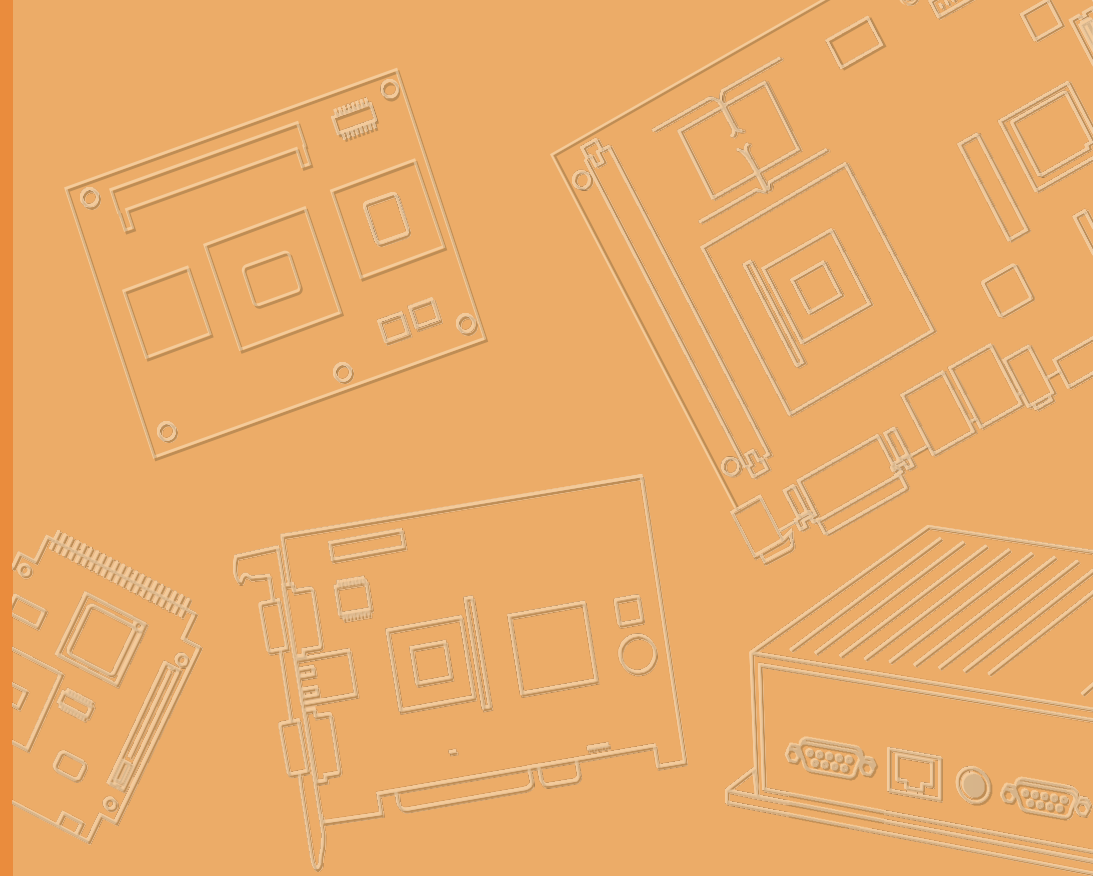


User Manual



UTC-115/120/124

15.6"/21.5"/23.8"
Ubiquitous Touch Computer

ADVANTECH

Enabling an Intelligent Planet

Copyright

The documentation and the software included with this product are copyrighted 2021 by Advantech Co., Ltd. All rights are reserved. Advantech Co., Ltd. also reserves the right to improve the products described in this manual at any time without notice. No part of this manual may be reproduced, copied, translated, or transmitted in any form or by any means without the prior written permission of Advantech Co., Ltd. The information provided in this manual is intended to be accurate and reliable. However, Advantech Co., Ltd. assumes no responsibility for its use, nor for any infringements on the rights of third parties that may result from its use.

Acknowledgments

Award is a trademark of Award Software International, Inc.

AMD is a trademark of Advanced Micro Devices.

Corning Gorilla is a trademark of Corning Inc.

Intel, Atom, Celeron, and Core are trademarks of Intel Corp.

IBM, PC/AT, PS/2, and VGA are trademarks of International Business Machines Corporation.

Microsoft Windows is a registered trademark of Microsoft Corp.

RTL is a trademark of Realtek Semiconductor Co., Ltd.

All other product names or trademarks are properties of their respective owners.

For more information about this or other Advantech products, visit our website at <http://www.advantech.com>.

For technical support and customer service, visit our support website at <http://support.advantech.com>.

This manual is applicable to UTC-115/120/124.

Contact Information

Manufacturer

Advantech Co., Ltd.

No.1, Alley 20, Lane 26, Rueiguang Road, Neihu District, Taipei, Taiwan 114, R.O.C.
Tel: (02) 2792-7818

Advantech Service IoT GmbH

Address: Industriestr.3, 82110 Germering, Germany

Tel: +49 (0) 89-4111910

Product Warranty (3 years)

Advantech warrants the original purchaser that each of its products will be free from defects in materials and workmanship for two years from the date of purchase.

This warranty does not apply to any products that have been repaired or altered by persons other than repair personnel authorized by Advantech, or products that have been subject to misuse, abuse, accident, or improper installation. Advantech assumes no liability under the terms of this warranty as a consequence of such events.

Because of Advantech's high quality-control standards and rigorous testing, most customers never need to use our repair service. However, if an Advantech product is defective, it will be repaired or replaced free of charge during the warranty period. For out-of-warranty repairs, customers will be billed according to the cost of replacement materials, service time, and freight. Please consult your dealer for more details.

If you believe your product is defective, follow the steps outlined below.

1. Collect all the information about the problem encountered (for example, CPU speed, Advantech products used, other hardware and software, etc.). Note anything abnormal and list any messages displayed on screen when the problem occurs.
2. Call your dealer and describe the problem. Please have your manual, product, and any helpful information readily available.
3. If your product is diagnosed as defective, obtain a return merchandise authorization (RMA) number from your dealer. This allows us to process your return more quickly.
4. Carefully pack the defective product, a completed Repair and Replacement Order card, and a proof of purchase date (such as a photocopy of your sales receipt) into a shippable container. Products returned without a proof of purchase date are not eligible for warranty service.
5. Write the RMA number visibly on the outside of the package, and ship the package prepaid to your dealer.

Declaration of Conformity

FCC Class A

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 such cases users are required to correct the interference at their own expense.

Warning! Any modifications to this device that are not approved by the relevant standards authority may void the authority granted to the user by the FCC to operate this equipment.



Technical Support and Assistance

1. Visit the Advantech website at <http://support.advantech.com> to obtain the latest product information.
2. Contact your distributor, sales representative, or Advantech'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, Cautions, and Notes

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.



Warning! The rated input voltage is 12V/5A for UTC-115G/UTC-115H, and 12V/7A for UTC-120G/UTC-120H, 20V/4.5A for UTC-115I/UTC-115K/UTC-120I/UTC-120K/UTC-124I1/UTC-124K.



Use a 3V/195mA lithium battery.

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.

CompactFlash: Turn off the system power before inserting or removing the CompactFlash storage card.

Packing List

Before beginning installation, check that the following items have been included with the product:

- 1 x UTC-115/120/124 unit
- Accessories for UTC-115/120/124
 - 60W adapter (UTC-115G; UTC-115H)
 - 84W adapter (UTC-120G; UTC-120H)
 - 90W adapter (UTC-115K, UTC-120K, UTC-115I, UTC-120I, UTC-124G1, UTC-124I1, UTC-124I3)

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

Safety Instructions

1. Read these safety instructions carefully.
2. Retain this user manual for future reference.
3. Disconnect this equipment from all power outlets before cleaning. Use only a damp cloth to clean. 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 this equipment from humidity.
6. Place this equipment on a reliable surface during installation. Dropping or letting the device fall may cause damage.
7. The openings on the enclosure are for air convection. Protect the equipment from overheating. Do not cover the openings.
8. Ensure that the voltage of the power source is correct before connecting the equipment to the 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 situations occurs, have the equipment checked by 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 place the equipment in an environment with a storage temperature of below -20 °C (-4 °F) or above 60 °C (140 °F) as this may cause damage. The equipment should be kept in a controlled environment.
16. Caution: 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 damaging the device due to a fall.
18. In accordance with the IEC 704-1:1982 specifications, the sound pressure level at the operator's position does not exceed 70 dB (A).

DISCLAIMER: These instructions are provided according to IEC 704-1 standards. Advantech disclaims all responsibility for the accuracy of any statements contained herein.

Warning! *Because of the risk of electric shock, do not remove the*



equipment cover during operation or when connected to a power outlet.

Caution! *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. Then contact qualified service personnel to verify that staff safety has not been compromised. If the computer clock is unable to maintain accurate time or the BIOS configuration resets to the default settings, check the battery.*



Caution! *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.*



Contents

Chapter 1	General Information.....	9
1.1	Introduction	10
1.2	Specifications	10
1.2.1	UTC-115/120G.....	10
1.2.2	UTC-115/120H/I.....	11
1.2.3	UTC-115/120K.....	12
1.2.4	UTC-124G1	12
1.2.5	UTC-124I1/I3	13
1.3	Dimensions	13
1.3.1	UTC-115G.....	13
1.3.2	UTC-115H/I.....	14
1.3.3	UTC-115K.....	15
1.3.4	UTC-120G.....	15
1.3.5	UTC-120H/I.....	16
1.3.6	UTC-120K.....	16
1.3.7	UTC-124G1/124K(N97).....	17
1.3.7	UTC-124I1/124I3/124K(I3).....	17
Chapter 2	System Setup.....	18
2.1	Quick Tour.....	19
2.1.1	Front View.....	19
2.1.2	Rear View	19
2.2	I/O Ports	22
2.2.1	UTC-115/120	22
2.2.2	UTC-124	22
2.3	Setup Procedures	24
2.3.1	System Power On	24
2.3.2	BIOS Setup.....	24
2.3.3	Software Installation.....	24
2.3.4	Driver Installation	24
Chapter 3	Hardware Installation	25
3.1	Introduction	26
3.2	Remove the Side Rear Covers.....	26
3.3	Replace the Side Rear Covers.....	29
3.4	SATA SSD Installation	30
3.5	Memory Module Installation	31
Appendix A	UTC Peripherals.....	32
A.1	UTC-100P-B11E (2D Barcode Scanner)	33
A.1.1	Specifications.....	33
A.1.2	Packing list	33
A.1.3	Ordering information	33
A.1.4	Installation	34
A.2	UTC-100P-M10E (MSR)	35
A.2.1	Specifications.....	35
A.2.2	Packing list	35

	A.2.3	Ordering information	35
	A.2.4	Installation	36
A.3		UTC-100P-C10E (5M Camera).....	38
	A.3.1	Specifications.....	38
	A.3.2	Packing list	38
	A.3.3	Ordering information	38
	A.3.4	Installation	39
A.4		UTC-100P-R10E (RFID)	41
	A.4.1	Specifications.....	41
	A.4.2	Packing list	41
	A.4.3	Ordering information	41
	A.4.4	Installation	42
A.5		UTC-100P-S10E (Smart Card Reader)	44
	A.5.1	Specifications.....	44
	A.5.2	Packing list	44
	A.5.3	Ordering information	44
	A.5.4	Installation	45
A.6		UTC-100P-L10E (LED Light BAR).....	47
	A.6.1	Specifications.....	47
	A.6.2	Packing list	47
	A.6.3	Ordering information	47
	A.6.4	Installation	48
A.7		UTC-100P-F10E (Finger print)	53
	A.7.1	Specifications.....	53
	A.7.2	Packing list	53
	A.7.3	Ordering information	53
	A.7.4	Installation	54

Appendix B UTC Stands Installation55

B.1	UTC-UPOS-STAND0E	56
B.2	UTC-AVALO-STAND0E	57

Chapter 1

General Information

1.1 Introduction

Advantech's UTC-100 series comprises 15.6" / 21.5" / 23.8" fanless, low-power, all-in-one touch panel computers that can be deployed as control room computing devices, production line signage displays, showroom interactive signage, self-service kiosks, and public service terminals to support diverse retail, hospitality, healthcare, education, entertainment, and information processing applications. Featuring a protective enclosure, advanced touchscreen technology, wireless capabilities, and multiple I/O, UTC-100 series devices deliver high-performance computing and can be integrated with a wide range of optional peripherals and accessories according to specific application requirements.

