

# SPECTRA PowerTwin Monitor with standard Displays

USER MANUAL

Version 1.9 – May 2019



# Contents

## Preface

Revision .....	03
Copyright Notice .....	03
Acknowledgement .....	03
Disclaimer .....	03
Declaration of Conformity .....	03
Product Warranty Statement .....	04
Technical Support and Assistance .....	05
Conventions Used in this Manual .....	05
Safety Precaution .....	06
Package Contents .....	07
Optional Accessories .....	07
Ordering Information .....	08

## Chapter 1 Product Introductions

1.1 Overview .....	11
1.1.1 PowerTwin M08 .....	12
1.1.2 PowerTwin M10 .....	14
1.1.3 PowerTwin MH10 .....	16
1.1.4 PowerTwin M12 .....	18
1.1.5 PowerTwin MH12 .....	20
1.1.6 PowerTwin M15 .....	22
1.1.7 PowerTwin MW15 .....	24
1.1.8 PowerTwin M17 .....	26
1.1.9 PowerTwin M19 .....	28
1.1.10 PowerTwin MW21 .....	30
1.1.11 PowerTwin MW24 .....	32
1.2 System I/O .....	34
1.2.1 Front .....	34
1.2.2 Rear .....	34
1.2.3 Side (Left) .....	35
1.2.4 Side (Right) .....	35
1.2.5 Top .....	36

## Chapter 2 OSD Operation

2.1 Function Description of OSD .....	38
---------------------------------------	----

## Chapter 3 System Setup

3.1 Connecting with PowerTwin Display Module .....	40
--	----

## Appendix Panel Mount Procedures

A.1 Mounting Solution Guide For Panel Mount .....	43
---	----

# Preface

## Revision

Revision	Description	Date
1.00	Manual Released	2015/01/06
1.10	Power Input Revision	2015/07/17
1.20	MH10 and MH12 Product Info and Mechanical Dimensions Added	2015/12/10
1.30	MW21 Product Info and Mechanical Dimensions Added	2016/10/24
1.40	Revised Manual Description	2016/12/22
1.50	Added New Series Products Information	2018/09/07
1.60	Corrections Made	2018/10/17
1.70	MW24 Product Info and Mechanical Dimensions Added	2019/01/14
1.80	M08C Product Info and Mechanical Dimensions Added	2019/02/15
1.90	MW24 Product Info and Mechanical Dimensions Added	2019/05/10

## Copyright Notice

© 2019 by Spectra GmbH & Co. KG. All rights are reserved. No parts of this manual may be copied, modified, or reproduced in any form or by any means for commercial use without the prior written permission of Spectra GmbH & Co. KG. All information and specification provided in this manual are for reference only and remain subject to change without prior notice.

## Acknowledgement

All registered trademarks and product names mentioned herein are used for identification purposes only and may be trademarks and/or registered trademarks of their respective owners.

## Disclaimer

This manual is intended to be used as a practical and informative guide only and is subject to change without notice. It does not represent a commitment on the part of Spectra. This product might include unintentional technical or typographical errors. Changes are periodically made to the information herein to correct such errors, and these changes are incorporated into new editions of the publication.

## Declaration of Conformity



### FCC

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.



### CE

The product(s) described in this manual complies with all application European Union (CE) directives if it has a CE marking. For computer systems to remain CE compliant, only CE-compliant parts may be used. Maintaining CE compliance also requires proper cable and cabling techniques.

# Product Warranty Statement

## Warranty

Spectra products are warranted by Spectra GmbH & Co. KG to be free from defect in materials and workmanship starting from the date of purchase by the original purchaser. The actual warranty period of Spectra products vary with product categories. During the warranty period, we shall, at our option, either repair or replace any product that proves to be defective under normal operation.

Defects, malfunctions, or failures of the warranted product caused by damage resulting from natural disasters (such as by lightning, flood, earthquake, etc.), environmental and atmospheric disturbances, other external forces such as power line disturbances, plugging the board in under power, or incorrect cabling, and damage caused by misuse, abuse, and unauthorized alteration or repair, and the product in question is either software, or an expendable item (such as a fuse, battery, etc.), are not warranted

## RMA

Before sending your product in, you will need to fill in a Spectra RMA Request Form and obtain a RMA number from us. Please go to [www.spectra.de/RMA](http://www.spectra.de/RMA) to fill in this form. Our staff is available at any time to provide you with the most friendly and immediate service.

### ■ RMA Instruction

- Customers must fill in Spectra Return Merchandise Authorization (RMA) Request Form and obtain a RMA number prior to returning a defective product to Spectra for service.
- Customers must collect all the information about the problems encountered and note anything abnormal and describe the problems on the "Spectra Service Form" for the RMA number apply process.
- Charges may be incurred for certain repairs. Spectra will charge for repairs to products whose warranty period has expired. Spectra will also charge for repairs to products if the damage resulted from acts of God, environmental or atmospheric disturbances, or other external forces through misuse, abuse, or unauthorized alteration or repair. If charges will be incurred for a repair, Spectra lists all charges, and will wait for customer's approval before performing the repair.
- Customers agree to insure the product or assume the risk of loss or damage during transit, to prepay shipping charges, and to use the original shipping container or equivalent.
- Customers can be send back the faulty products with or without accessories (manuals, cable, etc.) and any components from the system. If the components were suspected as part of the problems, please note clearly which components are included. Otherwise, Spectra is not responsible for the devices/parts.
- Repaired items will be shipped along with a "Repair Report" detailing the findings and actions taken.

## Technical Support and Assistance

1. Visit our website at [www.spectra.de](http://www.spectra.de) where you can find the latest information about the product.
2. Contact our technical support team or sales representative for technical support if you need additional assistance. Please have following information ready before you call:
  - Product name and serial number
  - Description of your peripheral attachments
  - Description of your software (operating system, version, application software, etc.)
  - A complete description of the problem
  - The exact wording of any error messages

## Conventions Used in this Manual



### WARNING

This indication alerts operators to an operation that, if not strictly observed, may result in severe injury.



### CAUTION

This indication alerts operators to an operation that, if not strictly observed, may result in safety hazards to personnel or damage to equipment.



### NOTE

This indication provides additional information to complete a task easily.

## Safety Precautions

Before installing and using this device, please note the following precautions:

1. Read these safety instructions carefully.
2. Keep this User's Manual for future reference.
3. Disconnect this equipment from any AC outlet before cleaning.
4. For plug-in equipment, the power outlet socket must be located near the equipment and must be easily accessible.
5. Keep this equipment away from humidity.
6. Put this equipment on a reliable surface during installation. Dropping it or letting it fall may cause damage.
7. Make sure the voltage of the power source is correct before connecting the equipment to the power outlet.
8. Use a power cord that has been approved for using with the product and that it matches the voltage and current marked on the product's electrical range label. The voltage and current rating of the cord must be greater than the voltage and current rating marked on the product.
9. Position the power cord so that people cannot step on it. Do not place anything over the power cord.
10. All cautions and warnings on the equipment should be noted.
11. If the equipment is not used for a long time, disconnect it from the power source to avoid damage by transient overvoltage.
12. Never pour any liquid into an opening. This may cause fire or electrical shock.
13. Never open the equipment. For safety reasons, the equipment should be opened only by qualified service personnel.

If one of the following situations arises, get the equipment checked by service personnel:

- The power cord or plug is damaged.
  - Liquid has penetrated into the equipment.
  - The equipment has been exposed to moisture.
  - The equipment does not work well, or you cannot get it work according to the user's manual.
  - The equipment has been dropped and damaged.
  - The equipment has obvious signs of breakage.
14. **CAUTION:** Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer.

## Package Contents

Before installation, please ensure all the items listed in the following table are included in the package.

Item	Description	Q'ty
1	Touch Monitor	1
2	Panel Mounting Kit	1
3	Utility DVD Driver	1
4	Power Terminal Block Connector	1
5	USB Cable	1
6	VGA Cable	1
7	Screw Pack	1

Note: Notify your sales representative if any of the above items are missing or damaged.

## Optional Accessories

Model No.	Description
Power Adapter, 60W/12V, 3pin	Adapter AC/DC 12V 5A 60W, GST60A12-CIN1, wide temp(-30°C ~ +70°C), Level VI
DVI-D Cable	DVI-D male to DVI-D male Cable 1.8M
Universal Mount Kit for PowerTwin 19"	Universal 19" Rack Mount Kit for Industrial Panel PC & Industrial Monitor

## Ordering Information

### Touch Monitor with Resistive 5-wire Touch

Model No.	Product Description
Spectra PowerTwin M08R	8.4" TFT SVGA 4:3 Monitor with Resistive 5-wire Touch, 1x USB, 1x COM, 1x VGA, 1x DVI-D and 1x DisplayPort
Spectra PowerTwin M10R	10.4" TFT SVGA 4:3 Monitor with Resistive 5-wire Touch, 1x USB, 1x COM, 1x VGA, 1x DVI-D and 1x DisplayPort
Spectra PowerTwin MH10R	10.4" TFT XGA 4:3 Monitor with Resistive 5-wire Touch, 1x USB, 1x COM, 1x VGA, 1x DVI-D and 1x DisplayPort
Spectra PowerTwin M12R	12.1" TFT SVGA 4:3 Monitor with Resistive 5-wire Touch, 1x USB, 1x COM, 1x VGA, 1x DVI-D and 1x DisplayPort
Spectra PowerTwin MH12R	12.1" TFT XGA 4:3 Monitor with Resistive 5-wire Touch, 1x USB, 1x COM, 1x VGA, 1x DVI-D and 1x DisplayPort
Spectra PowerTwin M015R	15" TFT XGA 4:3 Monitor with Resistive 5-wire Touch, 1x USB, 1x COM, 1x VGA, 1x DVI-D and 1x DisplayPort
Spectra PowerTwin MW15R	15.6" TFT WXGA 16:9 Monitor with Resistive 5-wire Touch, 1x USB, 1x COM, 1x VGA, 1x DVI-D and 1x DisplayPort
Spectra PowerTwin M17R	17" TFT SXGA 5:4 Monitor with Resistive 5-wire Touch, 1x USB, 1x COM, 1x VGA, 1x DVI-D and 1x DisplayPort
Spectra PowerTwin M19R	19" TFT SXGA 5:4 Monitor with Resistive 5-wire Touch, 1x USB, 1x COM, 1x VGA, 1x DVI-D and 1x DisplayPort
Spectra PowerTwin MW21R	21.5" TFT Full HD 16:9 Monitor with Resistive 5-wire Touch, 1x USB, 1x COM, 1x VGA, 1x DVI-D and 1x DisplayPort
Spectra PowerTwin MW24R	24" TFT Full-HD 16:9 Monitor with Resistive 5-wire Touch, 1x USB, 1x COM, 1x VGA, 1x DVI-D and 1x DisplayPort



# Touch Monitor with Projected Capacitive Touch

Model No.	Product Description
Spectra PowerTwin M08C	8.4" TFT SVGA 4:3 Monitor with Projected Capacitive Touch, 1x USB, 1x COM, 1x VGA, 1x DVI-D and 1x DisplayPort
Spectra PowerTwin M10C	10.4" TFT SVGA 4:3 Monitor with Projected Capacitive Touch, 1x USB, 1x COM, 1x VGA, 1x DVI-D and 1x DisplayPort
Spectra PowerTwin MH10C	10.4" TFT XGA 4:3 Monitor with Projected Capacitive Touch, 1x USB, 1x COM, 1x VGA, 1x DVI-D and 1x DisplayPort
Spectra PowerTwin M12C	12.1" TFT SVGA 4:3 Monitor with Projected Capacitive Touch, 1x USB, 1x COM, 1x VGA, 1x DVI-D and 1x DisplayPort
Spectra PowerTwin MH12C	12.1" TFT XGA 4:3 Monitor with Projected Capacitive Touch, 1x USB, 1x COM, 1x VGA, 1x DVI-D and 1x DisplayPort
Spectra PowerTwin M15C	15" TFT XGA 4:3 Monitor with Projected Capacitive Touch, 1x USB, 1x COM, 1x VGA, 1x DVI-D and 1x DisplayPort
Spectra PowerTwin MW15C	15.6" TFT WXGA 16:9 Monitor with Projected Capacitive Touch, 1x USB, 1x COM, 1x VGA, 1x DVI-D and 1x DisplayPort
Spectra PowerTwin M17C	17" TFT SXGA 5:4 Monitor with Projected Capacitive Touch, 1x USB, 1x COM, 1x VGA, 1x DVI-D and 1x DisplayPort
Spectra PowerTwin M19C	19" TFT SXGA 5:4 Monitor with Projected Capacitive Touch, 1x USB, 1x COM, 1x VGA, 1x DVI-D and 1x DisplayPort
Spectra PowerTwin MW21C	21.5" TFT Full HD 16:9 Monitor with Projected Capacitive Touch, 1x USB, 1x COM, 1x VGA, 1x DVI-D and 1x DisplayPort
Spectra PowerTwin MW24C	24" TFT Full-HD 16:9 Monitor with Projected Capacitive Touch, 1x USB, 1x COM, 1x VGA, 1x DVI-D and 1x DisplayPort

# Monitor without Touch

Model No.	Product Description
Spectra PowerTwin M17	17" TFT SXGA 5:4 Monitor without Touch, w/ 1x USB, 1x COM, 1x VGA, 1x DVI-D and 1x DisplayPort
Spectra PowerTwin M19	19" TFT SXGA 5:4 Monitor without Touch, w/ 1x USB, 1x COM, 1x VGA, 1x DVI-D and 1x DisplayPort
Spectra PowerTwin MW21	21.5" TFT Full HD 16:9 Monitor without Touch, w/ 1x USB, 1x COM, 1x VGA, 1x DVI-D and 1x DisplayPort
Spectra PowerTwin MW24	24" TFT Full HD 16:9 Monitor without Touch, w/ 1x USB, 1x COM, 1x VGA, 1x DVI-D and 1x DisplayPort

Upon Request 10", 12" & W15" without touch also available

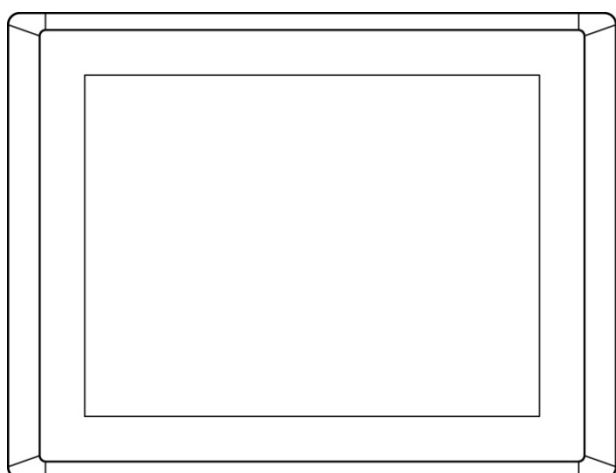
Chapter 1

# Product Introductions

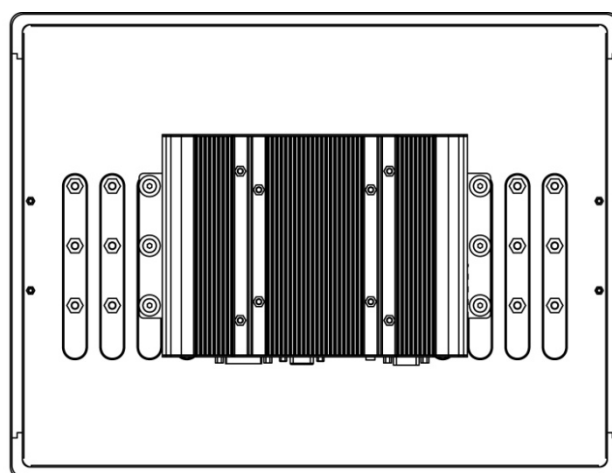
## 1.1 Overview

The Spectra PowerTwin M series provides 8.4" ~ 24" monitor with resistive 5-wire touch/ projected capacitive touch or glass only (available on selected models) features flat surface and IP65 dust/waterproof front panel. In addition, designed with aluminum die-cast front frame, it is rugged and reliable for industrial environment. Spectra PowerTwin M series supports CDS Technology (Convertible Display System) which allows to configure, upgrade and maintain your touch monitor easily.

