C&T SOLUTION INC.

USER'S MANUAL

MX200 Series

Monitor Module

Table of Contents

Prefaces

Revision

Revision	Description	Date
1.0	Manual Released	2021/06/30

Disclaimer

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Environmental Protection Announcement

Do not dispose this electronic device into the trash while discarding. Please recycle to minimize pollution and ensure environment protection.

Safety Precautions

Before installing and using the equipment, please read the following precautions:

- Put this equipment on a reliable surface during installation. Dropping it or letting it fall could cause damage.
- The power outlet shall be installed near the equipment and shall be easily accessible.
- Turn off the system power and disconnect the power cord from its source before making any installation. Be sure both the system and the external devices are turned OFF. Sudden surge
- of power could ruin sensitive components. Make sure the equipment is properly grounded.
- When the power is connected, never open the equipment. The equipment should be opened only by qualified service personnel.
- Make sure the voltage of the power source is correct before connecting the equipment to the power outlet.
- Disconnect this equipment from the power before cleaning. Use a damp cloth. Do not use liquid or spray detergents for cleaning.
- Avoid the dusty, humidity and temperature extremes.
- Do not place heavy objects on the equipment.
- If the equipment is not used for long time, disconnect it from the power to avoid being damaged by transient over-voltage.
- The storage temperature shall be above -20°C and below 70°C.
- The computer is provided with a battery-powered real-time clock circuit. There is a danger of explosion if incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer.
- If one of the following situation arises, get the equipment checked be 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 it cannot work according the user's manual.
    - The equipment has been dropped and damaged.
    - The equipment has obvious signs of breakage.

Technical Support and Assistance

1. Visit the C&T Solution Inc website at https://www.candtsolution.com where you can find the latest information about the product.
2. Contact your distributor, our technical support team or sales representative for technical support if you need additional assistance. Please have following information ready before you call:
   - Model 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.

Package Contents

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

Item	Description	Q'ty
1	MX200 Seris Monitor Module	1
2	USB Cable	1
3	VGA Cable	1
4	Screw Pack	1

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

Ordering Information

Model No.	Product Description
MX200	Monitor Module with 1x VGA Input, 1x HDMI Input, 1x DP Input, 1x USB 2.0 Input

Optional Accessories

Model No.	Product Description
1-E09A06008	Adapter AC/DC 12V 5A 60W with 3pin Terminal Block Plug 5.0mm Pitch
SFICBL022	Power Cord, 3-pin US Type, 180cm
1-TPCD00002	Power Cord, European Type, 180cm
1-TPCD00001	Power Cord, 3-pin UK Type, 180cm

Chapter 1

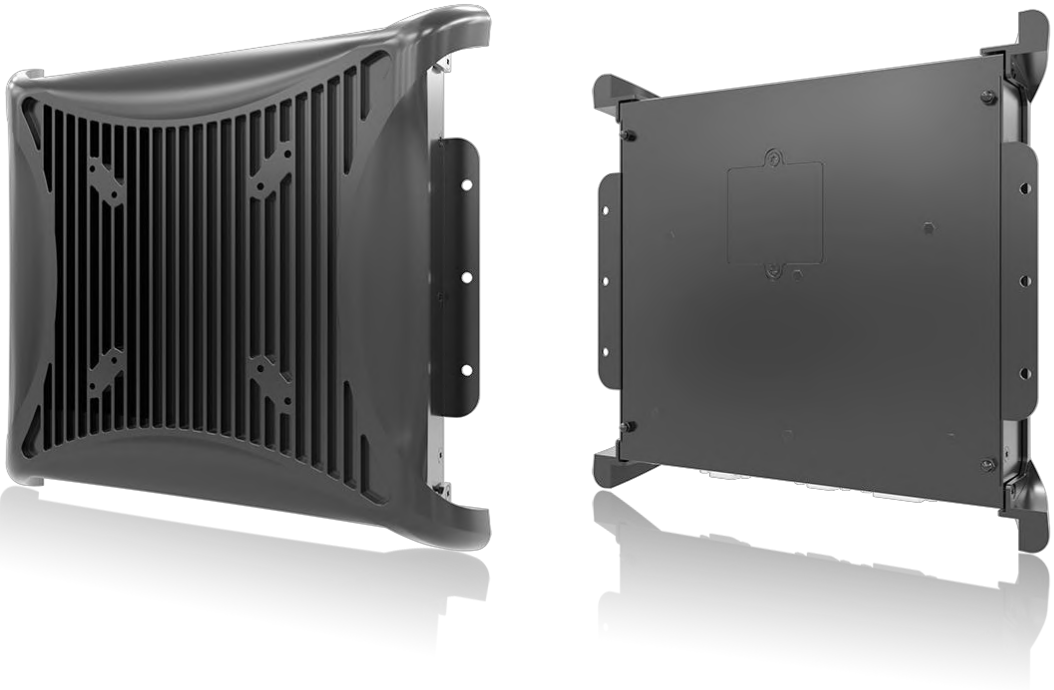
Product Introductions

1.1 Overview

The MX200 series monitor module featuring with flat surface, IP 65 dust/waterproof front panel, and aluminum die-casting front frame with rugged body structure, it is rugged and reliable for industrial environment. By supporting Multi-Mode Display Module (MDM) technology, enabling MX200 series monitor module to configure, upgrade and maintain easily.