1.2 Specifications

1.2.1 UTC-115G, 120G

Product		UTC-115	UTC-120
Description		15.6" ubiquitous touch computer	21.5" ubiquitous touch computer
Model		UTC-115G	UTC-120G
System	CPU	G: Intel® Pentium® N4200	G: Intel® Pentium® N4200
	Cache	2MB	2MB
	Memory	1 x 204-pin SODIMM DDR3L 1600 MHz (up to 8 GB)	1 x 204-pin SODIMM DDR3L 1600 MHz (up to 8 GB)
	SSD	1 x M.2 2242 SSD 1 x 2.5 internal SATA storage	1 x M.2 2242 SSD 1 x 2.5 internal SATA storage
Display	Size	15.6" HD (FHD optional)	21.5" FHD
	Resolution	1920 x 1080	1920 x 1080
Touch	Type	Projected capacitive	Projected capacitive
I/O	USB	4 x USB 3.0	4 x USB 3.0
	COM	2 x RS-232 COM (COM2 RS-232/422/485)	2 x RS-232 COM (COM2 RS-232/422/485)
	Bus Expansion	1 x M.2 Key 2230 1 x M.2 Key 2242	1 x M.2 Key 2230 1 x M.2 Key 2242
Network	LAN	2 x Gigabit Ethernet (1 with PoE option)	2 x Gigabit Ethernet
OS Support		Windows 10 IoT, Linux, Android 12	Windows 10 IoT, Linux, Android 12

1.2.2 UTC-115H, 120H

Product		UTC-115	UTC-120
Description		15.6" ubiquitous touch computer	21.5" ubiquitous touch computer
Model		UTC-115H	UTC-120H
System	CPU	Intel®Core™ i5-8365UE Intel®Core™ i3-8145UE	Intel®Core™ i5-8365UE Intel®Core™ i3-8145UE
	Cache	2 MB	2 MB
	Memory	1 x 260-pin SODIMM DDR4 2400 MT/s (up to 16 GB)	1 x 260-pin SODIMM DDR4 2400 MT/s (up to 16 GB)
	SSD	1 x M.2 2242 SSD 1 x 2.5 internal SATA storage	1 x M.2 2242 SSD 1 x 2.5 internal SATA storage
Display	Size	15.6" FHD	21.5" FHD
	Resolution	1920 x 1080	1920 x 1080
Touch	Type	Projected capacitive	Projected capacitive
I/O	USB	4 x USB 3.0	4 x USB 3.0
	COM	2 x RS-232 COM (COM2 RS-232/422/485)	2 x RS-232 COM (COM2 RS-232/422/485)
	Bus Expansion	1 x M.2 Key 2230 1 x M.2 Key 2242	1 x M.2 Key 2230 1 x M.2 Key 2242
Network	LAN	2 x Gigabit Ethernet	2 x Gigabit Ethernet
OS Support		Windows 10 IoT Enterprise (64 bit), Linux	Windows 10 IoT Enterprise (64 bit), Linux

1.2.3 UTC-115I, 120I

Product		UTC-115	UTC-120
Description		15.6" ubiquitous touch computer	21.5" ubiquitous touch computer
Model		UTC-115I	UTC-120I
System	CPU	Intel®Core™ i5-1145G7E Intel®Core™ i3-1115G4E	Intel®Core™ i5-1145G7E Intel®Core™ i3-1115G4E
	Cache	2 MB	2 MB
	Memory	1 x 260-pin SODIMM DDR4 3200 MT/s (up to 32 GB)	1 x 260-pin SODIMM DDR4 3200 MT/s (up to 32 GB)
	SSD	1 x M.2 2242 SSD 1 x 2.5 internal SATA storage	1 x M.2 2242 SSD 1 x 2.5 internal SATA storage
Display	Size	15.6" FHD	21.5" FHD
	Resolution	1920 x 1080	1920 x 1080
Touch	Type	Projected capacitive	Projected capacitive
I/O	USB	3 x USB 3.2 Gen1 Type A 1 x USB 3.2 Gen1 Type C	3 x USB 3.2 Gen1 Type A 1 x USB 3.2 Gen1 Type C
	COM	2 x RS-232 COM (COM2 RS-232/422/485)	2 x RS-232 COM (COM2 RS-232/422/485)
	Bus Expansion	1 x M.2 Key 2230 1 x M.2 Key 2280	1 x M.2 Key 2230 1 x M.2 Key 2280
Network	LAN	2 x Gigabit Ethernet	2 x Gigabit Ethernet
OS Support		Windows 10 IoT Enterprise (64 bit), Linux	Windows 10 IoT Enterprise (64 bit), Linux

1.2.4 UTC-115K, 120K, 124K

Product		UTC-115	UTC-120	UTC-124
Description		15.6" ubiquitous touch computer	21.5" ubiquitous touch computer	23.8" ubiquitous touch computer
Model		UTC-115K	UTC-120K	UTC-124K
System	CPU	Intel®Core™ N97 Intel®Core™ i3-N305	K: Intel®Core™ N97 K: Intel®Core™ i3-N305	K: Intel®Core™ N97 K: Intel®Core™ i3-N305
	Cache	6 MB	6 MB	6 MB
	Memory	1 x 262-pin SODIMM DDR5 4800 MT/s (up to 16 GB)	1 x 262-pin SODIMM DDR5 4800 MT/s (up to 16 GB)	1 x 262-pin SODIMM DDR5 4800 MT/s (up to 16 GB)
	SSD	1 x M.2 2280/2242 SSD 1 x 2.5 internal SATA storage	1 x M.2 2242/2280 SSD 1 x 2.5 internal SATA storage	1 x M.2 2242/2280 SSD 1 x 2.5 internal SATA storage
Display	Size	15.6" FHD	21.5" FHD	23.8" FHD
	Resolution	1920 x 1080	1920 x 1080	1920 x 1080
Touch	Type	Projected capacitive	Projected capacitive	Projected capacitive
I/O	USB	2 x USB 3.2 Gen1 Type-A 2 x USB 2.0 1 x USB 3.2 Gen1 Type-C	4 x USB 3.0	4 x USB 3.0
	COM	2 x RS-232 COM (COM2 RS-232/422/485)	2 x RS-232 COM (COM2 RS-232/422/485)	2 x RS-232 COM (COM2 RS-232/422/485)
	Bus Expansion	1 x M.2 Key 2230 1 x M.2 Key 2242	1 x M.2 Key 2230 1 x M.2 Key 2242	1 x M.2 Key 2230 1 x M.2 Key 2242
Network	LAN	2 x Gigabit Ethernet	2 x Gigabit Ethernet	2 x Gigabit Ethernet
OS Support		Windows 10 IoT Enterprise (64 bit), Linux	Windows 10 IoT Enterprise (64 bit), Linux	Windows 10 IoT Enterprise (64 bit), Linux

1.2.5 UTC-124G1

Product		UTC-124G1
Description		15.6" ubiquitous touch computer
Model		UTC-124G1
System	CPU	Intel®Core™ i5-8365UE Intel®Core™ i3-8145UE
	Cache	2 MB
	Memory	1 x 260-pin SODIMM DDR4 2400 MT/s (up to 16 GB)
	SSD	1 x M.2 2242 SSD 1 x 2.5 internal SATA storage
Display	Size	15.6" FHD
	Resolution	1920 x 1080
Touch	Type	Projected capacitive
I/O	USB	4 x USB 3.0
	COM	2 x RS-232 COM (COM2 RS-232/422/485)
	Bus Expansion	1 x M.2 Key 2230 1 x M.2 Key 2242
Network	LAN	2 x Gigabit Ethernet
OS Support		Windows 10 IoT Enterprise (64 bit), Linux

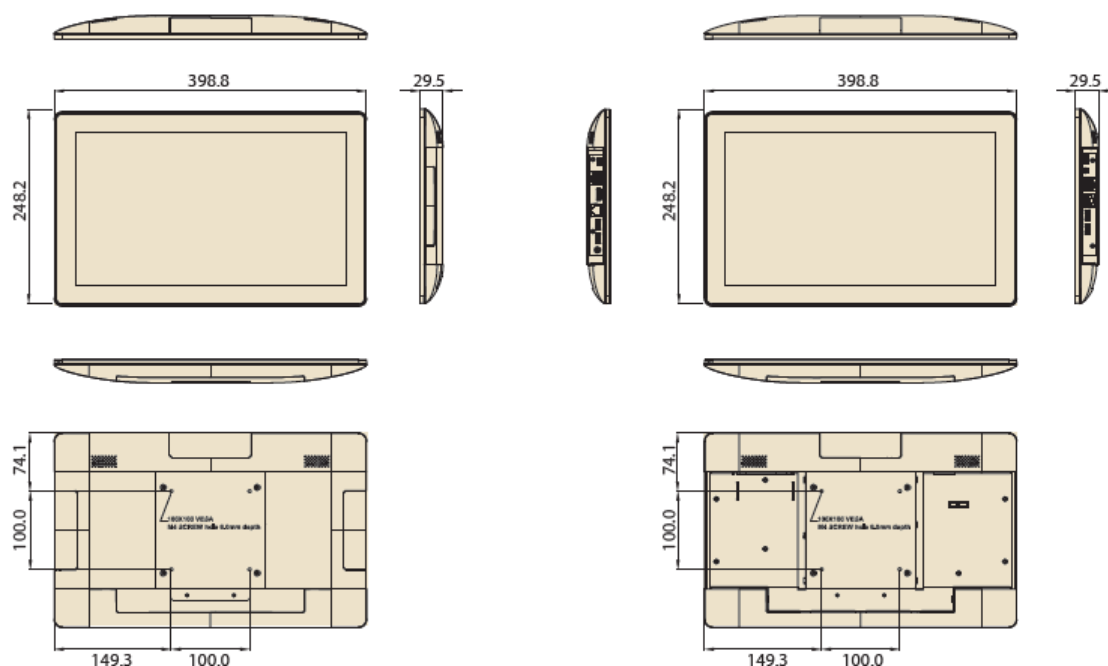
1.2.6 UTC-124I1/124I3

Product		UTC-124I1	UTC-124I3
Description		15.6" ubiquitous touch computer	21.5" ubiquitous touch computer
Model		UTC-124I1	UTC-124I3
System	CPU	Intel®Core™ i5-8365UE Intel®Core™ i3-8145UE	Intel®Core™ i5-8365UE Intel®Core™ i3-8145UE
	Cache	2 MB	2 MB
	Memory	1 x 260-pin SODIMM DDR4 2400 MT/s (up to 16 GB)	1 x 260-pin SODIMM DDR4 2400 MT/s (up to 16 GB)
	SSD	1 x M.2 2242 SSD 1 x 2.5 internal SATA storage	1 x M.2 2242 SSD 1 x 2.5 internal SATA storage
Display	Size	15.6" FHD	21.5" FHD
	Resolution	1920 x 1080	1920 x 1080
Touch	Type	Projected capacitive	Projected capacitive
I/O	USB	4 x USB 3.0	4 x USB 3.0
	COM	2 x RS-232 COM (COM2 RS-232/422/485)	2 x RS-232 COM (COM2 RS-232/422/485)
	Bus Expansion	1 x M.2 Key 2230 1 x M.2 Key 2242	1 x M.2 Key 2230 1 x M.2 Key 2242
Network	LAN	2 x Gigabit Ethernet	2 x Gigabit Ethernet
OS Support		Windows 10 IoT Enterprise (64 bit), Linux	Windows 10 IoT Enterprise (64 bit), Linux

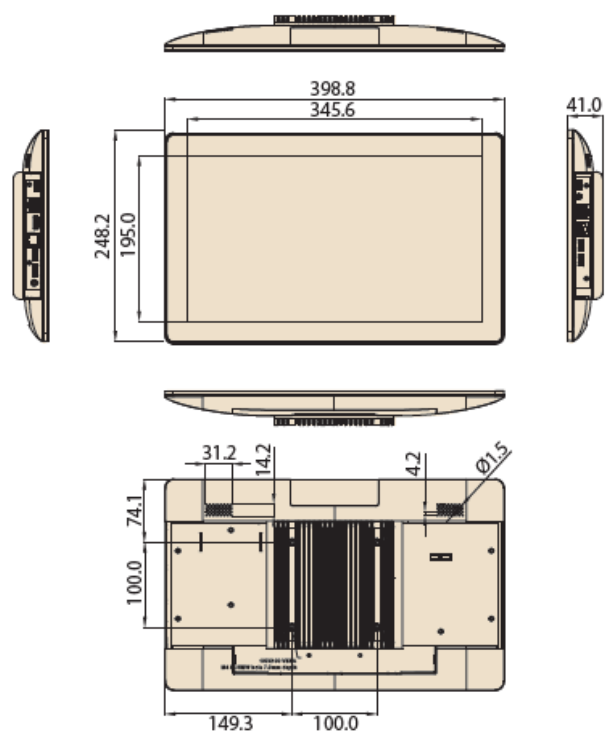
1.3 Dimensions

1.3.1 UTC-115G

Unit: mm

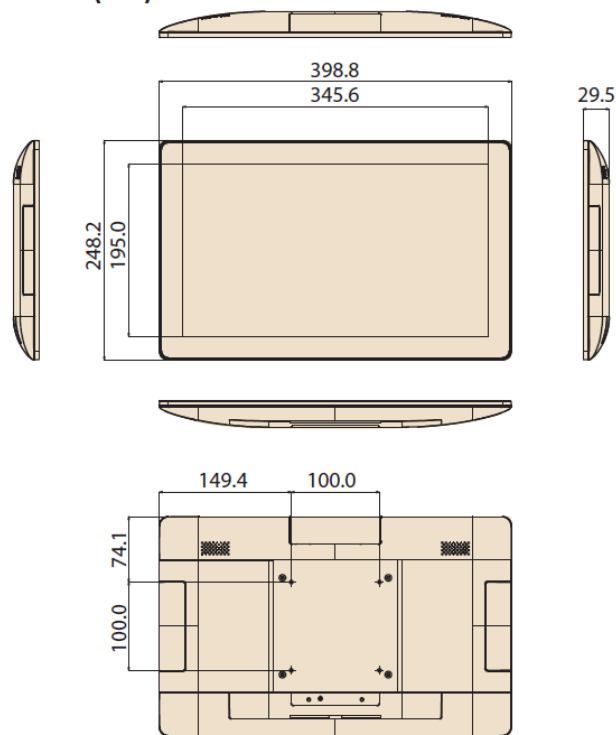


1.3.2 UTC-115H/I

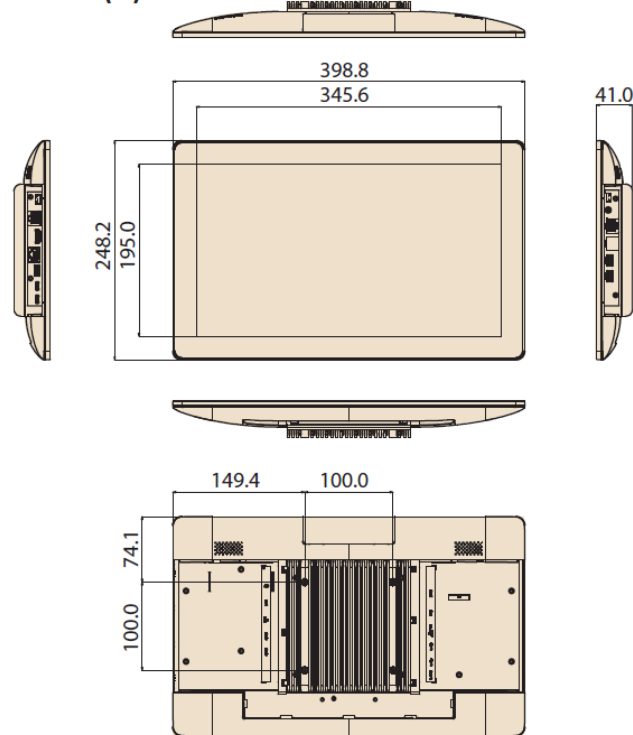


1.3.3 UTC-115K

UTC-115K (N97)