Spectra PowerTwin M series supports both digital and analog signal input via three types of display interface: VGA, DVI-D and DisplayPort. Touch screen can be connected with USB or COM port. It has OSD function for adjusting the viewing options of display. With the support of wide range power input from 9~48VDC, Spectra PowerTwin M series is designed as an ideal solution for industrial application.



Front



Rear



## 1.1.1 PowerTwin M08

### Key Features

- 8.4" TFT SVGA 4:3 LCD with Resistive 5-wire Touch / Projected Capacitive Touch
- Designed with Aluminum Die-Casting Front Frame
- 1x USB, 1x COM, 1x VGA, 1x DVI-D, 1x DisplayPort, 1x Audio
- IP 65 Compliant Front Panel
- Support Panel / VESA Mounting / \*Rack Mounting (\*with optional mounting kit)
- Convertible Display System (CDS) Supported
- Built-in Two 5W Internal Speakers

### Hardware Specification

#### Display

- LCD Size: 8.4" (4:3)
- Max. Resolution: 800 x 600
- Brightness (cd/m<sup>2</sup>): 400
- Contrast Ratio: 600 : 1
- LCD Color: 262K
- Pixel Pitch (mm): 0.213 (H) x 0.213 (V)
- Viewing Angle (H-V): 150 / 130
- Backlight MTBF: 30000 hrs (LED Backlight)

#### Touch

- Resistive 5-wire Touch for PowerTwin M08R Only
- Projected Capacitive Touch for PowerTwin M08C Only

#### I/O Ports

- 1x VGA
- 1x DVI-D
- 1x DisplayPort
- 1x Audio Input
- 1x USB 2.0
- 1x COM Port (Resistive Touch Only)

(USB & COM Port are reserved for the connection to enable touch usage only)

#### Other Features

- Audio: AMP 5W + 5W (Internal Speaker)
- OSD Function: LCD On/Off, Auto, Menu, Up and Down
- Multi-language OSD Function

#### Power

- 1x 3-pin Terminal Block Connector with Power Input 9~48VDC
- 1x Optional AC/DC 12V/5A, 60W Power Adapter

#### Environment

- Operating Temperature: Ambient with Air Flow:  
PowerTwin M08R: -5°C to 60°C  
PowerTwin M08C: -5°C to 60°C  
(with Industrial Grade Peripherals)
- Storage Temperature:  
PowerTwin M08R: -20°C to 75°C  
PowerTwin M08C: -20°C to 75°C
- Relative humidity:  
PowerTwin M08R: 80% RH @ 60°C (non-condensing)  
PowerTwin M08C: 85% RH @ 60°C (non-condensing)
- IP Level: IP 65 Compliant Front Panel

#### Physical

- Dimension (WxHxD, mm): 262 x 186 x 66 mm
- Weight:  
PowerTwin M08R: 2.74 kg  
PowerTwin M08C: 2.7 kg
- Mechanical Construction: Rugged Aluminum Die-casting Front Bezel and Heavy Duty Metal Chassis
- Mounting: Panel / VESA Mounting / \*Rack Mounting (\*with optional mounting kit)

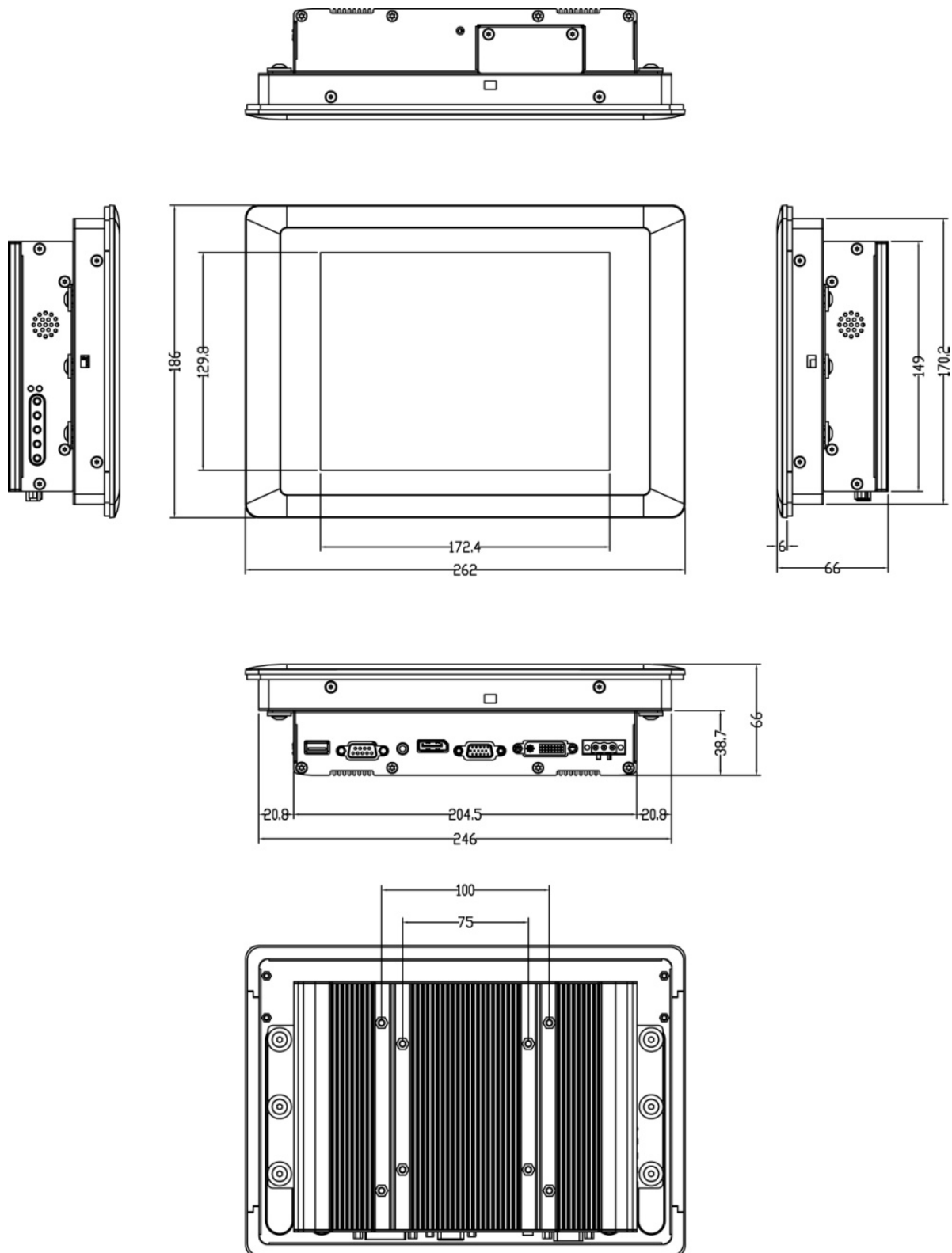
#### Certification

- CE
- FCC Class A

## Dimension

### PowerTwin M08

Unit: mm



## 1.1.2 PowerTwin M10

### Key Features

- 10.4" TFT SVGA 4:3 LCD with Resistive 5-wire / Projected Capacitive Touch
- Designed with Aluminum Die-Casting Front Frame
- 1x USB, 1x COM, 1x VGA, 1x DVI-D, 1x DisplayPort, 1x Audio
- IP 65 Compliant Front Panel
- Support Panel / VESA Mounting / \*Rack Mounting (\*with optional mounting kit)
- Convertible Display System (CDS) Supported
- Built-in Two 5W Internal Speakers

### Hardware Specification

#### Display

- LCD Size: 10.4" (4:3)
- Max. Resolution: 800 x 600
- Brightness (cd/m2): 400
- Contrast Ratio: 700 : 1
- LCD Color: 16.2M
- Pixel Pitch (mm): 0.264 (H) x 0.264 (V)
- Viewing Angle (H-V): 160 / 130
- Backlight MTBF: 70000 hrs (LED Backlight)

#### Touch

- Resistive 5-wire Touch for PowerTwin M10R Only
- Projected Capacitive Touch for PowerTwin M10C Only

#### I/O Ports

- 1x VGA
- 1x DVI-D
- 1x DisplayPort
- 1x Audio Input
- 1x USB 2.0
- 1x COM Port (Resistive Touch Only)

(USB & COM Port are reserved for the connection to enable touch usage only)

#### Other Features

- Audio: AMP 5W + 5W (Internal Speaker)
- OSD Function: LCD On/Off, Auto, Menu, Up and Down
- Multi-language OSD Function

#### Power

- 1x 3-pin Terminal Block Connector with Power Input 9~48VDC
- 1x Optional Power Adapter AC/DC 12V/5A, 60W

#### Environment

- Operating Temperature: Ambient with Air Flow: -5°C to 60°C (with Industrial Grade Peripherals)
- Storage Temperature: -20°C to 75°C
- Relative humidity: 80% RH @ 40°C (non-condensing)
- IP Level: IP 65 Compliant Front Panel

#### Physical

- Dimension (WxHxD, mm): 295 x 227.3 x 66 mm
- Weight: 3.36 kg
- Mechanical Construction: Rugged Aluminum Die-casting Front Bezel and Heavy Duty Metal Chassis
- Mounting: Panel / VESA Mounting / \*Rack Mounting (\*with optional mounting kit)

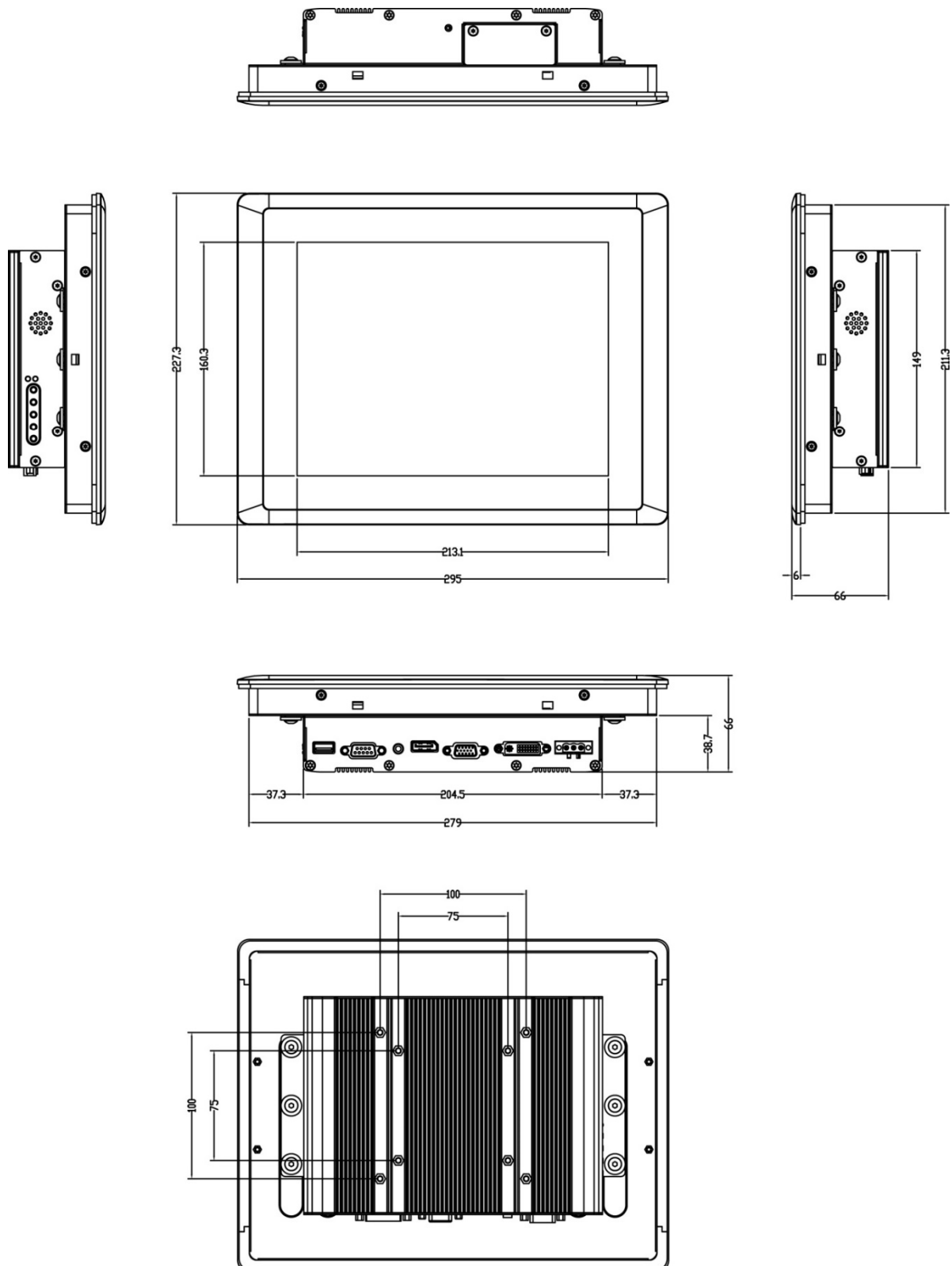
#### Certification

- CE
- FCC Class A

## Dimension

### PowerTwin M10

Unit: mm



### 1.1.3 PowerTwin MH10

#### Key Features

- 10.4" TFT XGA 4:3 LCD with Resistive 5-wire / Projected Capacitive Touch
- Designed with Aluminum Die-Casting Front Frame
- 1x USB, 1x COM, 1x VGA, 1x DVI-D, 1x DisplayPort, 1x Audio
- IP 65 Compliant Front Panel
- Support Panel / VESA Mounting / \*Rack Mounting (\*with optional mounting kit)
- Convertible Display System (CDS) Supported
- Built-in Two 5W Internal Speakers

