

SYSGRATION®

User Manual

UPC- N101/N156/N215

10.1" /15.6" /21.5"
Universal Panel Computer



UPC
Universal Panel Computer



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For technical support and service, please visit our support website at <http://www.sysgration.com>

This manual is for UPC-N101/N156/N215.

Part No

Edition 1

11-Nov-2020

Packing List

Before installing the UPC system, check that the following materials have been included in the shipment:

- UPC-N101/N156/N215 unit
- Accessories for UPC-N101/N156/N215
 - Packet of mounting kits
 - DC power converting cable
 - Quick start guide
 - Packet of cable clamps (only available on 15.6" / 21.5")

If any of these items are missing or damaged, contact your distributor or sales representative immediately.

Technical Support and Assistance

1. Visit the Sysgration website at <http://www.sysgration.com> to obtain the latest product information.
2. Contact your distributor, sales representative, or Sysgration's customer service center for technical support if you need additional assistance. Please have the following information ready before calling:
 - 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

Warnings



Warning

Batteries are at risk of exploding if incorrectly installed. Replace only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.

Use a 3V/240mA lithium battery



Warning

Packing: The unit should be carried with both hands and handled with care.

Maintenance: Use only approved products or a dry applicator to clean and maintain the surfaces.

Contact information

Manufacturer

Sysgration Co., Ltd.

6Fl., No.1, Sec. 1, Tiding Blvd., Neihu Dist., Taipei City, 11494, Taiwan, R.O.C.

TEL: +886-2-2790-0088

Safety Instruction

1. Read these safety instructions carefully.
2. Retain this user manual for future reference.
3. Disconnect the equipment from all AC outlets before cleaning. Use only a damp cloth for cleaning. Do not use liquid or spray detergents.
4. For pluggable equipment, the power outlet socket must be located near the equipment and easily accessible.
5. Protect the equipment from humidity.
6. Place the equipment on a reliable surface during installation. Dropping or letting the equipment fall may cause damage.
7. The openings of the enclosure are for air convection. Protect the equipment from overheating. Do not cover the openings.
8. Ensure that the voltage is correct before connecting the equipment to a power outlet.
9. Position the power cord away from high-traffic areas. Do not place anything over the power cord.
10. All cautions and warnings on the equipment should be noted.
11. If unused for a long time, disconnect the equipment from the power source to avoid damage from transient overvoltage.
12. Never pour 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.
14. If one of the following occurs, have the equipment checked by authorized service personnel:
 - The power cord or plug is damaged.
 - Liquid has penetrated the equipment.
 - The equipment has been exposed to moisture.
 - The equipment is malfunctioning or does not operate according to the user manual.
 - The equipment has been dropped and damaged.
 - The equipment shows obvious signs of breakage.

15. Do not store the equipment in an environment where the temperature fluctuates below -20 °C (-4 °F) or above 60°C (140 °F) as this may cause damage. The equipment should be stored in a controlled environment.
16. Batteries are at risk of exploding if incorrectly installed. Replace only with the same or equivalent type recommended by the manufacturer. Discard used batteries according to the manufacturer's instructions.
17. Use only the recommended mounting apparatus to avoid damage due to falling.

DISCLAIMER: These instructions are provided according to IEC 704-1 standards.

Sysgration disclaims all responsibility for the accuracy of any statements contained herein.



Because of the risk of electric shock, do not remove the equipment cover during operation or when connected to a power outlet.



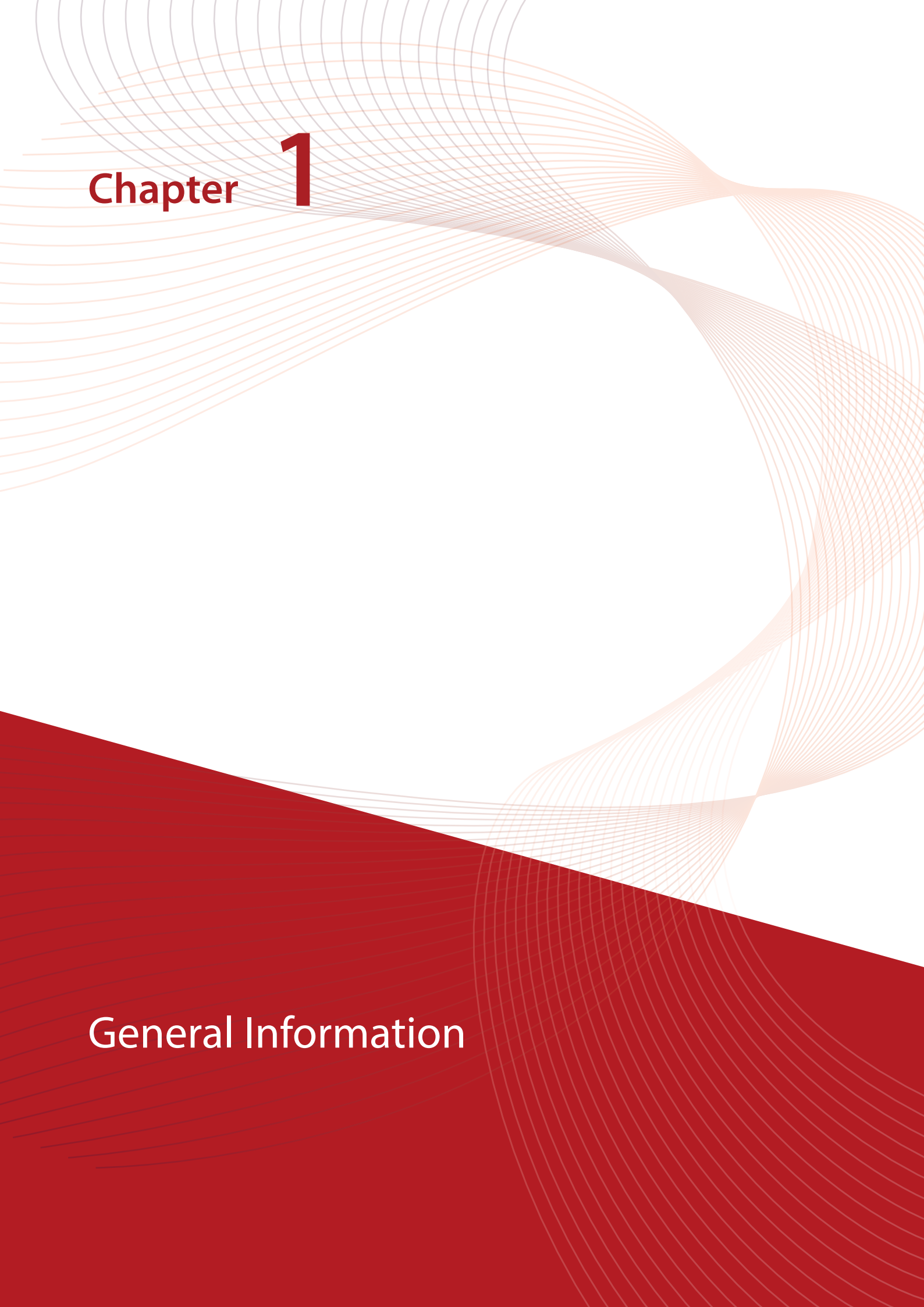
To avoid short circuits and otherwise damaging the device, do not allow fluids to come in contact with the device. If fluids are accidentally spilled on the equipment, remove the affected unit from service as soon as possible and contact service personnel to verify that personal safety is not compromised. If the computer clock is unable to maintain accurate time or the BIOS configuration resets to default, check the battery.



