SPECTRA PowerTwin Monitor with sunreadable Displays

USER MANUAL

Version 1.30 – September 2020

spectra
Industrie-PC & Automation

Contents

Preface

Revision

Revision	Description	Date
1.00	Manual Released	2018/03/06
1.10	M08C Product Info and Mechanical Dimensions Added	2019/02/15
1.11	Correction Made	2019/04/26
1.20	Edit Models names	2019/08/20
1.30	Removed Optical Bonding Option	2020/09/21

Copyright 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 Spectraproducts 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 lightening, 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 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 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. Disconnected 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 to 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

| Model No.	Product Description
Spectra PowerTwin M08C-SR	8.4" TFT-LCD 1600 nits Sunlight Readable Touch Monitor with P-Cap. Touch
Spectra PowerTwin MH10C-SR	10.4" TFT-LCD 1500 nits Sunlight Readable Touch Monitor with P-Cap. Touch
Spectra PowerTwin MH12C-SR	12.1" TFT-LCD 1500 nits Sunlight Readable Touch Monitor with P-Cap. Touch
Spectra PowerTwin M15C-SR	15" TFT-LCD 1600 nits Sunlight Readable Touch Monitor with P-Cap. Touch
Spectra PowerTwin M17C-SR	17" TFT-LCD 1500 nits Sunlight Readable Touch Monitor with P-Cap. Touch
Spectra PowerTwin M19C-SR	19" TFT-LCD 1600 nits Sunlight Readable Touch Monitor with P-Cap. Touch

Chapter 1
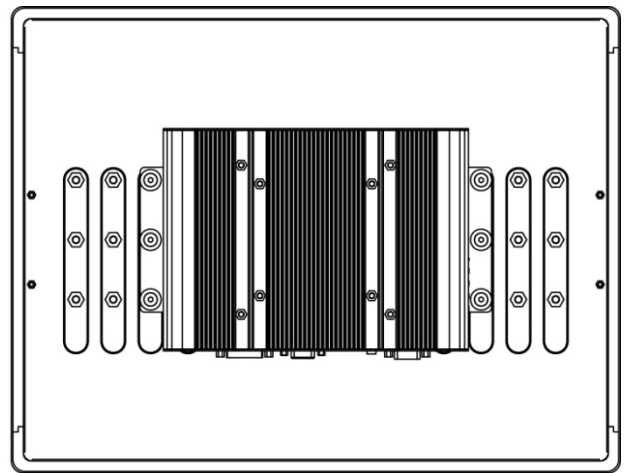
Product Introductions

1.1 Overview

The Spectra PowerTwin M-SR Series is a sunlight readable touch monitor offering ultra-high brightness and high resolution. It supports both digital and analog signal input via three types of display interface, including VGA, DVI-D and DisplayPort. Spectra PowerTwin M-SR Series supports Convertible Display System (CDS) technology which allows you to configure, upgrade and maintain your display system according to your need. In addition, it has OSD function for adjusting the viewing options of display.

Featuring wide range operating temperature (-5°C to 60°C), IP65 dust/water proof front panel and wide range DC power input (9 to 48VDC), Spectra PowerTwin M-SR Series is a rugged and reliable display solution for outdoor applications, such as heavy-duty lifting & moving equipment, e-toll collection system, car-sharing system and outdoor kiosk.
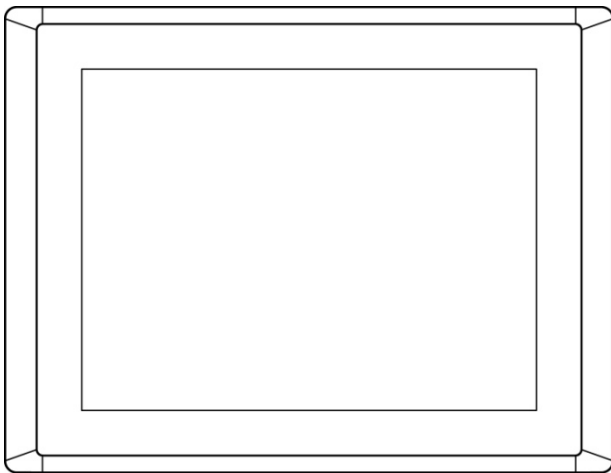
Front

Rear

1.2 Highlights

Sunlight Readable

Providing ultra high brightness and high resolution, Spectra PowerTwin M-SR Series is suitable for all lighting conditions including direct sunlight.

Wide Temperature

Spectra PowerTwin M-SR Series supports wide range operating temperature from -5°C to 60°C and is suitable for deploying in extreme and harsh environments.

Multiple Video Input

Spectra PowerTwin M-SR Series supports high resolution and offers both digital and analog signal input interfaces including VGA, DVI-D & DisplayPort.

1.3 Hardware Specification

1.3.1 PowerTwin M08C-SR

Key Features

- 8.4" TFT-LCD with Ultra High Brightness up to 1,600 nits and 800 x 600 (SVGA) Resolution
- Signal Input: VGA, DVI-D and DisplayPort
- Wide Range Operating Temperature -5°C to 60°C
- Designed with Rugged Aluminum Die-casting Front Bezel and Heavy Duty Metal Chassis
- True Flat IP65 Front Panel Protection
- Supports Panel / VESA / *Rack Mounting (*with optional mounting kit)
- Wide Range Power Input 9~48VDC
- Convertible Display System (CDS) Technology Supported

Hardware Specification

Display

- LCD Size: 8.4" (4:3)
- Max. Resolution: 800 x 600
- Brightness (cd/m2): 1600
- Contrast Ratio: 600 : 1
- LCD Color: 16.2M
- Pixel Pitch (mm): 0.213 (H) x 0.213 (V)
- Viewing Angle (H-V): 160 / 140
- Backlight MTBF: 50000 hrs (LED Backlight)

Touch

- Projected Capacitive Touch

I/O Ports

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

Physical

- Dimension (WxHxD): 262 x 186.2 x 66 mm
- Weight: 2.70 kg
- Mechanical Construction: Rugged Aluminum Die-casting Front Bezel and Heavy Duty Metal Chassis
- Mounting: Panel / VESA / *Rack Mounting (*with optional mounting kit)

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 70°C
- Relative humidity: 85% RH @ 40°C (Non-Condensing)
- Shock: Operating, 15 Grms, Half-sine 11 ms Duration (w/ SSD, according to IEC60068-2-27)
- Vibration: Operating, 1.5 Grms, 5-500 Hz, 3 Axes (w/ SSD, according to IEC60068-2-64)
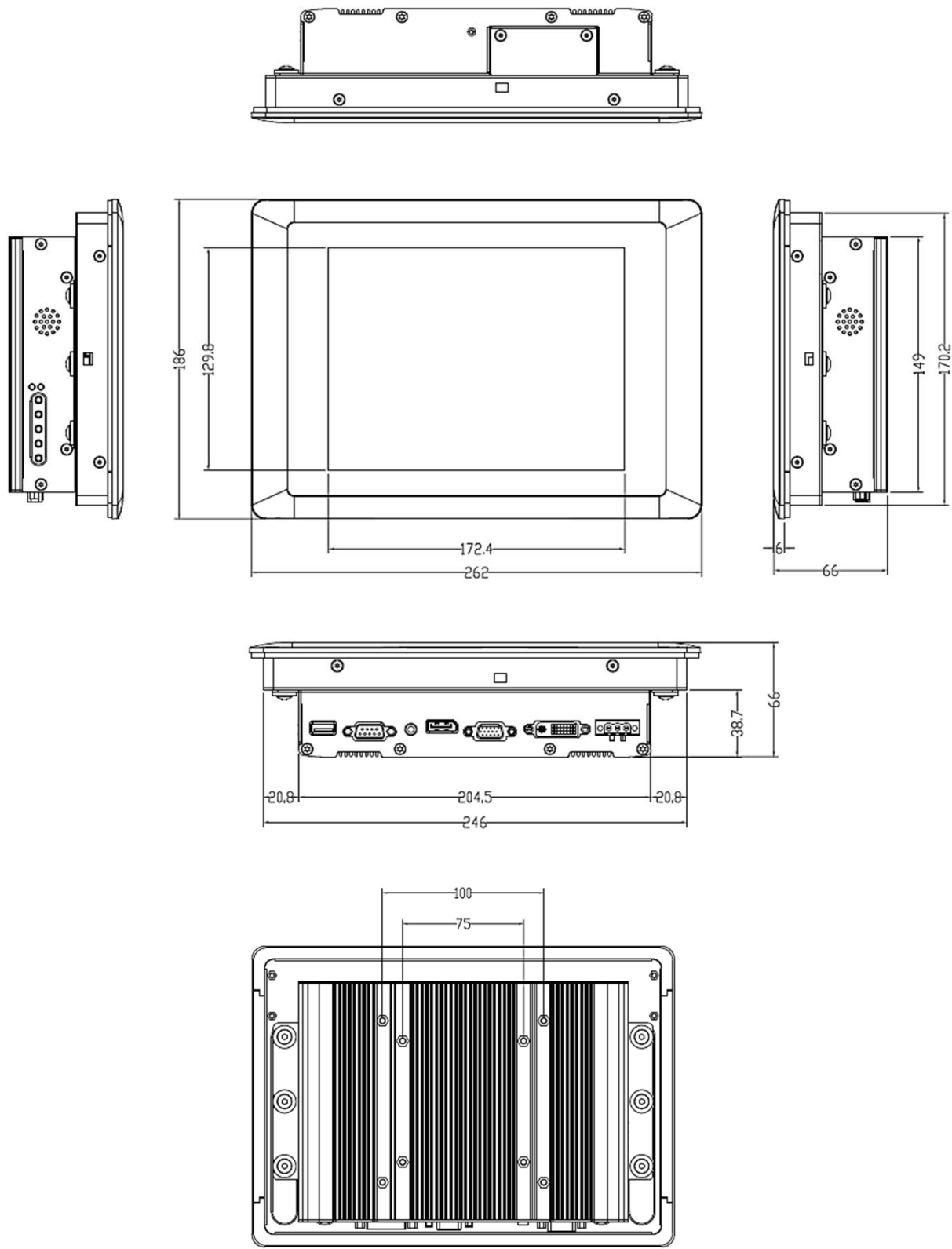- IP Level: IP65 Compliant Front Panel