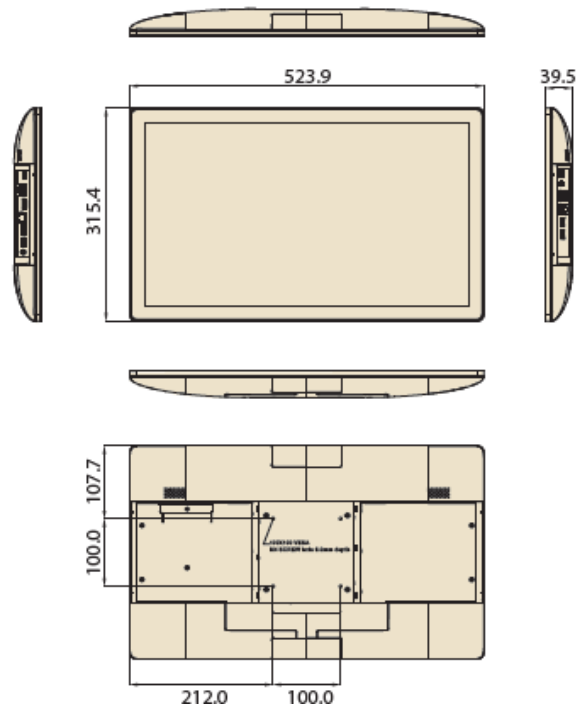
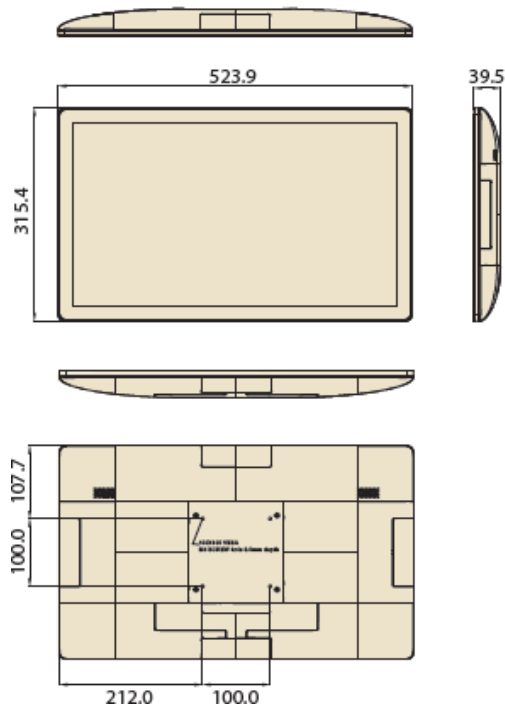


UTC-115K (i3)



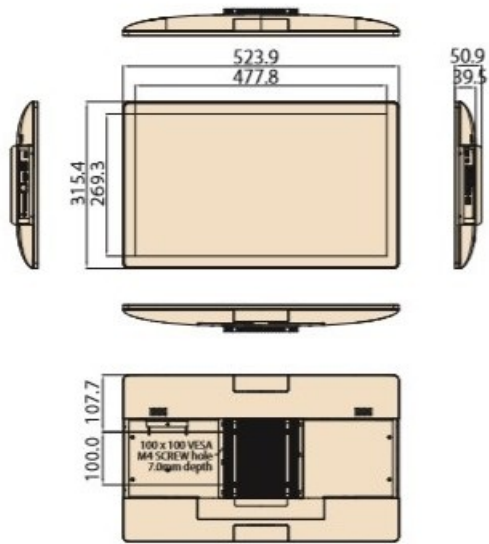
1.3.4 UTC-120G

Unit: mm



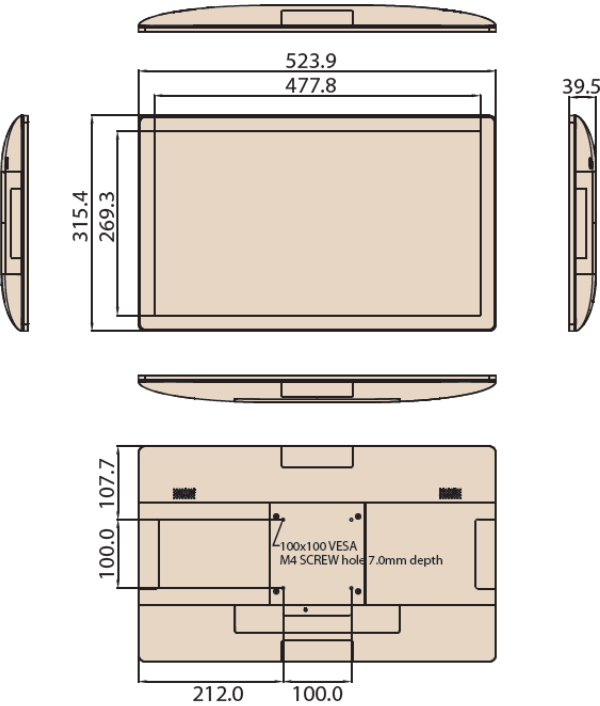
1.3.5 UTC-120H/I

Unit: mm

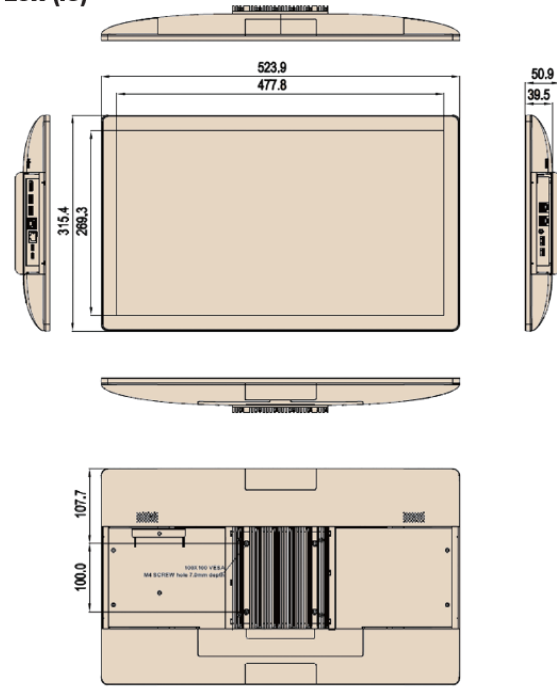


1.3.6 UTC-120K

UTC-120K (N97)



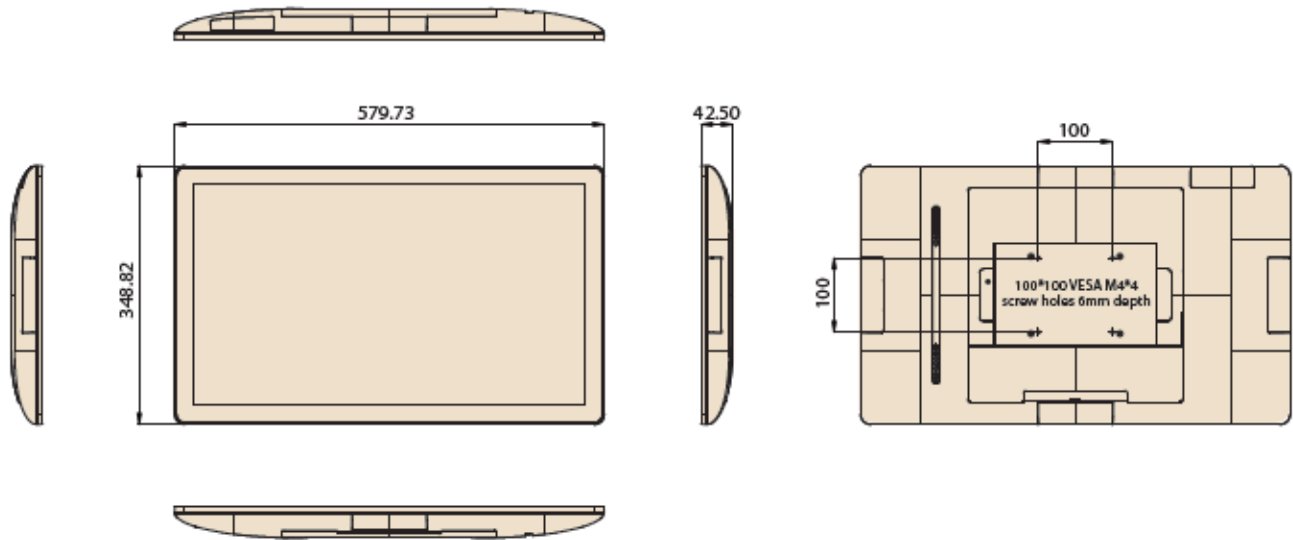
UTC-120K (i3)



1.3.7 UTC-124G1/124K(N97)

Dimensions

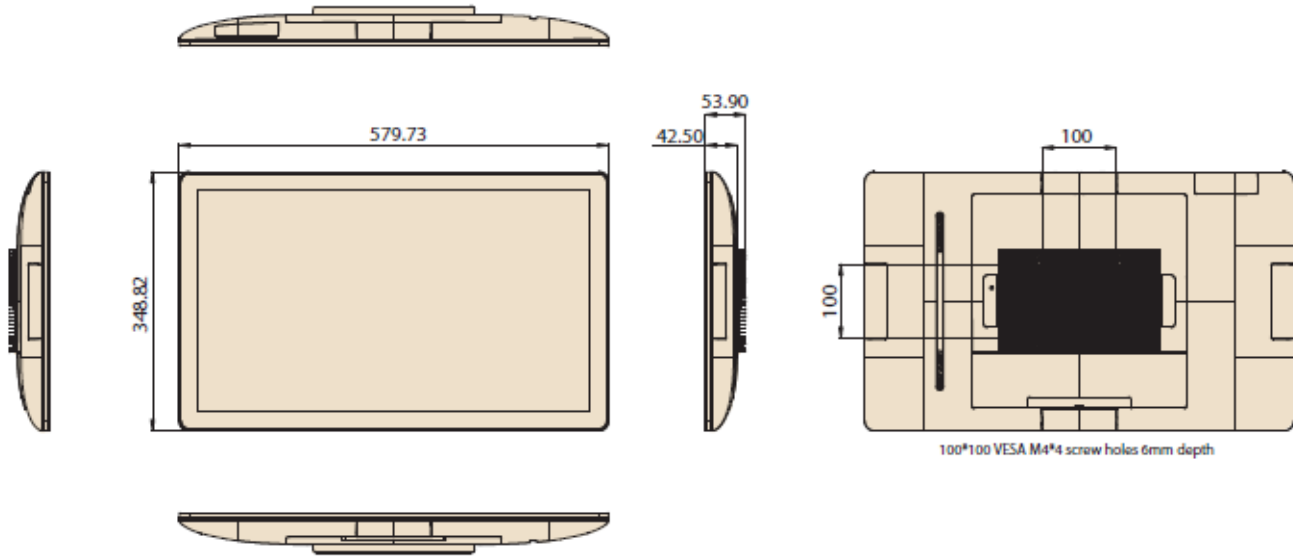
Unit: mm



1.3.8 UTC-124I1/124I3/124K(I3)

Dimensions

Unit: mm



Chapter 2

2.1 Quick Tour

Before setting up the device, take a moment to familiarize yourself with the connector locations and functions, as shown in the images below.

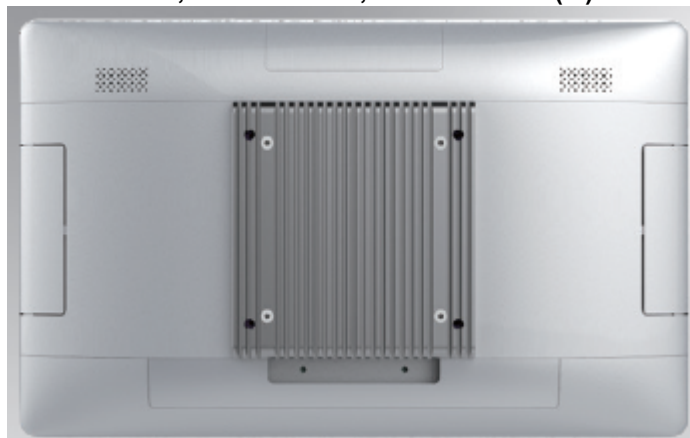
2.1.1 Front View



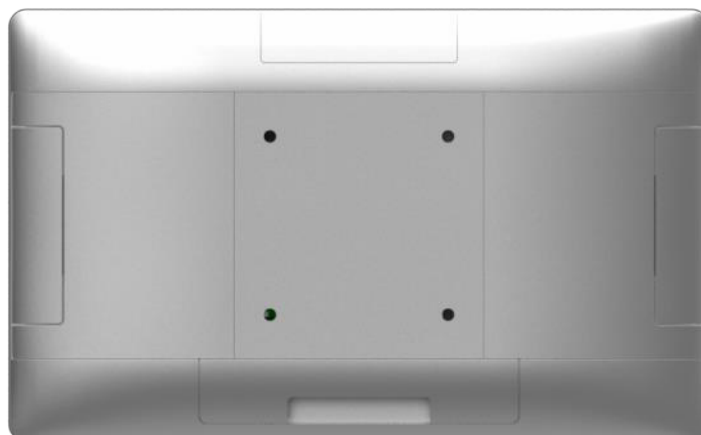
Figure 2.1 UTC-115/120/124 with Glass Panel and PCAP Touch

2.1.2 Rear View

UTC-115/120H, UTC-115/120I, UTC-115/120K(I3)



UTC-115/120G, UTC-115/120K(N97)



Note! For mounting, use only a VESA-compatible floor, stand.