The MX200 series supports both digital and analog signal input via three types of display interface: VGA, HDMI and DisplayPort. Touch screen can be connected with USB or COM port. It also has multi-language OSD function for adjusting the view options of display. In addition, supporting wide range power input from 9 to 48VDC and high reliability even operating in temperature extremes, MX200 is designed as an ideal solution for industrial application.

Featuring with completely cable-less designed and high functional, MX200 series are ruggedized display systems that can operate in harsh environments and easy to install and maintain. A build in over voltage protection (OVP), over current protection (OCP), reserve protection, and wide range DC power input makes MX200 series are safety system for all industrial applications.



1.1.1 Key Features

- 1x VGA, 1x DisplayPort, 1x HDMI
- 1x USB 2.0, 1x COM, 1x Audio
- 9 to 48VDC wide range power input
- -10˚C to 60˚C extended operating temperature

1.2 Hardware Specification

I/O

- 1x VGA Input
- 1x HDMI Input
- 1x DisplayPort Input
- 1x Audio Input
- 1x USB 2.0 Input
- 1x COM Port Input (Resistive Touch Only) (USB & COM port are reserved for the connection to enable touch usage only)

Power

- 1x 3-pin Terminal Block Connector with Power Input 9~48VDC
- Power Ignition Sensing
- 1x Optional AC/DC 12V/5A, 60W Power Adapter
- Power Protection
  - ✓ OVP (Over Voltage Protection)
  - ✓ OCP (Over Current Protection)
  - ✓ Reserve Protection

Environment

- Operating Temperature: Ambient with Air Flow: -10°C to 60°C (with Industrial Grade Peripherals)
- Storage Temperature: -20°C to 70°C
- Relative humidity: 10%~95% (non-condensing)

Physical

- Dimension: 246 (W) x 220 (D) x 37 (H) mm
- Weight: 1.61kg
- Construction: Extruded Aluminum with Heavy Duty Metal
- Mounting: VESA Mounting Holes 75 x 75mm, 100 x 100mm

Certifications

- CE
- FCC Class A

1.3 System I/O

1.3.1 Rear

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

HDMI
Used to connect a DisplayPort monitor

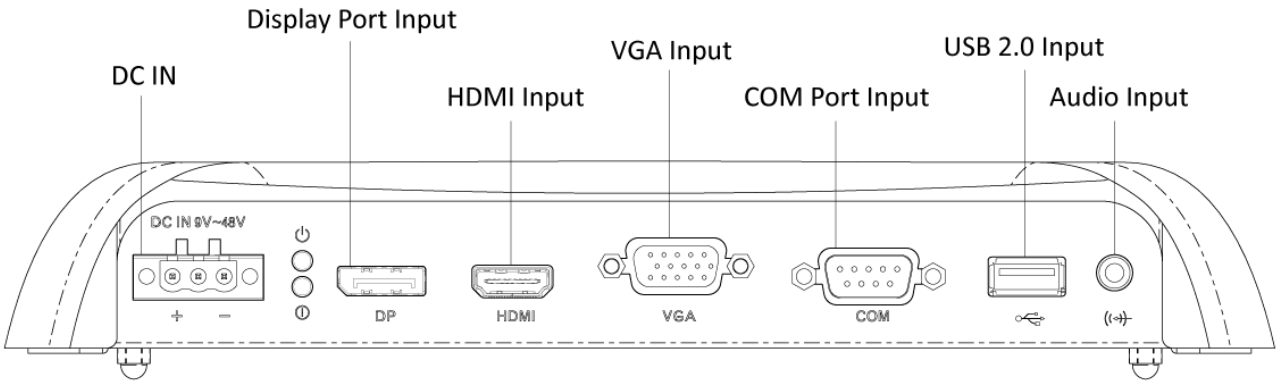
VGA
Use the rear panel standard 15-pin female VGA connector to connect the monitor to the system graphics interface.

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

COM Port for Touch Panel Connector (Resistive Touch Only)
Use the rear panel female DB-9 touch panel connector to connect the monitor to the system interface.

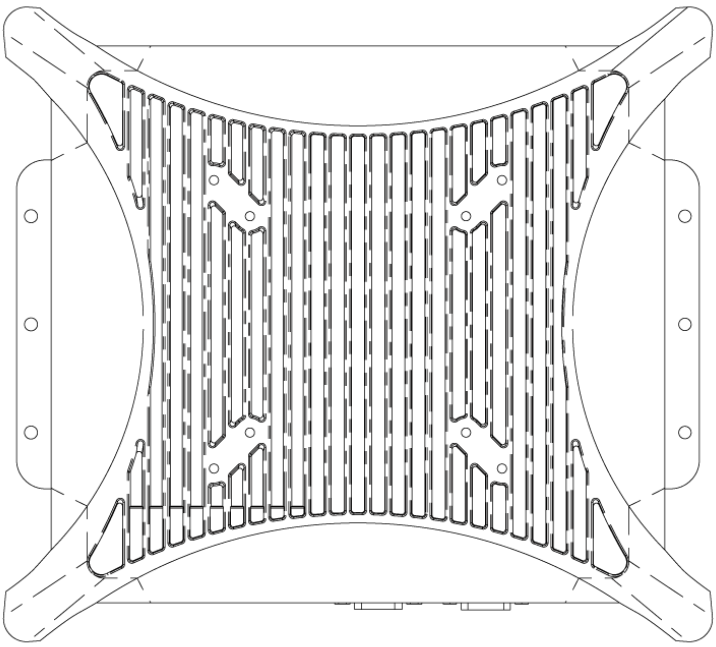
USB for Touch Panel Connector
Use the rear panel standard USB touch panel connector to connect the monitor to the system interface.

