



User Manual

UTC-510/515/520/532/542

10.1"/15.6"/21.5"/32"/42.5"
Ubiquitous Touch Computer

ADVANTECH

Enabling an Intelligent Planet

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

This manual is for UTC-510/515/520/532/542.

Declaration of Conformity

FCC Class A

Note!  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 will be 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.

Packing List

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

- UTC-510/515/520/532/542 unit
- Accessories for UTC-510/515/520
 - DC 12V/5A 60W adaptor (UTC-515, UTC-520 A, B SKU)
 - DC 12V/3A 36W adaptor (UTC-510)
 - DC 12V/7A 84W adaptor (UTC-520 C/D/E SKU)
 - SATA cable (not applicable for UTC-510)
 - Packet of screws (not applicable for UTC-510)
- Accessories for UTC-532
 - SATA cable
 - Packet of screws
 - Antenna

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

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

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!**
- *Input voltage rated 12V/3A (UTC-510)*
 - *Input voltage rated 12V/5A (UTC-515/520A/B/D)*
 - *Input voltage rated 12V/7A (UTC-520 C/D/E SKU)*
 - *Input voltage rated 100 ~ 240 VAC 50/60 Hz for UTC-532/542*
 - *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.*



Contact information

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Safety Instructions

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.
18. The sound pressure level at the operator position does not exceed 70 dB (A) in accordance with the IEC 704-1:1982.

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 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.*



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. 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

1.1 Introduction

Advantech's UTC-500 series products are 10.1", 15.6", 21.5", 32", and 42.5" 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 UTC series can also be integrated with a wide range of optional peripherals and accessories according to specific application requirements.

1.2 Specifications

1.2.1 UTC-510

System	CPU	Intel® Atom™ E3825 (UTC-510D)	Intel® Celeron® J1900 (UTC-510D)	
	Base Frequency	1.33 GHz (dual-core)	2 GHz (quad-core)	
	Cache	L2 cache 1 MB	L2 cache 2 MB	
	Memory	1 x SODIMM DDR3L 1066 MHz, up to 8 GB	1 x SODIMM DDR3L 1333 MHz, up to 8 GB	
	HDD	1 x 2.5 internal SATA HDD bay		
	Network (LAN)	1 x Gigabit Ethernet port (with Wake-on-LAN support)		
	I/O	2 x RS-232 COM (COM1 support for RS-422/485 optional) 1 x USB 2.0/1 x USB 3.0/2 x USB 2.0 (optional) 1 x Gigabit Ethernet (RJ-45) 1 x VGA 1 x Audio Line-Out 1 x Mic-In		
	Stereo Speaker	1 x 2W		
	Bus Expansion	1 x Half-size mini PCIe 1 x Half-size mSATA		
	Mounting	VESA 75 x 75 mm		
	Dimensions (W x H x D)	265.40 x 182.40 x 39.55 mm		
	Weight	1.80 kg (3.97 lb)		
	OS Support	Windows Embedded 7/8, Windows 10 IoT Enterprise, Linux Ubuntu 14.04, Android 4.4.2.		
	Front Panel Protection	IP65 compliant		
Environmental	Operating Temperature	0 ~ 40 °C (32 ~ 104 °F)	0 ~ 35 °C (32 ~ 95 °F)	
	Relative Humidity	10 ~ 95% @ 40 °C non-condensing		
	Vibration	1 Grms		
	Shock	5G peak acceleration (11 msec. duration)		
	Certification	CE, FCC, CB, UL, CCC, BSMI		
Power Supply	Input Rating	12 V/3 A (36W ITE adapter)		
	Power Consumption	Typical 10W Max. 20W		
LCD Panel	Size/Type	10.1" TFT LCD with LED backlight		
	Max. Resolution	1280 x 800		
	Max. Color	16.7M		
	Pixel Pitch	169.5 x 169.5 um		
	Brightness	350 cd/m ²		
	Viewing Angle	170°/170°		
Camera	5 Megapixels (optional)			