Certification

- CE
- FCC Class A

spectra

Dimension

PowerTwin M08C-SR

Unit: mm

1.3.2 PowerTwin MH10C-SR

Key Features

- 10.4" TFT LCD with Ultra High Brightness up to 1,500nits and 1024 x 768 (XGA) Resolution
- Signal Input: VGA, DVI-D and DisplayPort
- Wide Range Operating Temperature -5℃ to 60℃
- Designed with Rugged Aluminum Die-casting Front Bezel and Heavy Duty Metal Chassis
- True Flat IP65 Front Panel Protection
- Supports Panel / VESA / *Rack Mounting (*with optional mounting kit)
- Wide Range Power Input 9~48VDC
- Convertible Display System (CDS) Technology Supported

Hardware Specification

Display

- LCD Size: 10.4" (4:3)
- Max. Resolution: 1024 x 768
- Brightness (cd/m2): 1500
- 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

- Projected Capacitive Touch

I/O Ports

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

Physical

- Dimension (WxHxD): 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 / *Rack Mounting (*with optional mounting kit)

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℃ to 60℃ (with Industrial Grade Peripherals)
- Storage Temperature: -20℃ to 70℃
- Shock: Operating, 15 Grms, Half-sine 11 ms Duration (w/ SSD, according to IEC60068-2-27)
- Vibration: Operating, 1.5 Grms, 5-500 Hz, 3 Axes (w/ SSD, according to IEC60068-2-64)
- Relative humidity: 80% RH @ 40℃ (Non-Condensing)
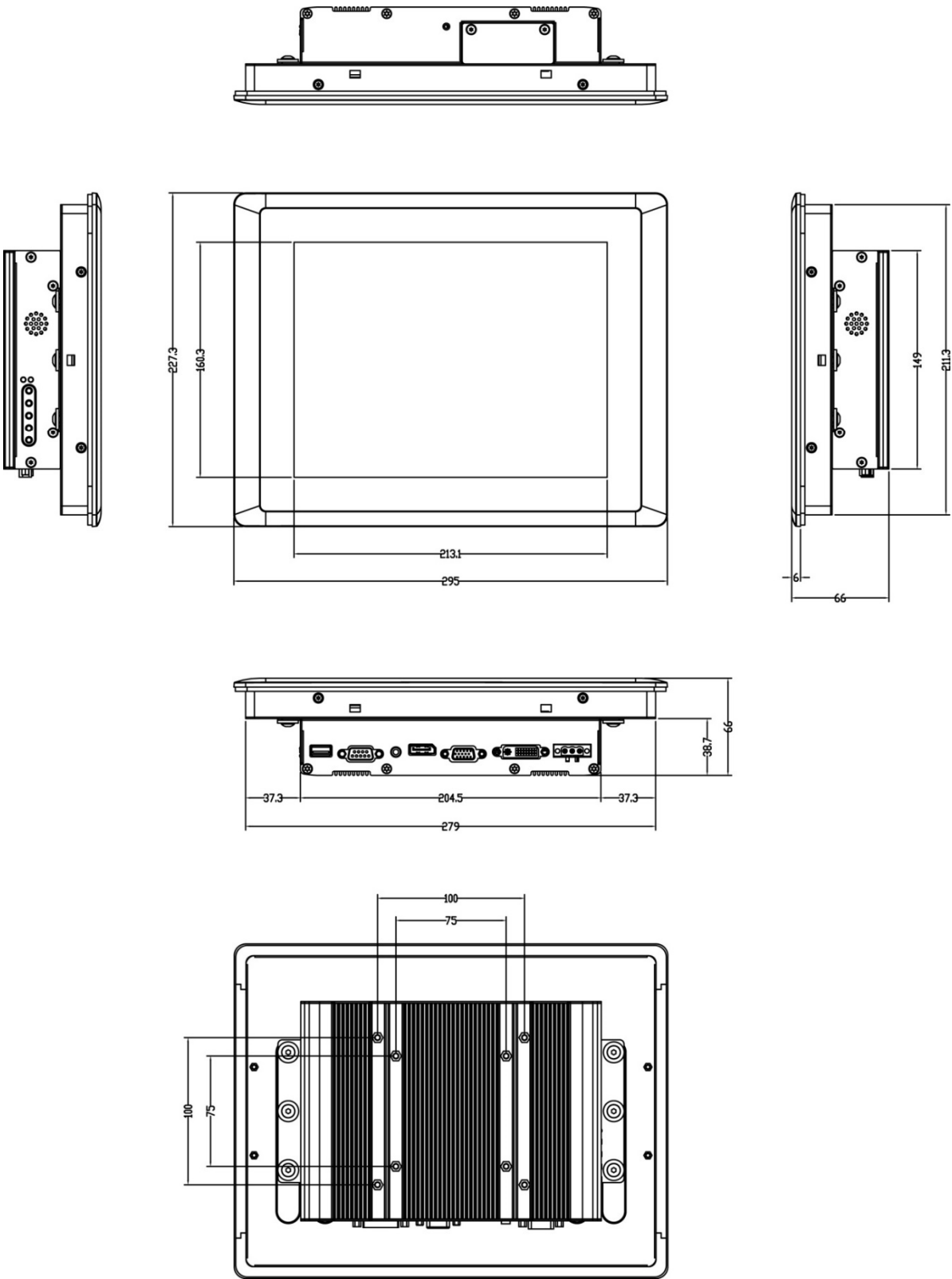- IP Level: IP65 Compliant Front Panel

Certification

- CE
- FCC Class A

Dimension

PowerTwin MH10C-SR

Unit: mm

1.3.3 PowerTwin MH12C-SR

Key Features

- 12.1" TFT LCD with Ultra High Brightness up to 1,500nits and 1024 x 768 (XGA) Resolution
- Signal Input: VGA, DVI-D and DisplayPort
- Wide Range Operating Temperature -5°C to 60°C
- Designed with Rugged Aluminum Die-casting Front Bezel and Heavy Duty Metal Chassis
- True Flat IP65 Front Panel Protection
- Supports Panel / VESA / *Rack Mounting (*with optional mounting kit)
- Wide Range Power Input 9~48VDC
- Convertible Display System (CDS) Technology Supported

Hardware Specification

Display

- LCD Size: 12.1" (4:3)
- Max. Resolution: 1024x 768
- Brightness (cd/m2): 1500
- 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

- Projected Capacitive Touch

I/O Ports

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

Physical

- Dimension (WxHxD): 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 / *Rack Mounting (*with optional mounting kit)

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 70°C
- Shock: Operating, 15 Grms, Half-sine 11 ms Duration (w/ SSD, according to IEC60068-2-27)
- Vibration: Operating, 1.5 Grms, 5-500 Hz, 3 Axes (w/ SSD, according to IEC60068-2-64)
- Relative Humidity: 80% RH @ 40°C (Non-Condensing)
- IP Level: IP65 Compliant Front Panel