Audio-in
This port connects PC audio source by the bundled audio cable.



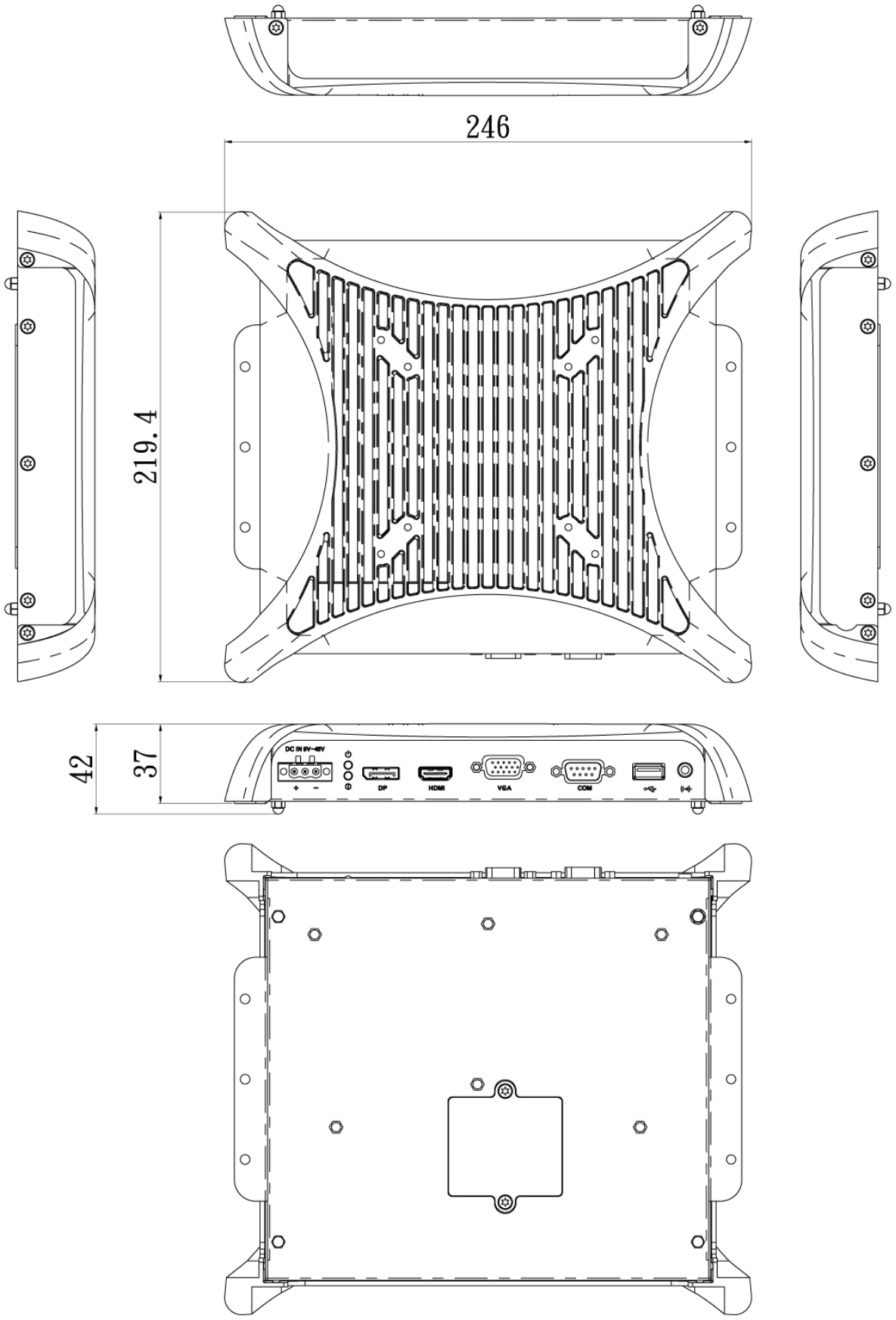
1.3.2 Top

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



1.4 Mechanical Dimensions

Unit: mm

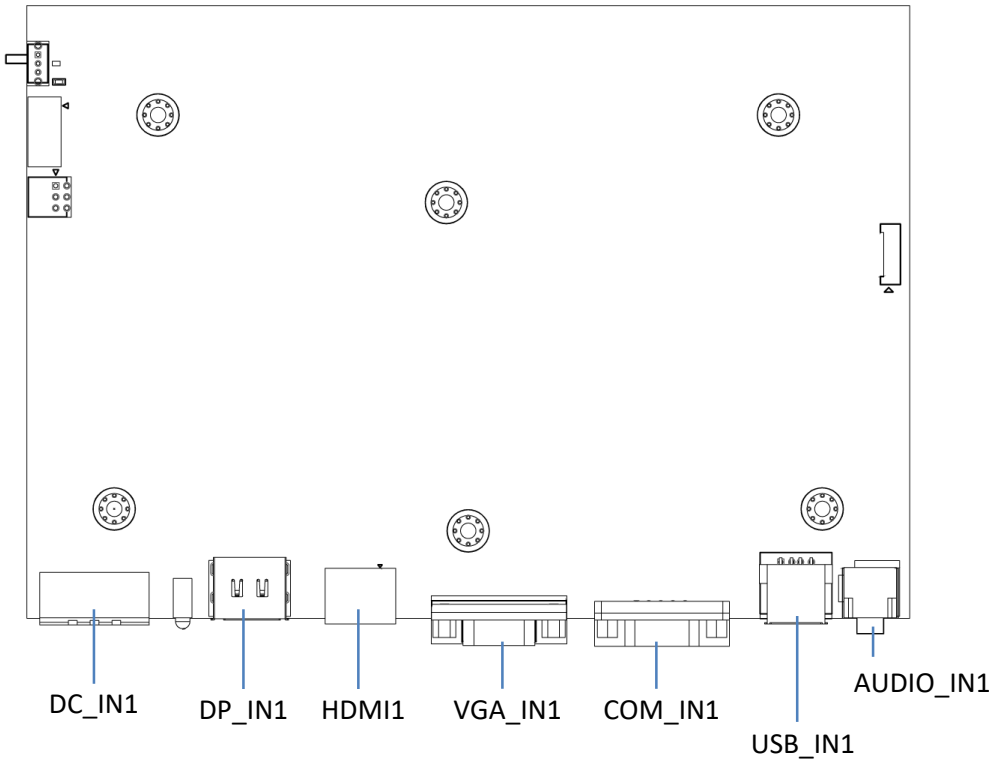


Chapter 2

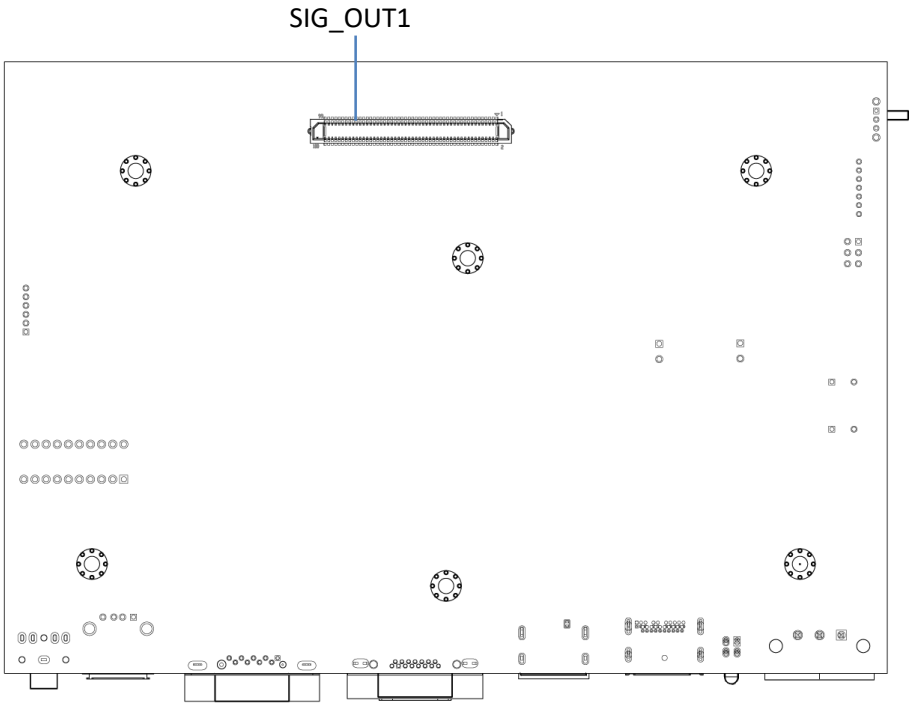
Switches and Connectors

2.1 Switch and Connector Locations

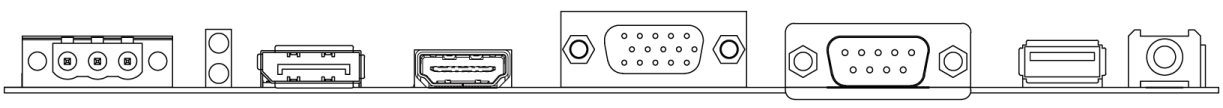
2.1.1 Top View



2.1.2 Bottom View