Touchscreen (PE/GE)	Type	Glass panel with projected capacitive touch
	Light Transmission	80% ± 5% / 90%
	Controller	USB interface

1.2.2 UTC-510(PoE)

System	CPU	Intel® Celeron® N2807 (UTC-510D)	Intel® Celeron® J1900 (UTC-510D)
	Base Frequency	1.58 GHz (dual-core)	2 GHz (quad-core)
	Cache	L2 cache 1 MB	L2 cache 2 MB
	Memory	1 x SODIMM DDR3L 1333 MHz, up to 8 GB	1 x SODIMM DDR3L 1333 MHz, up to 8 GB
	HDD	1 x 2.5 internal SATA HDD bay	
	Network (LAN)	2 x Gigabit Ethernet ports (with Wake-on-LAN support)	
	I/O	2 x RS-232 COM (COM2 support for RS-422/485 optional) 3 x USB 2.0/1 x USB 3.0/1 x USB 2.0 (optional) 2 x Gigabit Ethernet ports (1 with POE) 1 x Headphone with mic	
	Stereo Speaker	2 x 2W	
	Bus Expansion	1 Full-size mini PCIe/mSATA 1 Half-size mini PCIe	
	Mounting	VESA 75 x 75 mm	
	Dimensions (W x H x D)	265.40 x 182.40 x 39.55 mm	
	Weight	1.80 kg (3.97 lb)	
	OS Support	Windows Embedded 7/8, Windows 10 IoT Enterprise, Linux Ubuntu 14.04, Android 4.4.2	
	Environmental	Operating Temperature	0 ~ 45 °C (32 ~ 113 °F)
Relative Humidity		10 ~ 95% @ 40 °C non-condensing	
Vibration		1 Grms	
Shock		5G peak acceleration (11 msec. duration)	
Certification		CE, FCC, CB, UL, CCC, BSMI	
Power Supply	Front Panel Protection	IP65 compliant	
	POE	IEEE 802.3at/30W	
	DC Input Rating	12 V/3 A ~ 24 V/1.5 A, 36W ITE adapter (optional)	
	Power Consumption	Typical 10W Max. 20W	
LCD Panel	Size/Type	10.1" TFT LCD with LED backlight	
	Max. Resolution	1280 x 800	
	Max. Color	16.7M	
	Pixel Pitch	169.5 x 169.5 um	
	Brightness	350 cd/m ²	
	Viewing Angle	170°/170°	
Camera	5 Megapixels (optional)		

Touchscreen (PE/GE)	Type	Glass panel with projected capacitive touch
	Light Transmission	80% ± 5% / 90%
	Controller	USB interface