Certification

- CE
- FCC Class A

Dimension

PowerTwin MH12C-SR

Unit: mm
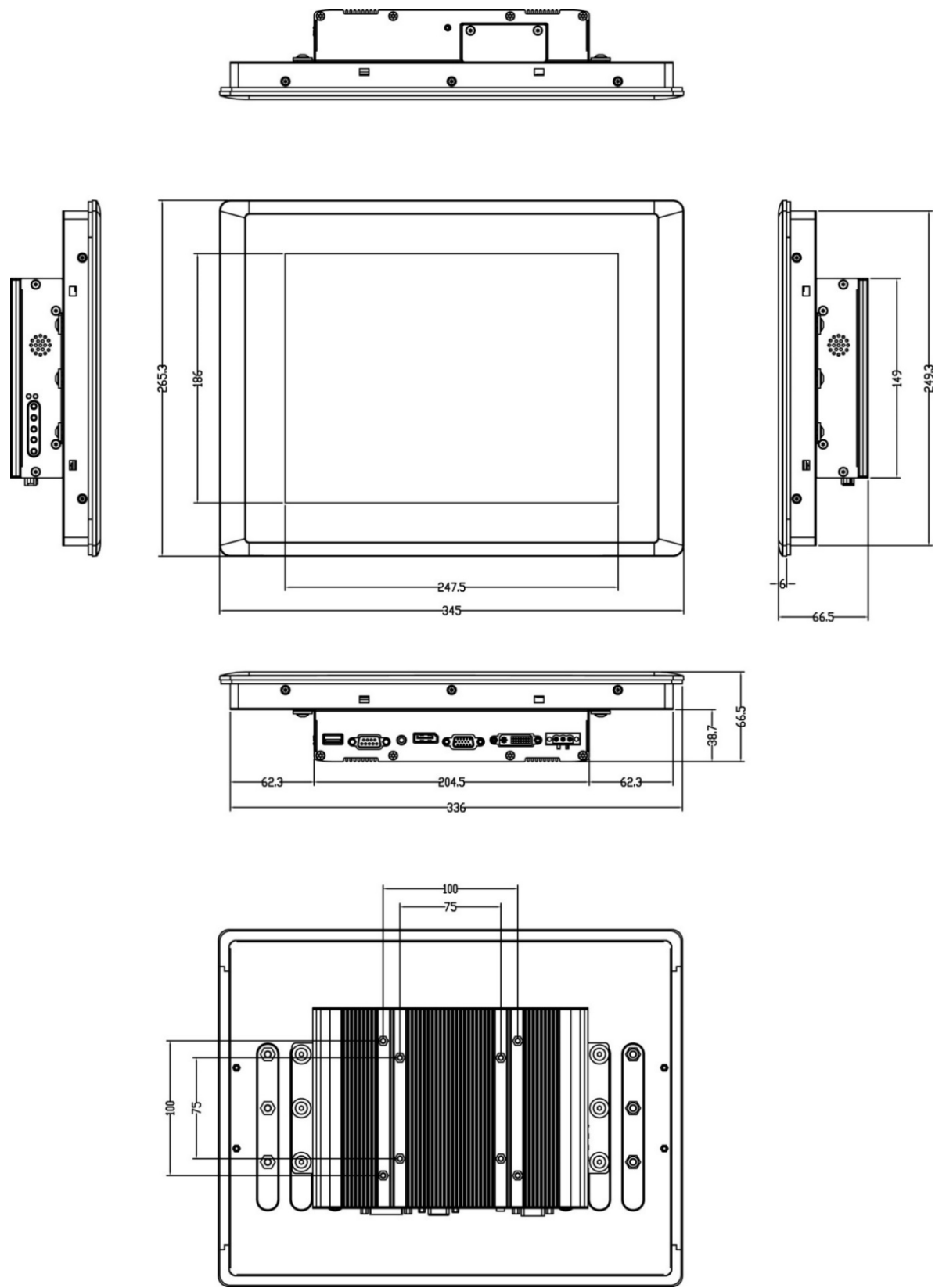
1.3.4 PowerTwin M15C-SR

Key Features

- 15" TFT LCD with Ultra High Brightness up to 1,600nits and 1024 x 768 (XGA) Resolution
- Signal Input: VGA, DVI-D and DisplayPort
- Wide Range Operating Temperature -5℃ to 60℃
- Designed with Rugged Aluminum Die-casting Front Bezel and Heavy Duty Metal Chassis
- True Flat IP65 Front Panel Protection
- Supports Panel / VESA / *Rack Mounting (*with optional mounting kit)
- Wide Range Power Input 9~48VDC
- Convertible Display System (CDS) Technology Supported

Hardware Specification

Display

- LCD Size: 15" (4:3)
- Max. Resolution: 1024 x 768
- Brightness (cd/m2): 1600
- 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

- Projected Capacitive Touch

I/O Ports

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

Physical

- Dimension (WxHxD): 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 / *Rack Mounting (*with optional mounting kit)

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℃ to 60℃ (with Industrial Grade Peripherals)
- Storage Temperature: -20℃ to 70℃
- Shock: Operating, 15 Grms, Half-sine 11 ms Duration (w/ SSD, according to IEC60068-2-27)
- Vibration: Operating, 1.5 Grms, 5-500 Hz, 3 Axes (w/ SSD, according to IEC60068-2-64)
- Relative humidity: 80% RH @ 40℃ (Non-Condensing)
- IP Level: IP65 Compliant Front Panel

Certification

- CE
- FCC Class A

Dimension

PowerTwin M15C-SR

Unit: mm
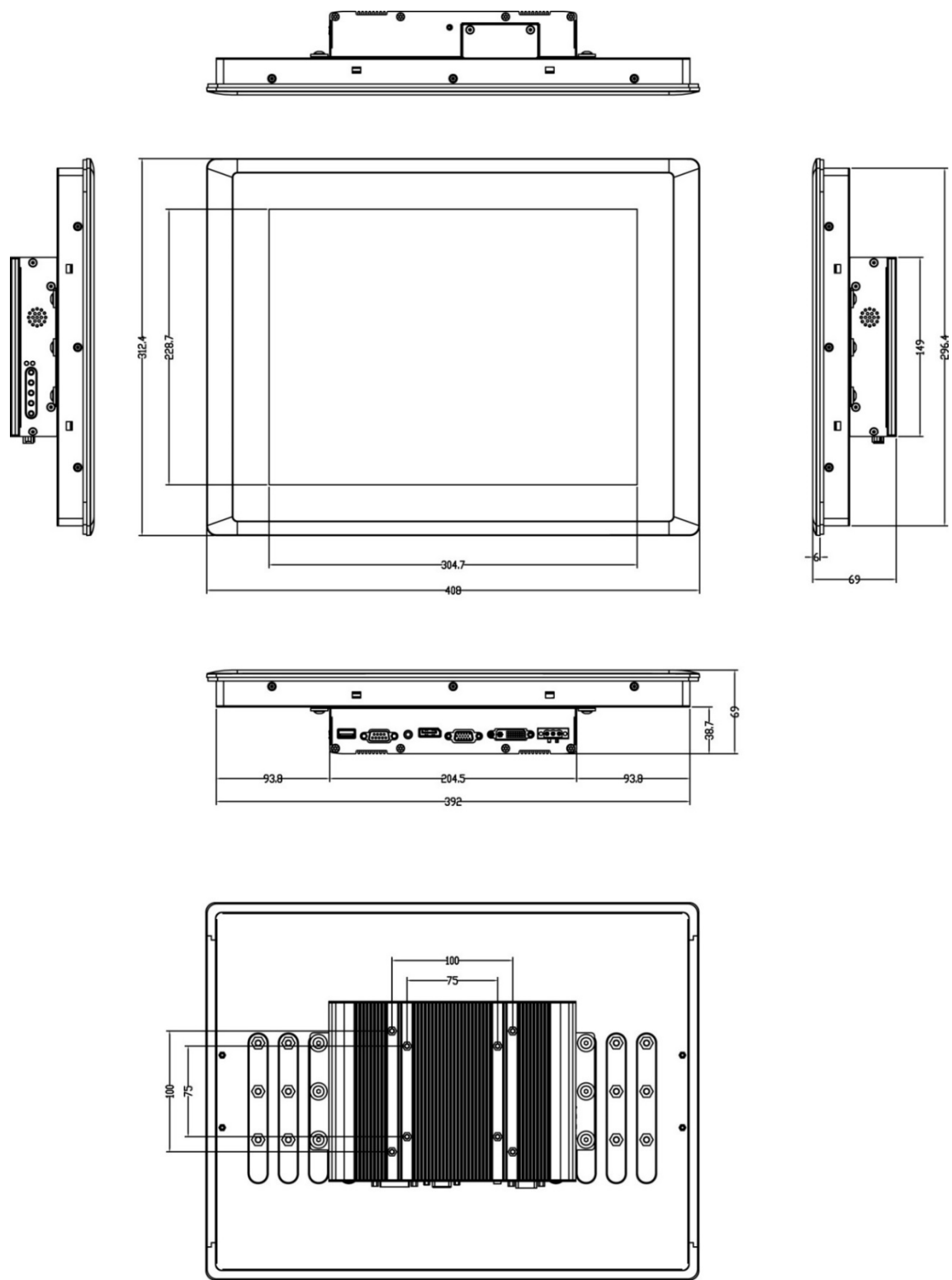
1.3.5 PowerTwin M17C-SR

Key Features

- 17" TFT LCD with Ultra High Brightness up to 1,500nits and 1280 x 1024 (SXGA) Resolution
- Signal Input: VGA, DVI-D and DisplayPort
- Wide Range Operating Temperature -5°C to 60°C
- Designed with Rugged Aluminum Die-casting Front Bezel and Heavy Duty Metal Chassis
- True Flat IP65 Front Panel Protection
- Supports Panel / VESA / *Rack Mounting (*with optional mounting kit)
- Wide Range Power Input 9~48VDC
- Convertible Display System (CDS) Technology Supported

