.3.4 Input Menu

Input options are shown in **Figure 5-5**.



**Figure 5-5: Input Menu**

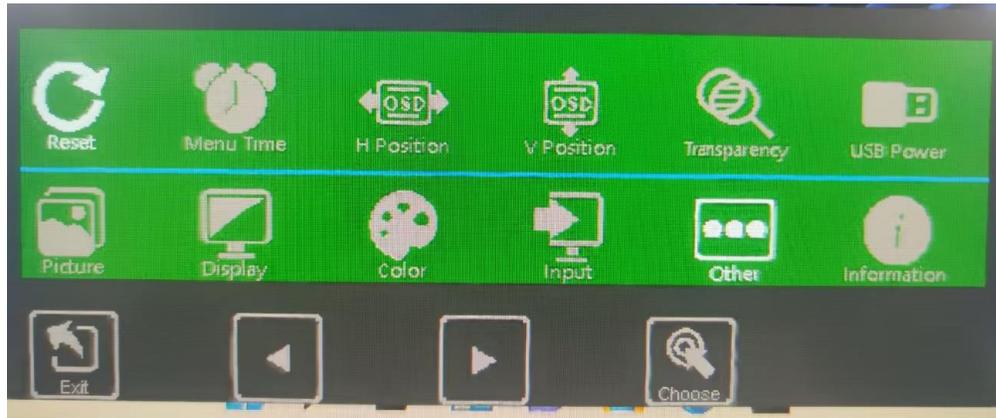
Input options are described below.

- |                    |   |
|--------------------|---|
| <b>Auto Select</b> | Selects the input device to use automatically.  |
| <b>VGA</b>         | This item sets the input device to VGA.         |
| <b>DP</b>          | This item sets the input device to DisplayPort. |
| <b>HDMI(DVI)</b>   | This item sets the input device to HDMI or DVI. |

## DM2 Series Monitor

### 5.3.5 Other Menus

The Other options are shown in **Figure 5-6**.



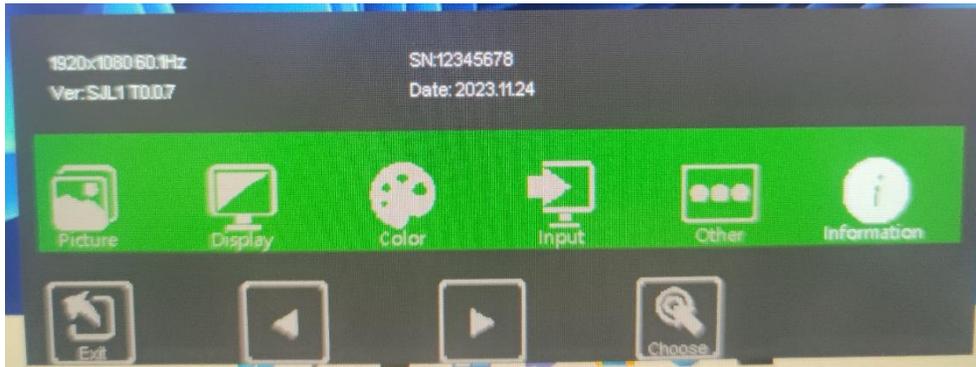
**Figure 5-6: Other Menus**

The options are described below.

<b>Reset</b>	Restores the default OSD settings. Note that this will restore all default display settings.
<b>Menu Time</b>	Determines how many seconds the OSD screen stays on screen before it disappears when OSD is left unattended.
<b>OSD H Position</b>	Adjusts the OSD horizontal position on the screen.
<b>OSD V Position</b>	Adjusts the OSD vertical position on the screen.
<b>Transparency</b>	Adjust the transparency of the OSD menu background.

### 5.3.6 Information Menu

The Information menu provides information on the LCD monitor, such as firmware versions, input types and input resolution.



**Figure 5-7: Information Menu**

Appendix

**A**

# Regulatory Compliance

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**DECLARATION OF CONFORMITY**

This equipment has been tested and found to comply with specifications for CE marking. If the user modifies and/or installs other devices in the equipment, the CE conformity declaration may no longer apply.

**FCC WARNING**

This equipment complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- This device may not cause harmful interference, and
- This device must accept any interference received, including interference that may cause undesired 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.