1.2.3 UTC-515 A/B/C

System	CPU	AMD® G-Series T40E dual-core 1.0 GHZ (UTC-515A)	Intel® Atom™ dual Core D2550 1.8 GHZ (UTC-515B)	Intel® Core™ i3-3217UE 1.6 GHz (UTC-515C) Can be equipped with Intel® Core™ i7-3517UE 1.7 GHz upon request
	Chipset	T40E + A50M	Intel® Atom™ D2550 + Intel® NM10	Intel® QM77
	Cache	L2 cache 512 KB	L2 cache 1 MB	L2 cache 1 MB (L3 cache 3 MB)
	Memory	1 x SODIMM DDR3 1066 MHz, up to 4 GB	1 x SODIMM DDR3 1066 MHz, up to 4 GB	1 x SODIMM DDR3/DDR3L 1333/1600 MHz, up to 8 GB
	HDD	1 x 2.5 internal SATA HDD bay		
	Network (LAN)	2 x Gigabit Ethernet ports (with Wake-on-LAN support)		
	I/O	3 x RS-232 COM (RS-422/485 optional)	3 x RS-232 COM (RS-422/485 optional)	2 x RS-232 COM (RS-422/485 optional)
		4 x USB 2.0 2 x Gigabit Ethernet (RJ-45) 1 x VGA/HDMI 1 x Audio Line-Out 1 x Mic-In	4 x USB 2.0 2 x Gigabit Ethernet (RJ-45) 1 x VGA/HDMI 1 x Audio Line-Out 1 x Mic-In	2 x USB 2.0, 2 x USB 3.0 2 x Gigabit Ethernet (RJ-45) 1 x VGA/HDMI 1 x Audio Line-Out 1 x Mic-In
	Stereo Speaker	2 x 1W		
	Bus Expansion	1 x Full-size mini PCIe/mSATA		
	Mounting	VESA 100 x 100 mm		
	Dimensions (W x H x D)	389.81 x 240.12 x 45.20 mm		
	Weight	4.85 kg (10.67 lb)		
	OS Support	Windows XP/XPE, Windows Embedded 7/8	Windows Embedded 7 (32 bit)	Windows Embedded 7/8, Windows 10 IoT Enterprise
Environmental	Operating Temperature	0 ~ 40 °C (32 ~ 104 °F)		
	Relative Humidity	10 ~ 95% @ 40 °C non-condensing		
	Vibration	0.5 Grms		
	Shock	5G peak acceleration (11 msec. duration)		
	EMC/Safety	CE, FCC, CB, UL, CCC, BSMI		
	Front Panel Protection	IP65/NEMA4 compliant		

Power Supply	Input Rating	12 V/5 A (60W ITE adapter)	12 V/5 A (60W ITE adapter)
	Power Consumption	Typical 32W Max. 40W	Typical 40W Max. 50W
LCD Panel	Size/Type	15.6" TFT LCD with LED backlight	
	Max. Resolution	1366 x 768 (FHD 1920 x 1080 optional)	
	Max. Color	16.7M	
	Pixel Pitch	252 x 252 um	
	Brightness	400 cd/m ²	
	View Angle	170°/160°	
Touchscreen (PE/RE/GE)	Type	Glass panel with projected capacitive/5-wire analog resistive touch	
	Light Transmission	90% ± 2% / 80% ± 5% / 90%	
	Controller	USB interface	

1.2.4 UTC-515D/E/F

	CPU	Intel® Celeron® J1900 (UTC-515D)	Intel® Core™ i5-4300U (UTC-515E) Can be equipped with Intel® Core™ i3-4010U/Celeron® 2980U upon request	Intel® Core™ i3-6100U (UTC-515F)	
	Base Frequency	2 GHz (quad-core)	1.9 GHz (dual-core)	2.3 GHz (dual-core)	
	Cache	L2 cache 2 MB	L3 cache 3 MB	L3 cache 3 MB	
	Memory	1 x SODIMM DDR3L 1333 MHz, up to 8 GB	1 x SODIMM DDR3L 1333/1600 MHz, up to 8 GB	1 x SODIMM DDR3L 1333 MHz, up to 16 GB	
	HDD	1 x 2.5 internal SATA HDD bay			
	Network (LAN)	2 x Gigabit Ethernet ports (with Wake-on-LAN support)			
System		2 x RS-232 COM (RS-422/485 optional)	2 x RS-232 COM (RS-422/485 optional)	2 x RS-232 COM (RS-422/485 optional)	
		3 x USB 2.0/1 x USB 3.0	2 x USB 2.0/2 x USB 3.0	2 x USB 2.0/2 x USB 3.0	
	I/O	2 x Gigabit Ethernet (RJ-45)	2 x Gigabit Ethernet (RJ-45)	2 x Gigabit Ethernet (RJ-45)	
		1 x VGA/HDMI	1 x VGA/HDMI	1 x VGA/HDMI	
		1 x Audio Line-Out	1 x Audio Line-Out	1 x Audio Line-Out	
		1 x Mic-In	1 x Mic-In	1 x Mic-In	
		Stereo Speaker	2 x 1W		
		Bus Expansion	1 x Full-size mini PCIe/mSATA		
		Mounting	VESA 100 x 100 mm		
		Dimensions (W x H x D)	389.81 x 240.12 x 45.20 mm		
	Weight	4.85 kg (10.67 lb)			
OS Support		Windows Embedded 7/8, Windows 10 IoT Enterprise, Linux Ubuntu 14.04, Android 4.4.2	Windows Embedded 7/8, Windows 10 IoT Enterprise		
Environmental	Operating Temperature	0 ~ 40 °C (32 ~ 104 °F)			
	Relative Humidity	10 ~ 95% @ 40 °C non-condensing			
	Vibration	0.5 Grms			
	Shock	5G peak acceleration (11 msec. duration)			
	Certification	CE, FCC, CB, UL, CCC, BSMI			
	Front Panel Protection	IP65/NEMA4 compliant			
Power Supply	Input Rating	12 V/5 A (60W ITE adapter)	12 V/5 A (60W ITE adapter)	12 V/5 A (60W ITE adapter)	
	Power Consumption	Typical 35W Max. 40W	Typical 40W Max. 50W	Typical 35W Max. 40W	