#### Hardware Specification

##### Display

- LCD Size: 10.4" (4:3)
- Max. Resolution: 1024x 768
- Brightness (cd/m2): 400
- Contrast Ratio: 1400 : 1
- LCD Color: 16.2M
- Pixel Pitch (mm): 0.2055 (H) x 0.2055 (V)
- Viewing Angle (H-V): 178 / 178
- Backlight MTBF: 50000 hrs (LED Backlight)

##### Touch

- Resistive 5-wire Touch for PowerTwin MH10R Only
- Projected Capacitive Touch for PowerTwin MH10C Only

##### I/O Ports

- 1x VGA
- 1x DVI-D
- 1x DisplayPort
- 1x Audio Input
- 1x USB 2.0
- 1x COM Port (Resistive Touch Only)

(USB & COM Port are reserved for the connection to enable touch usage only)

##### Other Features

- Audio: AMP 5W + 5W (Internal Speaker)
- OSD Function: LCD On/Off, Auto, Menu, Up and Down
- Multi-language OSD Function

##### Power

- 1x 3-pin Terminal Block Connector with Power Input 9~48VDC
- 1x Optional Power Adapter AC/DC 12V/5A, 60W

##### Environment

- Operating Temperature: Ambient with Air Flow: -5°C to 60°C (with Industrial Grade Peripherals)
- Storage Temperature: -20°C to 75°C
- Relative Humidity: 80% RH @ 40°C (non-condensing)
- IP Level: IP 65 Compliant Front Panel

##### Physical

- Dimension (WxHxD, mm): 295 x 227.3 x 66 mm
- Weight: 3.36 kg
- Mechanical Construction: Rugged Aluminum Die-casting Front Bezel and Heavy Duty Metal Chassis
- Mounting: Panel / VESA Mounting / \*Rack Mounting (\*with optional mounting kit)

##### Certification

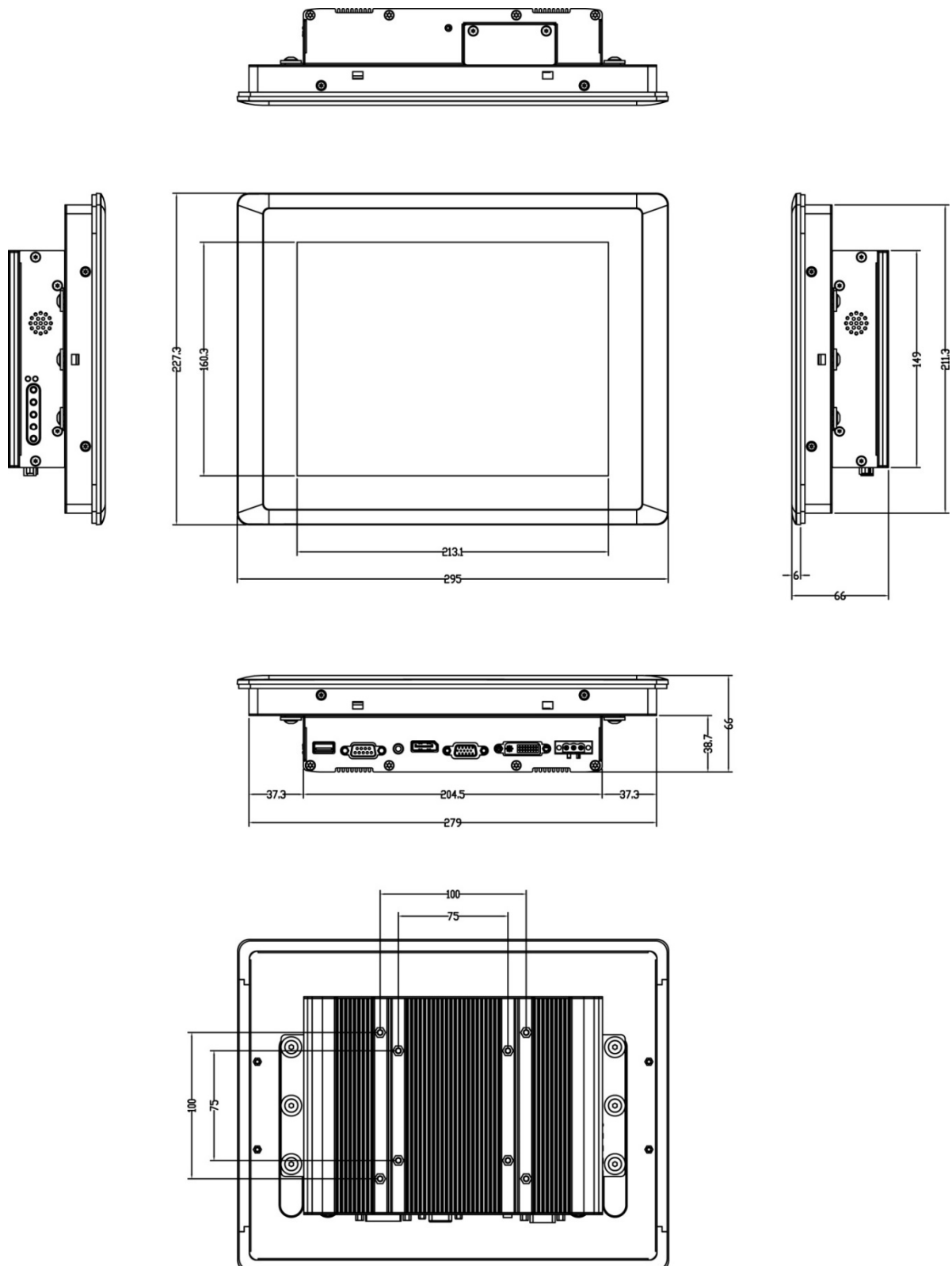
- CE
- FCC Class A



## Dimension

### PowerTwin MH10

Unit: mm



## 1.1.4 PowerTwin M12

### Key Features

- 12.1" TFT SVGA 4:3 LCD with Resistive 5-wire / Projected Capacitive Touch
- Designed with Aluminum Die-Casting Front Frame
- 1x USB, 1x COM, 1x VGA, 1x DVI-D, 1x DisplayPort, 1x Audio
- IP 65 Compliant Front Panel
- Support Panel / VESA Mounting / \*Rack Mounting (\*with optional mounting kit)
- Convertible Display System (CDS) Supported
- Built-in Two 5W Internal Speakers

### Hardware Specification

#### Display

- LCD Size: 12.1" (4:3)
- Max. Resolution: 800 x 600
- Brightness (cd/m2): 450
- Contrast Ratio: 800 : 1
- LCD Color: 262K
- Pixel Pitch (mm): 0.3075 (H) x 0.3075 (V)
- Viewing Angle (H-V): 160 / 140
- Backlight MTBF: 50000 hrs (LED Backlight)

#### Touch

- Resistive 5-wire Touch for PowerTwin M12R Only
- Projected Capacitive Touch for PowerTwin M12C Only

#### I/O Ports

- 1x VGA
- 1x DVI-D
- 1x DisplayPort
- 1x Audio Input
- 1x USB 2.0
- 1x COM Port (Resistive Touch Only)

(USB & COM Port are reserved for the connection to enable touch usage only)

#### Other Features

- Audio: AMP 5W + 5W (Internal Speaker)
- OSD Function: LCD On/Off, Auto, Menu, Up and Down
- Multi-language OSD Function

#### Power

- 1x 3-pin Terminal Block Connector with Power Input 9~48VDC
- 1x Optional Power Adapter AC/DC 12V/5A, 60W

#### Environment

- Operating Temperature: Ambient with Air Flow: -5°C to 60°C (with Industrial Grade Peripherals)
- Storage Temperature: -20°C to 75°C
- Relative humidity: 80% RH @ 40°C (non-condensing)
- IP Level: IP 65 Compliant Front Panel

#### Physical

- Dimension (WxHxD, mm): 345 x 265.3 x 66.5 mm
- Weight: 4.28 kg
- Mechanical Construction: Rugged Aluminum Die-casting Front Bezel and Heavy Duty Metal Chassis
- Mounting: Panel / VESA Mounting / \*Rack Mounting (\*with optional mounting kit)

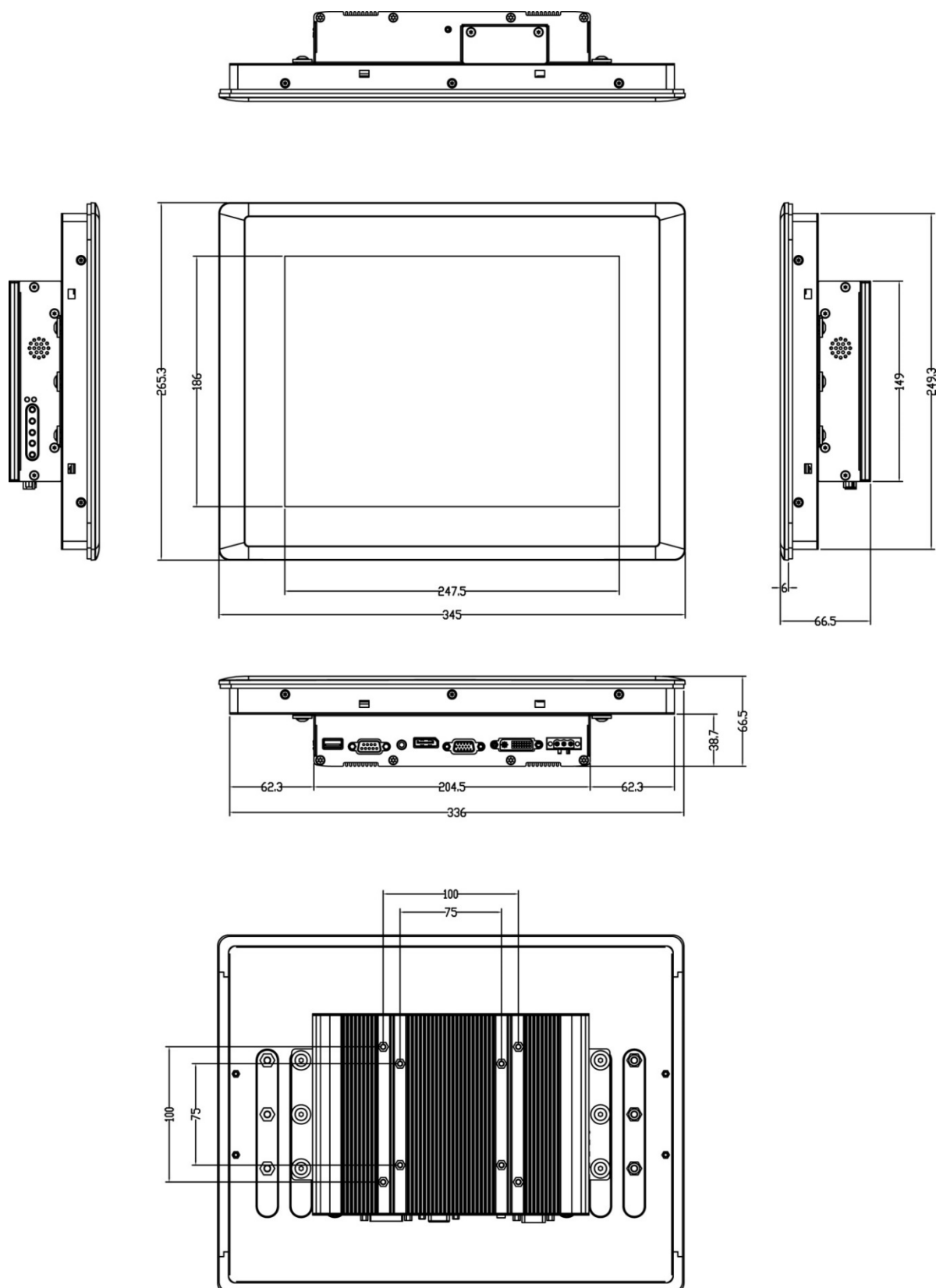
#### Certification

- CE
- FCC Class A

## Dimension

### PowerTwin M12

Unit: mm



## 1.1.5 PowerTwin MH12

### Key Features

- 12.1" TFT XGA 4:3 LCD with Resistive 5-wire / Projected Capacitive Touch
- Designed with Aluminum Die-Casting Front Frame
- 1x USB, 1x COM, 1x VGA, 1x DVI-D, 1x DisplayPort, 1x Audio
- IP 65 Compliant Front Panel
- Support Panel / VESA Mounting / \*Rack Mounting (\*with optional mounting kit)
- Convertible Display System (CDS) Supported
- Built-in Two 5W Internal Speakers

### Hardware Specification

#### Display

- LCD Size: 12.1" (4:3)
- Max. Resolution: 1024x 768
- Brightness (cd/m2): 500
- Contrast Ratio: 700 : 1
- LCD Color: 16.2M
- Pixel Pitch (mm): 0.24 (H) x 0.24 (V)
- Viewing Angle (H-V): 160 / 160
- Backlight MTBF: 30000 hrs (LED Backlight)

#### Touch

- Resistive 5-wire Touch for PowerTwin MH12R Only
- Projected Capacitive Touch for PowerTwin MH12C Only

#### I/O Ports

- 1x VGA
- 1x DVI-D
- 1x DisplayPort
- 1x Audio Input
- 1x USB 2.0
- 1x COM Port (Resistive Touch Only)

(USB & COM Port are reserved for the connection to enable touch usage only)

#### Other Features

- Audio: AMP 5W + 5W (Internal Speaker)
- OSD Function: LCD On/Off, Auto, Menu, Up and Down
- Multi-language OSD Function

#### Power

- 1x 3-pin Terminal Block Connector with Power Input 9~48VDC
- 1x Optional Power Adapter AC/DC 12V/5A, 60W

#### Environment

- Operating Temperature: Ambient with Air Flow: -5°C to 60°C (with Industrial Grade Peripherals)
- Storage Temperature: -20°C to 75°C
- Relative Humidity: 80% RH @ 40°C (non-condensing)
- IP Level: IP 65 Compliant Front Panel

#### Physical

- Dimension (WxHxD, mm): 345 x 265.3 x 66.5 mm
- Weight: 4.28 kg
- Mechanical Construction: Rugged Aluminum Die-casting Front Bezel and Heavy Duty Metal Chassis
- Mounting: Panel / VESA Mounting / \*Rack Mounting (\*with optional mounting kit)