2.1.3 Rear I/O



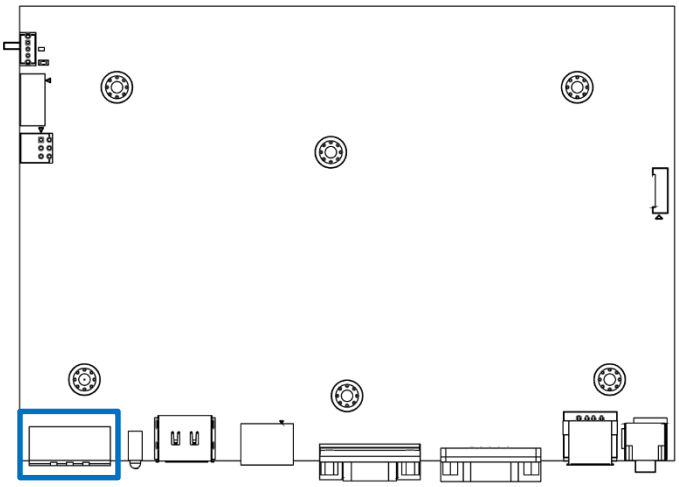
2.2 Connector / Switch Definition

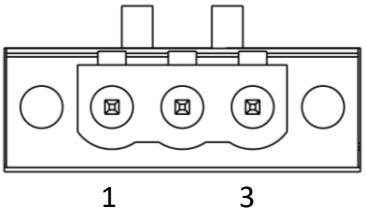
List of Connector / Switch

Connector Location	Definition
DC_IN1	3-pin DC 9~48V Power Input Connector
DP_IN1	DisplayPort Input Connector
HDMI	HDMI signal connector
VGA_IN1	VGA Input Connector
COM_IN1	COM Port Input Connector
USB_IN1	USB 2.0 Input Connector
AUDIO_IN1	Audio Input Connector
SIG_OUT1	VIO Display Module Connector