Do not replace the battery yourself. Contact a qualified technician or your retailer. The computer is equipped with a battery-powered real-time clock circuit. There is a danger of explosion if the battery is incorrectly replaced. Replace only with same or equivalent type recommended by the manufacturer. Discard used batteries according to the manufacturer's instructions.

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Chapter 1

General Information

1. General Information

1.1 Introduction

Sysgration's UPC-N series products are 10.1", 15.6", and 21.5" fanless, low-power, all-in-one touch panel computers suitable for use as control room computing devices, production line industrial digital signage, showroom interactive signage, self-service kiosks, and public service terminals, as well as to support diverse digital retail, hospitality, healthcare, education, entertainment, and information processing applications. Featuring a protective enclosure, advanced touchscreen technology, wireless capabilities, and rich I/O, the high-performance UPC-N series can also be integrated with a wide range of optional peripherals and accessories according to specific application requirements.

1.2 Specification

1.2.1 UPC-N101

Display & Touch Screen	Size	10.1 TFT LCD		
	Resolution	1280 x 800		
	Brightness	400 nits (typ.)		
	Contrast Ratio	800 (typ.)		
	Viewing Angle	85/85/85/85		
	Touch Technology	10 points P-Cap touch panel, support wet mode, glove mode and 5mm stylus Optional 5-wire true flat Resistive touch panel		
System Specification	Processor	NXP i.MX8M Quad ARM 4x Cortex A53 1.3GHz		
	Operating System	Android 10		
	System Memory	4GB LPDDR4		
	Storage	16GB eMMC Expansion by MicroSD Card (support SDXC up to 2TB)		
Wireless communication	WiFi	Optional, WIFI 802.11 a/b/g/n/ac		
	Bluetooth	Optional, BT 5.0		
	WWAN	Optional, upon customer's request & region		
System I/O	Audio	Speaker	Optional, 2x 1W Speakers (L/R)	
		Line out	1x Line out	
	External I/O	USB	1x USB 3.0 Type-C DRP 2x USB 3.0 ports (Type A)	
		Video	1x HDMI output 2.0a (optional), Resolution up to 4096 x 2160 at 60 Hz	
		Ethernet (LAN)	1x 10/100/1000 GbE RJ45	
		COM port	1x RS232 D-sub 9 (Pin9 RI only)	
		COM Port	N/A	
		Digital I/O	N/A	
	Reset Button	1x Reset tact-switch push-pin		
Expansion I/O	SD Card Slot	1x Micro SD Card Slot support SDXC up to 2TB		
Expansion Module	Optional module	5M Camera Magnetic Strip Reader Depth Camera Thermal Imager RFID/NFC Reader Smart Card Reader Barcode Reader Finger Printer		
Mechanical & Environment	Dimension (W x L x H)	266.2 x 184.8 x 40 (mm)		
	Weight	2.5 kg		
	Mounting	Panel Mount / VESA Mount (75mm x 75mm)		
	Operating Temperature	0°C ~ 50°C		
	Storage Temperature	-20°C ~ 60°C		
	Operating Humidity	10% ~ 90%, non-condensing		
	IP Standard	Front IP65		
Power Management	Power Input	1x 2.5mm DC jack / 9~19V DC in		
	Power consumption	TBD		
	Adaptor	Optional Adaptor 100~240Vac, O/P: 12V/7.5A/90W		
Certification	CE, FCC			