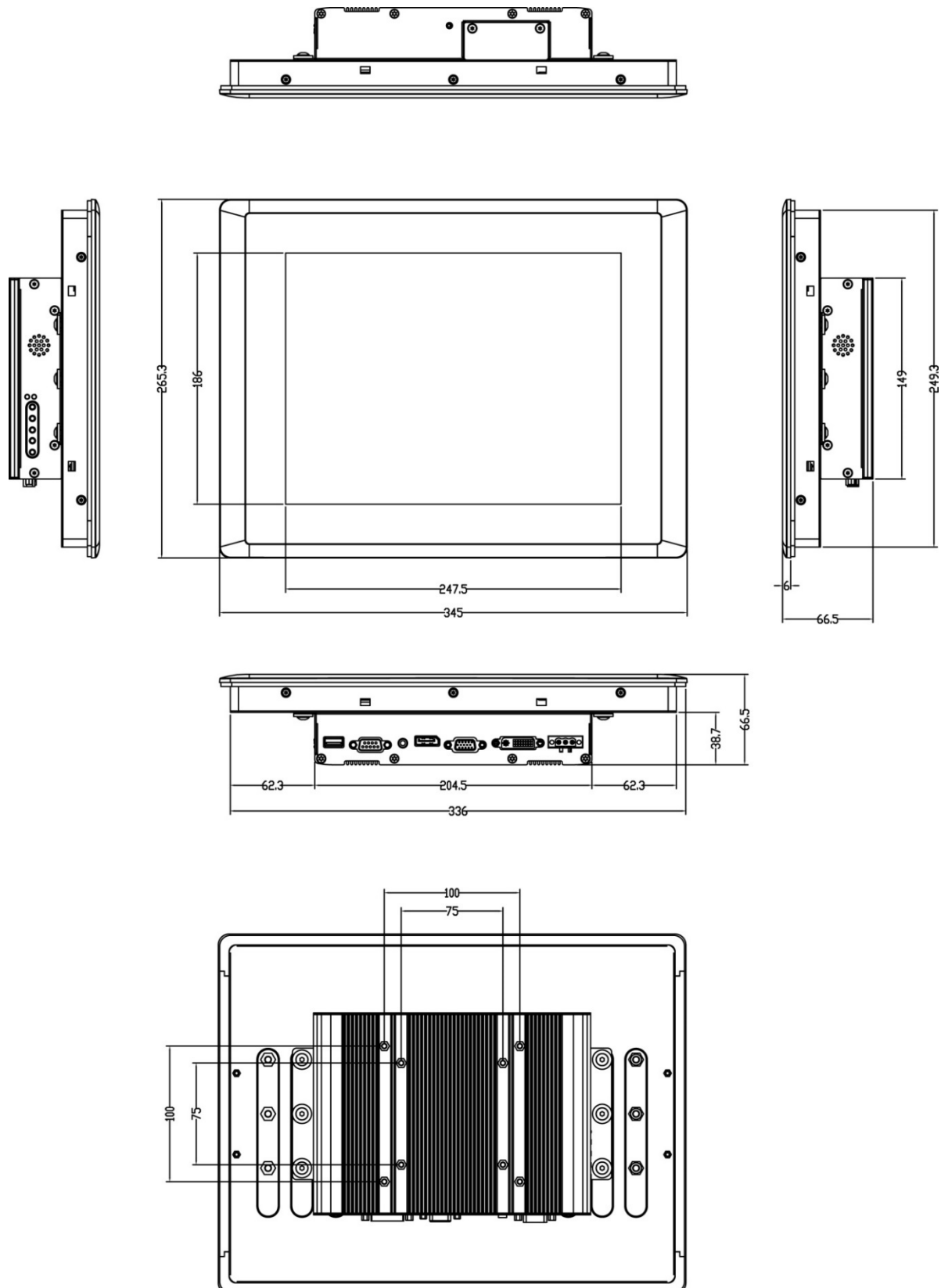
#### Certification

- CE
- FCC Class A

## Dimension

### PowerTwin MH12

Unit: mm



## 1.1.6 PowerTwin M15

### Key Features

- 15" TFT XGA 4:3 LCD with Resistive 5-wire / Projected Capacitive Touch
- Designed with Aluminum Die-Casting Front Frame
- 1x USB, 1x COM, 1x VGA, 1x DVI-D, 1x DisplayPort, 1x Audio
- IP 65 Compliant Front Panel
- Support Panel / VESA Mounting / \*Rack Mounting (\*with optional mounting kit)
- Convertible Display System (CDS) Supported
- Built-in Two 5W Internal Speakers

### Hardware Specification

#### Display

- LCD Size: 15" (4:3)
- Max. Resolution: 1024 x 768
- Brightness (cd/m2): 350
- Contrast Ratio: 800 : 1
- LCD Color: 16.2M
- Pixel Pitch (mm): 0.297 (H) x 0.297 (V)
- Viewing Angle (H-V): 160 / 150
- Backlight MTBF: 50000 hrs (LED Backlight)

#### Touch

- Resistive 5-wire Touch for PowerTwin M15R Only
- Projected Capacitive Touch for PowerTwin M15C Only

#### I/O Ports

- 1x VGA
- 1x DVI-D
- 1x DisplayPort
- 1x Audio Input
- 1x USB 2.0
- 1x COM Port (Resistive Touch Only)

(USB & COM Port are reserved for the connection to enable touch usage only)

#### Other Features

- Audio: AMP 5W + 5W (Internal Speaker)
- OSD Function: LCD On/Off, Auto, Menu, Up and Down
- Multi-language OSD Function

#### Power

- 1x 3-pin Terminal Block Connector with Power Input 9~48VDC
- 1x Optional AC/DC 12V/5A, 60W Power Adapter

#### Environment

- Operating Temperature: Ambient with Air Flow: -5°C to 60°C (with Industrial Grade Peripherals)
- Storage Temperature: -20°C to 75°C
- Relative humidity: 80% RH @ 40°C (non-condensing)
- IP Level: IP 65 Compliant Front Panel

#### Physical

- Dimension (WxHxD, mm): 408 x 312.4 x 69 mm
- Weight: 5.48 kg
- Mechanical Construction: Rugged Aluminum Die-casting Front Bezel and Heavy Duty Metal Chassis
- Mounting: Panel / VESA Mounting / \*Rack Mounting (\*with optional mounting kit)

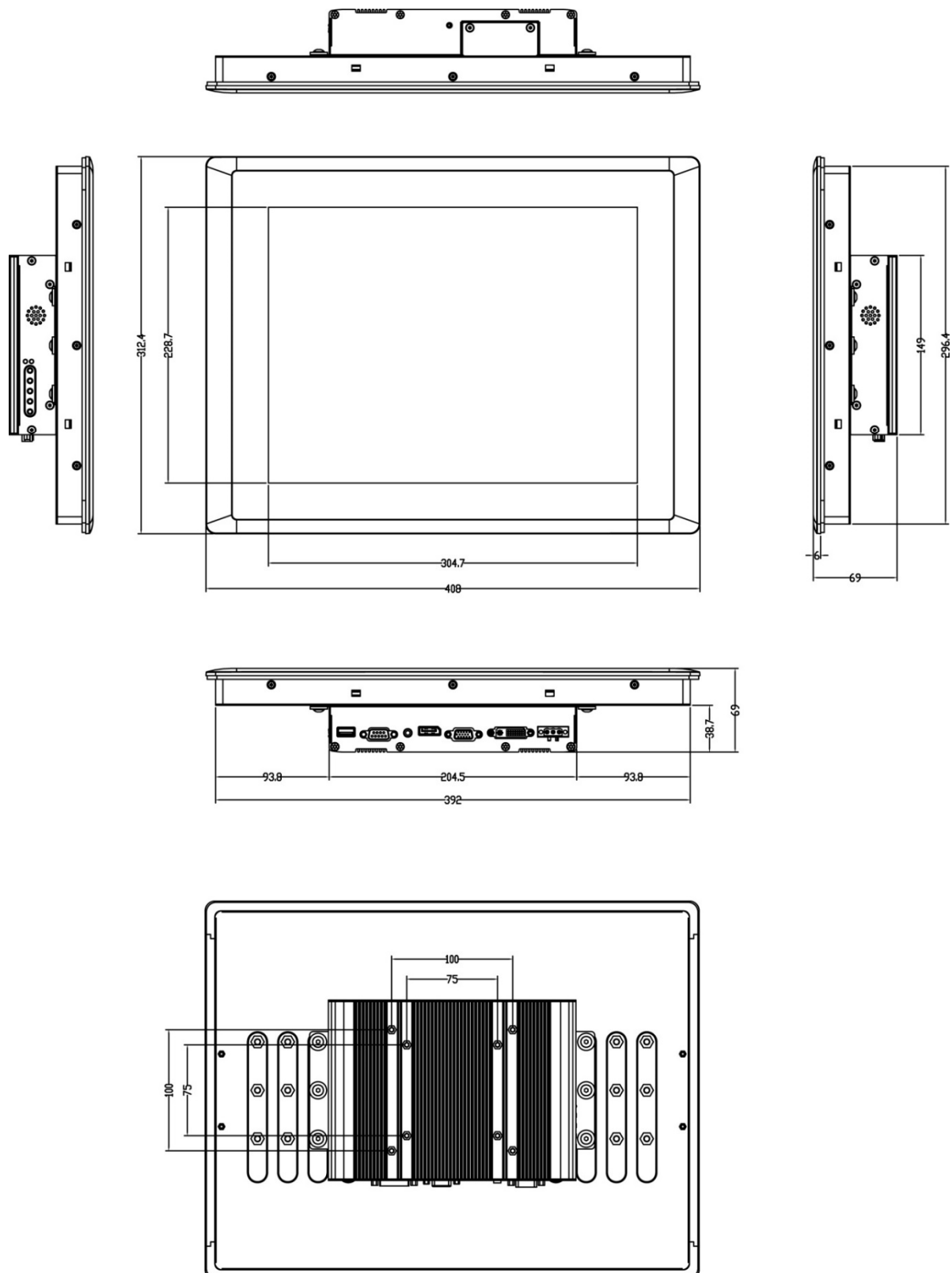
#### Certification

- CE
- FCC Class A

## Dimension

### PowerTwin M15

Unit: mm



## 1.1.7 PowerTwin MW15

### Key Features

- 15.6" TFT WXGA 16:9 LCD with Resistive 5-wire / Projected Capacitive Touch
- Designed with Aluminum Die-Casting Front Frame
- 1x USB, 1x COM, 1x VGA, 1x DVI-D, 1x DisplayPort, 1x Audio
- IP 65 Compliant Front Panel
- Support Panel / VESA Mounting / \*Rack Mounting (\*with optional mounting kit)
- Convertible Display System (CDS) Supported
- Built-in Two 5W Internal Speakers

### Hardware Specification

#### Display

- LCD Size: 15.6" (16:9)
- Max. Resolution: 1366 x 768
- Brightness (cd/m2): 400
- Contrast Ratio: 500 : 1
- LCD Color: 16.2M
- Pixel Pitch (mm): 0.252 (H) x 0.252 (V)
- Viewing Angle (H-V): 170 / 160
- Backlight MTBF: 50000 hrs (LED Backlight)

#### Touch

- Resistive 5-wire Touch for PowerTwin MW15R Only
- Projected Capacitive Touch for PowerTwin MW15C Only

#### I/O Ports

- 1x VGA
- 1x DVI-D
- 1x DisplayPort
- 1x Audio Input
- 1x USB 2.0
- 1x COM Port (Resistive Touch Only)

(USB & COM Port are reserved for the connection to enable touch usage only)

#### Other Features

- Audio: AMP 5W + 5W (Internal Speaker)
- OSD Function: LCD On/Off, Auto, Menu, Up and Down
- Multi-language OSD Function

#### Power

- 1x 3-pin Terminal Block Connector with Power Input 9~48VDC
- 1x Optional Power Adapter AC/DC 12V/5A, 60W

#### Environment

- Operating Temperature: Ambient with Air Flow: 0°C to 60°C (with Industrial Grade Peripherals)
- Storage Temperature: -20°C to 60°C
- Relative humidity: 80% RH @ 40°C (non-condensing)
- IP Level: IP 65 Compliant Front Panel

#### Physical

- Dimension (WxHxD, mm): 420 x 254 x 76 mm
- Weight: 5.37 kg
- Mechanical Construction: Rugged Aluminum Die-casting Front Bezel and Heavy Duty Metal Chassis
- Mounting: Panel / VESA Mounting / \*Rack Mounting (\*with optional mounting kit)

#### Certification

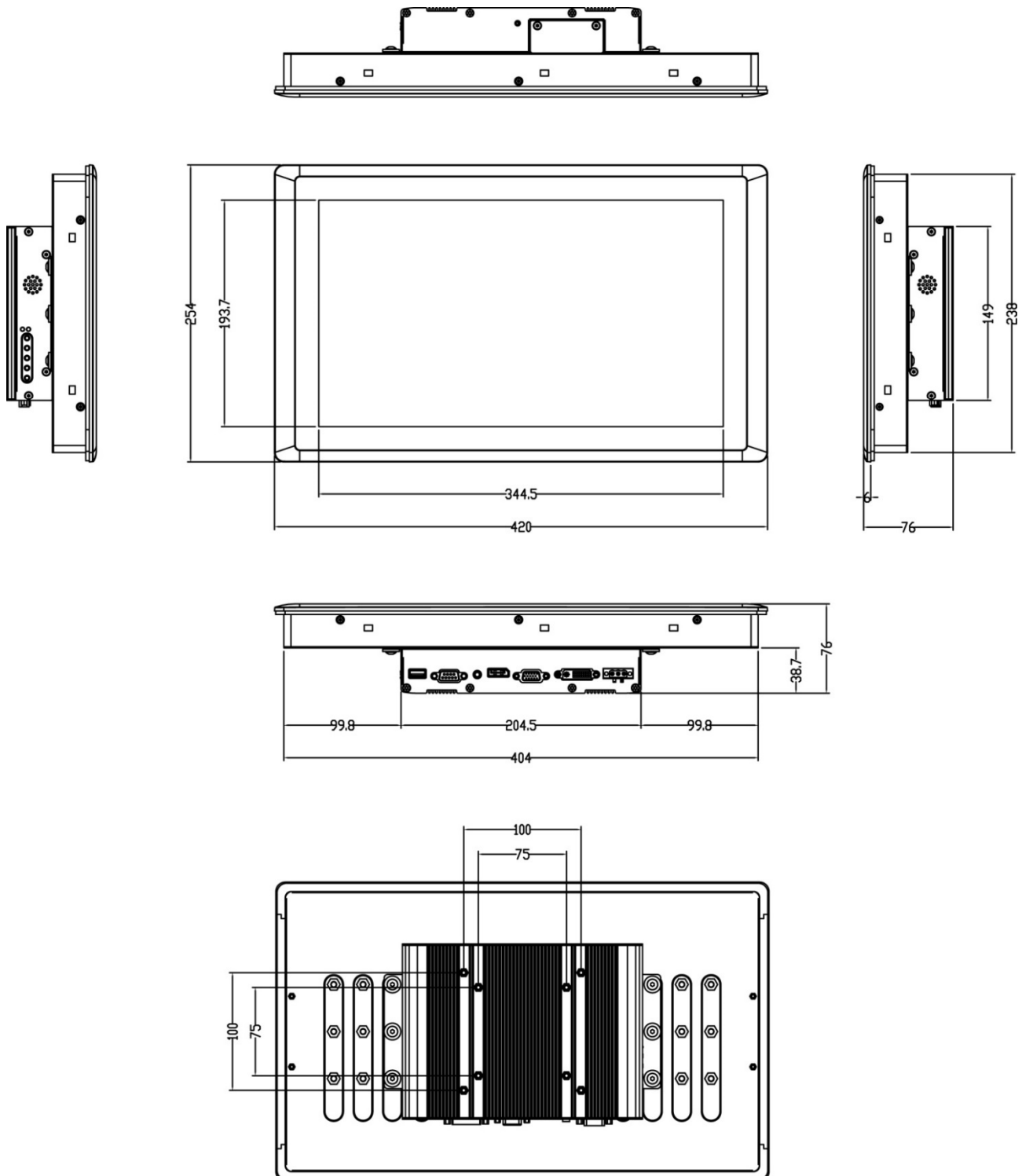
- CE
- FCC Class A



## Dimension

### PowerTwin MW15

Unit: mm



## 1.1.8 PowerTwin M17

### Key Features

- 17" TFT SXGA 5:4 LCD with Resistive 5-wire / Projected Capacitive Touch
- Designed with Aluminum Die-Casting Front Frame
- 1x USB, 1x COM, 1x VGA, 1x DVI-D, 1x DisplayPort, 1x Audio
- IP 65 Compliant Front Panel
- Support Panel / VESA Mounting / \*Rack Mounting (\*with optional mounting kit)
- Convertible Display System (CDS) Supported
- Built-in Two 5W Internal Speakers