Hardware Specification

Display

- LCD Size: 17" (5:4)
- Max. Resolution: 1280 x 1024
- Brightness (cd/m2): 1500
- 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

- Projected Capacitive Touch

I/O Ports

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

Physical

- Dimension (WxHxD): 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 / *Rack Mounting (*with optional mounting kit)

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 70°C
- Shock: Operating, 15 Grms, Half-sine 11 ms Duration (w/ SSD, according to IEC60068-2-27)
- Vibration: Operating, 1.5 Grms, 5-500 Hz, 3 Axes (w/ SSD, according to IEC60068-2-64)
- Relative humidity: 80% RH @ 40°C (Non-Condensing)
- IP Level: IP65 Compliant Front Panel

Certification

- CE
- FCC Class A

## Dimension

PowerTwin M17C-SR

Unit: mm
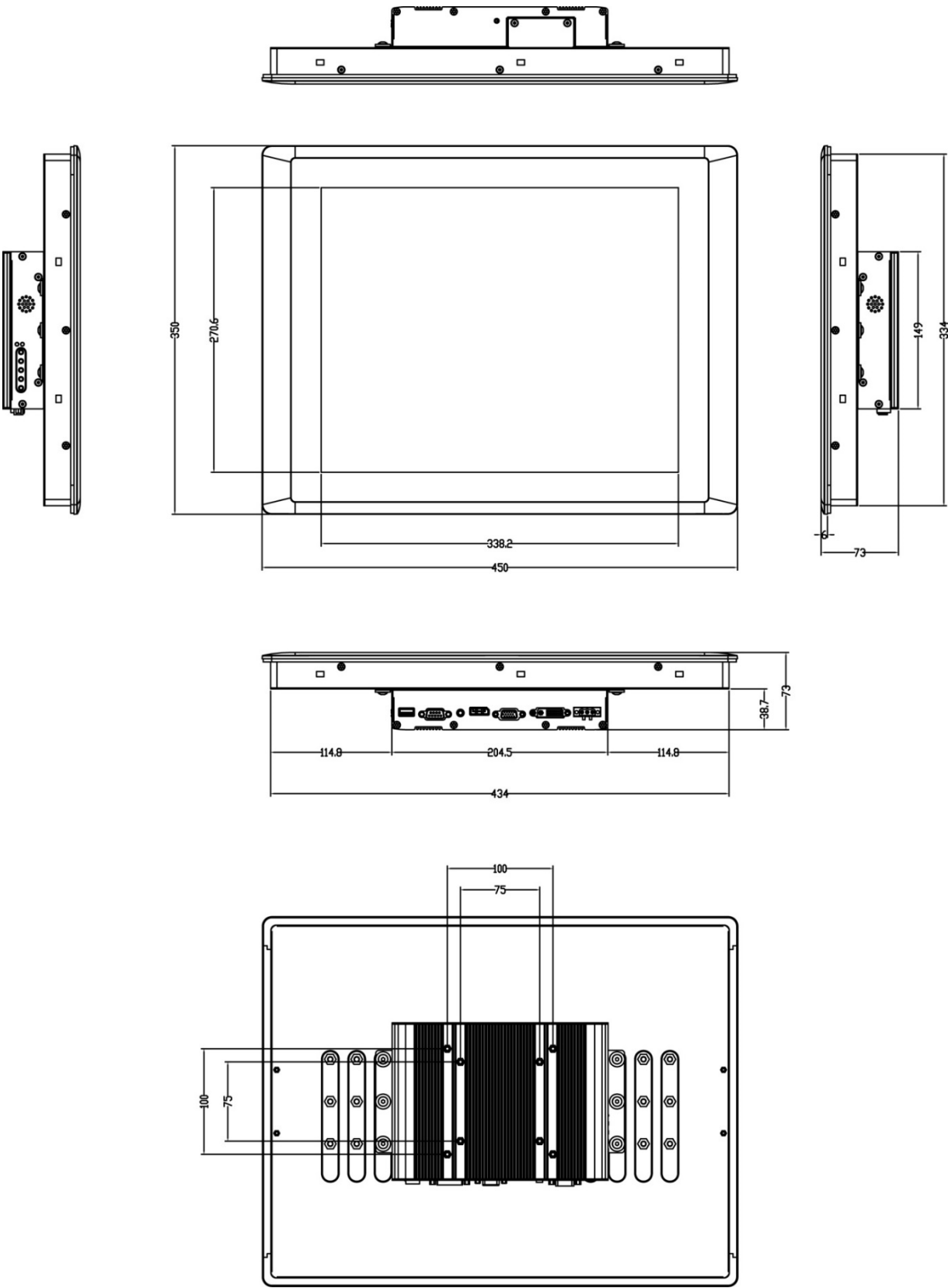
1.3.6 PowerTwin M19C-SR

Key Features

- 19" TFT LCD with Ultra High Brightness up to 1,600nits and 1280 x 1024 (SXGA) Resolution
- Signal Input: VGA, DVI-D and DisplayPort
- Wide Range Operating Temperature -5°C to 60°C
- Designed with Rugged Aluminum Die-casting Front Bezel and Heavy Duty Metal Chassis
- True Flat IP65 Front Panel Protection
- Supports Panel / VESA / *Rack Mounting (*with optional mounting kit)
- Wide Range Power Input 9~48VDC
- Convertible Display System (CDS) Technology Supported

Hardware Specification

Display

- LCD Size: 19" (5:4)
- Max. Resolution: 1280 x 1024
- Brightness (cd/m2): 1600
- 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

- Projected Capacitive Touch

I/O Ports

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

Physical

- Dimension (WxHxD): 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 / *Rack Mounting (*with optional mounting kit)

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 70°C
- Shock: Operating, 15 Grms, Half-sine 11 ms Duration (w/ SSD, according to IEC60068-2-27)
- Vibration: Operating, 1.5 Grms, 5-500 Hz, 3 Axes (w/ SSD, according to IEC60068-2-64)
- Relative humidity: 80% RH @ 40°C (Non-Condensing)
- IP Level: IP65 Compliant Front Panel