1.2.2 UPC-N156

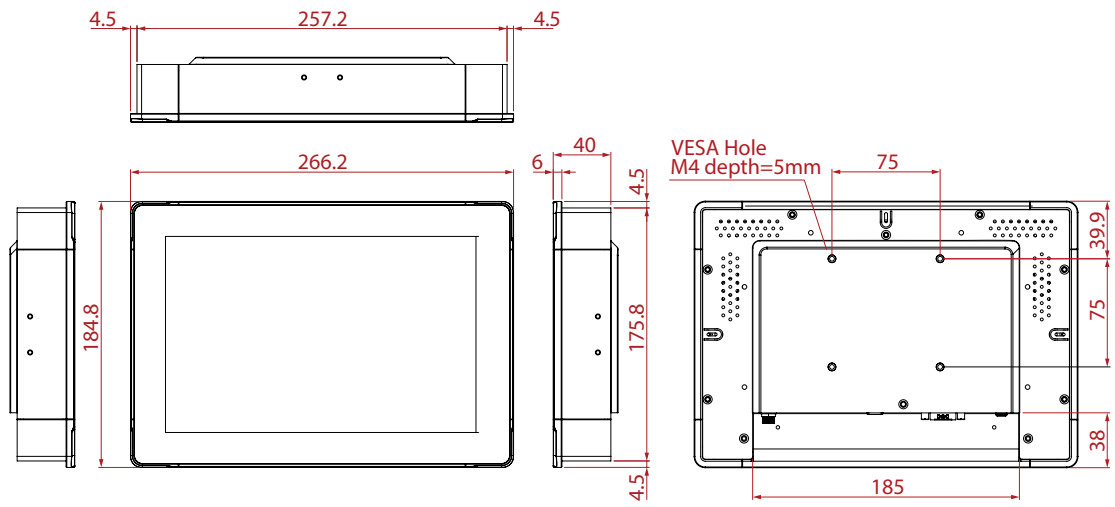
Display & Touch Screen	Size	15.6	
	Resolution	1366 x 768	
	Brightness	500 nits (typ.)	
	Contrast Ratio	600 (typ.)	
	Viewing Angle	80/80/80/80	
	Touch Technology	10 points P-Cap touch panel, support wet mode, glove mode and 5mm stylus Optional 5-wire true flat Resistive touch panel	
System Specification	Processor	NXP i.MX8M Quad ARM 4x Cortex A53 1.3GHz	
	Operating System	Android 10	
	System Memory	4GB LPDDR4	
	Storage	16GB eMMC Expansion by MicroSD Card (support SDXC up to 2TB)	
Wireless communication	WLAN (WiFi)	Optional, WIFI 802.11 a/b/g/n/ac	
	Bluetooth	Optional, BT 5.0	
	WWAN (3G/4G/LTE Cat 1 & Cat 4)	Optional, upon customer's request & region	
System I/O	Audio	Speaker	Optional, 2x 1W Speakers (L/R)
		Line out	1x Line out
	External I/O	USB	1x USB 3.0 Type-C DRP 2x USB 3.0 ports (Type A)
		Video	1x HDMI output 2.0a (optional), Resolution up to 4096 x 2160 at 60 Hz
		Ethernet (LAN)	1x 10/100/1000 GbE RJ45
		COM port	1x RS232 D-sub 9 (Pin9 RI only)
		COM Port	Optional RS232/422/485 D-sub 9
		Digital I/O	Optional 6 DI/DO
	Reset Button	1x Reset tact-switch push-pin	
Expansion I/O	SD Card Slot	1x Micro SD Card Slot support SDXC up to 2TB	
Expansion Module	Optional module	5M Camera Magnetic Strip Reader Depth Camera Thermal Imager RFID/NFC Reader Smart Card Reader Barcode Reader Finger Printer	
Mechanical & Environment	Dimension (W x L x H)	399.2 x 248.5 x 40 (mm)	
	Weight	4.5 kg	
	Mounting	Panel Mount / VESA Mount (100mm x 100mm)	
	Operating Temperature	0°C ~ 50°C	
	Storage Temperature	-20°C ~ 60°C	
	Operating Humidity	10% ~ 90%, non-condensing	
	IP Standard	Front IP65	
Power Management	Power Input	1x 2.5mm DC jack / 9~19V DC in	
	Power consumption	TBD	
	Adaptor	Optional Adaptor 100~240Vac, O/P: 12V/7.5A/90W	
Certification	CE, FCC		

1.2.3 UPC-N215

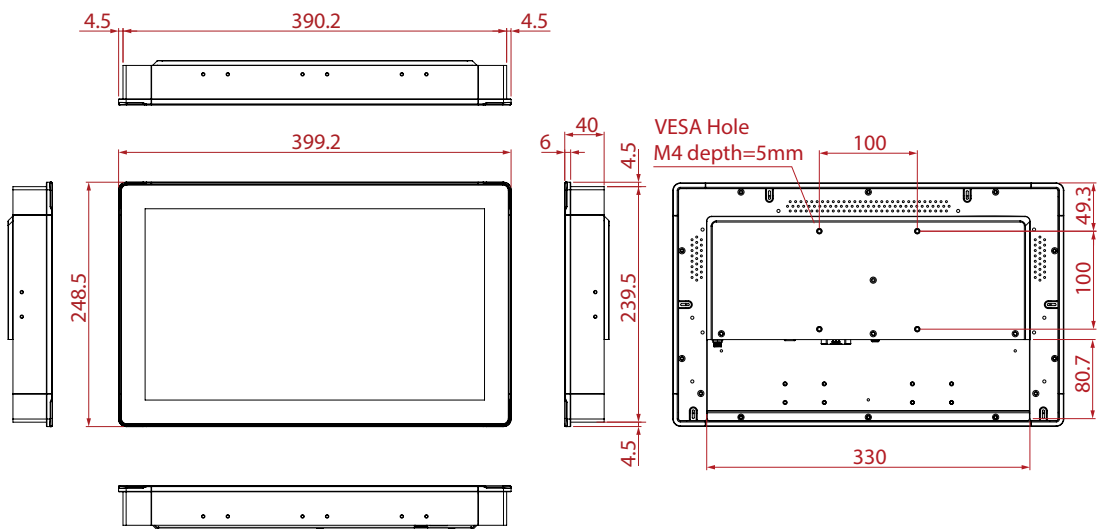
Display & Touch Screen	Size	21.5	
	Resolution	1920 x 1080	
	Brightness	250 nits (typ.)	
	Contrast Ratio	3000 (typ.)	
	Viewing Angle	80/80/80/80	
	Touch Technology	10 points P-Cap touch panel, support wet mode, glove mode and 5mm stylus Optional 5-wire true flat Resistive touch panel	
System Specification	Processor	NXP i.MX8M Quad ARM 4x Cortex A53 1.3GHz	
	Operating System	Android 10	
	System Memory	4GB LPDDR4	
	Storage	16GB eMMC Expansion by MicroSD Card (support SDXC up to 2TB)	
Wireless communication	WLAN (WiFi)	Optional, WIFI 802.11 a/b/g/n/ac	
	Bluetooth	Optional, BT 5.0	
	WWAN (3G/4G/LTE Cat 1 & Cat 4)	Optional, upon customer's request & region	
System I/O	Audio	Speaker	Optional, 2x 1W Speakers (L/R)
		Line out	1x Line out
	External I/O	USB	1x USB 3.0 Type-C DRP 2x USB 3.0 ports (Type A)
		Video	1x HDMI output 2.0a (optional), Resolution up to 4096 x 2160 at 60 Hz
		Ethernet (LAN)	1x 10/100/1000 GbE RJ45
		COM port	1x RS232 D-sub 9 (Pin9 RI only)
		COM Port	Optional RS232/422/485 D-sub 9
		Digital I/O	Optional 6 DI/DO
	Reset Button	1x Reset tact-switch push-pin	
Expansion I/O	SD Card Slot	1x Micro SD Card Slot support SDXC up to 2TB	
Expansion Module	Optional module	5M Camera Magnetic Strip Reader Depth Camera Thermal Imager RFID/NFC Reader Smart Card Reader Barcode Reader Finger Printer	
Mechanical & Environment	Dimension (W x L x H)	543.64 x 335.11 x 40(mm)	
	Weight	8.2 kg	
	Mounting	Panel Mount / VESA Mount (100mm x 100mm)	
	Operating Temperature	0°C ~ 50°C	
	Storage Temperature	-20°C ~ 60°C	
	Operating Humidity	10% ~ 90%, non-condensing	
	IP Standard	Front IP65	
Power Management	Power Input	1x 2.5mm DC jack / 9~19V DC in	
	Power consumption	TBD	
	Adaptor	Optional Adaptor 100~240Vac, O/P: 12V/7.5A/90W	
Certification	CE, FCC		