### Hardware Specification

#### Display

- LCD Size: 17" (5:4)
- Max. Resolution: 1280 x 1024
- Brightness (cd/m2): 350
- Contrast Ratio: 800 : 1
- LCD Color: 16.7M
- Pixel Pitch (mm): 0.264 (H) x 0.264 (V)
- Viewing Angle (H-V): 160 / 140
- Backlight MTBF: 50000 hrs (LED Backlight)

#### Touch

- Resistive 5-wire Touch for PowerTwin M17R Only
- Projected Capacitive Touch for PowerTwin M17C Only
- Monitor without Touch for PowerTwin M17 Only

#### I/O Ports

- 1x VGA
- 1x DVI-D
- 1x DisplayPort
- 1x Audio Input
- 1x USB 2.0
- 1x COM Port (Resistive Touch Only)

(USB & COM Port are reserved for the connection to enable touch usage only)

#### Other Features

- Audio: AMP 5W + 5W (Internal Speaker)
- OSD Function: LCD On/Off, Auto, Menu, Up and Down
- Multi-language OSD Function

#### Power

- 1x 3-pin Terminal Block Connector with Power Input 9~48VDC
- 1x Optional Power Adapter AC/DC 12V/5A, 60W

#### Environment

- Operating Temperature: Ambient with Air Flow: -5°C to 60°C (with Industrial Grade Peripherals)
- Storage Temperature: -20°C to 75°C
- Relative humidity:  
PowerTwin M17R : 80% RH @ 40°C (non-condensing)  
PowerTwin M17C : 80% RH @ 40°C (non-condensing)  
PowerTwin M17 : 90% RH @ 40°C (non-condensing)
- IP Level: IP 65 Compliant Front Panel

#### Physical

- Dimension (WxHxD, mm): 450 x 350 x 73 mm
- Weight: 6.76 kg
- Mechanical Construction: Rugged Aluminum Die-casting Front Bezel and Heavy Duty Metal Chassis
- Mounting: Panel / VESA Mounting / \*Rack Mounting (\*with optional mounting kit)

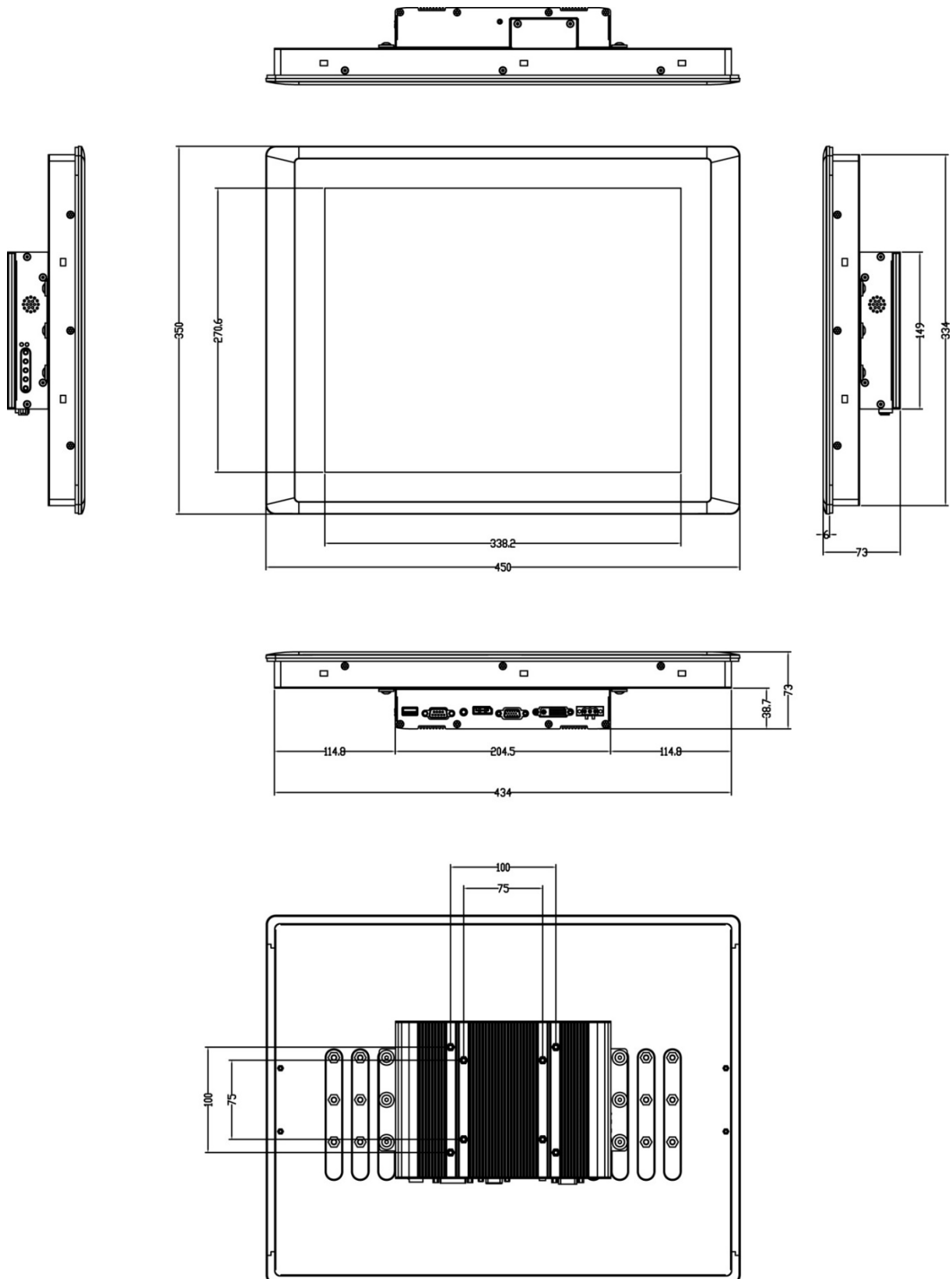
#### Certification

- CE
- FCC Class A

## Dimension

### PowerTwin M17

Unit: mm



## 1.1.9 PowerTwin M19

### Key Features

- 19" TFT SXGA 5:4 LCD with Resistive 5-wire / Projected Capacitive Touch
- Designed with Aluminum Die-Casting Front Frame
- 1x USB, 1x COM, 1x VGA, 1x DVI-D, 1x DisplayPort, 1x Audio
- IP 65 Compliant Front Panel
- Support Panel / VESA Mounting / \*Rack Mounting (\*with optional mounting kit)
- Convertible Display System (CDS) Supported
- Built-in Two 5W Internal Speakers

### Hardware Specification

#### Display

- LCD Size: 19" (5:4)
- Max. Resolution: 1280 x 1024
- Brightness (cd/m2): 350
- Contrast Ratio: 1000 : 1
- LCD Color: 16.7M
- Pixel Pitch (mm): 0.294 (H) x 0.294 (V)
- Viewing Angle (H-V): 170 / 160
- Backlight MTBF: 50000 hrs (LED Backlight)

#### Touch

- Resistive 5-wire Touch for PowerTwin M19R Only
- Projected Capacitive Touch for PowerTwin M19C Only
- Monitor without Touch for PowerTwin M19 Only

#### I/O Ports

- 1x VGA
- 1x DVI-D
- 1x DisplayPort
- 1x Audio Input
- 1x USB 2.0
- 1x COM Port (Resistive Touch Only)

(USB & COM Port are reserved for the connection to enable touch usage only)

#### Other Features

- Audio: AMP 5W + 5W (Internal Speaker)
- OSD Function: LCD On/Off, Auto, Menu, Up and Down
- Multi-language OSD Function

#### Power

- 1x 3-pin Terminal Block Connector with Power Input 9~48VDC
- 1x Optional AC/DC 12V/5A, 60W Power Adapter

#### Environment

- Operating Temperature: Ambient with Air Flow: 0°C to 50°C (with Industrial Grade Peripherals)
- Storage Temperature: -20°C to 60°C
- Relative humidity:  
PowerTwin M19R : 80% RH @ 40°C (non-condensing)  
PowerTwin M19C: 80% RH @ 40°C (non-condensing)  
PowerTwin M19: 90% RH @ 40°C (non-condensing)
- IP Level: IP 65 Compliant Front Panel

#### Physical

- Dimension (WxHxD, mm): 510 x 389.3 x 73 mm
- Weight: 8.08 kg
- Mechanical Construction: Rugged Aluminum Die-casting Front Bezel and Heavy Duty Metal Chassis
- Mounting: Panel / VESA Mounting / \*Rack Mounting (\*with optional mounting kit)

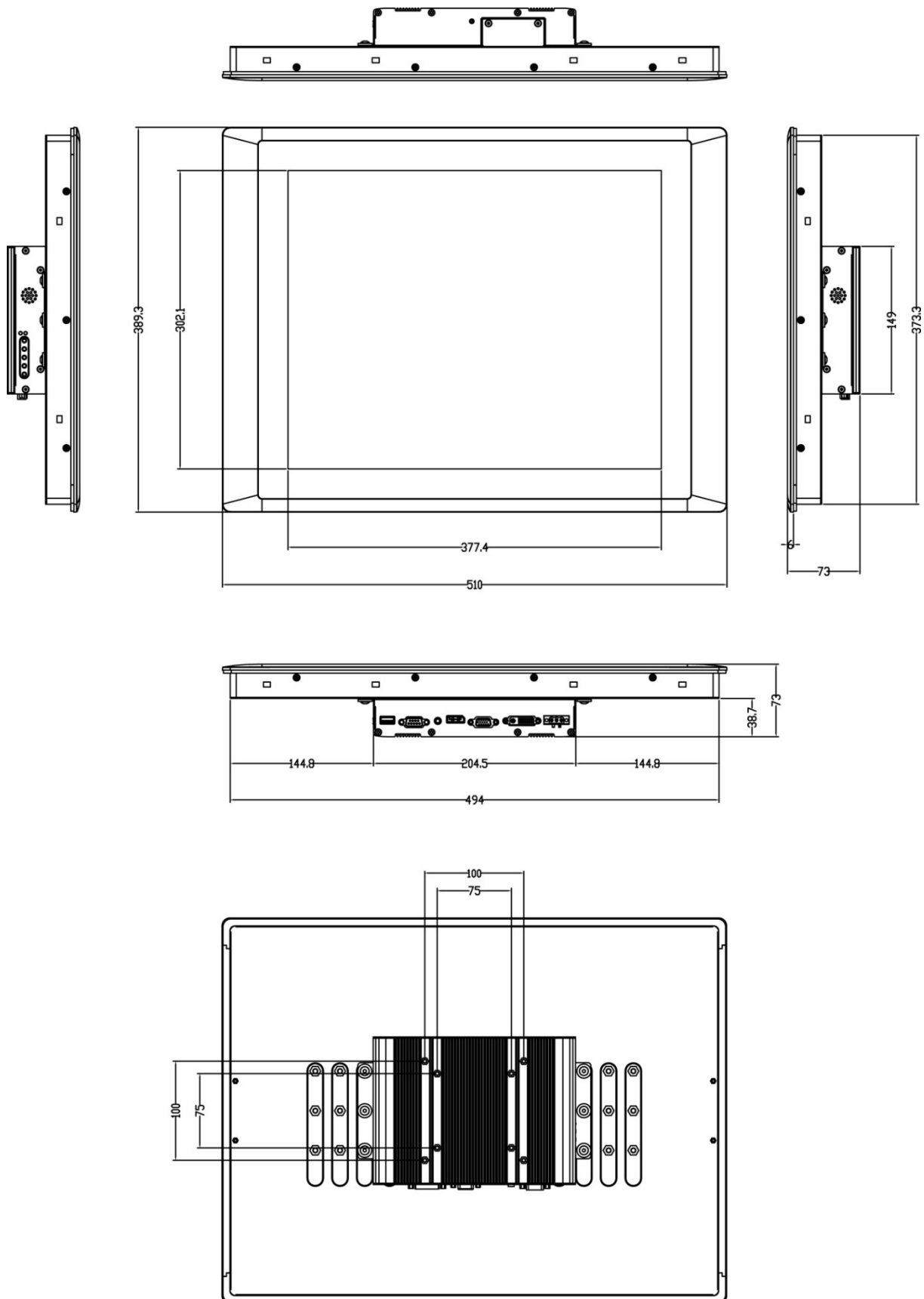
#### Certification

- CE
- FCC Class A

## Dimension

### PowerTwin M19

Unit: mm



## 1.1.10 PowerTwin MW21

### Key Features

- 21.5" TFT Full HD 16:9 LCD with Resistive 5-wire / Projected Capacitive Touch
- Designed with Aluminum Die-Casting Front Frame
- 1x USB, 1x COM, 1x VGA, 1x DVI-D, 1x DisplayPort, 1x Audio
- IP 65 Compliant Front Panel
- Support Panel / VESA Mounting / \*Rack Mounting (\*with optional mounting kit)
- Convertible Display System (CDS) Supported
- Built-in Two 5W Internal Speakers

### Hardware Specification

#### Display

- LCD Size: 21.5" (16:9)
- Max. Resolution: 1920 x 1080
- Brightness (cd/m2): 300
- Contrast Ratio: 5000 : 1
- LCD Color: 16.7M
- Pixel Pitch (mm): 0.24825 (H) x 0.24825 (V)
- Viewing Angle (H-V): 178 / 178
- Backlight MTBF: 50000 hrs (LED Backlight)

#### Touch

- Resistive 5-wire Touch for PowerTwin MW21R Only
- Projected Capacitive Touch for PowerTwin MW21C Only
- Monitor without Touch for PowerTwin MW21 Only

#### I/O Ports

- 1x VGA
- 1x DVI-D
- 1x DisplayPort
- 1x Audio Input
- 1x USB 2.0
- 1x COM Port (Resistive Touch Only)

(USB & COM Port are reserved for the connection to enable touch usage only)

#### Other Features

- Audio: AMP 5W + 5W (Internal Speaker)
- OSD Function: LCD On/Off, Auto, Menu, Up and Down
- Multi-language OSD Function