2.3 I/O Interface Descriptions

2.3.1 Power Connector

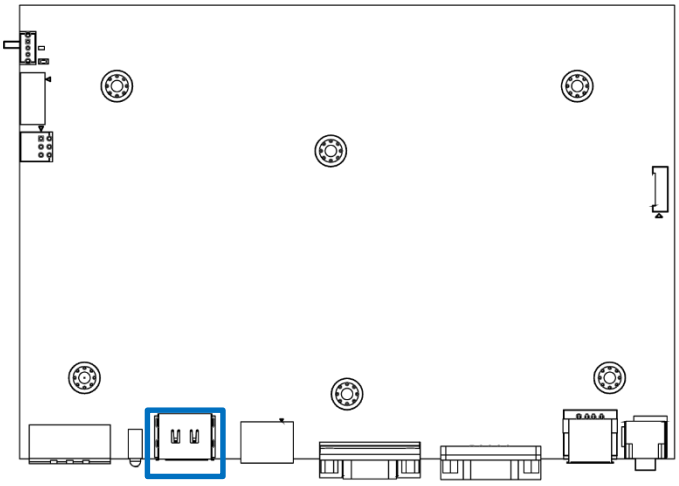


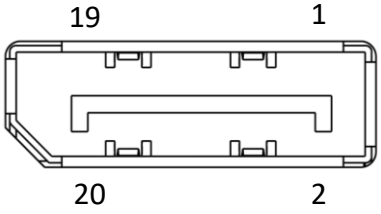


DC_IN1

Pin	Signal
1	9_48VSB_IN
2	9_32VSB_ACC
3	GND_VIN

2.3.2 DisplayPort Input



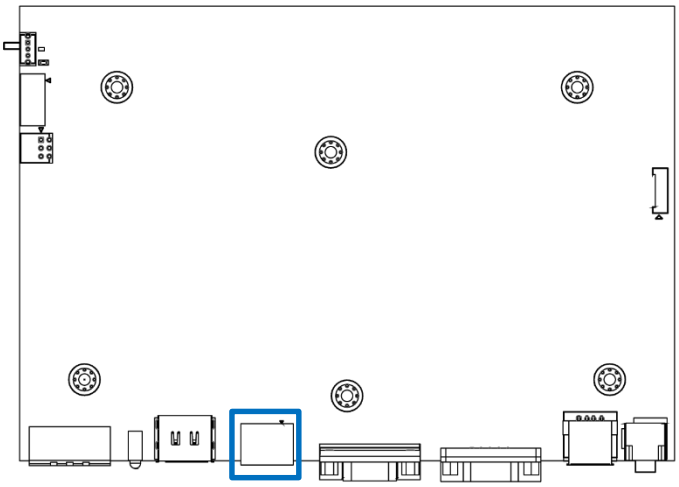


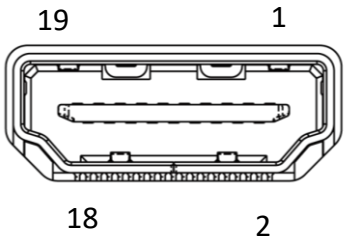
DP_IN1

Pin	Signal	Pin	Signal
1	DP_RX3N	11	GND
2	GND	12	DP_RX0P
3	DP_RX3P	13	GND
4	DP_RX2N	14	GND
5	GND	15	DP_AUXP
6	DP_RX2P	16	DP_DET
7	DP_RX1N	17	DP_AUXN
8	GND	18	DP_HPD
9	DP_RX1P	19	GND
10	DP_RX0N	20	DP_3V3

2.3 I/O Interface Descriptions

2.3.3 HDMI signal connector



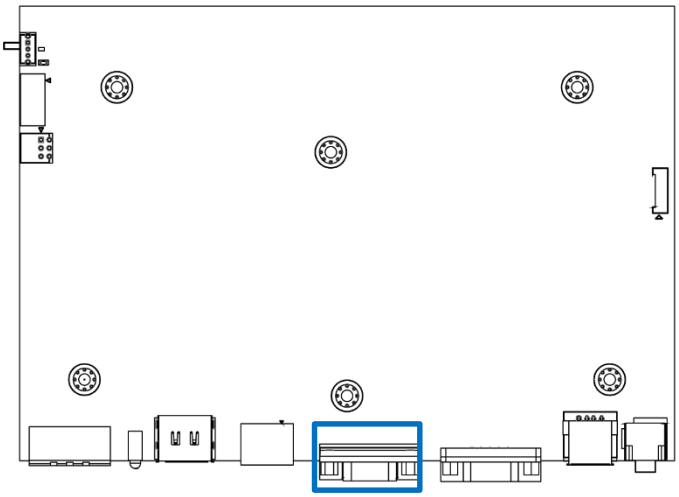


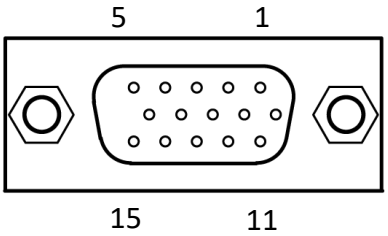
HDMI1

Pin	Signal	Pin	Signal
1	HDMI_RX32+	11	HDMI_DET
2	GND	12	HDMI_RX3C-
3	HDMI_RX32-	13	NC
4	HDMI_RX31+	14	NC
5	GND	15	HDMI_SCL
6	HDMI_RX31-	16	HDMI_SDA
7	HDMI_RX30+	17	GND
8	GND	18	HDMI_5V
9	HDMI_RX3C+	19	HDMI_HPD
10	HDMI_RX3C+	20	