1.3 Dimension

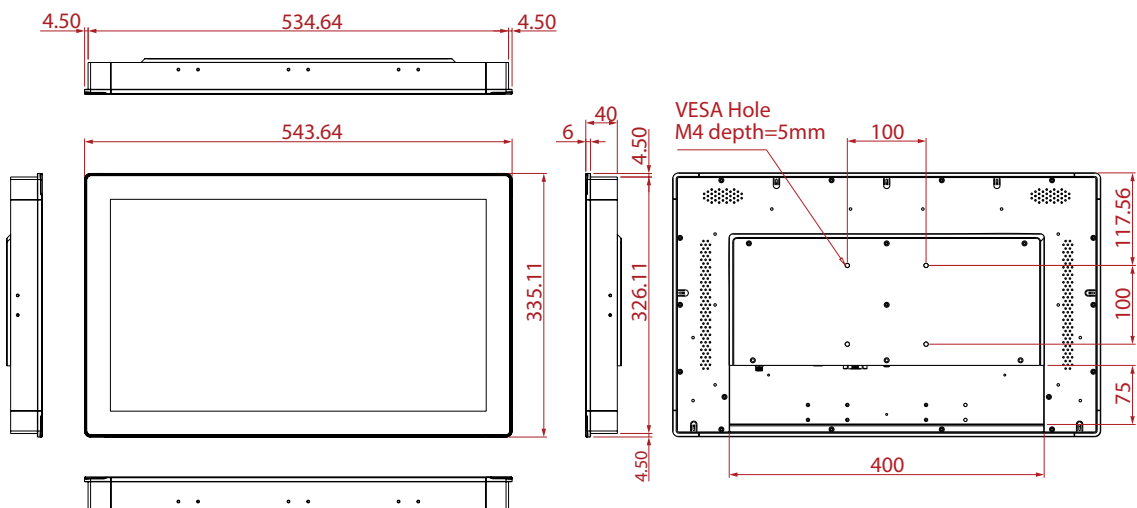
1.3.1 UPC-N101



1.3.2 UPC-N156



1.3.3 UPC-N215



The background features a series of thin, overlapping, wavy lines in shades of light red and orange, creating a sense of motion and depth. These lines flow from the top left towards the bottom right. At the bottom of the page, there is a solid red gradient that transitions from a darker red on the left to a lighter red on the right.

Chapter 2

Getting Started

2. Getting Started

Before beginning system setup, take a moment to become familiar with the package content, connector locations and functions, as shown in the figures below.

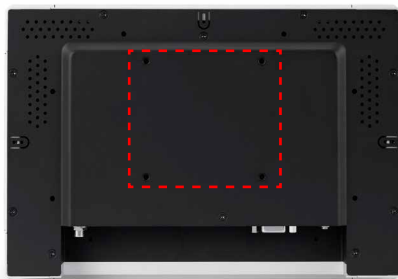
2.1 Package Content

- Panel Computer
- Packet of mounting kits
- DC power converting cable
- Quick start guide
- Packet of cable clamps (only available on 15.6" / 21.5")

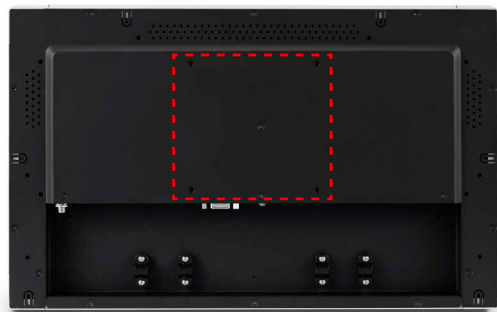
2.2 Front View



2.3 Rear View



10.1" Rear View



15.6" / 21.5" Rear View



- Use only VESA-compatible floor, stand, and wall mount kits
- Refer to Section 2.5 regarding system I/O according to UPC model

2.4 Side View

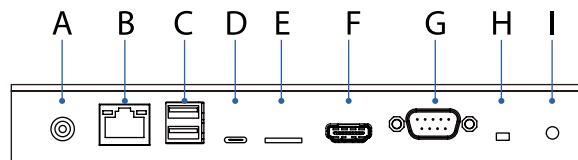


Note

Mounting hole for expansion module and panel mount
The UPC-N series features flat frame for easy optional expansion module integration
Refer to [Section 3.1](#) for installation information.

2.5 Standard I/O Ports

UPC-N101 / UPC-N156 / UPC-N215




- | | |
|-----------------------------|---------------------------|
| A. DC Power Input | F. HDMI output 2.0 |
| B. 10/100/1000 GbE | G. RS232 Serial Port |
| C. 2 x USB 3.0 ports type A | H. Reset tact-switch push |
| D. USB 3.0 Type-C DRP | I. Audio Line Out |
| E. Micro SD Card Slot | |