#### Power

- 1x 3-pin Terminal Block Connector with Power Input 9~48VDC
- 1x Optional Power Adapter AC/DC 12V/5A, 60W

#### Environment

- Operating Temperature: Ambient with Air Flow: 0°C to 60°C (with Industrial Grade Peripherals)
- Storage Temperature: -20°C to 60°C
- Relative humidity:  
PowerTwin MW21R: 80% RH @ 40°C (non-condensing)  
PowerTwin MW21RC: 80% RH @ 40°C (non-condensing)  
PowerTwin MW21: 90% RH @ 40°C (non-condensing)
- IP Level: IP 65 Compliant Front Panel

#### Physical

- Dimension (WxHxD, mm): 550 x 330.5 x 73 mm
- Weight: 6.68 kg
- Mechanical Construction: Rugged Aluminum Die-casting Front Bezel and Heavy Duty Metal Chassis
- Mounting: Panel / VESA Mounting / \*Rack Mounting (\*with optional mounting kit)

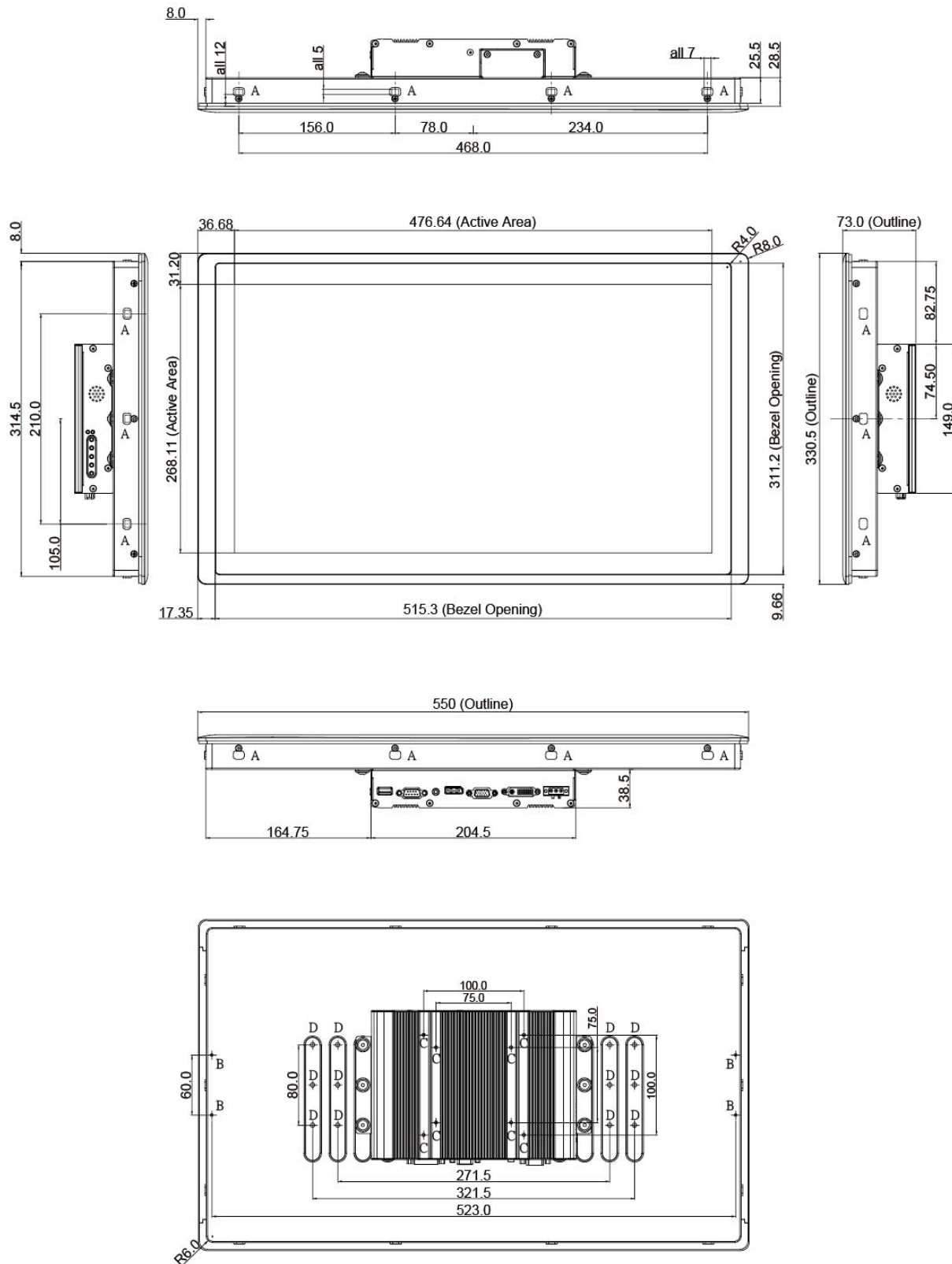
#### Certification

- CE
- FCC Class A

## Dimension

### PowerTwin MW21

Unit: mm



## 1.1.11 PowerTwin MW24

### Key Features

- 24" TFT Full-HD 16:9 LCD with Resistive 5-wire / Projected Capacitive Touch
- Designed with Aluminum Die-Casting Front Frame
- 1x USB, 1x COM, 1x VGA, 1x DVI-D, 1x DisplayPort, 1x Audio
- IP 65 Compliant Front Panel
- Support Panel / VESA Mounting / \*Rack Mounting (\*with optional mounting kit)
- Convertible Display System (CDS) Supported
- Built-in Two 5W Internal Speakers

### Hardware Specification

#### Display

- LCD Size: 24" (16:9)
- Max. Resolution: 1920 x 1080
- Brightness (cd/m2): 300
- Contrast Ratio: 5000 : 1
- LCD Color: 16.7M
- Pixel Pitch (mm): 0.277 (H) x 0.277 (V)
- Viewing Angle (H-V): 178 / 178
- Backlight MTBF: 50000 hrs (LED Backlight)

#### Touch

- Resistive 5-wire Touch for PowerTwin MW24R Only
- Projected Capacitive Touch for PowerTwin MW24C Only
- Monitor without Touch for PowerTwin MW24 Only

#### I/O Ports

- 1x VGA
- 1x DVI-D
- 1x DisplayPort
- 1x Audio Input
- 1x USB 2.0
- 1x COM Port (Resistive Touch Only)

(USB & COM Port are reserved for the connection to enable touch usage only)

#### Other Features

- Audio: AMP 5W + 5W (Internal Speaker)
- OSD Function: LCD On/Off, Auto, Menu, Up and Down
- Multi-language OSD Function

#### Power

- 1x 3-pin Terminal Block Connector with Power Input 9~48VDC
- 1x Optional Power Adapter AC/DC 12V/5A, 60W

#### Environment

- Operating Temperature: Ambient with Air Flow: -5°C to 60°C (with Industrial Grade Peripherals)
- Storage Temperature:
  - PowerTwin MW24R : -20°C to 70°C
  - PowerTwin MW24C: -20°C to 75°C
  - PowerTwin MW24: -20°C to 75°C
- Relative humidity: 80% RH @ 50°C (non-condensing)
- IP Level: IP 65 Compliant Front Panel

#### Physical

- Dimension (WxHxD, mm): 605 x 373 x 73 mm
- Weight:
  - PowerTwin MW24R: 8.04 kg
  - PowerTwin MW24C: 7.76 kg
  - PowerTwin MW24: 7.76 kg
- Mechanical Construction: Rugged Aluminum Die-casting Front Bezel and Heavy Duty Metal Chassis
- Mounting: Panel / VESA Mounting / \*Rack Mounting (\*with optional mounting kit)

#### Certification

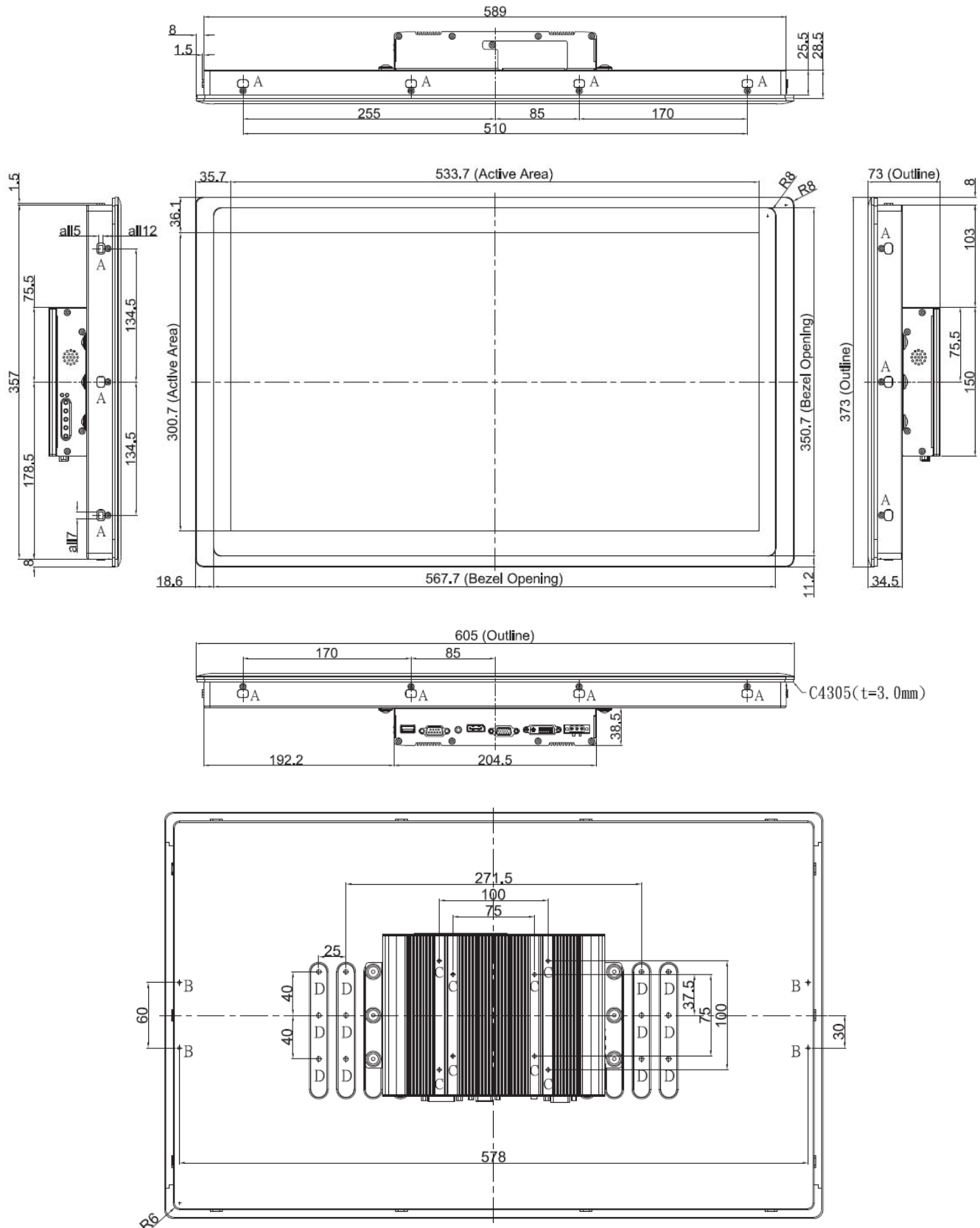
- CE
- FCC Class A



## Dimension

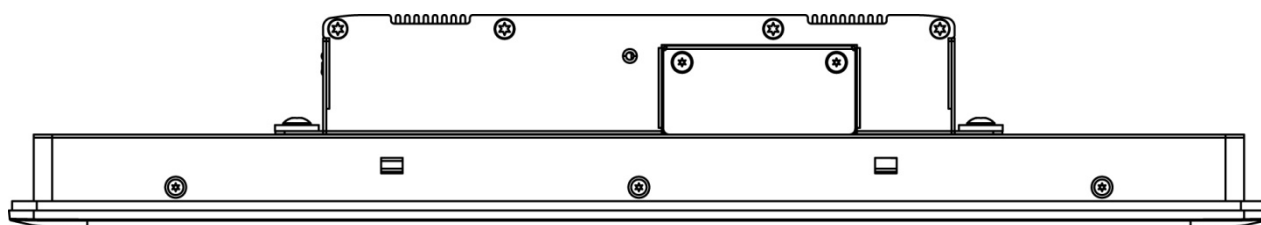
## PowerTwin MW24

Unit: mm



## 1.2 System I/O

### 1.2.1 Front



### 1.2.2 Rear

#### DC IN

Used to plug a DC power input with terminal block.

#### DVI-D

This 24-pin port is for PC (Personal Computer) DVI-D digital signal connection.

#### VGA

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

#### DisplayPort

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

#### Audio-in

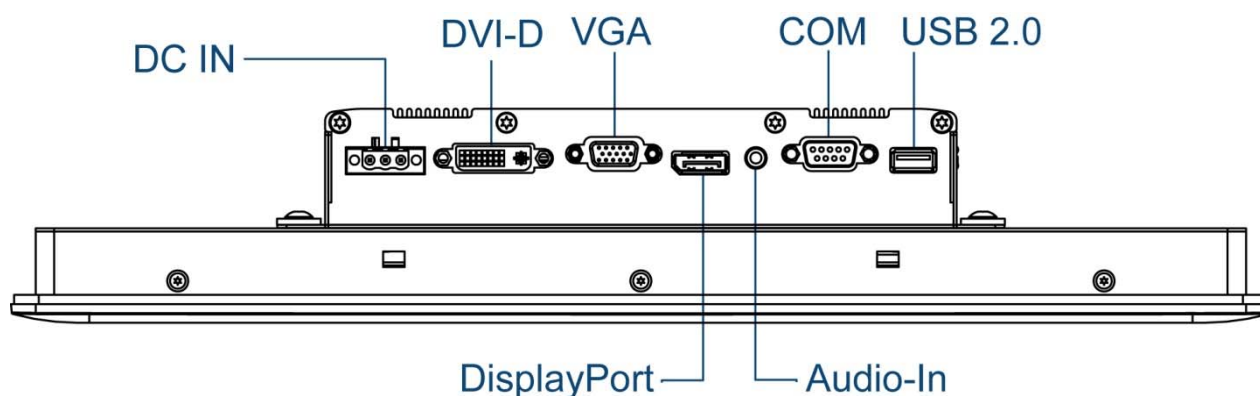
This port connects PC audio source by the bundled audio cable.

#### COM Port for Touch Panel Connector (Resistive Touch Only)

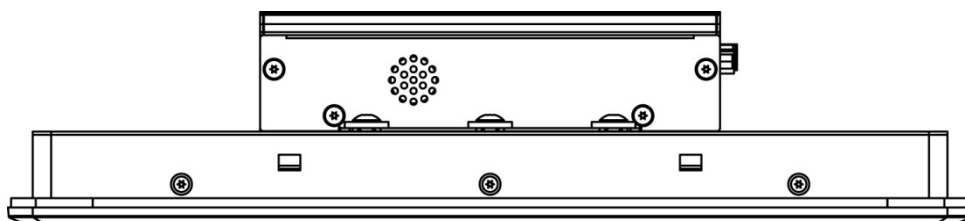
Use the rear panel standard RS-232 DB-9 female touch panel connector to connect the monitor to the system interface.