2.3 I/O Interface Descriptions

2.3.4 VGA Input



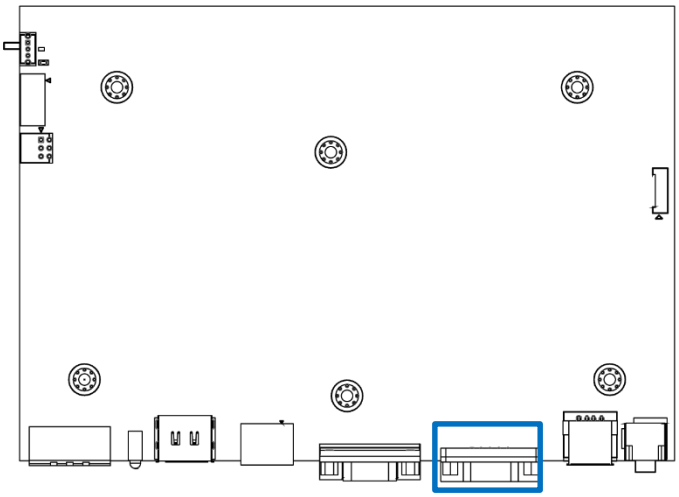


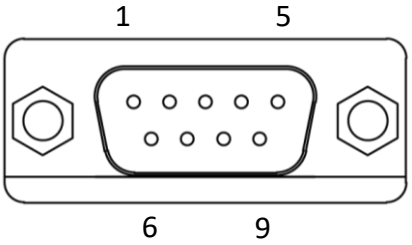
VGA_IN1

Pin	Signal	Pin	Signal
1	RED+	9	GND
2	GREEN+	10	NC
3	BLUE+	11	DDC_SDA_VGA
4	NC	12	HSYNC
5	VGA_DET	13	VSYNC
6	RED-	14	DDC_SCL_VGA
7	GREEN-	15	GND
8	BLUE-		