2.6 Setup Procedures

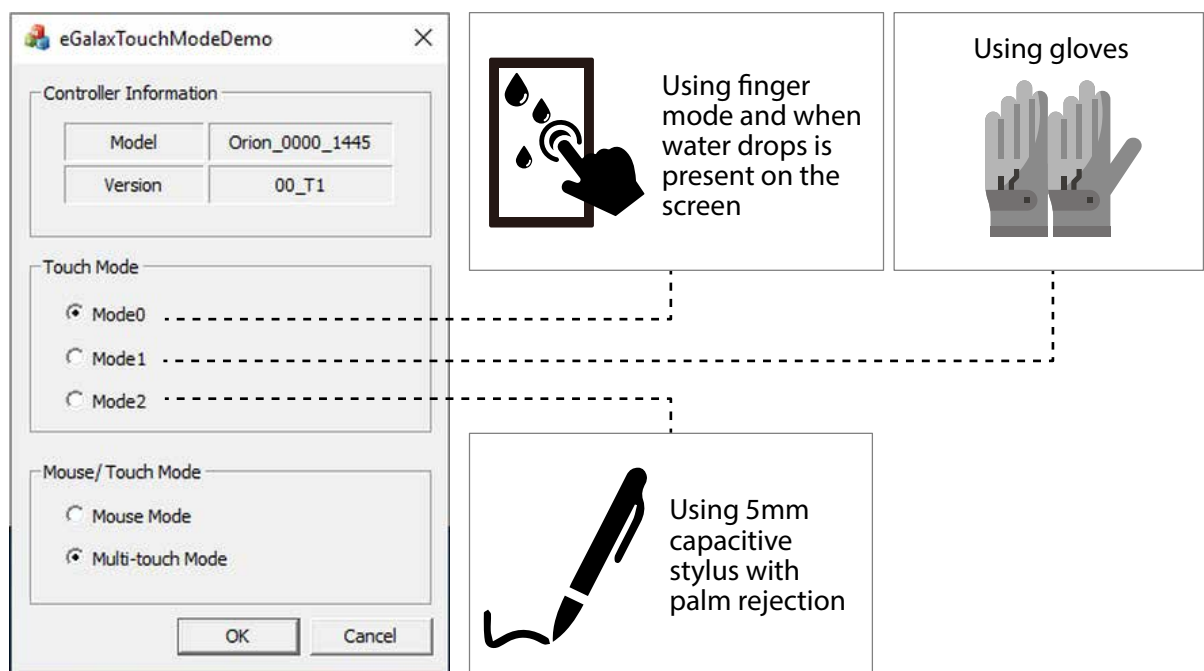
2.6.1 System Power On

1. For the UPC-N101/ UPC-N156/ UPC-N215 model, connecting the system to a DC power source or external power supply via DC in Jack
2. Hold power cords by the plugs ends only. Refer to Section 2.5 for the location of the DC power.
3. After DC input, the system will be activated automatically.

2.7 Different touch mode selection

UPC has a capacitive touch screen that able to responds to fingertips, certain type of gloves and a capacitive tipped stylus. User can change the touchscreen mode to suit user scenario. Click the  **eGalaxTouchModeDemo** program to open the settings menu and select one of the options (as shown below)

- Mode0 Select this if user prefers using finger mode and when water drops is present on the screen
- Mode1 Select this if user prefers using gloves
- Mode2 Select this if user prefers using 5mm capacitive stylus with palm rejection that allows user to rest their hand on the screen while writing or touching without making unwanted interference



Different type of gloves characteristics, materials, and design will have different results on the touch performance

The background features a series of thin, overlapping, wavy lines in shades of light red and orange, creating a sense of motion and depth. These lines flow from the top left towards the bottom right. At the bottom of the page, there is a solid red gradient that transitions from a lighter shade on the left to a darker shade on the right.

Chapter 3

Mounting and Installation

3. Mounting and Installation



Warning

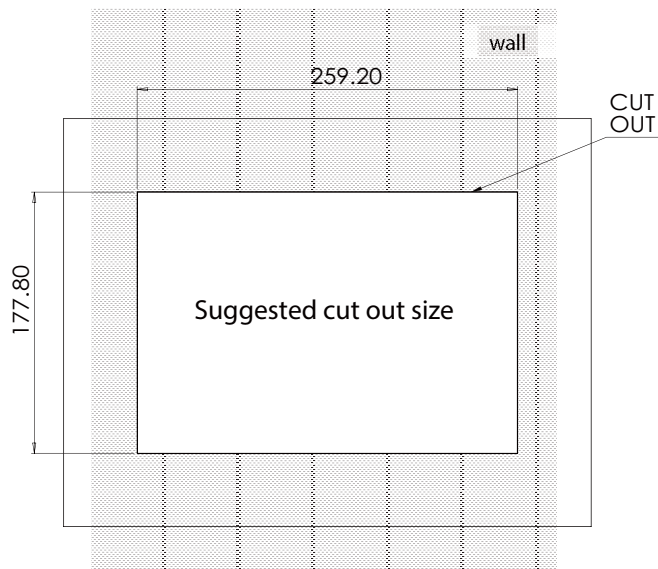
Do not remove the rear cover until you have verified that power is not flowing within the device. The system power should be switched off and the power cord unplugged before opening the device enclosure.