#### USB for Touch Panel Connector

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



### 1.2.3 Side (Left)



### 1.2.4 Side (Right)

#### OSD (On Screen Display) Function: LCD On/Off

Press to turn-on or turn-off the display.

#### Auto

Press to auto adjust the optimal frequency of horizontal and vertical.

#### Menu

Press this button to turn on/off the OSD main menu.

Press this button to activate selected items.

#### Up

To increase the value of selected item.

#### Down

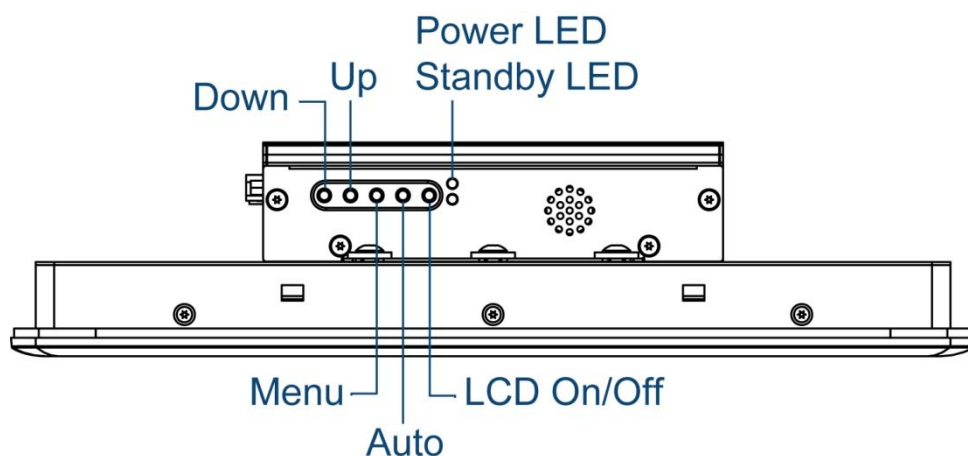
To decrease the value of selected item.

#### Power LED

Indicates the power status of the monitor.

#### Standby LED

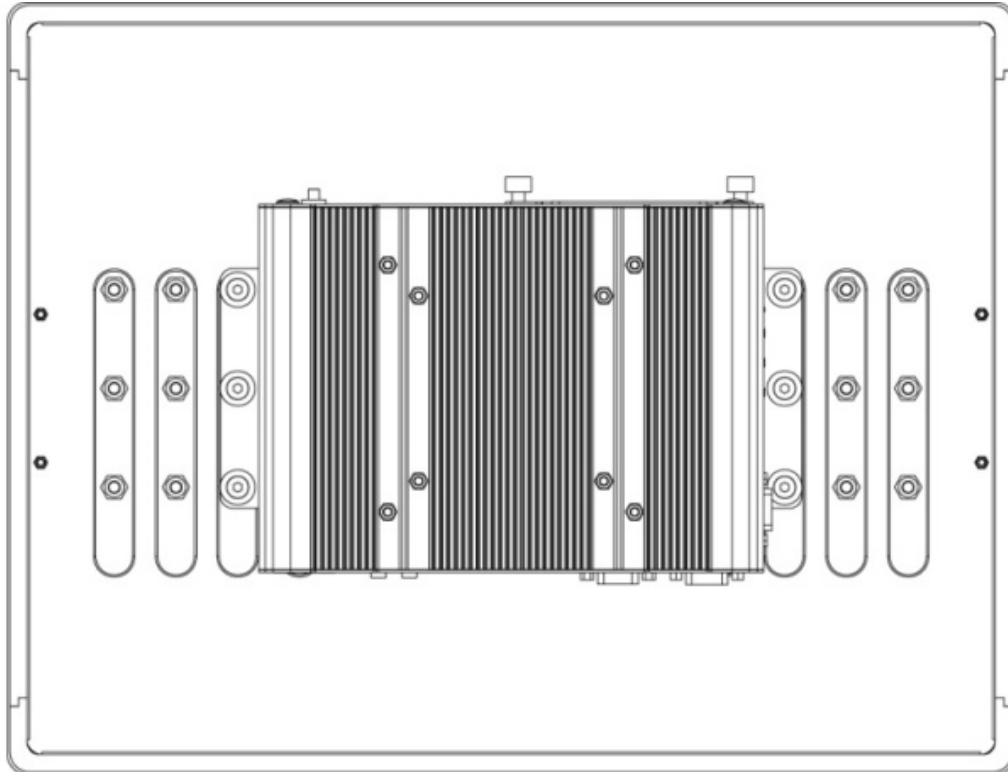
Indicates the standby mode of the monitor.



## 1.2.5 Top

### VESA Mounting Hole

These are mounting holes for VESA mount (75x75mm and 100x100mm)



## Chapter 2

# OSD Operation

## 2.1 OSD Function Description

OSD Menu	Description
 <p>Luminance</p>	<ul style="list-style-type: none"> <li>• Brightness</li> <li>• Contrast</li> <li>• Gamma</li> <li>• SuperResolution</li> </ul>
 <p>Picture</p>	<ul style="list-style-type: none"> <li>• Phase</li> <li>• Clock</li> <li>• H. Position</li> <li>• V. Position</li> </ul>
 <p>Color</p>	<ul style="list-style-type: none"> <li>• Color Temperature</li> <li>• Red</li> <li>• Green</li> <li>• Blue</li> </ul>
 <p>OSD Settings</p>	<ul style="list-style-type: none"> <li>• Horizontal</li> <li>• Vertical</li> <li>• Transparency</li> <li>• OSD Time Out</li> </ul>
 <p>Setup</p>	<ul style="list-style-type: none"> <li>• Language</li> <li>• Mute</li> <li>• Input</li> <li>• Reset</li> </ul>

## Chapter 3

# System Setup

## 3.1 Connecting with PowerTwin Display Module



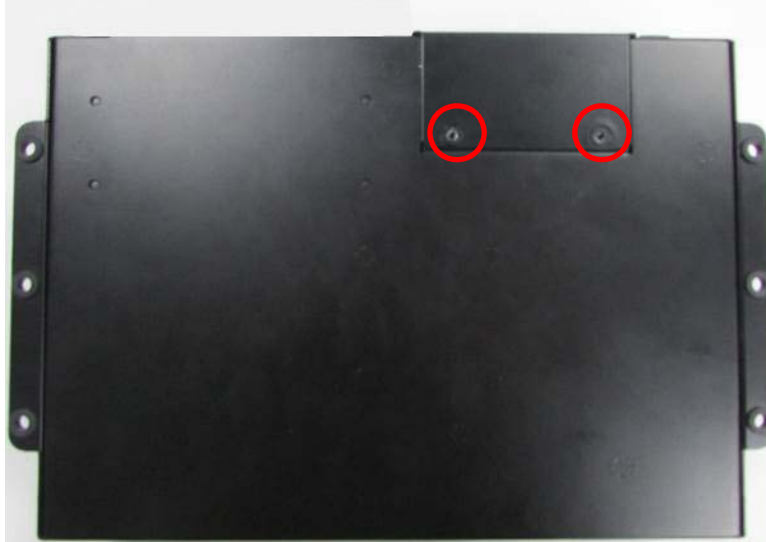
### WARNING

In order to prevent electric shock or system damage, before removing the chassis cover, please turn off power and disconnect the unit from the power source.

1. Locate the module connector slot and loosen 1 screw.



2. Turn over the module and loose 2 screws at the back of the connector cover.



The photos shows the male connector (on display module) and female connector (on Display)

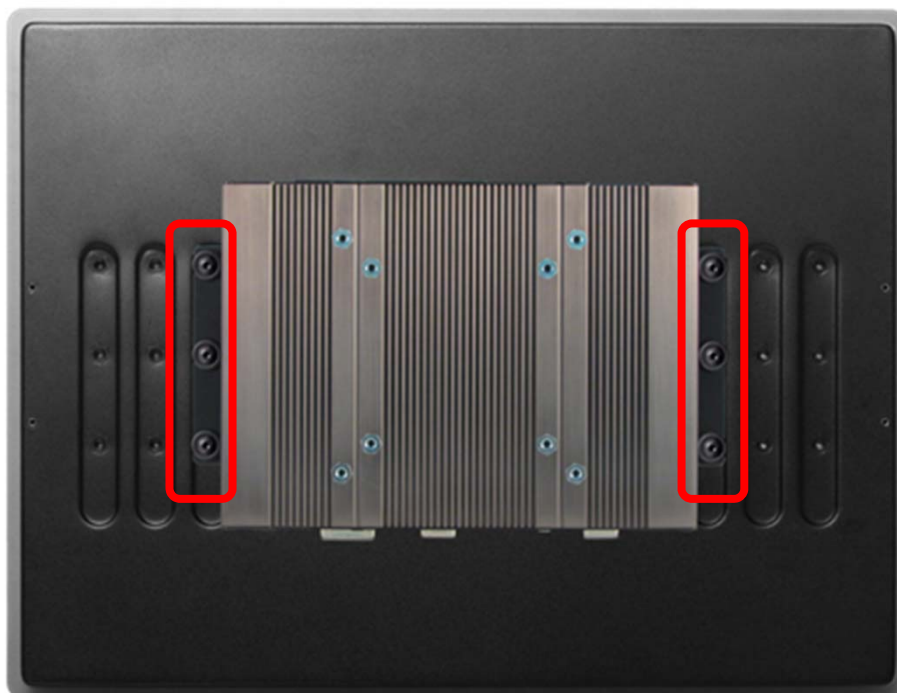




3. Connect the modules.



4. Have the studs screwed to the display through the holes of the Display module.

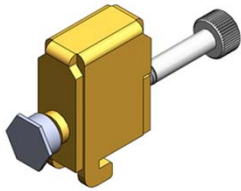


Appendix

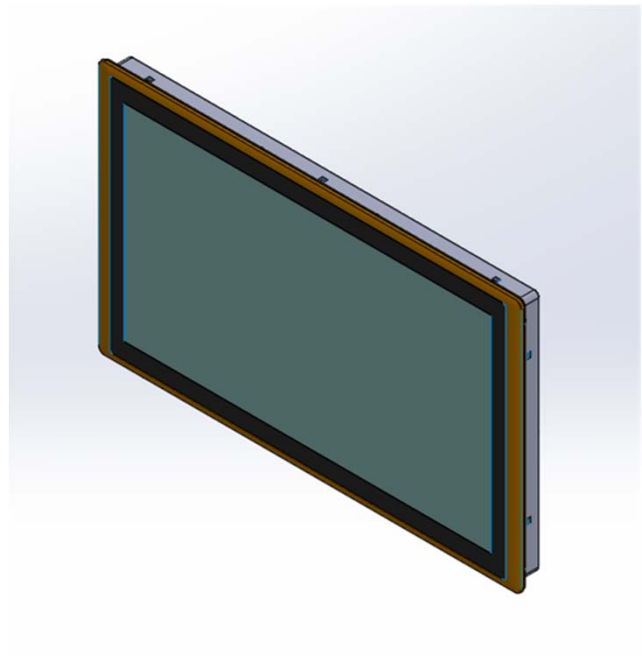
# Panel Mount Procedures

## A.1 Mounting Solution Guide For Panel Mount

1. Accessories provided by Spectra are as follows.



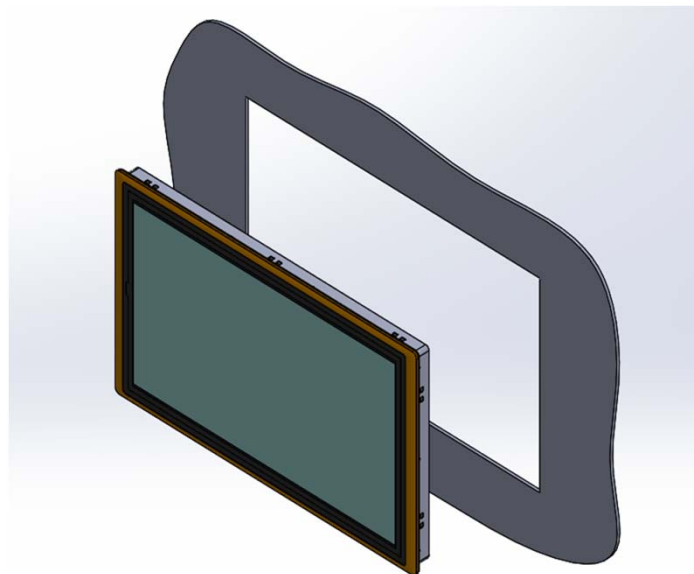
Mounting Kits



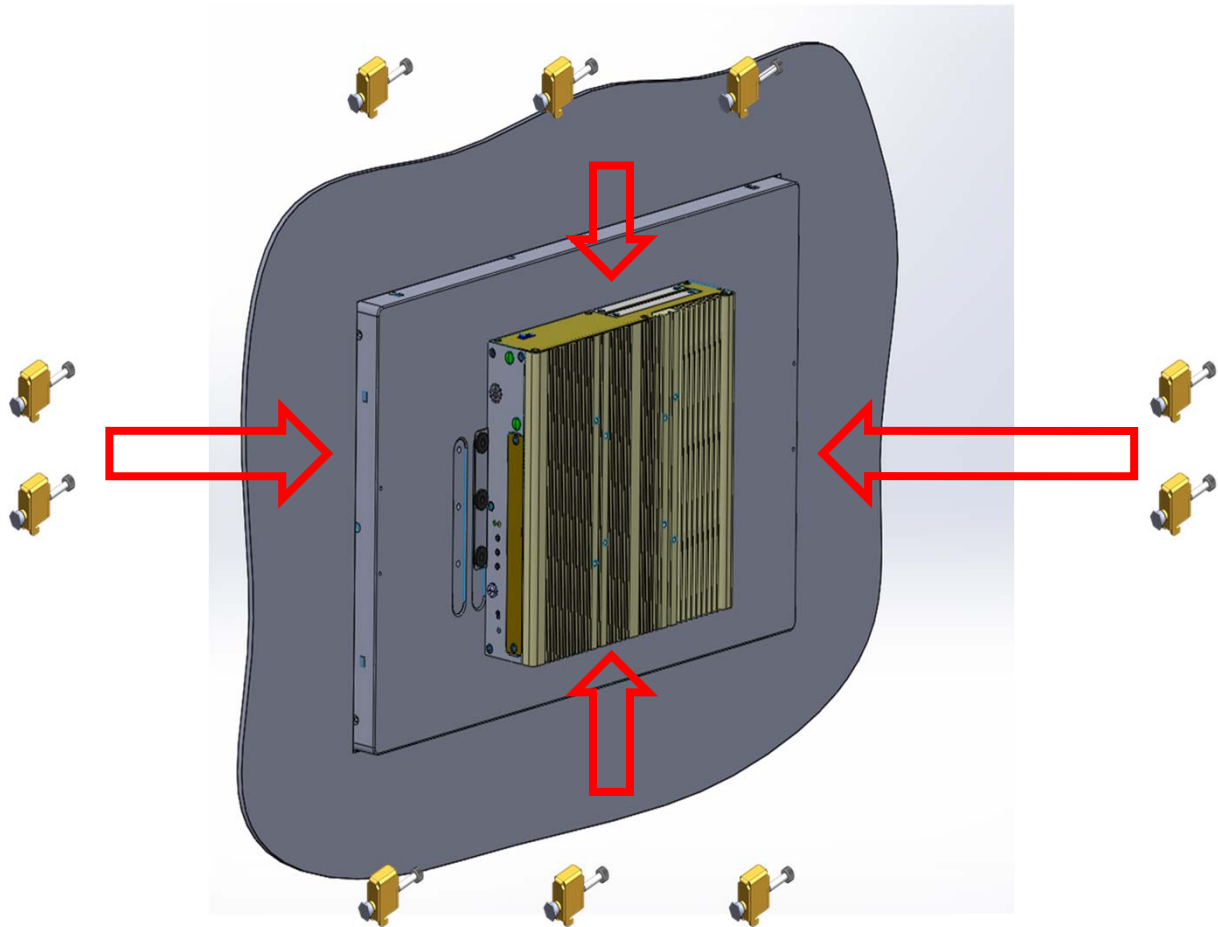
Panel Mount PPC

Before assembly, please prepare panel mount PPC and customer's fixture.