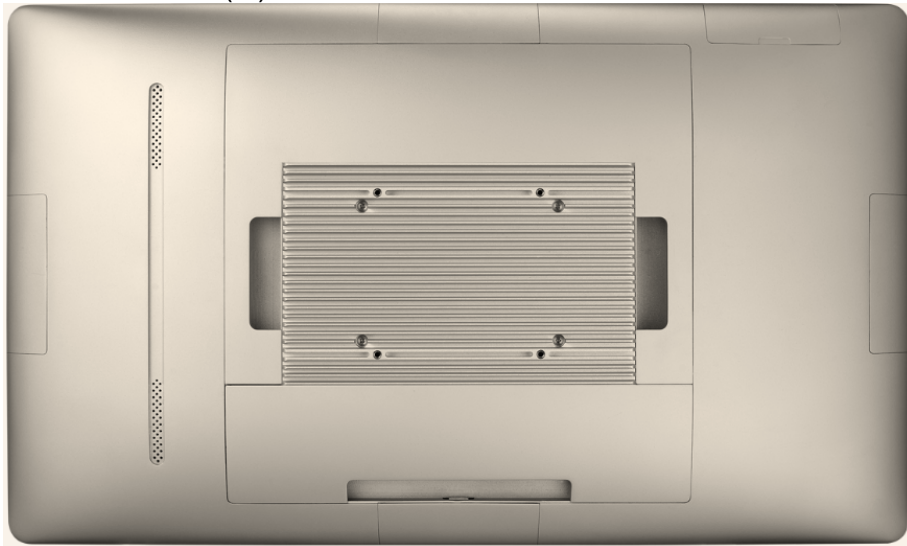
UTC-124G1/124K(N97)



UTC-124G3



UTC-124I1/124K(I3)



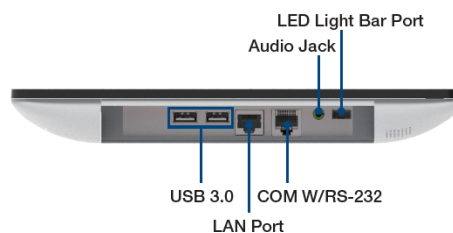
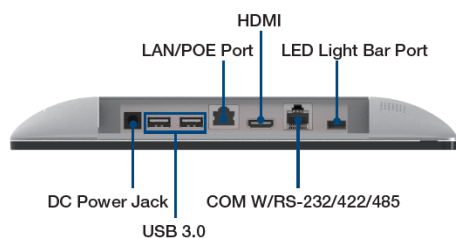
UTC-124I3



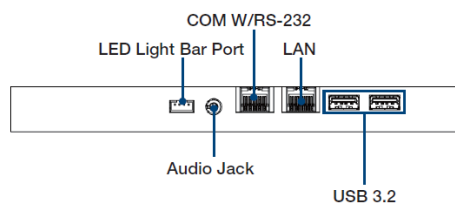
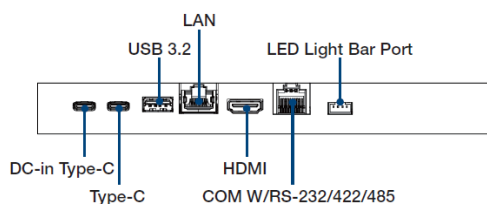
2.2 I/O Ports

2.2.1 UTC-115/120

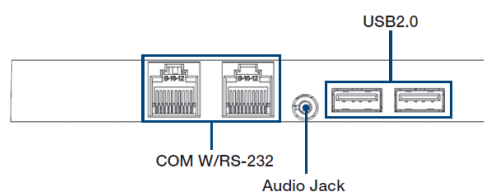
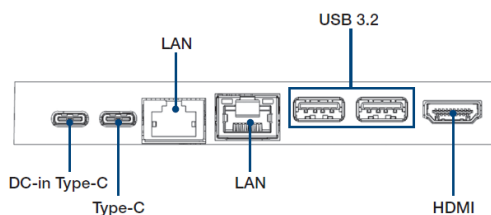
UTC-115/120 G/H



UTC-115/120I

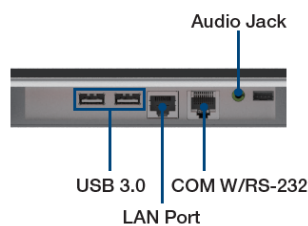
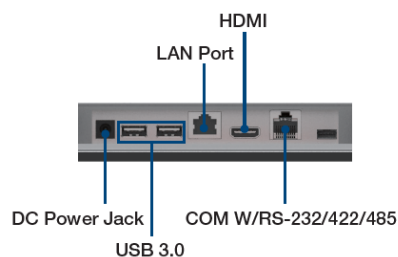


UTC-115/120K

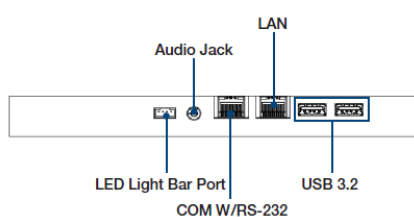
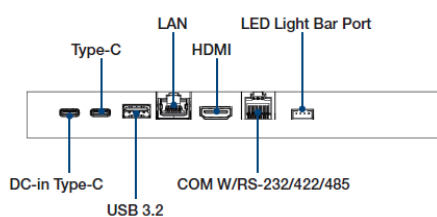


2.2.2 UTC-124

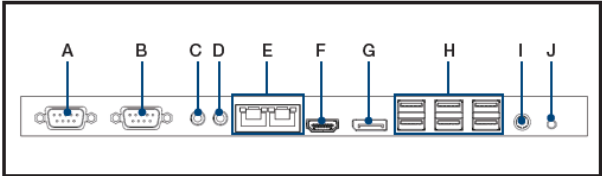
UTC-124G1



UTC-124I1

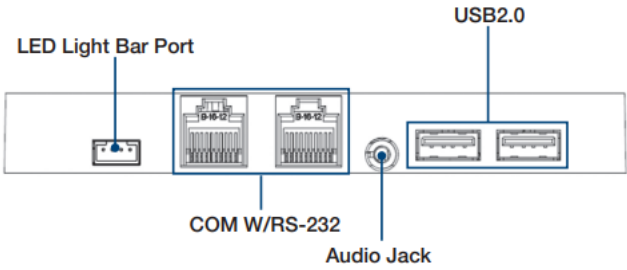
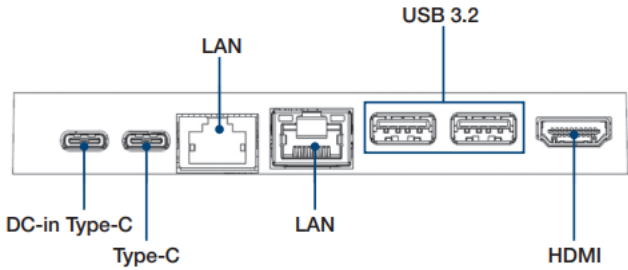


UTC-124I3



- A. COM1
- B. COM2
- C. Mic in
- D. Line out
- E. LAN ports x 2
- F. HDMI
- G. DP
- H. USB 2.0 x 2 /USB 3.2 x 4
- I. DC input 12-30V
- J. Power button

UTC-124K



2.3 Setup Procedures

2.3.1 System Power On

1. Connect the device to the power adapter provided in the shipment.
2. Hold the power cord by the plugs ends only. Refer to Section 2.2 for the location of the DC power input and power switch.
3. Press the power switch to activate the system.

2.3.2 BIOS Setup

In most cases, the system setup and configuration will be completed by the vendor or system integrator prior to delivery. However, users may still need to access the BIOS setup utility to adjust the system configuration settings, such as the date/time or hard drive type. The setup utility is stored in read-only memory (ROM) and can be accessed following a system reset or by pressing the key after powering on the computer. The settings configured in the BIOS setup utility are recorded in CMOS RAM memory, which is backed up by a battery to ensure the settings are retained after the system is powered off. When booting up, the system compares the settings stored in CMOS RAM with the POST self-test results. If a discrepancy is found, an error message is displayed on screen and users are prompted to run the setup program.

2.3.3 Software Installation

Recent releases of operating systems from major vendors include setup programs that load automatically and guide users through hard disk preparation and operating system installation. Some distributors and system integrators may have already installed software prior to shipping the product.

Note! Before software or driver installation, the system must be equipped with additional storage that must be purchased separately.



2.3.4 Driver Installation

After installing the system software, users can setup the Ethernet, XGA, audio, and touchscreen functions.

Note! The relevant drivers and utilities are subject to change without notice. Download the latest drivers for the UTC-100 series products from the Advantech website at <http://support.advantech.com> or contact our application engineers for further assistance.



Chapter 3

Hardware Installation

3.1 Introduction

The UTC-100 series devices are PC-based computers housed in an aluminum enclosure. To perform system maintenance or hardware upgrades, such as installing an SSD, DRAM simply remove the rear cover of the device.

Warning! Only remove the rear cover after verifying that there is no power flowing within the device. The device should be switched off and the power cord unplugged before opening the device enclosure.



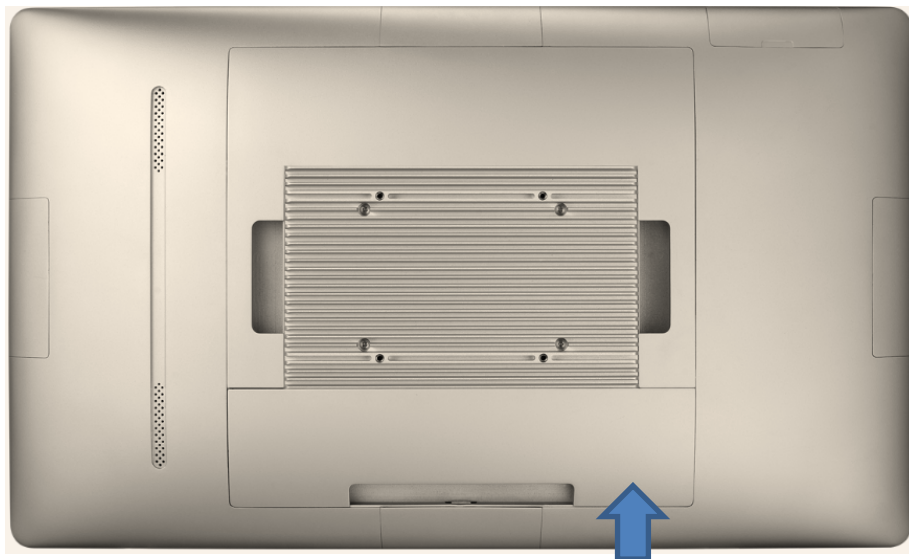
3.2 Remove the Side Rear Covers

1. After turning the power off and disconnecting all cables, place the UTC-100 series computer face-down on a soft, flat surface.
2. Remove the rear bottom cover first.

UTC-115/120



UTC-124

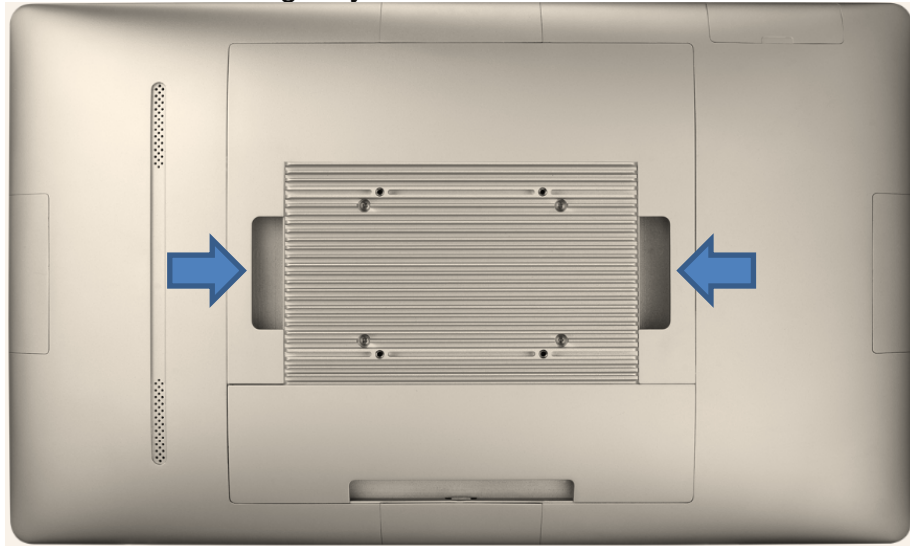


3. With your thumbs under the middle of the one peripheral cover, gently lift to disengage the side. Then remove the screws and slide the side cover outwards to remove it.