Appendix

**B**

# Safety Precautions

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**WARNING:**

The precautions outlined in this chapter should be strictly followed. Failure to follow these precautions may result in permanent damage to the DM2 Series.

## 7.1 Safety Precautions

Please follow the safety precautions outlined in the sections that follow:

### 7.1.1 General Safety Precautions

Please ensure the following safety precautions are adhered to at all times.

- **Follow the electrostatic precautions** outlined below whenever the DM2 Series is opened.
- **Make sure the power is turned off and the power cord is disconnected** whenever the DM2 Series is being installed, moved or modified.
- **Do not apply voltage levels that exceed the specified voltage range.** Doing so may cause fire and/or an electrical shock.
- **Electric shocks can occur** if the DM2 Series chassis is opened when the DM2 Series is running.
- **Do not drop or insert any objects** into the ventilation openings of the DM2 Series.
- **If considerable amounts of dust, water, or fluids enter the** DM2 Series, turn off the power supply immediately, unplug the power cord, and contact the DM2 Series vendor.
- **DO NOT:**
  - Drop the DM2 Series against a hard surface.
  - Strike or exert excessive force onto the LCD panel.
  - Touch any of the LCD panels with a sharp object
  - In a site where the ambient temperature exceeds the rated temperature

## DM2 Series Monitor

### 7.1.2 Anti-static Precautions

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#### **WARNING:**

Failure to take ESD precautions during the installation of the DM2 Series may result in permanent damage to the DM2 Series and severe injury to the user.

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Electrostatic discharge (ESD) can cause serious damage to electronic components, including the DM2 Series. Dry climates are especially susceptible to ESD. It is therefore critical that whenever the DM2 Series is opened and any of the electrical components are handled, the following anti-static precautions are strictly adhered to.

- ***Wear an anti-static wristband:*** Wearing a simple anti-static wristband can help to prevent ESD from damaging any electrical component.
- ***Self-grounding:*** Before handling any electrical component, touch any grounded conducting material. During the time the electrical component is handled, frequently touch any conducting materials that are connected to the ground.
- ***Use an anti-static pad:*** When configuring or working with an electrical component, place it on an anti-static pad. This reduces the possibility of ESD damage.
- ***Only handle the edges of the electrical component:*** When handling the electrical component, hold the electrical component by its edges.

### 7.1.3 Product Disposal

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**CAUTION:**

Risk of explosion if the battery is replaced by an incorrect type;

Replacement of a battery with an incorrect type that can defeat a safeguard (for example, in the case of some lithium battery types);

Disposal of a battery into fire or a hot oven, or mechanically crushing or cutting of a battery, that can result in an explosion;

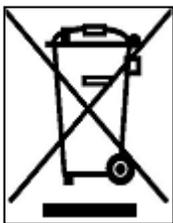
Leaving a battery in an extremely high temperature surrounding environment that can result in an explosion or the leakage of flammable liquid or gas;

A battery subjected to extremely low air pressure that may result in an explosion or the leakage of flammable liquid or gas;

Dispose of used batteries according to instructions and local regulations.

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- Outside the European Union–If you wish to dispose of used electrical and electronic products outside the European Union, please contact your local authority so as to comply with the correct disposal method.
- Within the European Union–The device that produces less waste and is easier to recycle is classified as electronic device in terms of the European Directive 2012/19/EU (WEEE), and must not be disposed of as domestic garbage.



EU-wide legislation, as implemented in each Member State, requires that waste electrical and electronic products carrying the mark (left) must be disposed of separately from normal household waste. This includes monitors and electrical accessories, such as signal cables or power cords. When you need to dispose of your display products, please follow the guidance of your local authority, or ask the shop where you purchased the product. The mark on electrical and electronic products only applies to the current European Union Member States.

Please follow the national guidelines for electrical and electronic product disposal.

## DM2 Series Monitor

### 7.2 Maintenance and Cleaning Precautions

When maintaining or cleaning the DM2 Series, please follow the guidelines below.

#### 7.2.1 Maintenance and Cleaning

Prior to cleaning any part or component of the DM2 Series, please read the details below.