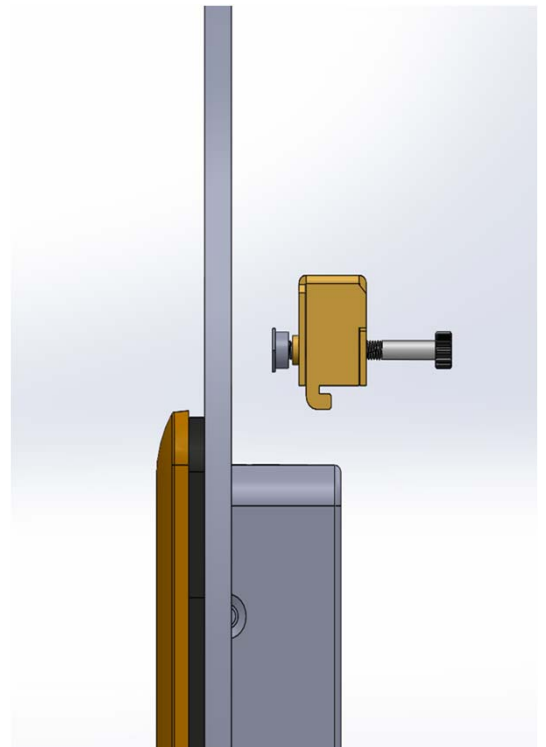
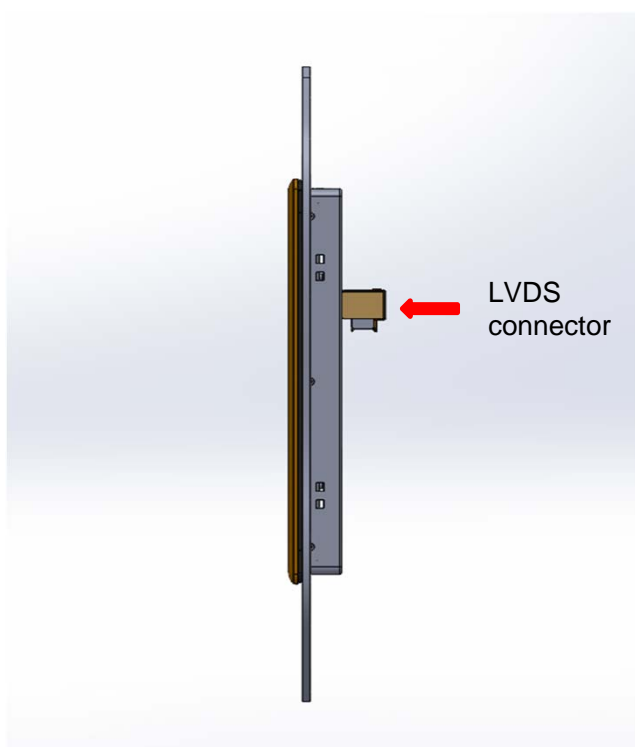
Panel Mount with customer's fixture  
(Front View)



2. All mounting kits displayed are to be inserted into holes.

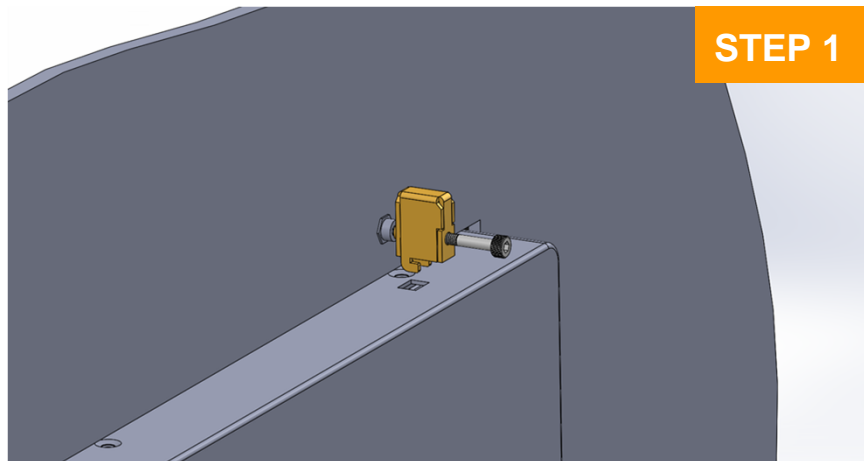


3. Installation preparation and steps.

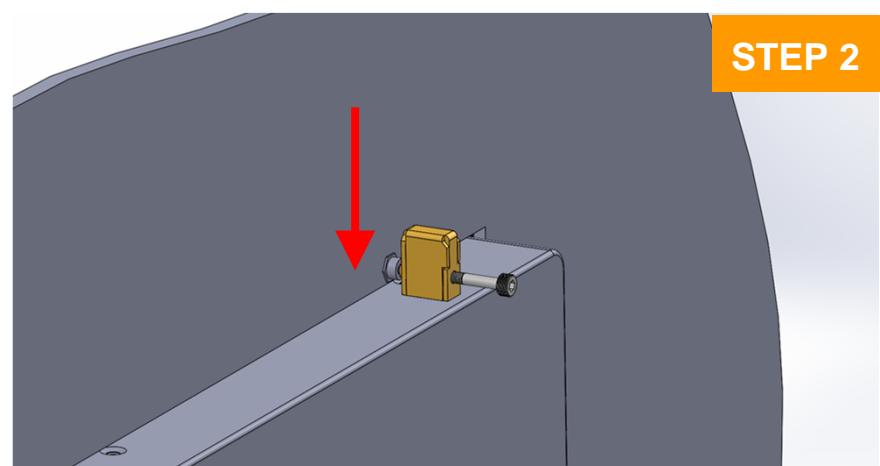


Panel mount side view with LVDS connector  
of PowerTwin series

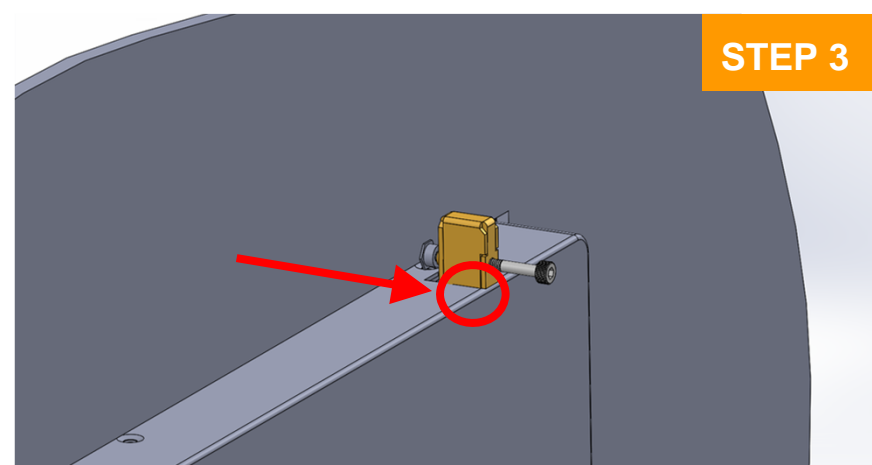
Before Mounting Kits are installed



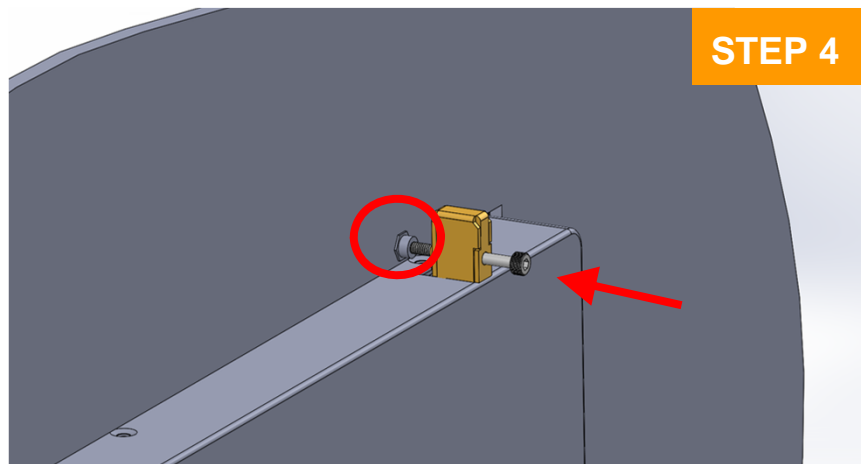
Position panel mount kits



Insert the panel mounting kit into bottom hole

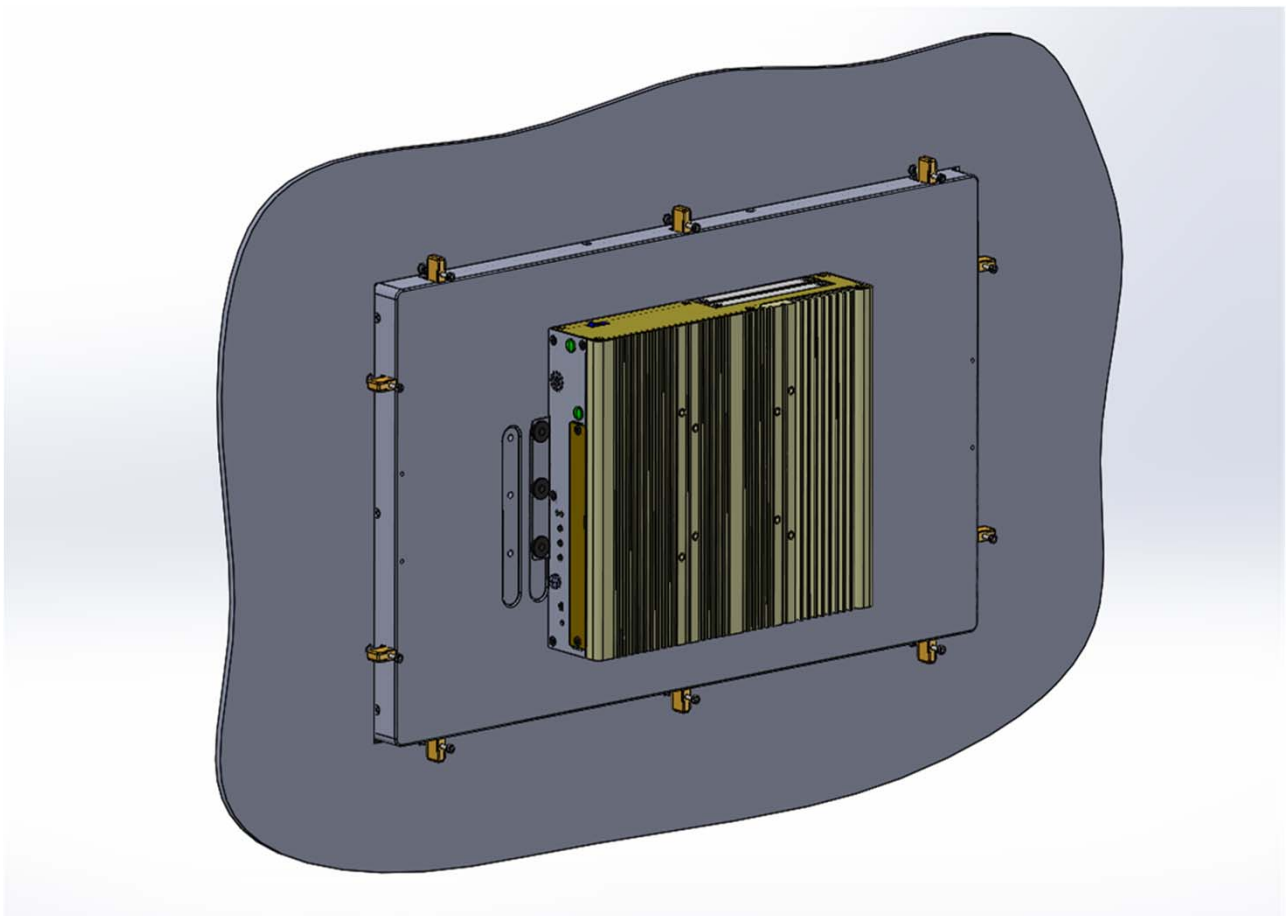


Slide the kit toward back



Tighten the screw forward until the front screw just touches the surface

4. Apply all mount kits to the rest of holes. And you have completed the panel mount installation, as shown below.



Powered by individuality



**Spectra GmbH & Co. KG**

Mahdenstr. 3  
72768 Reutlingen  
Germany

Phone +49 (0) 7121 1432-10  
E-Mail [info@spectra.de](mailto:info@spectra.de)  
Web [www.spectra.de](http://www.spectra.de)



**Spectra GmbH & Co. KG**

Gewerbepark Ost 1  
4621 Sipbachzell (Wels)  
Austria

Phone +43 (0) 7240 20190  
E-Mail [info@spectra-austria.at](mailto:info@spectra-austria.at)  
Web [www.spectra-austria.at](http://www.spectra-austria.at)



**Spectra (Schweiz) AG**

Flugplatzstr. 5  
8404 Winterthur  
Switzerland

Phone +41 (0) 43 2771050  
E-Mail [info@spectra.ch](mailto:info@spectra.ch)  
Web [www.spectra.ch](http://www.spectra.ch)

**Sales Industrial PC Systems**

Phone +49 (0) 7121 1432-165  
E-Mail [vertrieb@spectra.de](mailto:vertrieb@spectra.de) / [sales@spectra.de](mailto:sales@spectra.de)



All other logos appearing in this catalog are the intellectual property of the respective company, product, or organization associated with the logo. All product specifications and information are subject to change without notice.

© spectra 2019