Certification

- CE
- FCC Class A

Dimension

PowerTwin M19C-SR

Unit: mm
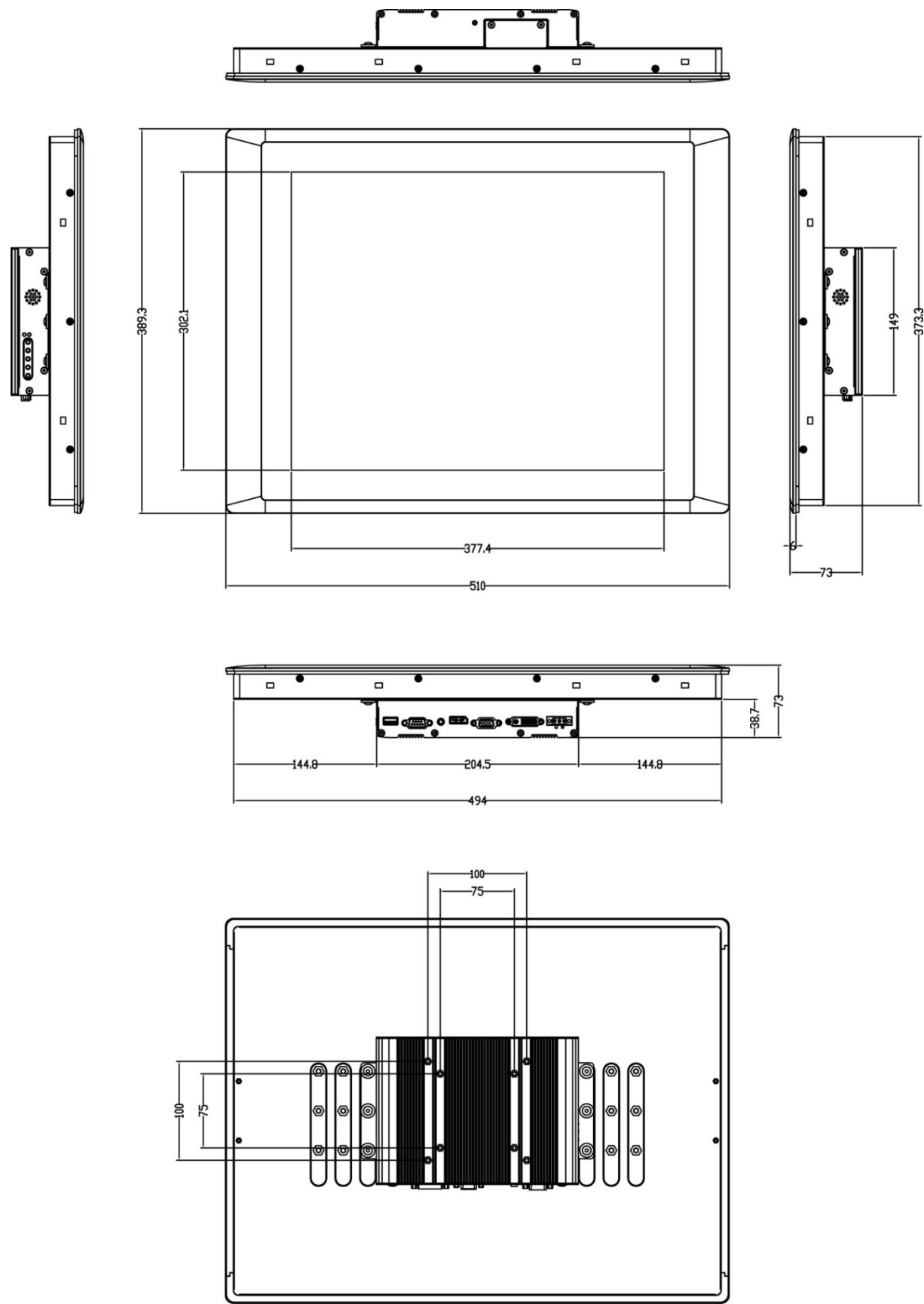
1.4 System I/O

1.4.1 Front
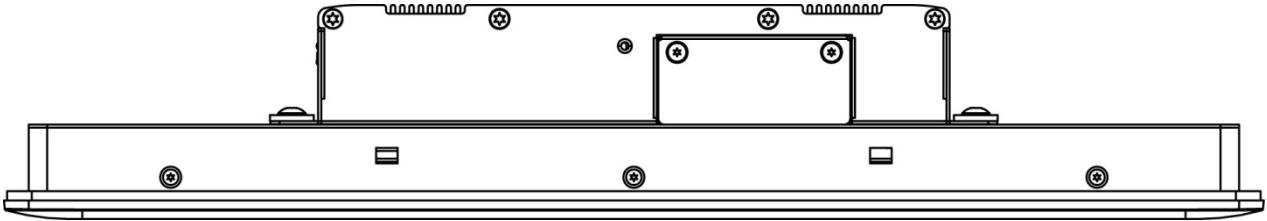
1.4.2 Rear

DC IN
Used to plug a DC power input with terminal block.

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

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

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.

USB for Touch Panel Connector
Use the rear panel standard USB touch panel connector to connect the monitor to the system interface.

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.
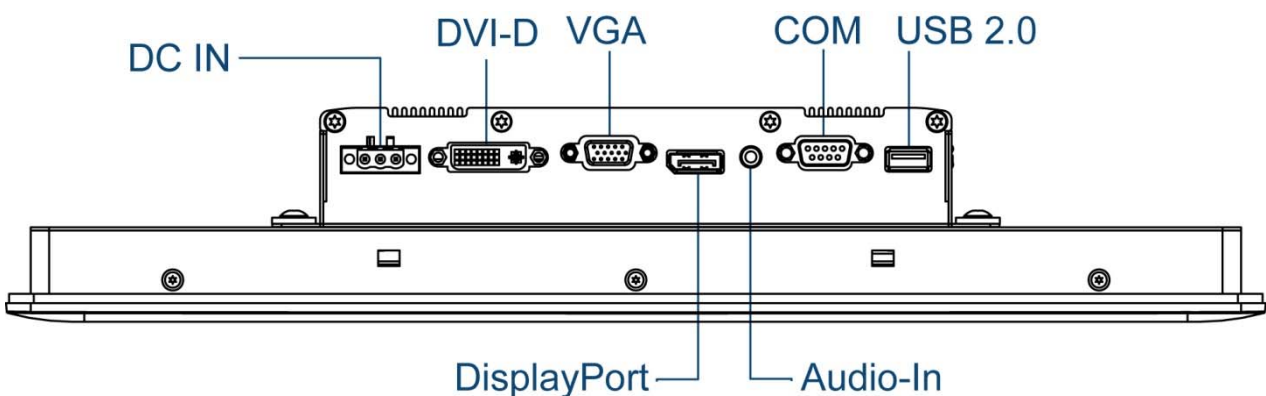
1.4.3 Side (Left)
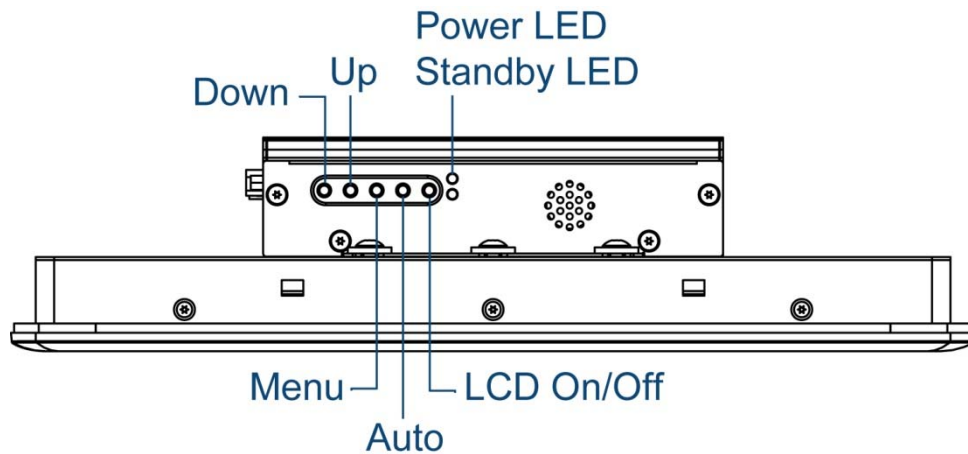
1.4.4 Side (Right)

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.

Stand by LED
Indicates the stand by mode of the monitor.
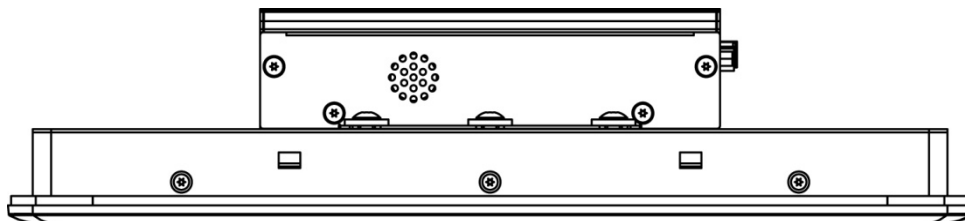
1.4.5 Top

VESA Mounting Hole
These are mounting holes for VESA mount (75x75mm and 100x100mm)
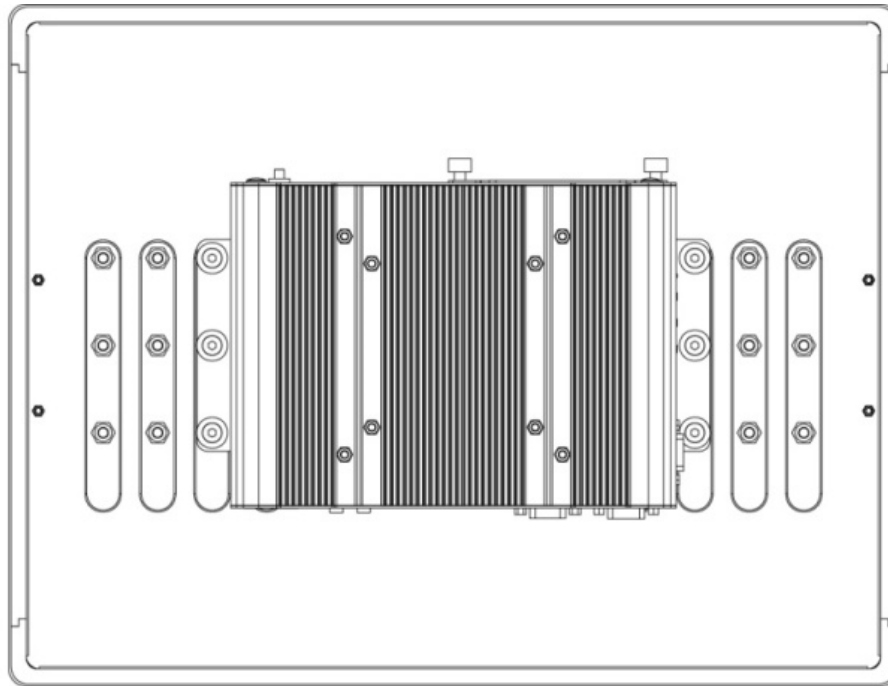
Chapter 2