LCD	Size/Type	15.6" TFT LCD with LED backlight
	Max. Resolution	1366 x 768 (FHD 1920 x 1080 optional)
	Max. Color	16.7M
	Pixel Pitch	252 x 252 um
	Brightness	400 cd/m ²
	Viewing Angle	170°/160°
Touchscreen (PE/RE/GE)	Type	Glass panel with projected capacitive/5-wire analog resistive touch
	Light Transmission	90% ± 2% / 80% ± 5% / 90%
	Controller	USB interface

1.2.5 UTC-520A/B/C

System	CPU	AMD® G-Series T40E dual-core 1.0 GHz (UTC-520A)	Intel® Atom™ dual-core D2550 1.8 GHz (UTC-520B)	Intel® Core™ i7 3517UE 1.7 GHz (UTC-520C)	
	Chipset	T40E + A50M	Intel® Atom™ D2550 + Intel® NM10	Intel® QM77	
	Cache	L2 cache 512 KB	L2 cache 1 MB	L2 cache 1 MB (L3 cache 4 MB)	
	Memory	1 x SODIMM DDR3 1066 MHz, up to 4 GB	1 x SODIMM DDR3 1066 MHz, up to 4 GB	1 x SODIMM DDR3/DDR3L 1333/1600 MHz, up to 8 GB	
	SSD	1 x CFast			
	HDD	1 x 2.5 internal SATA HDD bay			
	Network (LAN)	2 x Gigabit Ethernet ports			
	I/O		3 x RS-232 COM (RS-422/485 optional)	3 x RS-232 COM (RS-422/485 optional)	2 x RS-232 COM (RS-422/485 optional)
			4 x USB 2.0	4 x USB 2.0	2 x USB 2.0, 2 x USB 3.0
			2 x Gigabit Ethernet (RJ-45)	2 x Gigabit Ethernet (RJ-45)	2 x Gigabit Ethernet (RJ-45)
			1 x VGA/HDMI	1 x VGA/HDMI	1 x VGA/HDMI
			1 x Audio Line-Out	1 x Audio Line-Out	1 x Audio Line-Out
			1 x Mic-In	1 x Mic-In	1 x Mic-In
		Stereo Speaker	2 x 3W		
Bus Expansion		1 x Full-size mini PCIe/mSATA			
Dimensions (W x H x D)		517.64 x 313.51 x 43.50 mm (20.38 x 12.34 x 1.71")			
Weight		8 kg (17.6 lb)			
OS Support	Windows XP/XPE/Windows Embedded 7/8	Windows Embedded 7 (32 bit)	Windows Embedded 7/8, Windows 10 IoT Enterprise		
Environmental	Operating Temperature	0 ~ 40 °C (32 ~ 104 °F)			
	Relative Humidity	10 ~ 95% @ 40 °C non-condensing			
	Vibration	0.5 Grms			
	Shock	5 G peak acceleration (11 msec. duration)			
	EMC	CE, FCC, UL, CB, CCC, BSMI			
	Front Panel Protection	IP65/NEMA4 compliant			