2.3 I/O Interface Descriptions

2.3.5 COM Port Input

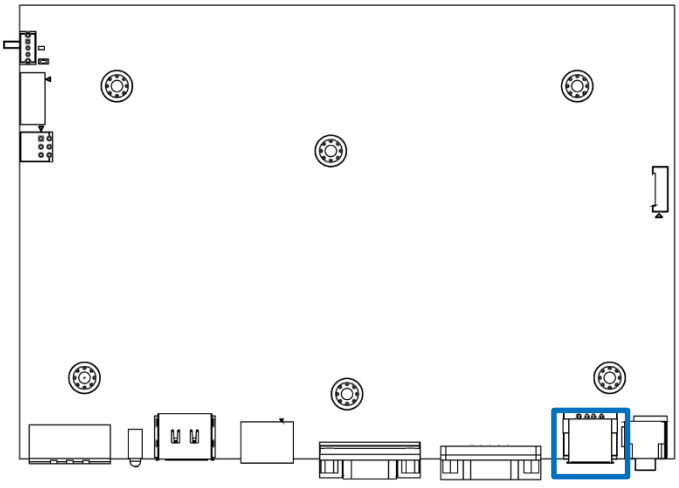


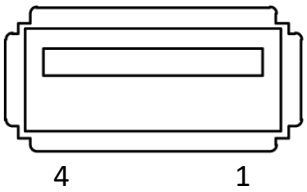


COM_IN1

Pin	Signal
1	NC
2	RX_R_2
3	NC
4	TX_R_2
5	NC
6	NC
7	NC
8	NC

2.3.6 USB 2.0 Input Connector



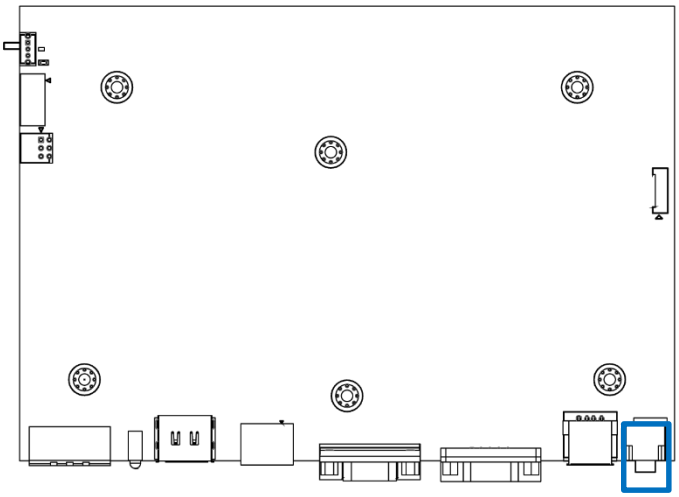


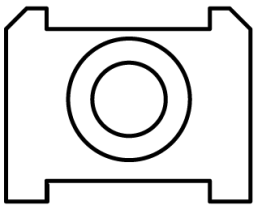
USB_IN1

Pin	Signal
1	NC
2	USBN_2
3	USBP_2
4	GND

2.3 I/O Interface Descriptions

2.3.7 Audio Input



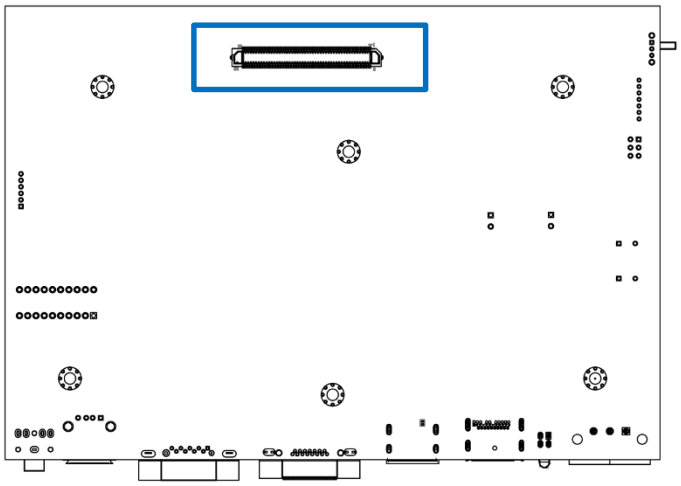


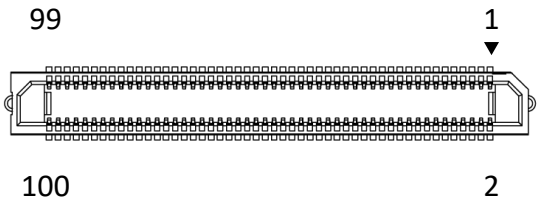
AUDIO_IN1

Pin	Signal
1	AGND2
2	AIN_R
3	AGND2
4	AGND2
5	AIN_L

2.3 I/O Interface Descriptions

2.3.8 VIO Display Module Connector





SIG_OUT1

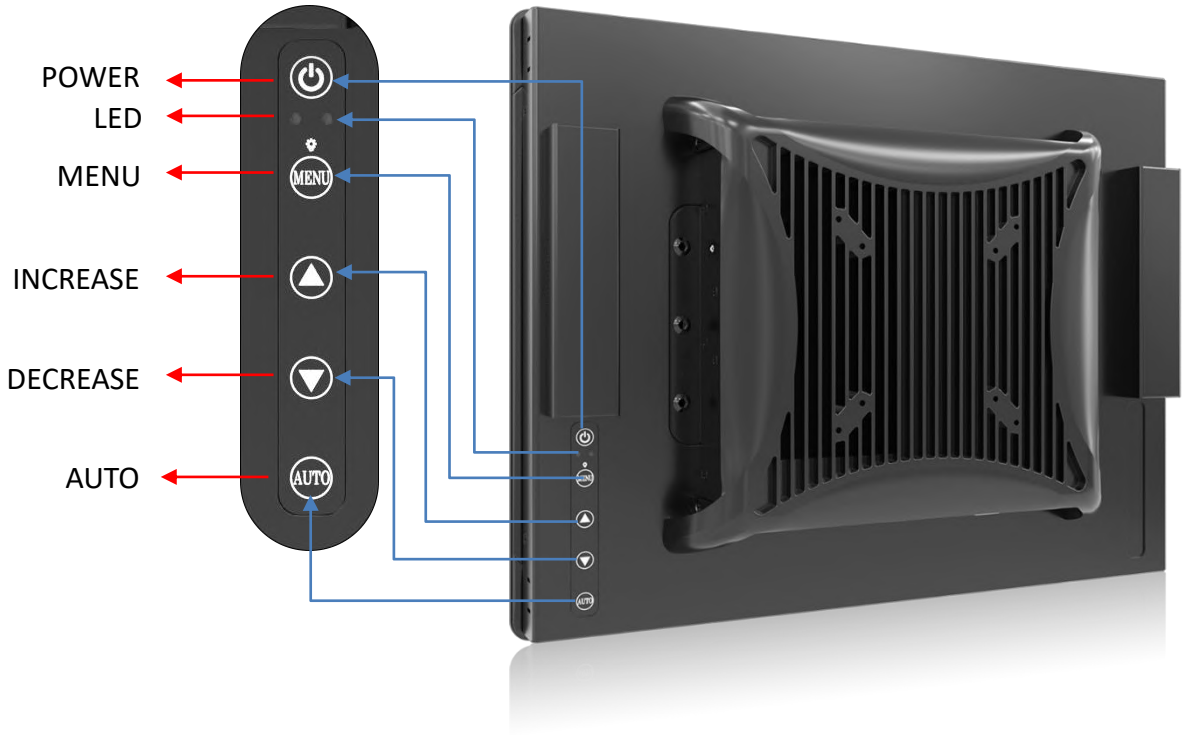
Pin	Signal	Pin	Signal
1	RXO0+	2	DDC_SDA_VGA
3	RXO0-	4	DDC_SCL_VGA
5	GND	6	GND
7	RXO1+	8	EDID_0
9	RXO1-	10	EDID_1
11	GND	12	GND
13	RXO2+	14	EDID_2
15	RXO2-	16	EDID_3
17	GND	18	GND
19	RXO3+	20	HDMI_SDA
21	RXO3-	22	HDMI_SCL
23	GND	24	GND
25	RXOC+	26	USBP
27	RXOC-	28	USBN
29	GND	30	GND
31	RXE0+	32	TX_R
33	RXE0-	34	RX_R
35	GND	36	GND