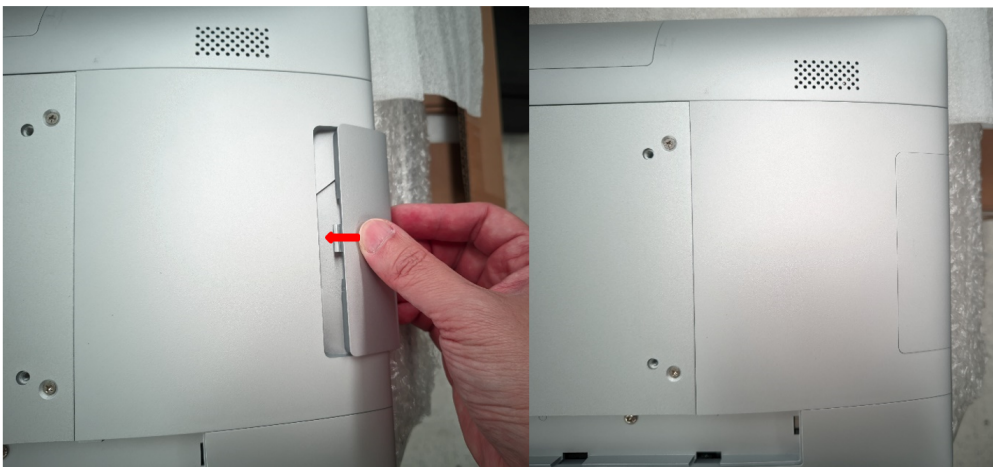
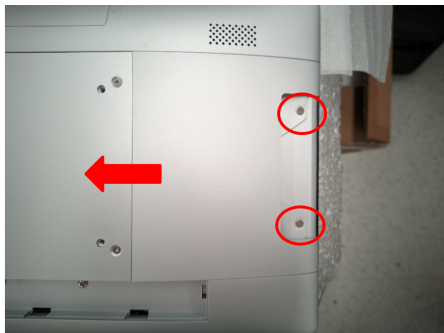
UTC-124

Pull out the covers gently from both sides

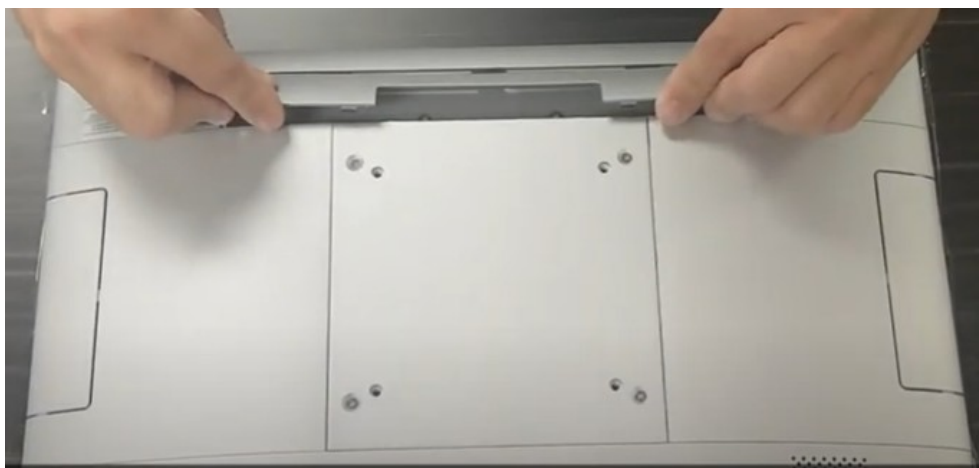


3.3 Replace the Side Rear Covers

1. Take new side cover and install in unit and screw up with both sides. Then take small cover to install to side cover with both sides.



2. Press down on the cover firmly until the tabs snap into place, locking the cover securely in position. Repeat this for the bottom rear cover.

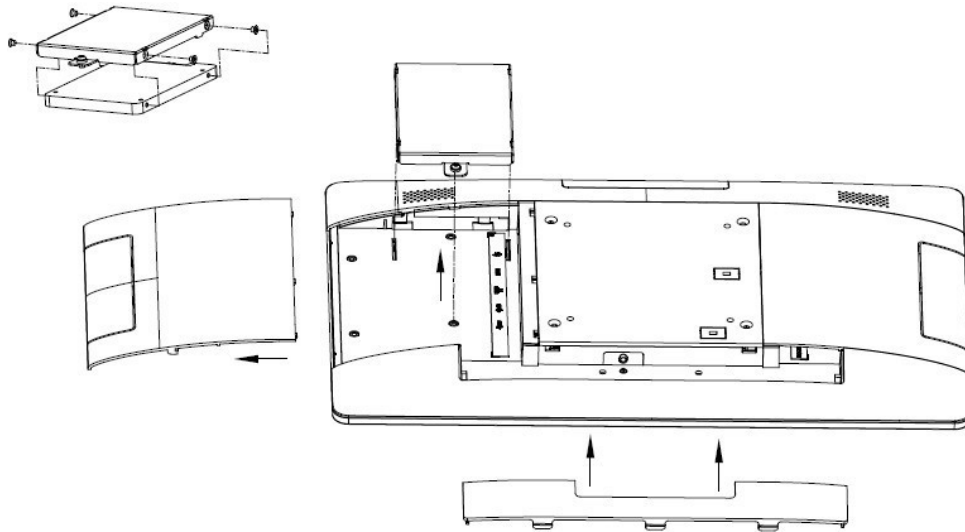


3.4 SATA SSD Installation

UTC-100 systems feature a 2.5" SATA SSD bay reserved for customizable storage. To install a 2.5" SATA SSD, follow the steps outlined below.

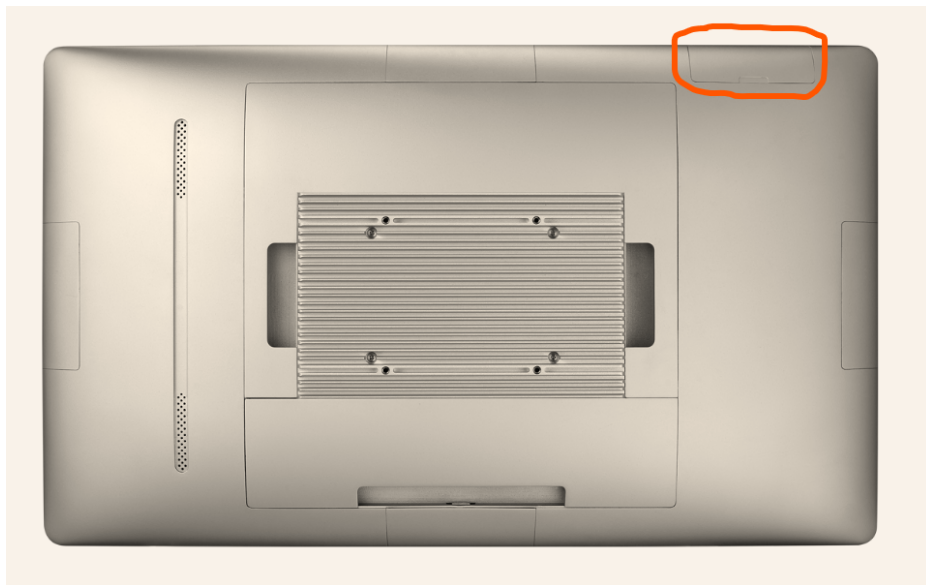
3.4.1 UTC-100 Series

1. Remove the bottom and side rear cover.
2. Loosen the affixing screws and remove the SSD bracket.
3. Insert the SATA SSD into the SSD bracket and fasten it in place with screws.
4. Use a power cable to connect the SATA SSD to the power supply unit.
5. Use a SATA data cable to connect the SATA SSD to the motherboard.
6. Replace the side and bottom rear covers.



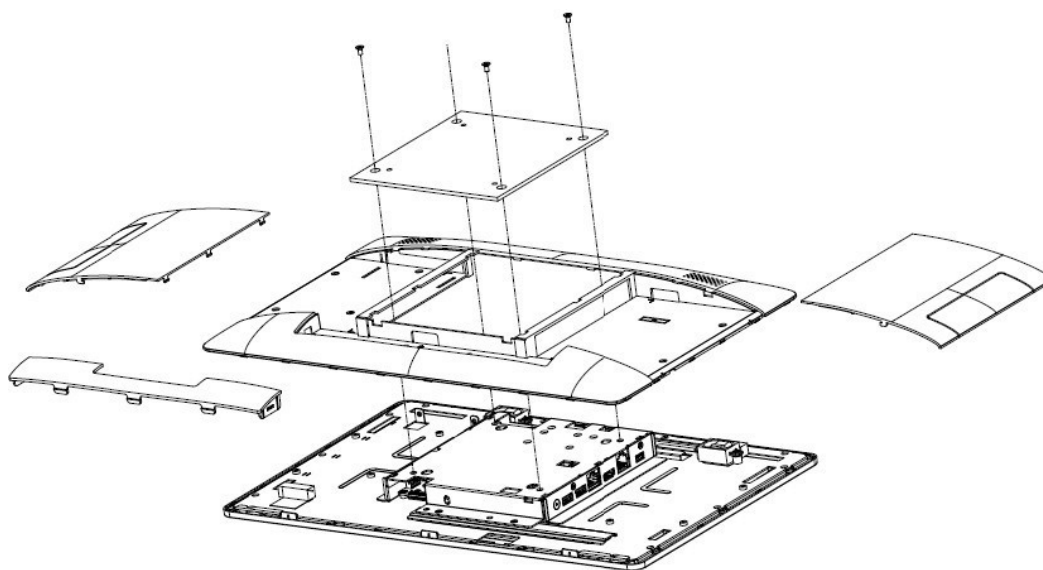
3.4.2 For UTC-124

1. Remove the HDD cover on up-left side.
2. Loosen the affixing screws and remove the SSD bracket
3. Check SSD install direction then tight screw up with 2.5" SSD with bracket
4. Install SSD with SSD bracket into SSD bay and tight the affixing screws
5. Replace HDD cover.



3.5 Memory Module Installation

1. Remove the bottom and side rear covers.
2. Loosen the affixing screws and remove the VESA mount plate.
3. Remove the 4 screws from the DRAM memory module heatsink.
4. Turn the memory module over.
5. Install the DRAM module in the SODIMM socket.
6. Replace the DRAM memory module heatsink and tighten the screws to affix it in place.
7. Replace the side and bottom rear covers.



Appendix



UTC Peripherals

A.1 UTC-100P-B11E (2D Barcode Scanner)



A.1.1 Specifications

Interface	USB (Cable Length 50cm)
Scanning Performance	Sensor: CMOS sensor with 640 x 480 pixel resolution Illumination & Aiming: White LED illumination; Red LED dot aimer Typical frame rate: 60 frames per second Motion Tolerance: 6 m/s Field of View: Horizontal: 40°, Vertical: 30° Scan Angles: Tilt: 360°, Pitch: ± 50°, Skew: ± 50° Symbol Contrast: 20% minimum print contrast ratio
Typical Reading Distances Standard	SYMBOLGY / X-DIM TYPICAL RANGE* 13ML UPC 46 mm to 390 mm [1.81 in to 15.35 in] 5 MIL CODE 39 45 mm to 180 mm [1.77 in to 7.09 in] 20 MIL CODE 39 71 mm to 747 mm [2.79 in to 29.41 in] 7 MIL PDF417 55 mm to 163 mm [2.17 in to 6.42 in] 10 MIL PDF417 42 mm to 247 mm [1.65 in to 9.72 in] 10 MIL QR 40 mm to 182 mm [1.57 in to 7.17 in] 20 MIL QR 36 mm to 367mm [1.42 in to 14.45 in] * Typical performance may be impacted by barcode quality and environmental conditions
OS Support	Windows 10 & Android
Dimensions	50.0 x 39.0 x 27.0 mm
Operating Temperature	-10°C to 40°C

A.1.2 Packing List

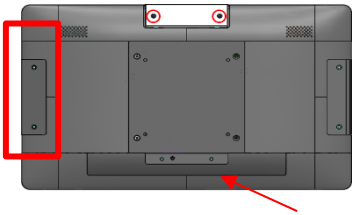
Description	Quantity
Barcode Reader Unit	1
Barcode Bracket for UTC-115 long (bottom) side	1

A.1.3 Ordering information

P/N	Description
UTC-100P-B11E	2D Barcode Module for UTC-115/UTC-120

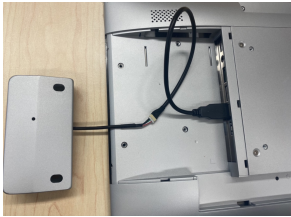
A.1.4 Installation

■ Barcode scanner on UTC-115/120/124 Short side and Long (top) side



- 3.4.2.1 Take out the contents from the peripheral package
- 3.4.2.2 Remove rear bottom I/O cover first
- 3.4.2.3 Remove side cover.
- 3.4.2.4 Connect USB cable (in accessory box) with AIO

(rear bottom I/O cover)



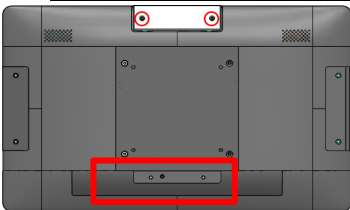
5. Put side cover back



6. Lock barcode scanner with two screws on short side



■ Barcode scanner on UTC-115 Long (bottom) side

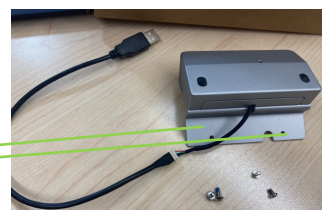
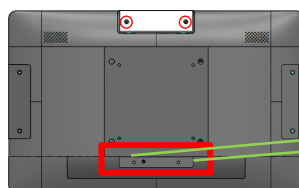


- 1. Remove bottom I/O cover on UTC-115
- 2. Take out the bracket in the accessory box



3. Thread the cable from the hole in the middle of bracket (bottom)side

4. Lock barcode scanner with 2pcs M3*8L screws on UTC-115 long



A.2 UTC-100P-M10E (MSR)



A.2.1 Specifications

Interface	USB
Cable Length	50cm
Track Configuration	TRACK 1 / IATA / 210 bpi / 79 Alphanumeric Characters TRACK 2 / ABA / 75 bpi / 40 Numeric Characters TRACK 3 / Thrift / 210 bpi / 107 Numeric Characters
Card Standard	ANSI/ISO Standards 7810,7811-1~6, 7813
Read Speed	3 ips to 60 ips (7 cm/s to 150 cm/s)
Magnetic Head Life	1,000,000 times (ISO test standard)
OS Support	Windows 10 & Android
Dimensions	96.0 x 17.3 x 26.5 mm
Operating Temperature	0 ~ 40° C