Power	Input Rating	12 V/5 A (60W ITE adapter)	12 V/7 A (84W ITE adapter)
	Power Consumption	Typical 32W Max. 40W	Typical 45W Max. 65W
LCD Panel	Size/Type	21.5" TFT LCD with LED backlight	
	Max. Resolution	1920 x 1080	
	Max. Color	16.7 M	
	Pixel Pitch (mm)	248.25 (H) x 248.25 (V)	
	Brightness	250 cd/m2 (400 cd/m2 optional)	
	Viewing Angle	178°/178°	
Touchscreen (PE/RE/GE)	Type	Glass panel with projected capacitive/5-wire analog resistive touch	
	Light Transmission	90% ± 2% / 80%± 5% / 90%	
	Controller	USB interface	

1.2.6 UTC-520D/E/F

	CPU	Intel® Celeron® J1900 (UTC-520D)	Intel® Core™ i5-4300U (UTC-520E) Can be equipped with Intel® Core™ i3-4010U/Celeron® 2980U upon request	Intel® Core™ i5-6300U (UTC-520F)	
	Base Frequency	2 GHz (quad-core)	1.9 GHz (dual-core)	2.6GHz (dual-core)	
	Cache	L2 cache 2 MB	L3 cache 3 MB	L3 cache 4 MB	
	Memory	1 x SODIMM DDR3L 1333 MHz, up to 8 GB	1 x SODIMM DDR3L 1333/1600 MHz, up to 8 GB	2 x SODIMM DDR3L 1600 MHz, up to 16 GB	
	HDD	1 x 2.5 internal SATA HDD bay	1 x 2.5 internal SATA HDD bay	1 x 2.5 internal SATA HDD bay	
System	Network (LAN)	2 x Gigabit Ethernet ports (with Wake-on-LAN support)		2 x Gigabit Ethernet ports (with Wake-on-LAN support)	
	I/O	2 x RS-232 COM (RS-422/485 optional) 3 x USB 2.0/1 x USB 3.0 2 x Gigabit Ethernet (RJ-45) 1 x VGA/HDMI 1 x Audio Line-Out 1 x Mic-In	2 x RS-232 COM (RS-422/485 optional) 2 x USB 2.0/USB 3.0 2 x Gigabit Ethernet (RJ-45) 1 x VGA/HDMI 1 x Audio Line-Out 1 x Mic-In	2 x RS-232 COM (RS-422/485 optional) 3 x USB 2.0/2 x USB 3.0 2 x Gigabit Ethernet (RJ-45) 1 x VGA/HDMI 1 x Audio Line-Out 1 x Mic-In	
	Stereo Speaker	2 x 3W			
	Bus Expansion	1 x Full-size mini PCIe/mSATA			
	Mounting VESA	VESA 100 x 100 mm			
	Dimensions (W x H x D)	517.64 x 313.51 x 43.50 mm			
	Weight	8 kg (17.6 lb)			
	OS Support		Windows Embedded 7/8, Windows 10 IoT Enterprise, Linux Ubuntu 14.04, Android 4.4.2	Windows Embedded 7/8, Windows 10 IoT Enterprise	-