OSD Operation

2.1 OSD Function Description

OSD Menu	Description
 Luminance	• Brightness • Contrast • Gamma • SuperResolution
 Picture	• Phase • Clock • H. Position • V. Position
 Color	• Color Temperature • Red • Green • Blue
 OSD Settings	• Horizontal • Vertical • Transparency • OSD Time Out
 Setup	• Language • Mute • Input • Reset

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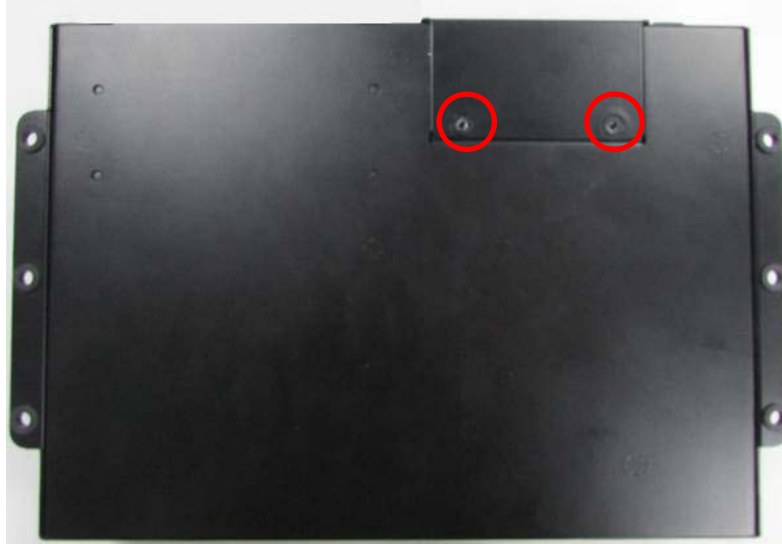
The photos shows the male connector (on monitor module) and female connector (on display module)

3. Connect the modules.

4. Have the studs screwed to the display through the holes of the monitor module.
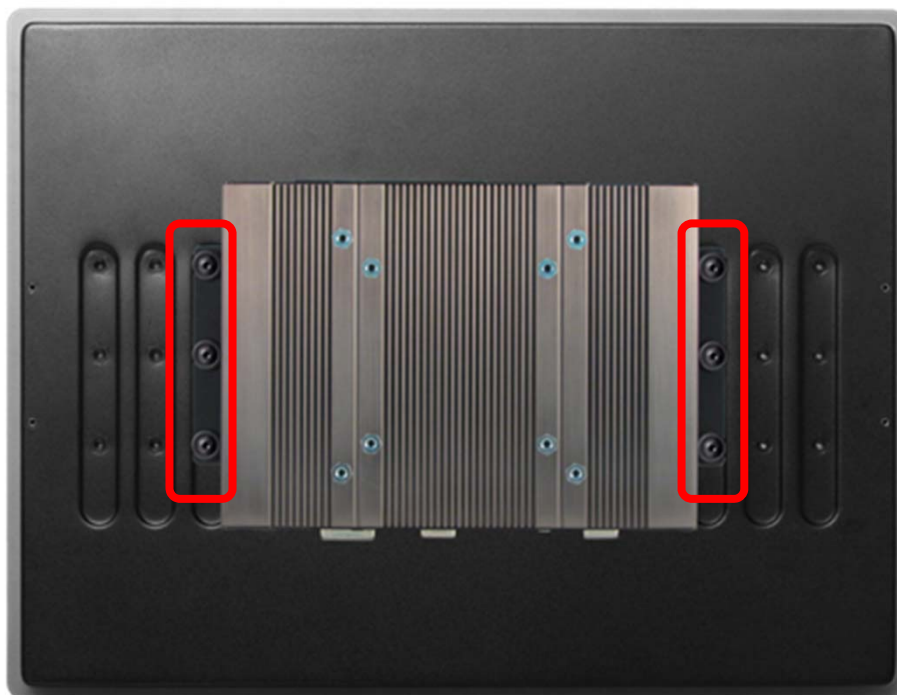
3.2 VESA Mount

The following picture indicates VESA mounting hole pattern on monitor module, which is compliant with VESA mounting standard.

1. The following picture uses a panel solution (monitor module + PowerTwin display) as a demonstration. To attach the panel to a VESA stand, please fasten eight screws as indicated to fix it on the stand.

Monitor module + PowerTwin display

VESA stand
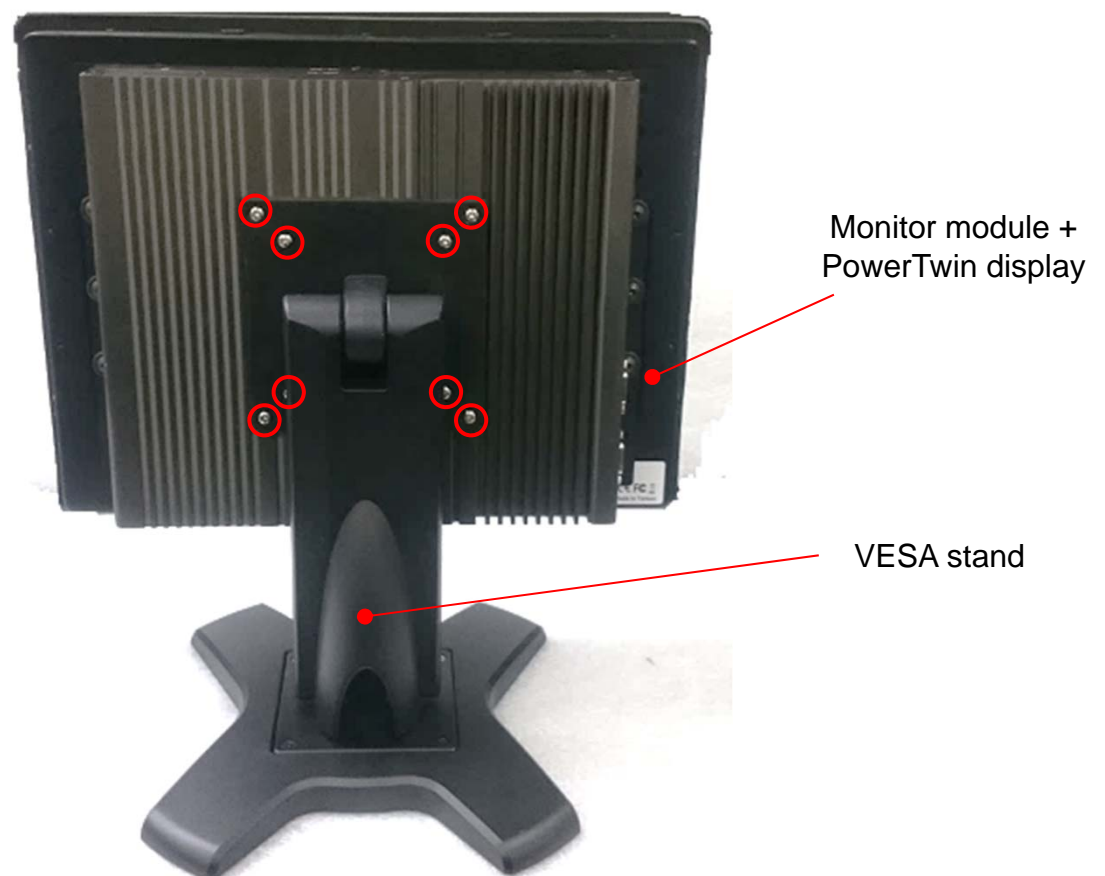
3.3 Panel Mount

1. Accessories provided by Spectra are as follows.
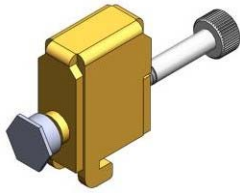
Mounting Kits
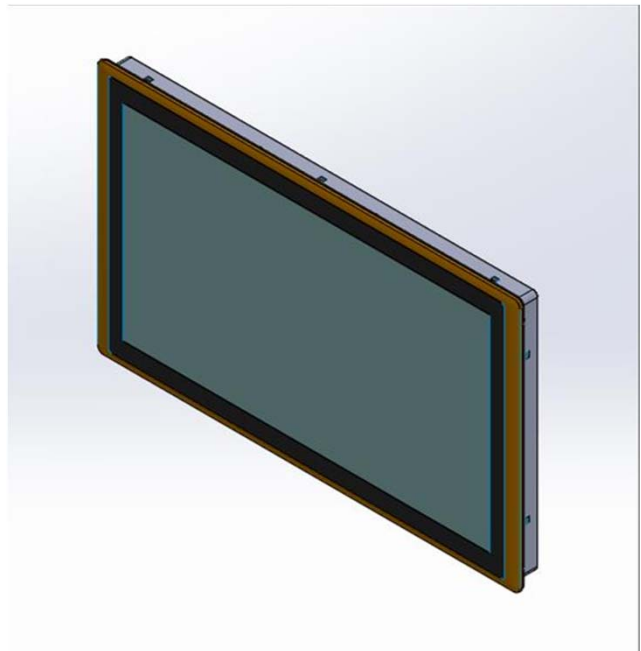
Panel Mount PPC