A.2.2 Packing List

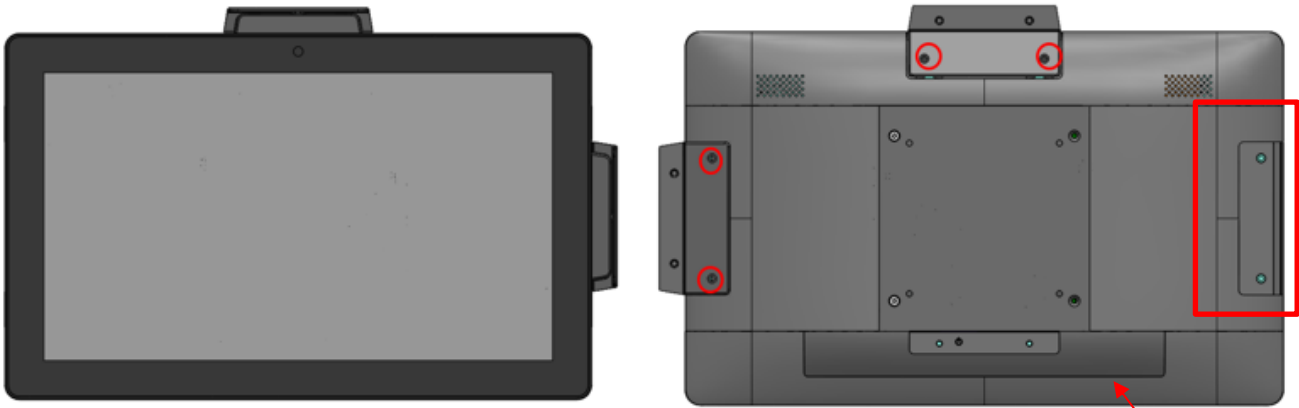
Description	Quantity
Magnetic Stripe Reader Unit	1
Magnetic Stripe Reader bracket for UTC-115 long (bottom) side	1

A.2.3 Ordering information

P/N	Description
UTC-100P-M10E	MSR Module for UTC-115/120

A.2.4 Installation

■ MSR on UTC-115/120/124 Short side



1. Take out the module from the package. Remove two screws on the peripheral cover. (rear bottom I/O cover)

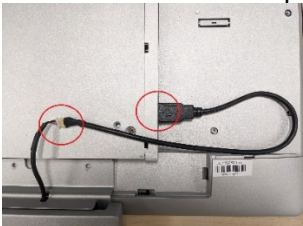


2. Remove rear bottom I/O cover first

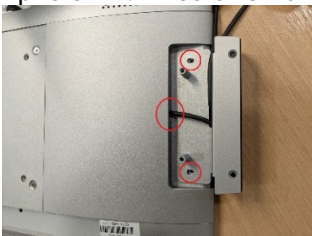
3. Remove the side cover, and open the small side door on the side cover.



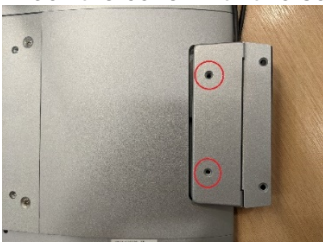
4. Connect module to adapter cable (this cable is in accessory box), and connect USB to UTC.



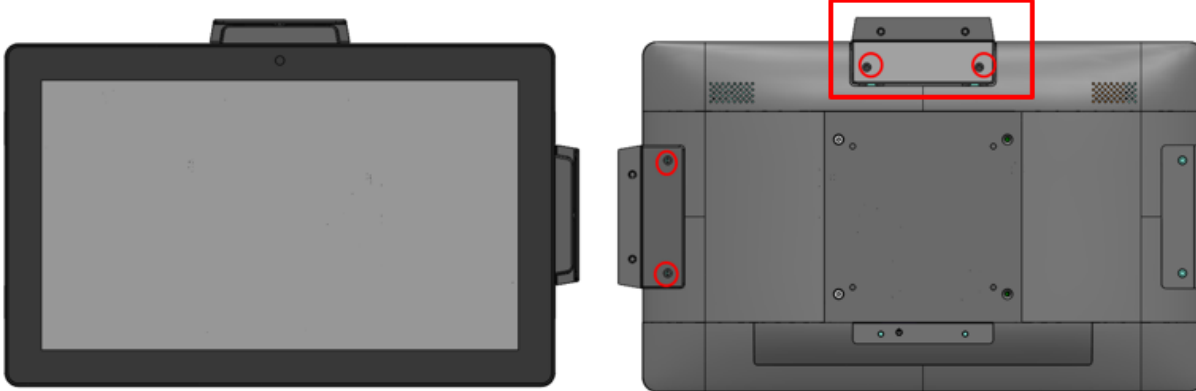
5. Put side cover back, and notice the cable needs to be came out through the hole on the side cover. Tighten the peripheral with 2 screws from barcode scanner accessory box.



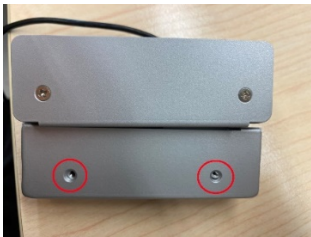
6. Lock the cover with two screws from barcode scanner accessory box.



■ **MSR on UTC-115/120/124 Long (Top) side**



1. Take out the module from the package, and remove the two screws on the peripheral cover.



2. Remove the top cover on the UTC.



3. Connect module to small 5 pin cable. (the circled connector)



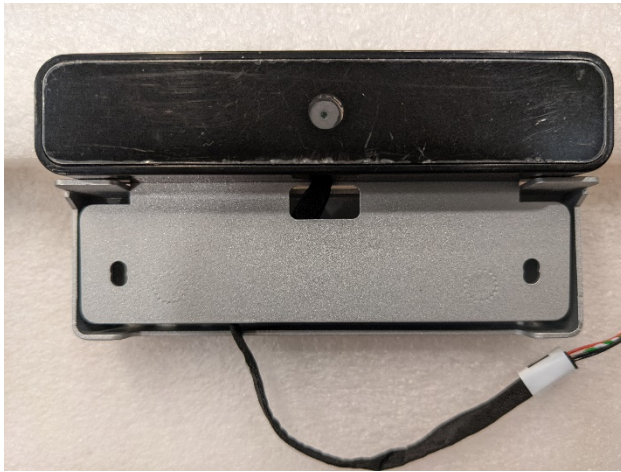
4. Lock bracket with two screws on the UTC. (the circled connector)



5. Lock the cover with two screws.



A.3 UTC-100P-C10E (5M Camera Module)



A.3.1 Specifications

Interface	USB
Cable Length	70cm
Image Resolution	2592 (H) x 1944 (V)
Focusing Range	10 cm~ ∞; Supports auto focus
Frame Rate	640 x 480 @ 30 fps max 1280 x 720 @ 30 fps max 1920 x 1080 @ 30 fps max 1600 x 1200 @ 7 fps max 2592 x 1944 @ 7 fps max
Video Format	MJPEG
OS Support	Windows 10 & Android
Dimensions	101.4 x 22.2 x 11.5 mm
Operating Temperature	0 ~ 40° C

A.3.2 Packing List

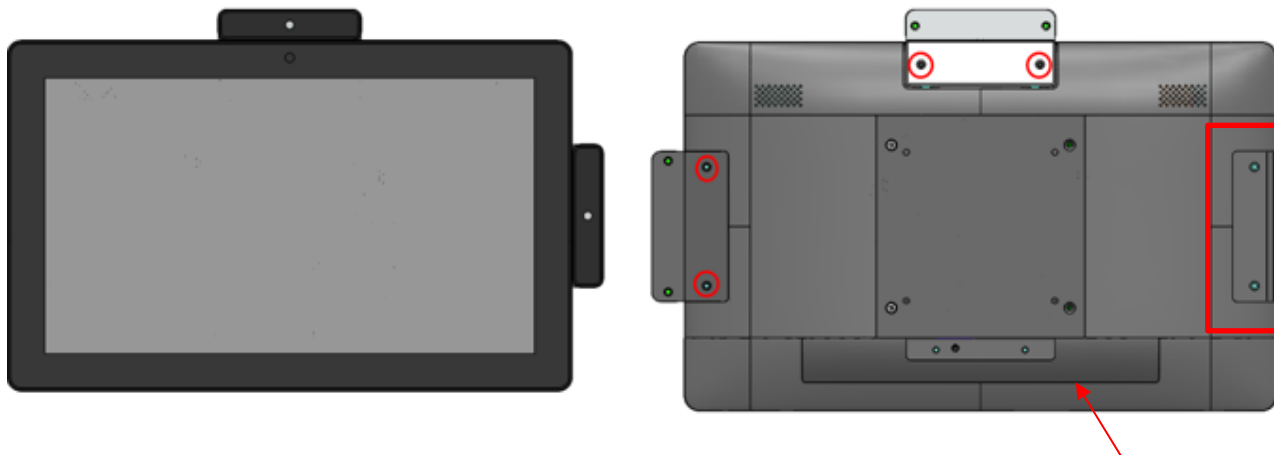
Description	Quantity
Camera Module Unit	1

A.3.3 Ordering information

P/N	Description
UTC-100P-C10E	5M Camera Module for UTC-115/120

A.3.4 Installation

■ Camera on UTC-115/120/124 Short side



1. Take out the module from the package. Remove two screws on the peripheral cover. (Rear bottom I/O cover)



2. Remove rear bottom I/O cover first

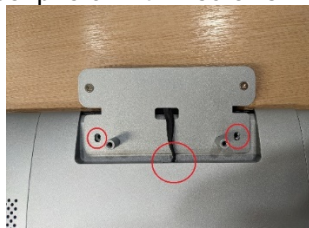
3. Remove the side cover, and open the small side door on the side cover.



4. Connect module to adapter cable, and connect USB to UTC.



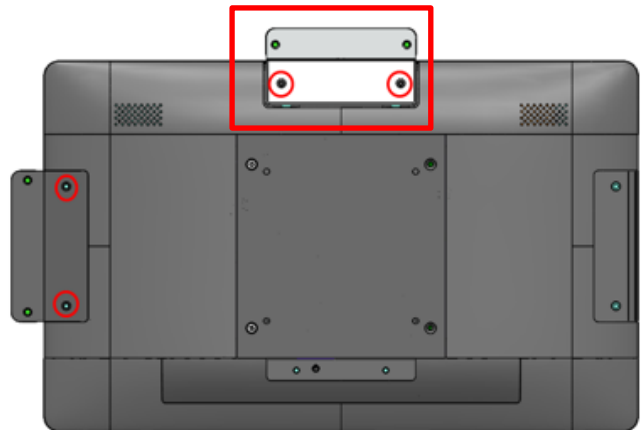
5. Put side cover back, and notice the cable needs to be came out through the hole on the side cover. Tighten the peripheral with 2 screws



6. Lock the cover with two screws.



■ **Camera on UTC-115/120/124 Long (Top) side**



1. Take out the module from the package, and remove the two screws on the peripheral cover.



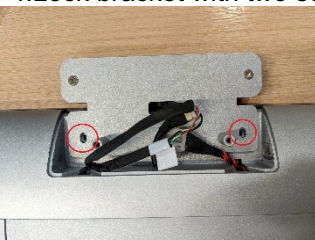
2. Remove the top cover on the UTC.



3. Connect module to small 5 pin cable. (the circled connector)



4. Lock bracket with two screws on the UTC. (the circled connector)



5. Lock the cover with two screws.



A.4 UTC-100P-R10E (RFID Reader)



A.4.1 Specifications

Interface	USB
Cable Length	50cm
Frequency	13.56 MHz
RFID R/W Mode	Support ISO15693, ISO14443A/B, Felica, Mifare Ultralight
NFC	Support NFCIP-1 (ISO 18092), NFCIP-2 (ISO/IEC21481)
NFC Card Mode	Simulates ISO14443A/B mode
NFC R/W Mode	Support Type 1/2/3/4
OS Support	Windows 10 & Android
Dimensions	101 x 37 x 25 mm
Operating Temperature	0 ~ 40° C

A.4.2 Packing List

Description	Quantity
RFID Module Unit	1
RFID Module Bracket of UTC-115 long (bottom) side	1

A.4.3 Ordering information

P/N	Description
UTC-100P-R10E	RFID Module for UTC-115/120

A.4.4 Installation

■ RFID on UTC-115/120/124 Short side

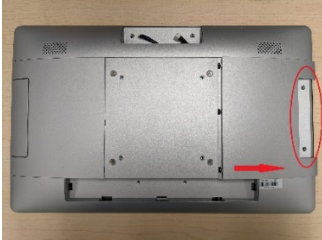


1. Take out the module from the package. Remove two screws on the peripheral cover. (Rear bottom I/O cover)

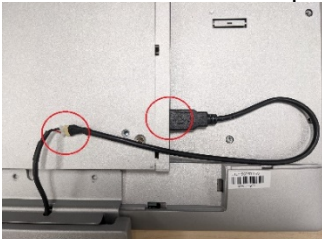


2. Remove rear bottom I/O cover first

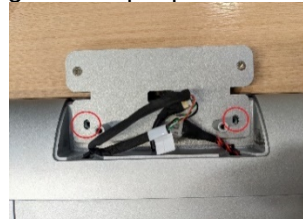
3. Remove the side cover, and open the small side door on the side cover.



4. Connect module to adapter cable, and connect USB to UTC.



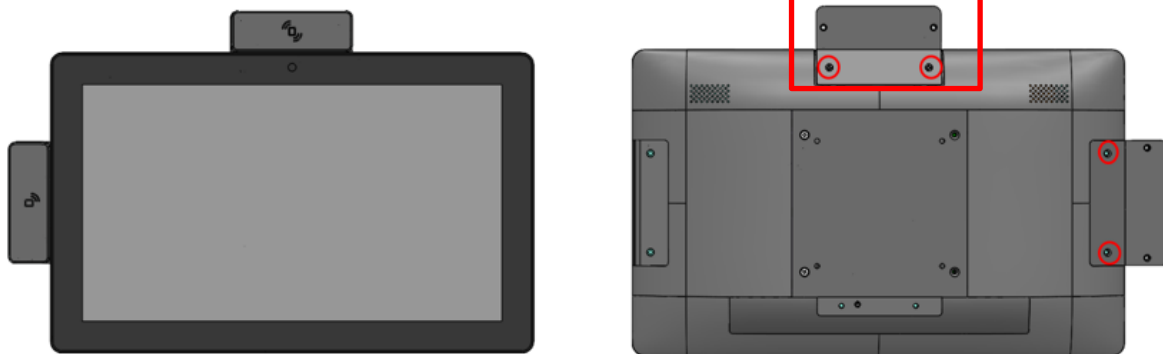
5. Put side cover back, and notice the cable needs to be came out through the hole on the side cover. Tighten the peripheral with 2 screws.