Environmental	Operating Temperature	0 ~ 40 °C (32 ~ 104 °F)		
	Relative Humidity	10 ~ 95% @ 40 °C non-condensing		
	Vibration	0.5 Grms		
	Shock	5 G peak acceleration (11 msec. duration)		
	EMC/Safety	CE, FCC, UL, CCC CB,BSMI		
	Front Panel Protection	IP65/NEMA4 compliant		
Power Supply	Input Rating	12 V/5 A (60W ITE adapter)	12 V/7 A (84W ITE adapter)	
	Power Consumption	Typical 40W Max. 50W	Typical 45W Max. 65W	Typical 40W Max. 50W
	Size/Type	21.5" TFT LCD with LED backlight		
LCD Panel	Max. Resolution	1920 x 1080		
	Max. Color	16.7M		
	Pixel Pitch (H x V)	248.25 x 248.25 um		
	Brightness	250 cd/m2 (400 cd/m2 optional)		
	Viewing Angle	178°/178°		
Touchscreen (PE/RE/GE)	Type	Glass panel with projected capacitive/5-wire analog resistive touch		
	Light Transmission	90% ± 2% / 80% ± 5% / 90%		
	Controller	USB interface		

1.2.7 UTC-532A/C

System	CPU	AMD® G-Series T40E dual-core 1.0 GHz (UTC- 532A)	Intel® Core™ i7 3517UE 1.7 GHz (UTC-532C)	
	Chipset	T40E + A50M	Intel® QM77	
	Cache	L2 cache 512 KB	L2 cache 1 MB (L3 cache 4 MB)	
	Memory	1 x SODIMM DDR3 1066 MHz, up to 4 GB	1 x SODIMM DDR3/DDR3L 1333/1600 MHz, up to 8 GB	
	HDD	1 x 2.5 internal SATA HDD bay		
	Network (LAN)	2 x Gigabit Ethernet ports		
	I/O		3 x RS-232 COM (RS-422/485 optional)	2 x RS-232 COM (RS-422/485 optional)
			4 x USB 2.0	2 x USB 2.0, 2 x USB 3.0
	Stereo Speaker		2 x Gigabit Ethernet (RJ-45)	2 x Gigabit Ethernet (RJ-45)
			1 x VGA/HDMI	1 x VGA/HDMI
			1 x Audio Line-Out	1 x Audio Line-Out
			1 x Mic-In	1 x Mic-In
	Bus Expansion	1 x Full-size mini PCIe/mSATA		
	Dimensions (W x H x D)	785.64 x 480.24 x 62.50 mm		
Weight 1	18 kg (39.6 lb)			
OS Support	Windows XP/XPE, Windows Embedded 7/8	Windows Embedded 7/8, Windows 10 IoT Enterprise		
Environmental	Operating Temperature	0 ~ 40 °C (32 ~ 104 °F)		
	Relative Humidity	10 ~ 95% @ 40 °C non-condensing		
	Vibration	0.5 Grms		
	Shock	5 G peak acceleration (11 msec. duration)		
	EMC	CE, FCC, UL, CB, CCC, BSMI		
	Front Panel Protection	IP65/NEMA4 compliant		
Power	Input Rating	100 ~ 240V _{AC} 50/60Hz 2.5A		
	Power Consumption	Typical 95W Max. 105W		
LCD Panel	Size/Type	32" TFT LCD with LED backlight		
	Max. Resolution	1920 x 1080		
	Max. Color	16.7M		
	Pixel Pitch (H x W)	0.36375 x 0.36375 mm		
	Brightness	300 cd/m ²		
Viewing Angle	178°/178°			
Touchscreen (PE/GE)	Type	Glass panel with projected capacitive touch (No touch function optional)		
	Light Transmission	90% ± 2% / 90%		
	Controller	USB interface		