Pin	Signal	Pin	Signal
37	RXE1+	38	POWER_KEY_R
39	RXE1-	40	AUTO_KEY_R
41	GND	42	GND
43	RXE2+	44	MENU_KEY_R
45	RXE2-	46	UP_KEY_R
47	GND	48	GND
49	RXE3+	50	DOWN_KEY_R
51	RXE3-	52	NC
53	GND	54	GND
55	RXEC+	56	BL_ADJ
57	RXEC-	58	BL_EN
59	GND	60	GND
61	OUT-R+	62	NC
63	OUT-R-	64	LEDB
65	NC	66	LEDA
67	OUT-L+	68	NC
69	OUT-L-	70	NC
71	V5P0SB	72	V5P0SB
73	V5P0SB	74	V5P0SB
75	V5P0_LED	76	V5P0_LED
77	V5P0_LED	78	V5P0_LED
79	V3P3_LED	80	V3P3_LED
81	V3P3_LED	82	V3P3_LED
83	V3P3_LED	84	V3P3_LED
85	VCCM12	86	VCCM12
87	VCCM12	88	VCCM12
89	VCCM12	90	VCCM12
91	VCCM12	92	VCCM12
93	VCCM5	94	VCCM5
95	VCCM5	96	VCCM5
97	VCCM3	98	VCCM3
99	VCCM3	100	VCCM3

Chapter 3

Front Panel Controls

3.1 Users Controls



3.1.1 Power button
Turns the monitor on or off.

3.1.2 LED
1. Blue indicates power on.
2. Yellow indicates standby mode.

3.1.3 MENU/ Enter button
Press to view the OSD menu. Press it again to enter a selection in the OSD menu.

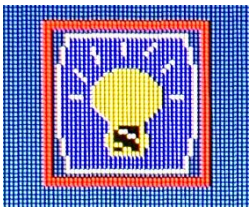
3.1.4 Increase button
1. Activates the Volume control menu, and increases volume (with audio option).
2. Scrolls the OSD menu upward.
3. Increases the value of a selected function.

3.1.5 Decrease button
1. Activates the Volume control menu, and decreases volume (with audio option).
2. Scrolls the OSD menu downward.
3. Decreases the value of a selected function.

3.1.6 AUTO/ Exit button
1. When the OSD menu is active, press this button to exit the OSD menu.
2. When the OSD menu is inactive, press this button for two seconds to activate the Auto Adjustment function and the monitor will automatically optimize the display position, focus, and clock of your display.

3.2 OSD Operation

3.2.1 Luminance



■ Brightness
Adjust the luminance level of the screen.

■ Contrast
Adjusts the contrast level of the screen.

■ Gamma
This item allows you to on or off the Gamma function.

■ SuperResolution
This setting allows you to select options for the SuperResolution. Select <Off> , <Weak>, <Median> or <Strong>.

3.2.2 Picture (VGA input only)

Phase
Adjust the monitor internal signal phase.

Clock
Adjust the monitor internal sampling clock rate.

H. Position
Adjusts the position of the screen image left and right.

V. Position
Adjusts the position of the screen image up and down.

3.2.3 Color

Color Temperature
6500K: Select the setting of screen color to be reddish white.
7500K: Select the setting of screen color to be bluish white.
9300K: Select the setting of screen color to be bluish white.
sRGB: Set the screen color to fit the sRGB standard color specification.
User Define: Individual adjustments for red (R), green (G), blue (B).

3.2.4 OSD Settings

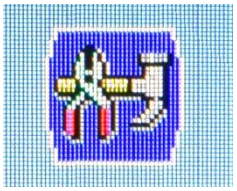
Horizontal
Changes the viewing position of the OSD menu to the left or right area of the screen.

Vertical
Changes the viewing position of the OSD menu to the top or bottom area of the screen.

Transparency
Adjust to view the background information through the OSD.

OSD Time Out
Sets the time duration in seconds that the OSD is visible after the last button is pressed.

3.2.5 Setup



Language
Selects the language in which the OSD menu is displayed. The factory default is English.

Mute
Allows the user to turn the Mute On or Off.

Input
When press Input Select change Input signal to D-SUB, DVI or DP.

Reset
Reset monitor parameters back to factory preset values.

Chapter 4

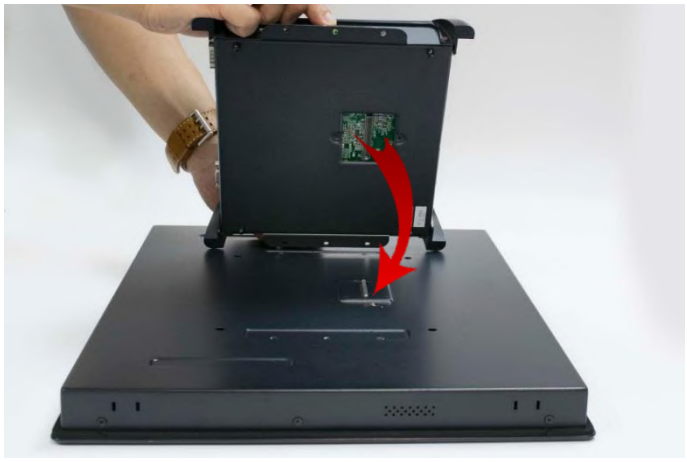
System Setup

4.1 Connecting with VIO Series Display Module

WARNING

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

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



2. Turn over the unit to have the bottom side face up, loosen the 2 screws of the module connector bracket.

3. Turn over the unit to have the bottom side face up, loosen the 2 screws of the module connector bracket.