Opening the device enclosure will void the warranty

3.1 Panel Mount Installation

3.1.1 UPC-N101

Panel mount cut out



10.1" Panel mount cut out

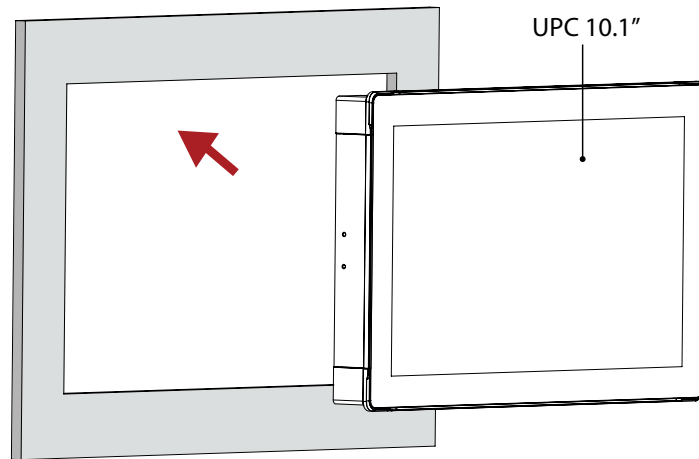
Panel mount bracket mounting kit

Quantity			
	Mounting bracket 3 pcs	M4 x 20mm screw 3 pcs	M3 x 6mm screw 6 pcs

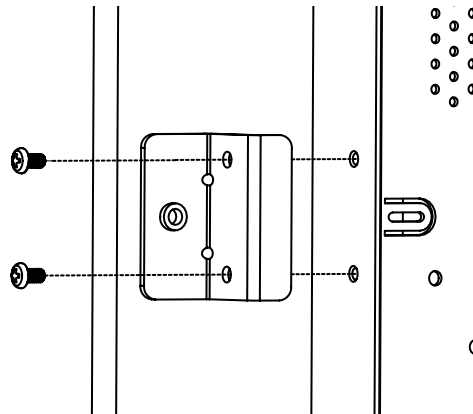
Installation Step

1. Prepare a panel for specific dimension of the UPC and then cut a hole according to the cutout dimension

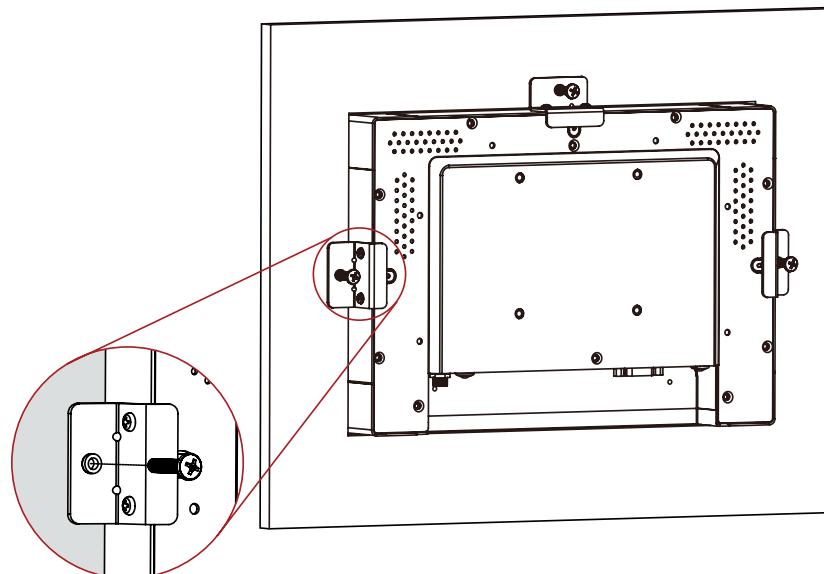
2. Insert the UPC properly into the cut out area



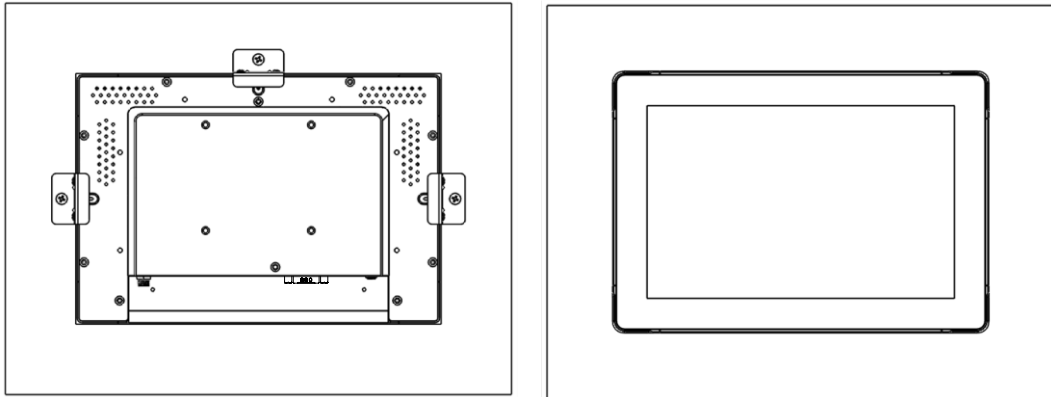
3. Place the mounting bracket to the UPC and then fasten it using M3 x 6 mm screw with torque maximum 4 kgf-cm, tighten each mounting bracket on every side until each of it is firmly tightened



4. Fasten the M4 x 20 mm screw to fix the bracket to the panel

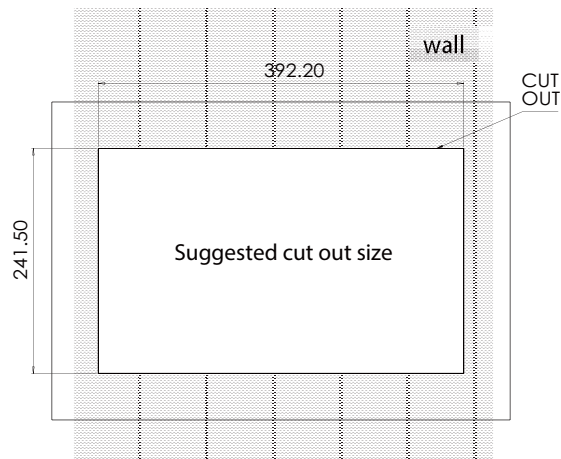


5. Installation complete



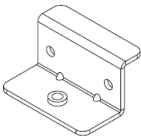


3.1.2 UPC-N156

Panel mount cut out



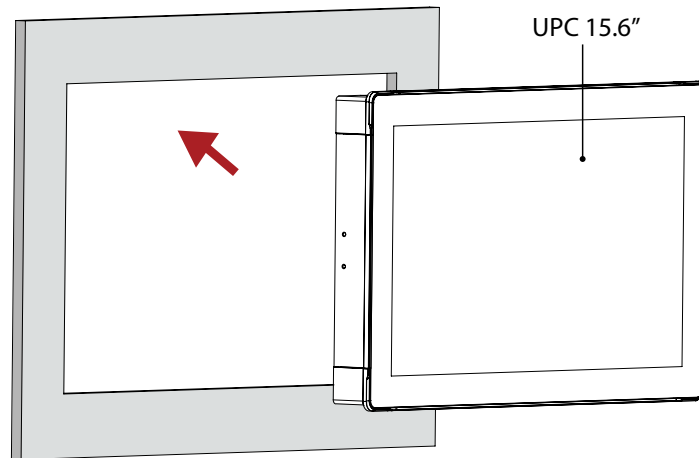
15.6" Panel mount cut out

Panel mount bracket mounting kit

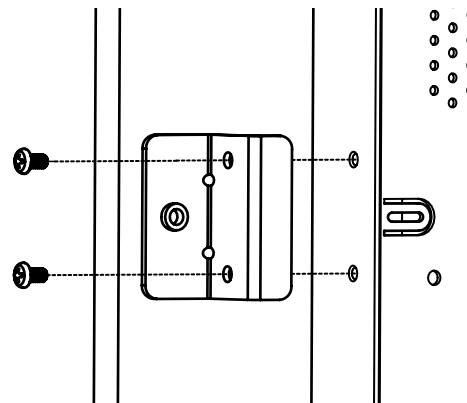
Quantity			
	Mounting bracket 6 pcs	M4 x 20mm screw 6 pcs	M3 x 6mm screw 12 pcs