1.2.8 UTC-532D/E/F

System	CPU	Intel® Celeron® J1900 (UTC-532D)	Intel® Core™ i5-4300U (UTC-532E) Can be equipped with Intel® Core™ i3-4010U/Celeron® 2980U upon request	Intel® Core™ i5-6300U (UTC-520F)	
	Base Frequency	2 GHz (quad-core)	1.9 GHz (dual-core)	2.6GHz (dual-core)	
	Cache	L2 cache 2 MB	L2 cache 3 MB	L3 cache 4 MB	
	Memory	1 x SODIMM DDR3L 1333 MHz, up to 8 GB	1 x SODIMM DDR3L 1333/1600 MHz, up to 8 GB	2 x SO DIMM DDR3L 1600 MHz, up to 16 GB	
	HDD	1 x 2.5 internal SATA HDD bay		1 x 2.5 internal SATA HDD bay	
	Network (LAN)	2 x Gigabit Ethernet ports		2 x Gigabit Ethernet ports (with Wake-on-LAN support)	
	I/O		2 x RS-232 COM (RS-422/485 optional)	2 x RS-232 COM (RS-422/485 optional)	2 x RS-232 COM (RS-422/485 optional)
			3 x USB 2.0/1 x USB 3.0	2 x USB 2.0, 2 x USB 3.0	3 x USB 2.0/2 x USB 3.0
			2 x Gigabit Ethernet (RJ-45)	2 x Gigabit Ethernet (RJ-45)	2 x Gigabit Ethernet (RJ-45)
			1 x VGA/HDMI	1 x VGA/HDMI	1 x VGA/HDMI
			1 x Audio Line-Out	1 x Audio Line-Out	1 x Audio Line-Out
			1 x Mic-In	1 x Mic-In	1 x Mic-In
	Stereo Speaker	2 x 3W			
	Bus Expansion	1 x Full-size mini PCIe/mSATA			
Dimensions (W x H x D)	785.64 x 480.24 x 62.50 mm				
Weight	18 kg (39.6 lb)				
OS Support		Windows Embedded 7/8, Windows 10 IoT Enterprise, Linux Ubuntu 14.04, Android 4.4.2	Windows Embedded 7/8, Windows 10 IoT Enterprise		
	Operating Temperature	0 ~ 40 °C (32 ~ 104 °F)		-	
Environmental	Relative Humidity	10 ~ 95% @ 40 °C non-condensing			
	Vibration	0.5 Grms			
	Shock	5 G peak acceleration (11 msec. duration)			
	EMC	CE, FCC, UL, CB, CCC, BSMI			
	Front Panel Protection	IP65/NEMA4 compliant			

Power	Input Rating	100 ~ 240V _{AC} ~ 50/60Hz 2.5A	
	Power Consumption	Typical 95W Max. 105W	Typical 40W Max. 50W
LCD Panel	Size/Type	32" TFT LCD with LED backlight	
	Max. Resolution	1920 x 1080	
	Max. Color	16.7M	
	Pixel Pitch (H x W)	0.36375 x 0.36375 mm	
	Brightness	300 cd/m ²	
Touchscreen (PE/GE)	Viewing Angle	178°/178°	
	Type	Glass panel with projected capacitive touch (No touch function optional)	
	Light Transmission	90% ± 2% / 90%	
	Controller	USB interface	