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

Panel Mount with customer's fixture
(Front View)
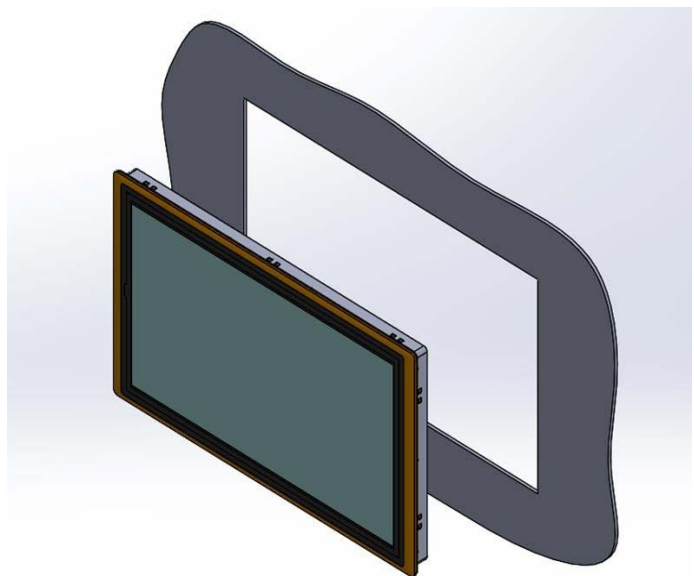
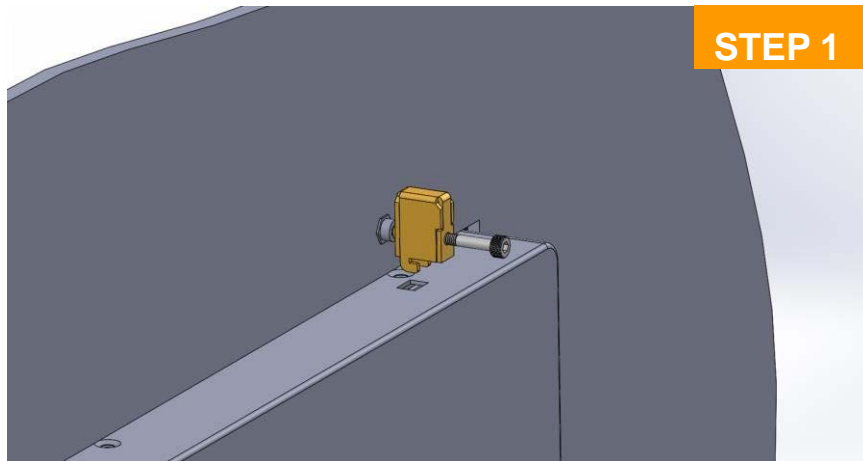2. All mounting kits displayed are to be inserted into holes.
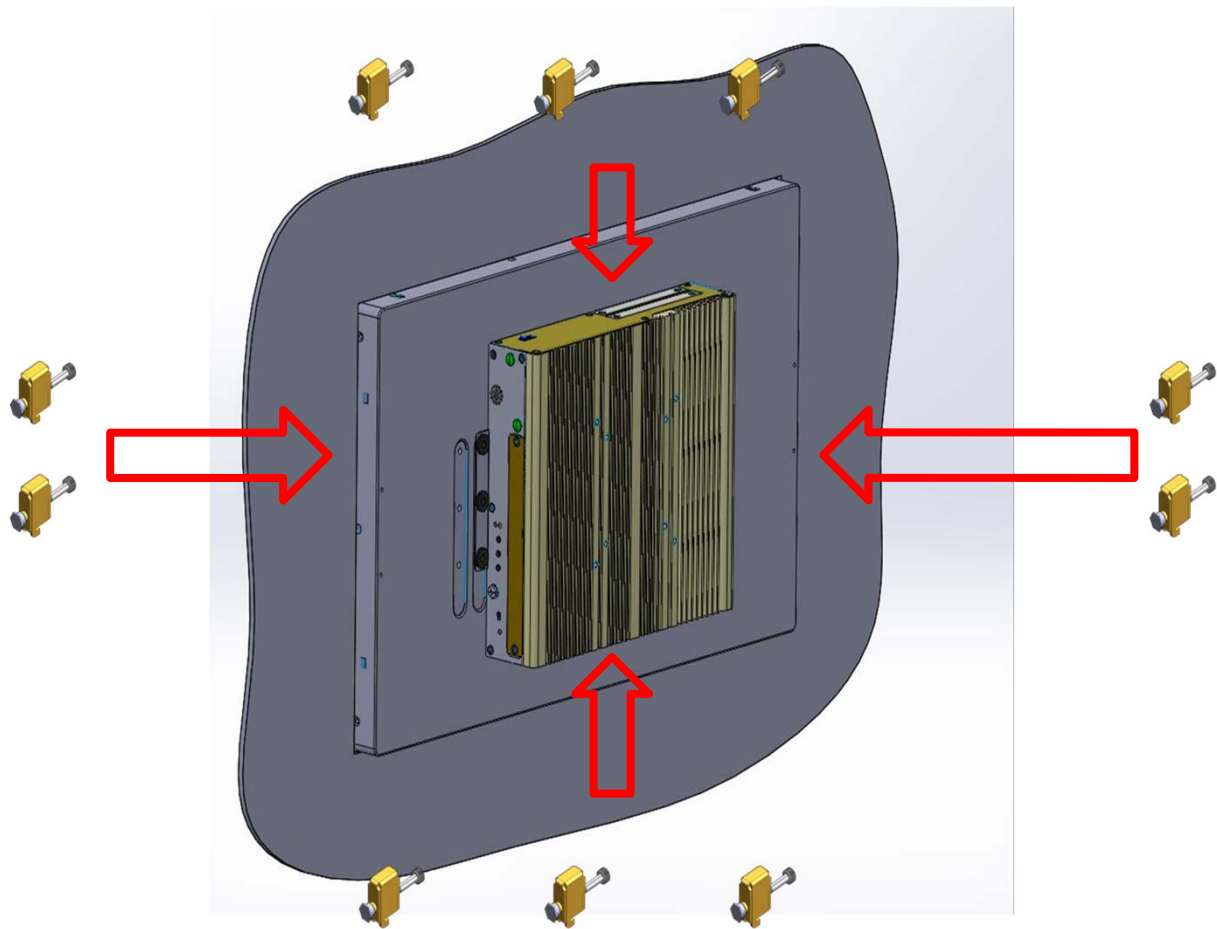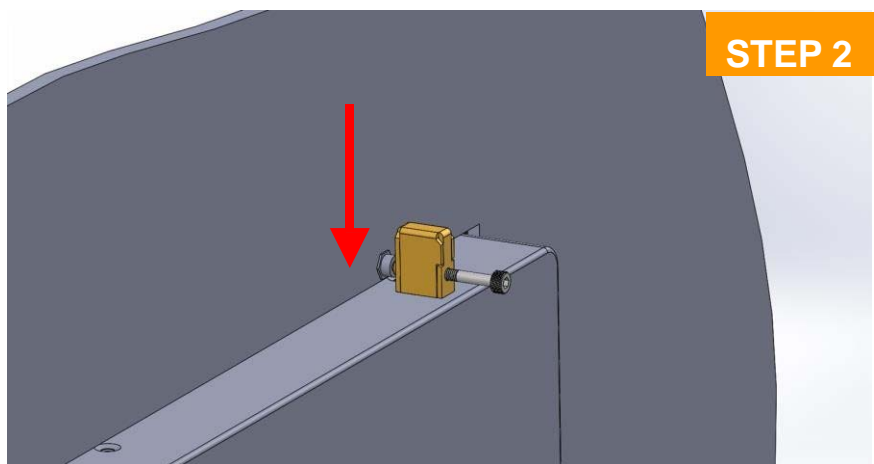