6. Lock the cover with two screws.



■ RFID on UTC-115/120/124 Long (Top) side



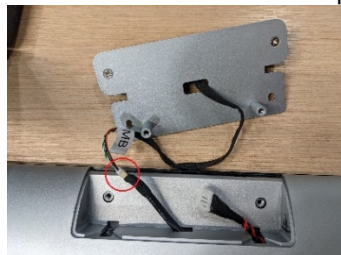
1. Take out the module from the package, and remove the two screws on the peripheral cover.



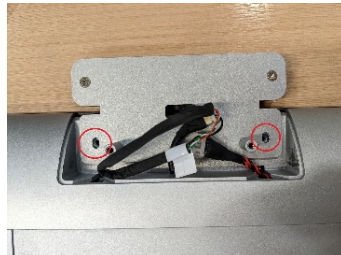
2. Remove the top cover on the UTC.



3. Connect module to small 5 pin cable. (the circled connector)



4. Lock bracket with two screws on the UTC. (the circled connector)



5. Lock the cover with two screws.



A.5 UTC-100P-S10E (Smart Card Reader)



A.5.1 Specifications

Interface	USB
Cable Length	50cm
Card Acceptor/ Reliability	Friction Type (ID-1) , 200,000 cycles
International Standard	Comply with PC/SC 1.0 standard and EMV L1
Compliant IC Card Standard	CPU Card: Comply with ISO7816-1,2,3,T=1 and T=0 protocol Memory Card: Synchronous 2-line, 3-line and I2C interface
LED	Dual color LED indicator
OS Support	Windows 10 & Android
Dimensions	101.0 x 34.9 x 33.8 mm
Operating Temperature	0 ~ 40° C

A.5.2 Packing List

Description	Quantity
Smart Card reader Unit	1
Smart Card reader Bracket of UTC-115 long (bottom) side	1

A.5.3 Ordering information

P/N	Description
UTC-100P-S10E	Smart Card reader for UTC-115/120

A.5.4 Installation

■ Smart card module on UTC-115/120/124 Short side

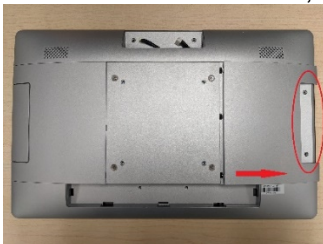


1. Take out the module from the package. Remove two screws on the peripheral cover. (Rear bottom I/O cover)

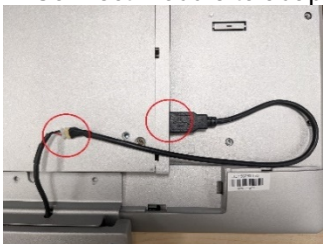


2. Remove rear bottom I/O cover first

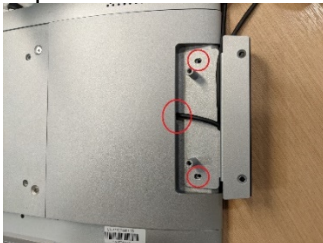
3. Remove the side cover, and open the small side door on the side cover.



4. Connect module to adapter cable, and connect USB to UTC.



5. Put side cover back, and notice the cable needs to be came out through the hole on the side cover. Tighten the peripheral with 2 screws.



6. Lock the cover with two screws.



■ **Smart card module on UTC-115/120/124 Long (Top) side**



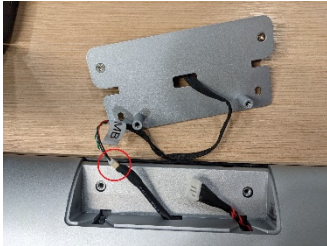
1. Take out the module from the package, and remove the two screws on the peripheral cover.



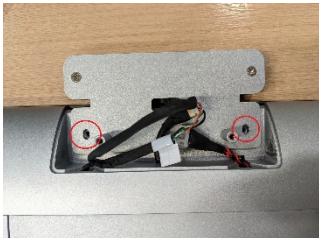
2. Remove the top cover on the UTC.



3. Connect module to small 5 pin cable. (the circled connector)



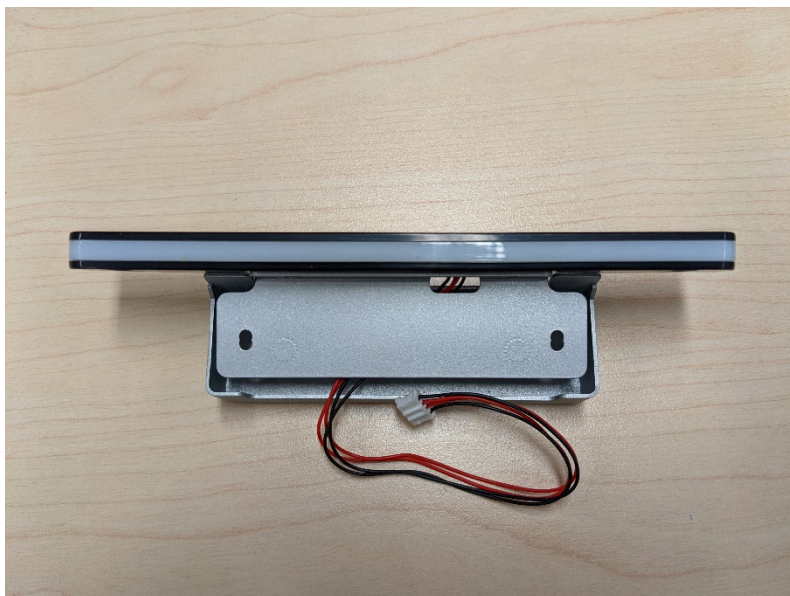
4. Lock bracket with two screws on the UTC. (the circled connector)



5. Lock the cover with two screws.



A.6 UTC-100P-L10E (LED Light Bar)



A.6.1 Specifications

Interface	USB (Cable Length:50cm)
OS Support	Windows 10 & Android
Dimensions	160.0 x 18.5 x 9.0 mm
Operating Temperature	0 ~ 40° C

A.6.2 Packing List

Description	Quantity
LED Light Bar Unit	1

A.6.3 Ordering information

P/N	Description
UTC-100P-L10E	LED Light Bar for UTC-115/120

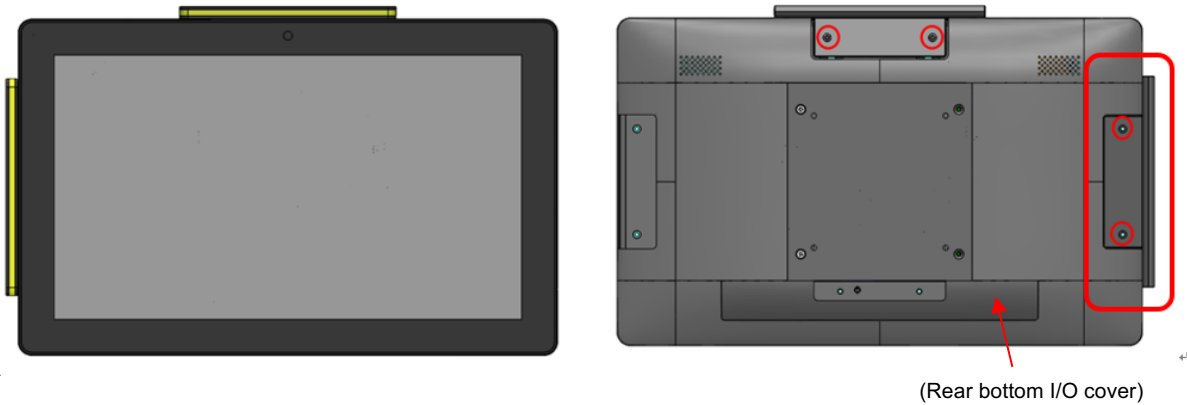
A.6.4 Installation

In landscape mode, the following orientations are supported:

Model	Orientation
UTC-100G/H/I1	Top, Right, Left
UTC-115K/120K	Top
UTC-124K	Top, Left

*UTC-124i3 doesn't support light bar function

■ LED Light bar on UTC-115/120/124 Short side

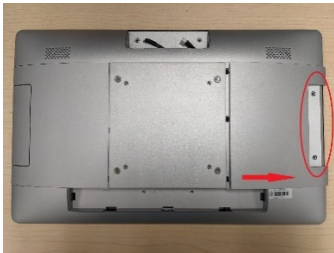


1.Take out the contents from the peripheral package. Remove two screws from peripheral cover.



2.Remove rear bottom I/O cover first

3.Remove the side cover of UTC-115 or UTC-120., and open the small side door on the side cover.



4.Connect cable to the connector on the UTC.



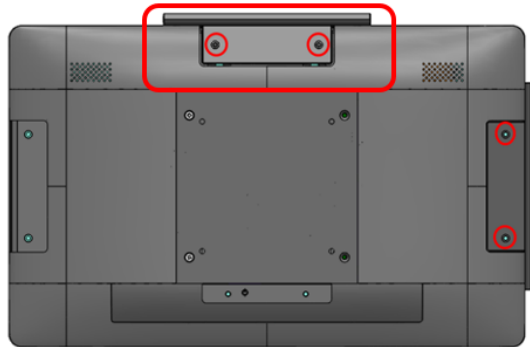
5.Put side cover back, and notice the cable needs to be came out through the hole on the side cover.



6.Lock the bracket with two screws. 7.Lock the cover bracket with two screws.



■ **LED Light bar on UTC-115/120/124 Long (Top) side**



1.Take out the contents from the peripheral package and remove the two screws of peripheral cover.



2.Remove the top cover of UTC.



3. Connect module to big 4 pin cable. (the circled connector)



4.Lock bracket with two screws on the UTC. (the circled holes)



5.Lock the cover with two screws.



A.7 UTC-100P-F10E (Finger Print Reader)



A.7.1 Specifications

Interface	USB
Specification	Image resolution: 508DPI Gray scale: 8-bit Array size: 256 x 360 pixels Imaging area: 18.00mm x 12.80mm
OS Support	Windows 10 & Android
Dimensions	101.0 x 34.9 x 9.4 mm
Operating Temperature	0 ~ 40° C

A.7.2 Packing List

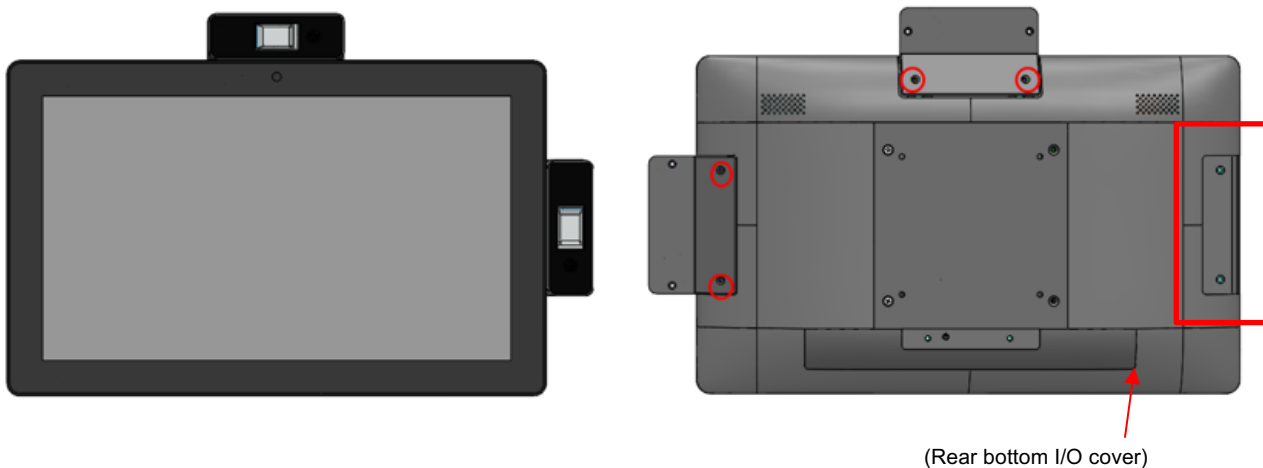
Description	Quantity
Fingerprint Module Unit	1
Fingerprint Module Bracket of UTC-115 long (bottom) side	1

A.7.3 Ordering information

P/N	Description
UTC-100P-F10E	Fingerprint Module for UTC-115/120

A.7.4 Installation

■ Finger print module on UTC-115/120/124 Short side

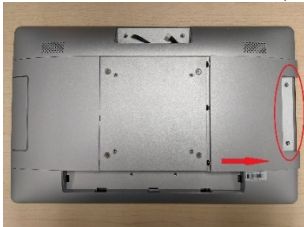


1. Take out the module from the package. Remove two screws on the peripheral cover.

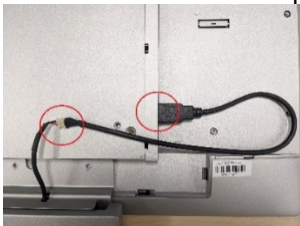


2. Remove rear bottom I/O cover first

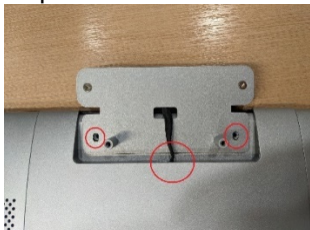
3. Remove the side cover, and open the small side door on the side cover.