Installation Step

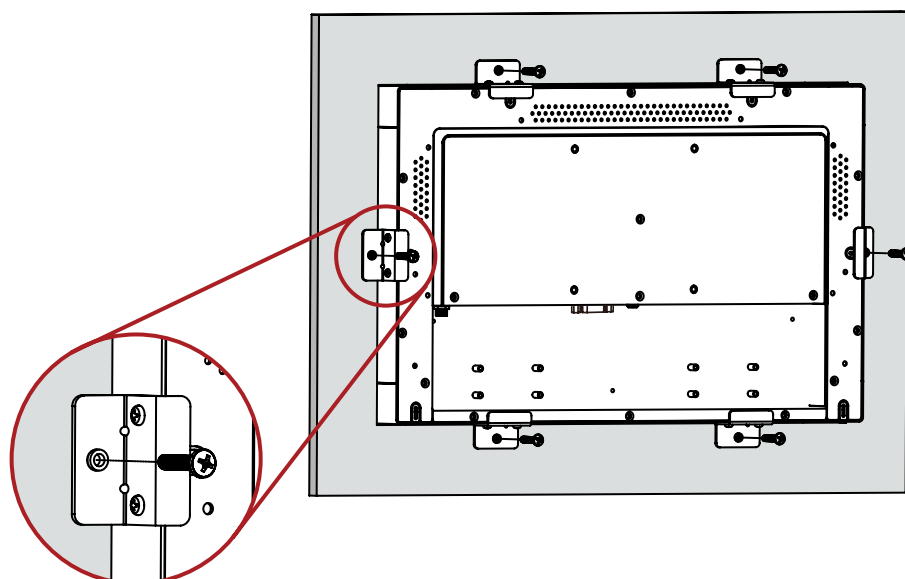
1. Prepare a panel for specific dimension of the UPC and then cut a hole according to the cutout dimension
2. Insert the UPC properly into the cut out area



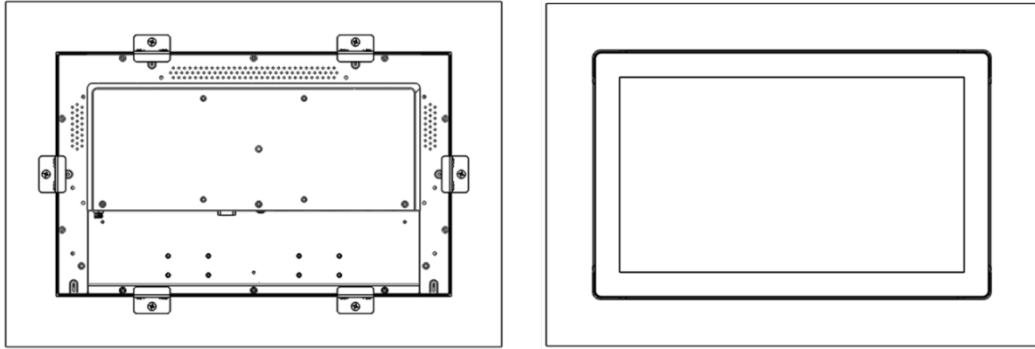
3. Place the mounting bracket to the UPC and then fasten it using M3 x 6 mm screw with torque maximum 4 kgf-cm, tighten each mounting bracket on every side until each of it is firmly tightened



4. Fasten the M4 x 20 mm screw to fix the bracket to the panel

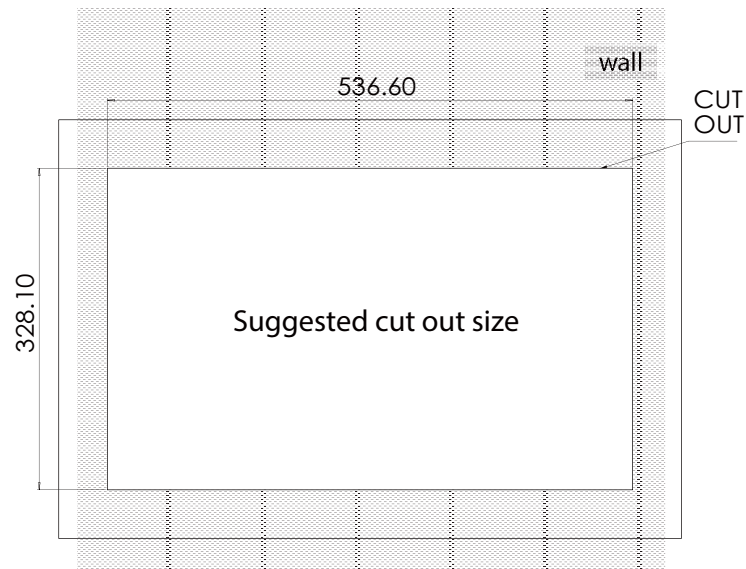


5. Installation Complete



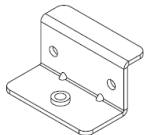
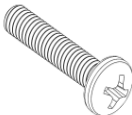

3.1.3 UPC-N215

Panel mount cut out



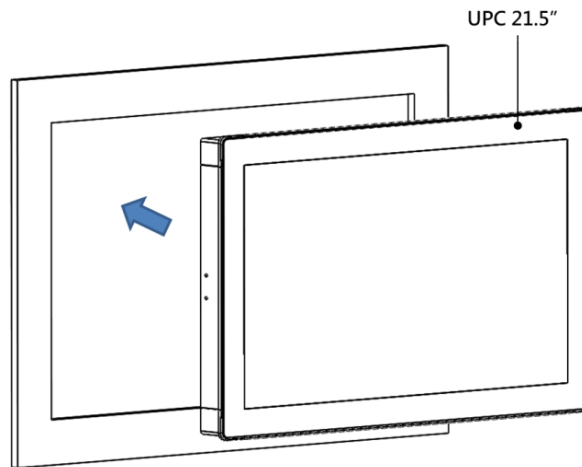
21.5" Panel mount cut out

Panel mount bracket mounting kit

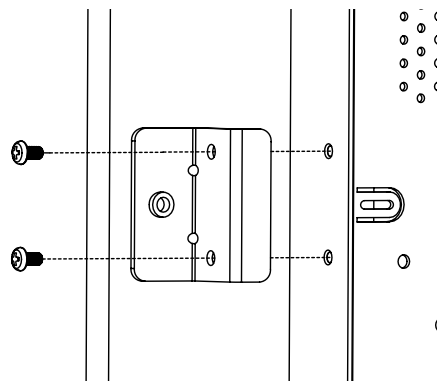
Quantity			
	Mounting bracket 8 pcs	M4 x 20mm screw 8 pcs	M3 x 6mm screw 16 pcs