- Except for the LCD panel, never spray or squirt liquids directly onto any other components. To clean the LCD panel, gently wipe it with a piece of soft dry cloth or a slightly moistened cloth.
- The interior of the DM2 Series does not require cleaning. Keep fluids away from the DM2 Series interior.
- Be cautious of all small removable components when vacuuming the DM2 Series.
- Turn the DM2 Series off before cleaning the DM2 Series.
- Never drop any objects or liquids through the openings of the DM2 Series.
- Be cautious of any possible allergic reactions to solvents or chemicals used when cleaning the DM2 Series.
- Avoid eating, drinking and smoking within vicinity of the DM2 Series.

#### 7.2.2 Cleaning Tools

Some components in the DM2 Series may only be cleaned using a product specifically designed for the purpose. In such case, the product will be explicitly mentioned in the cleaning tips. Below is a list of items to use when cleaning the DM2 Series.

- Cloth – Although paper towels or tissues can be used, a soft, clean piece of cloth is recommended when cleaning the DM2 Series.
- Water or rubbing alcohol – A cloth moistened with water or rubbing alcohol can be used to clean the DM2 Series.
- Using solvents – The use of solvents is not recommended when cleaning the DM2 Series as they may damage the plastic parts.
- Vacuum cleaner – Using a vacuum specifically designed for computers is one of the best methods of cleaning the DM2 Series. Dust and dirt can restrict the airflow in the DM2 Series and cause its circuitry to corrode.

- Cotton swabs - Cotton swabs moistened with rubbing alcohol or water are excellent tools for wiping hard to reach areas.
- Foam swabs - Whenever possible, it is best to use lint free swabs such as foam swabs for cleaning.

Appendix

C

# Hazardous Materials Disclosure

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### 8.1 RoHS II Directive (2015/863/EU)

The details provided in this appendix are to ensure that the product is compliant with the RoHS II Directive (2015/863/EU). The table below acknowledges the presences of small quantities of certain substances in the product, and is applicable to RoHS II Directive (2015/863/EU).

Please refer to the following table.

Part Name	Toxic or Hazardous Substances and Elements									
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (CR(VI))	Polybrominated Biphenyls (PBB)	Polybrominated Diphenyl Ethers (PBDE)	Bis(2-ethylhexyl) phthalate (DEHP)	Butyl benzyl phthalate (BBP)	Dibutyl phthalate (DBP)	Diisobutyl phthalate (DIBP)
Housing	O	O	O	O	O	O	O	O	O	O
Display	O	O	O	O	O	O	O	O	O	O
Printed Circuit Board	O	O	O	O	O	O	O	O	O	O
Metal Fasteners	O	O	O	O	O	O	O	O	O	O
Cable Assembly	O	O	O	O	O	O	O	O	O	O
Fan Assembly	O	O	O	O	O	O	O	O	O	O
Power Supply Assemblies	O	O	O	O	O	O	O	O	O	O
Battery	O	O	O	O	O	O	O	O	O	O
<p>O: This toxic or hazardous substance is contained in all of the homogeneous materials for the part is below the limit requirement in Directive (EU) 2015/863.</p> <p>X: This toxic or hazardous substance is contained in at least one of the homogeneous materials for this part is above the limit requirement in Directive (EU) 2015/863.</p>										

## DM2 Series Monitor

## 8.2 China RoHS

此附件旨在确保本产品符合中国 RoHS 标准。以下表格标示此产品中某有毒物质的含量符合中国 RoHS 标准规定的限量要求。

本产品上会附有“环境友好使用期限”的标签，此期限是估算这些物质“不会有泄漏或突变”的年限。本产品可能包含有较短的环境友好使用期限的可替换元件，像是电池或灯管，这些元件将会单独标示出来。

部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (CR(VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
壳体	○	○	○	○	○	○
显示	○	○	○	○	○	○
印刷电路板	○	○	○	○	○	○
金属螺帽	○	○	○	○	○	○
电缆组装	○	○	○	○	○	○
风扇组装	○	○	○	○	○	○
电力供应组装	○	○	○	○	○	○
电池	○	○	○	○	○	○

○: 表示该有毒有害物质在该部件所有物质材料中的含量均在 SJ/T11364-2014 與 GB/T26572-2011 标准规定的限量要求以下。

X: 表示该有毒有害物质至少在该部件的某一均质材料中的含量超出 SJ/T11364-2014 與 GB/T26572-2011 标准规定的限量要求。