4. Connect module to adapter cable, and connect USB to UTC.



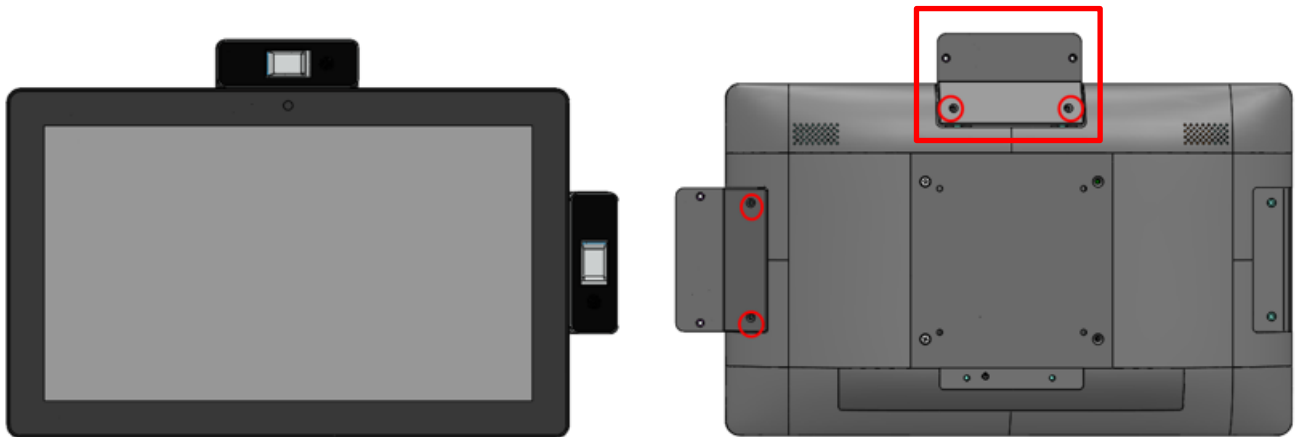
5. Put side cover back, and notice the cable needs to be came out through the hole on the side cover. Tighten the peripheral with 2 screws.



6. Lock the cover with two screws.



■ Finger print module on UTC-115/120/124 Long (Top) side



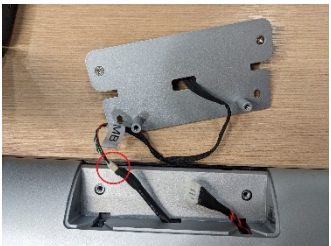
1. Take out the module from the package, and remove the two screws on the peripheral cover.



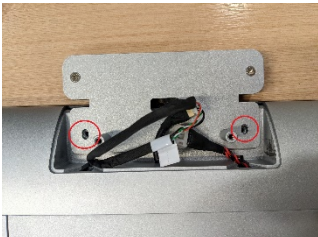
2. Remove the top cover on the UTC.



3. Connect module to small 5 pin cable. (the circled connector)



4. Lock bracket with two screws on the UTC. (the circled connector)



5. Lock the cover with two screws.



A.8 UTC-100P-T10E (Thermal camera)



A.8.1 Specifications

Interface	USB
Cable Length	70cm
Image Resolution	80 (H) x 62 (V)
FOV	44° x 35 ° (Diagonal 55°)
Frame Rate	Maximum frame rate 25 FP
NETD (Ge Lens)	150mk
OS Support	Windows 10 & Android
Dimensions	101.0 x 34.9 x 33.8 mm
Operating Temperature	0 ~ 40° C

A.8.2 Packing List

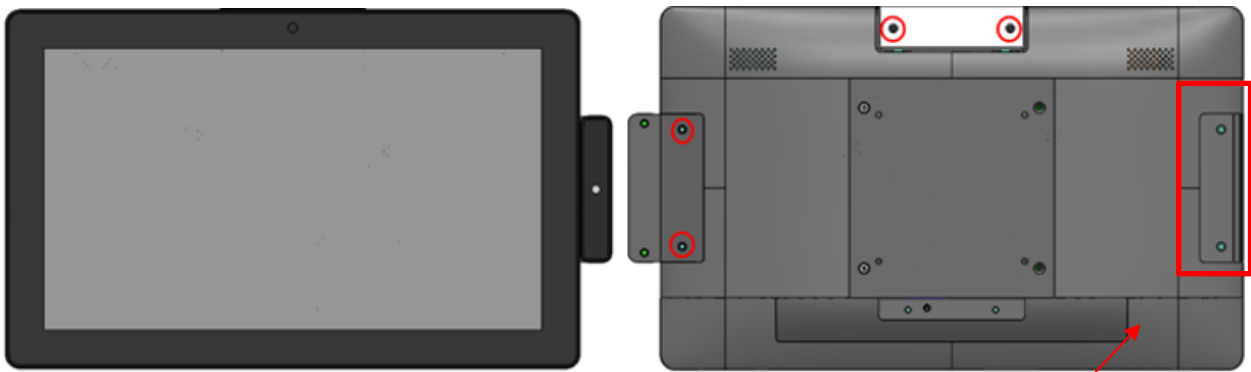
Description	Quantity
Module Unit	1
Bracket of UTC-115 long (bottom) side	1

A.8.3 Ordering information

P/N	Description
UTC-100P-T10E	for UTC-115/120

A.8.4 Installation

■ Thermal camera module on UTC-115/120/124 Short side (only)



(Rear bottom I/O cover)

1. Take out the module from the package. Remove two screws on the peripheral cover.

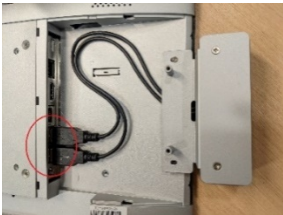


2. Remove rear bottom I/O cover first

3. Remove the side cover, and open the small side door on the side cover.



4. Connect 2 USB cables to UTC.



5. Put side cover back, and notice 2 cables need to be came out through the hole on the side cover. Tighten the peripheral with 2 screws.



6. Lock the peripheral cover with two screws



Appendix

B

UTC Stands Installation

B.1 UTC-UPOS-STAND0E Installation

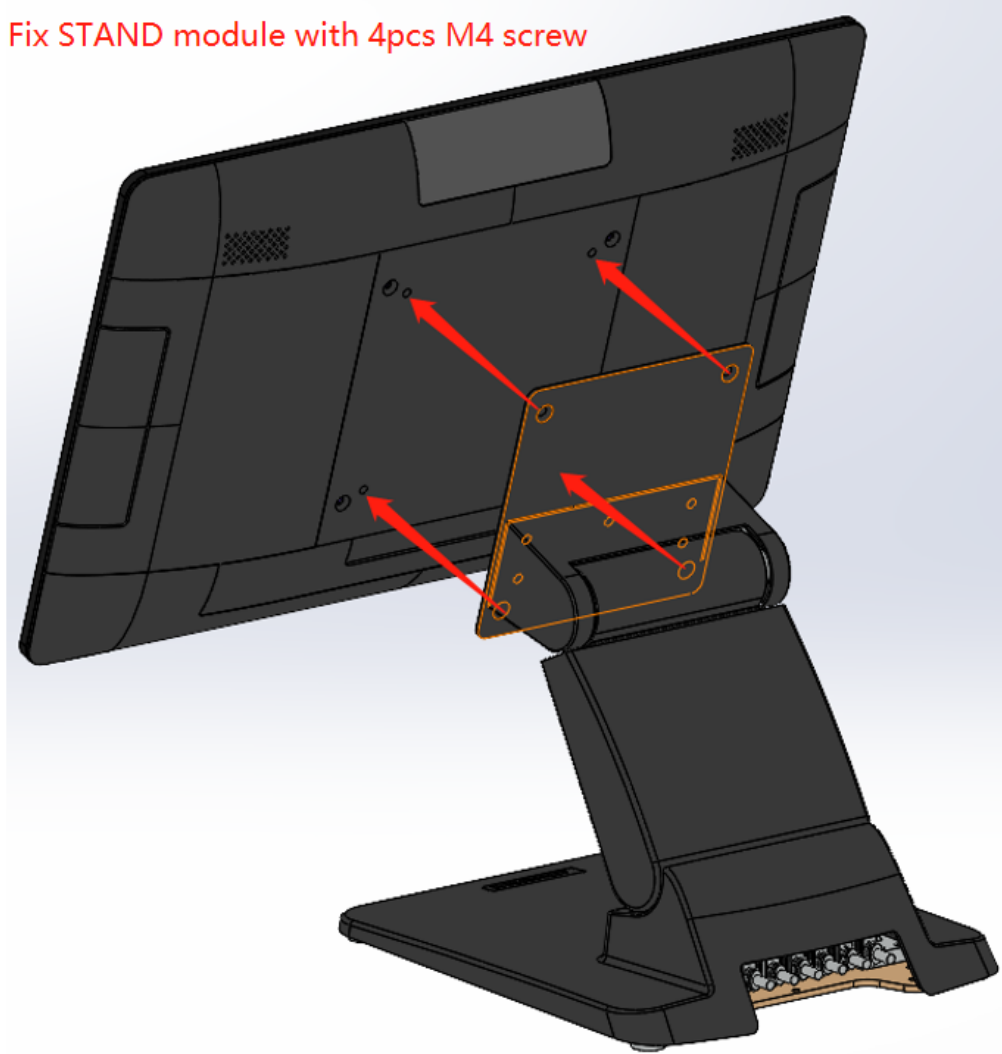
VESA Mount Screw

UTC-115: M4*7L

UTC-120: M4*7L

UTC-124: M4*7L

Fix STAND module with 4pcs M4 screw



B.2 UTC-AVALO-STAND0E Installation

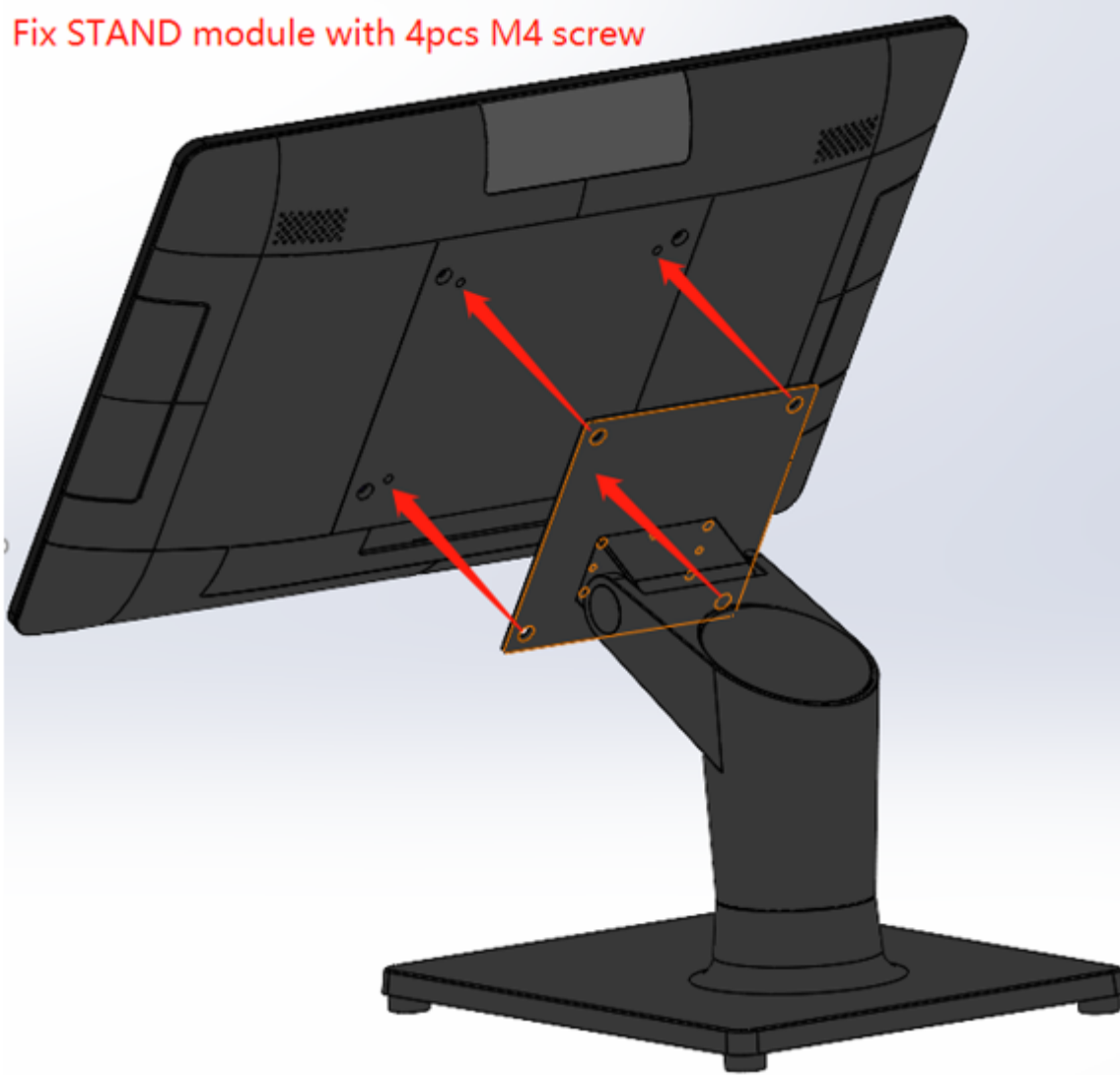
VESA Mount Screw

UTC-115: M4*7L

UTC-120: M4*7L

UTC-124: M4*7L

Fix STAND module with 4pcs M4 screw





Enabling an Intelligent Planet

www.advantech.com

Please verify specifications before quoting. This guide is intended for reference purposes only.

All product specifications are subject to change without notice.

No part of this publication may be reproduced in any form or by any means, such as electronically, by photocopying, recording, or otherwise, without prior written permission from the publisher.

All brand and product names are trademarks or registered trademarks of their respective companies.

© Advantech Co., Ltd. 2024