Installation Step

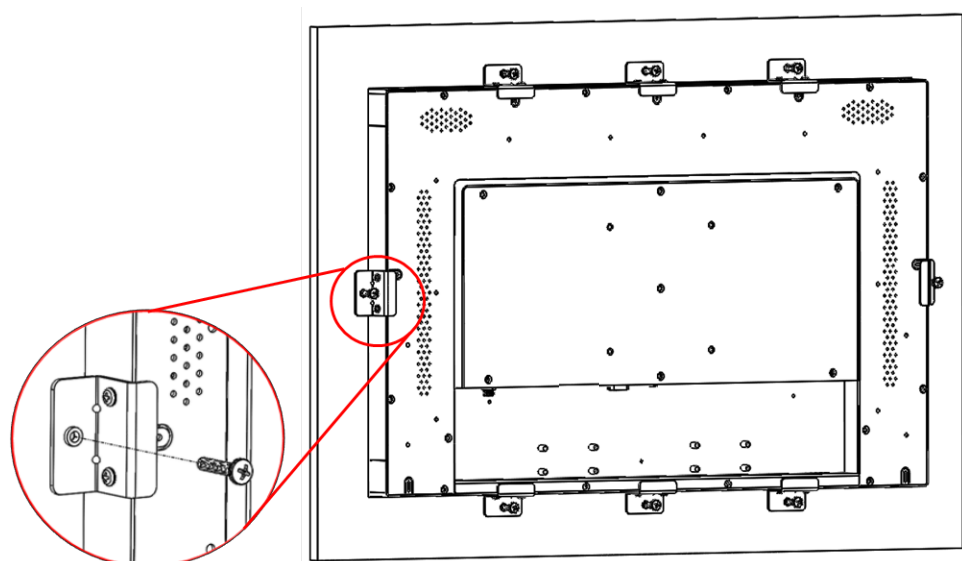
1. Prepare a panel for specific dimension of the UPC and then cut a hole according to the cutout dimension
2. Insert the UPC properly into the cut out area



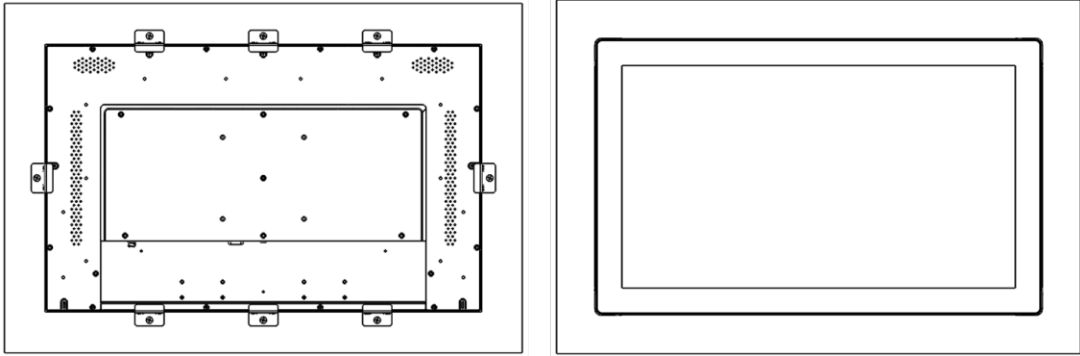
3. Place the mounting bracket to the UPC and then fasten it using M3 x 6 mm screw with torque maximum 4 kgf-cm, tighten each mounting bracket on every side until each of it is firmly tightened



4. Fasten the M4 x 20 mm screw to fix the bracket to the panel

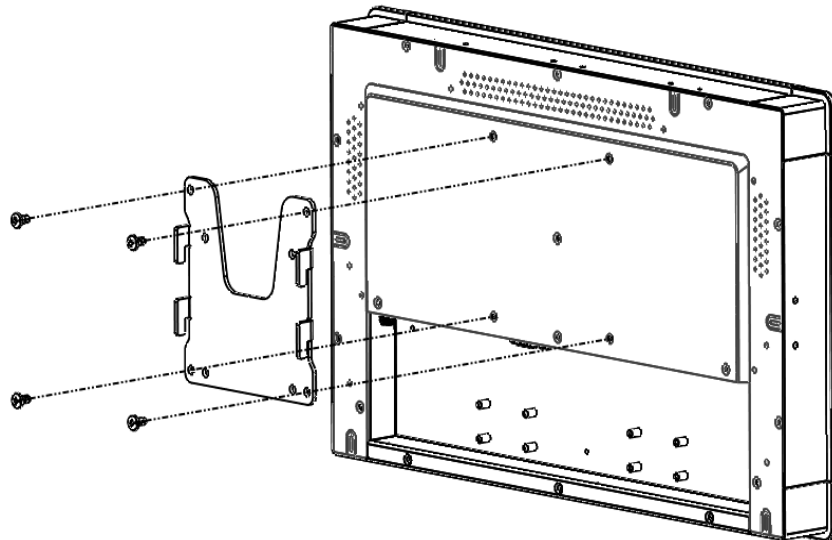


5. Installation Complete



3.2 VESA Mount Installation

UPC-N101 can be mounted to a VESA 75 x 75 and UPC-N156/N215 can be mounted to a VESA 100 X 100 mounting system.



Note

- VESA mounting plate and screws are excluded in UPC accessory.
- Rear view with holes (M4-depth 5 mm) for VESA 75/100 Mounting
- UPC has to be installed and operated only by trained personnel
- Please make sure the VESA Plate supporting weight is appropriate for different sizes and weight of UPC



Caution!

Use proper mounting equipment to prevent serious injury



SYSGRATION®

www.sysgration.com

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