3. Installation preparation and steps.
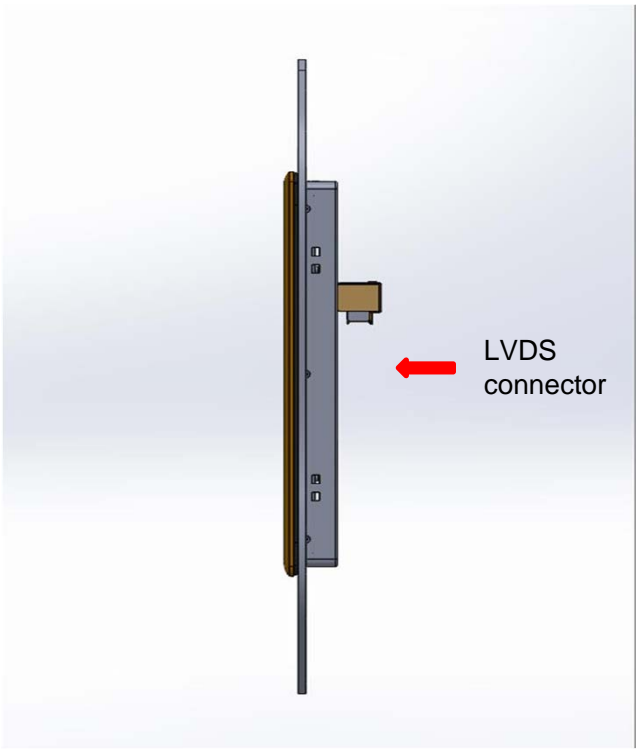
LVDS connector

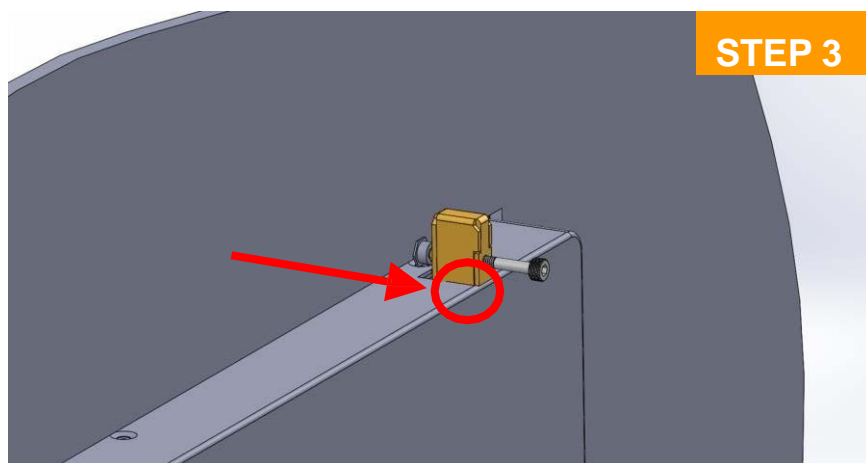Panel mount side view with LVDS connector of PowerTwin series
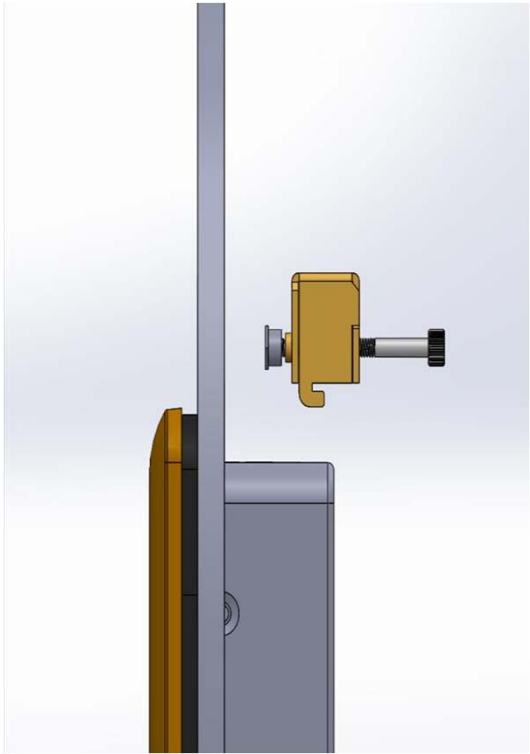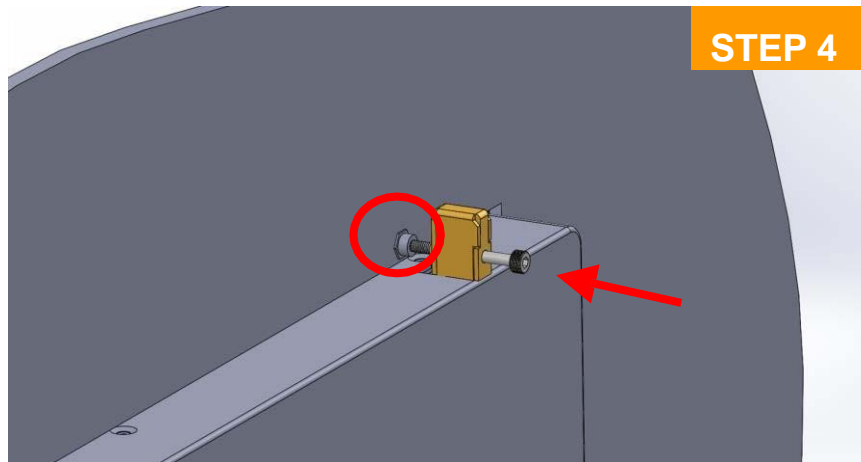
Before Mounting Kits are installed

Position panel mount kits

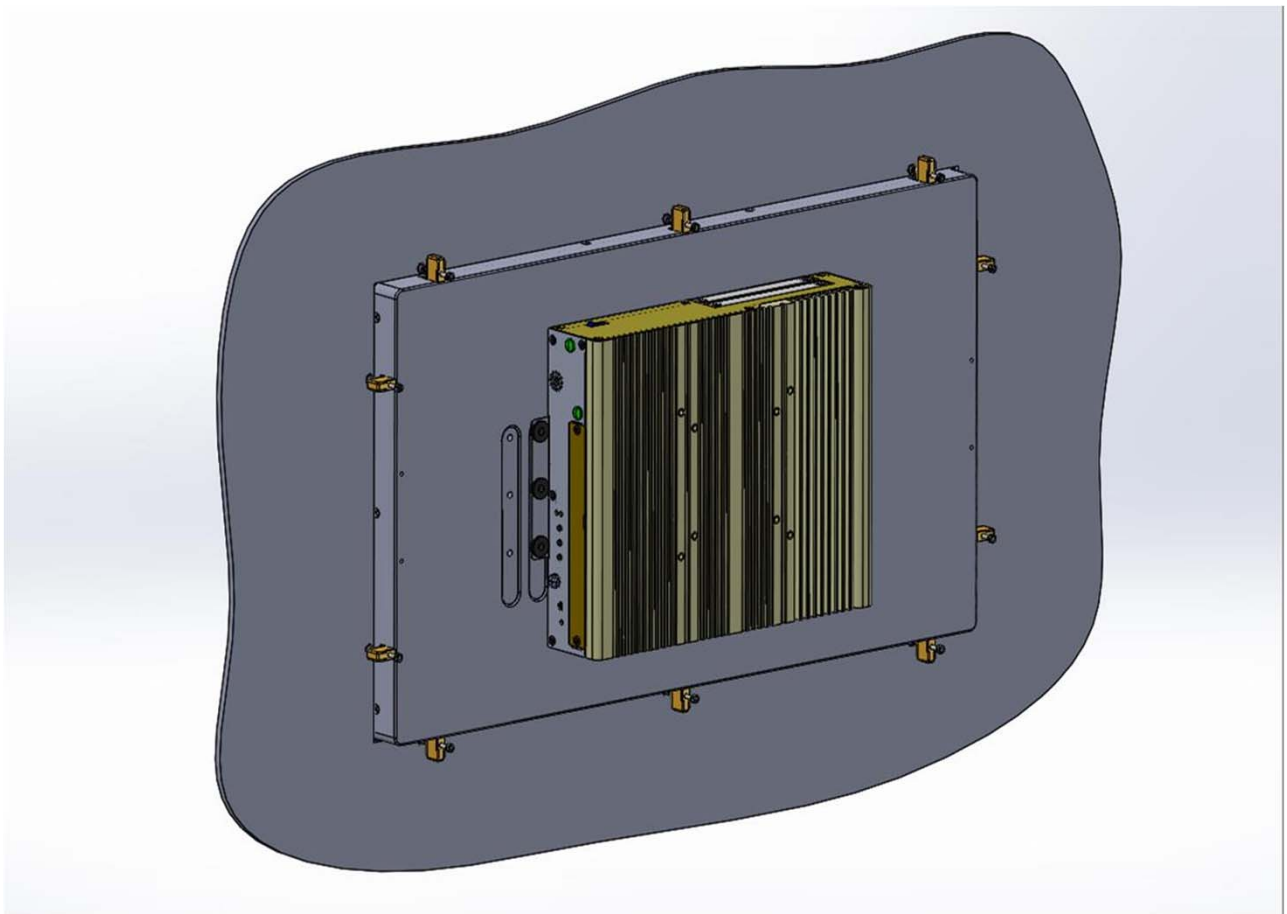Insert the panel mounting kit into bottom hole

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
Web 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
Web www.spectra-austria.at

Spectra (Schweiz) AG
Flugplatzstr. 5
8404 Winterthur
Switzerland

Phone +41 (0) 43 2771050
E-Mail info@spectra.ch
Web www.spectra.ch

Sales Industrial PC Systems

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

spectra
Industrie-PC & Automation