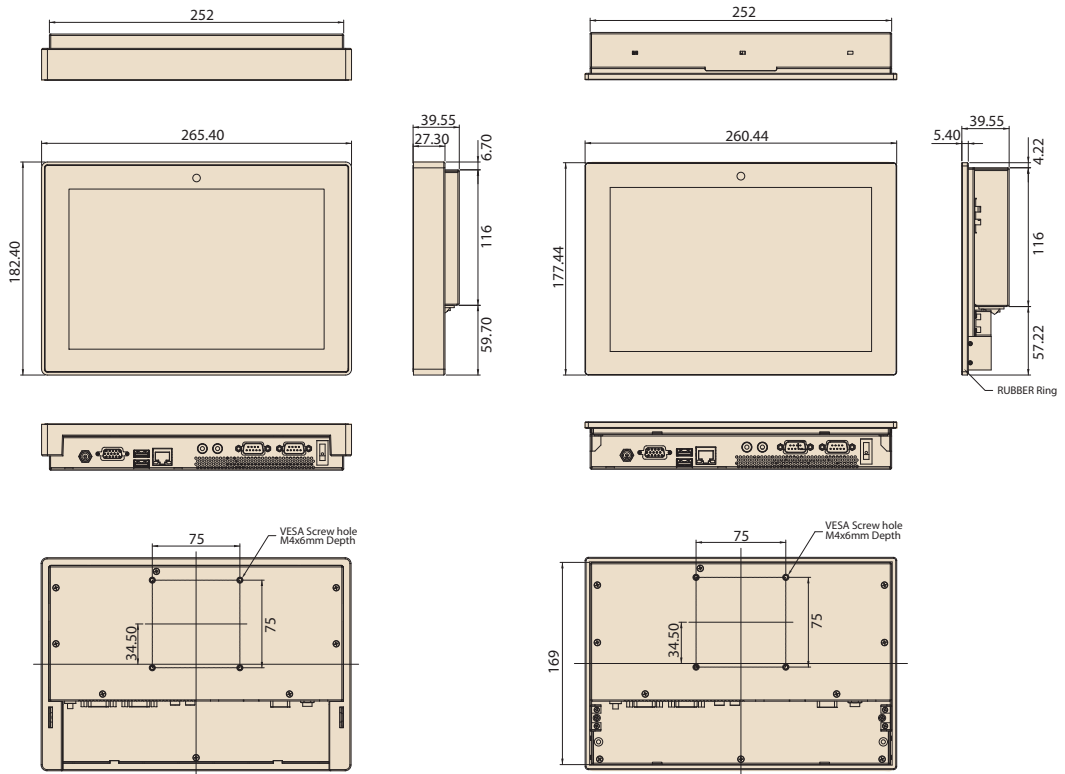
1.2.9 UTC-542

System	CPU	Intel® Celeron® J1900 (UTC-542D)	Intel® Core™ i5-6300U (UTC-542F) Can be equipped with Intel® Core™ i7-6600U/i3-6100U/Celeron® 3955U upon request
	Base Frequency	2 GHz (quad-core)	2.4 GHz (dual-core)
	Cache	L2 cache 2 MB	L2 cache 3 MB
	Memory	1 x SODIMM DDR3L 1333 MHz, up to 8 GB	2 x SODIMM DDR3L 1600 MHz, up to 16 GB
	HDD	1 x 2.5 internal SATA HDD bay	
	Network (LAN)	2 x Gigabit Ethernet ports	
	I/O	2 x RS-232 COM (RS-422/485 optional) 4 x USB 2.0/1 x USB 3.0 2 x Gigabit Ethernet (RJ-45) 1 x VGA 1 x HDMI	2 x RS-232 COM (RS-422/485 optional) 3 x USB 2.0/2 x USB 3.0 2 x Gigabit Ethernet (RJ-45) 1 x VGA 1 x HDMI
	Stereo Speaker	2 x 10W	
	Bus Expansion	1 x Full-size mini PCIe/mSATA	
	Dimensions (W x H x D)	990.6 x 578.8 x 60.2 mm (mirror) 1016.9 x 605.2 x 60.5 mm (P-CAP)	
	Weight	24.6 kg	
	OS Support	Windows Embedded 7/8, Windows 10 IoT Enterprise, Linux Ubuntu 14.04, Android 4.4.2	
	Environmental	Operating Temperature	0 ~ 40 °C (32 ~ 104 °F)
Relative Humidity		10 ~ 95% @ 40 °C non-condensing	
Vibration		0.5 Grms	
Shock		5 G peak acceleration (11 msec. duration)	
Power	Front Panel Protection	IP65/NEMA4 compliant	
	Input Rating	100 ~ 240V _{AC} 50/60Hz 2.5A	
	Power Consumption	90W	
LCD Panel	Size/Type	42.5" TFT LCD with LED backlight	
	Max. Resolution	1920 x 1080	
	Pixel Pitch (H x W)	0.49 x 0.49 mm	
	Brightness	450 cd/m ²	
	Viewing Angle	178°/178°	

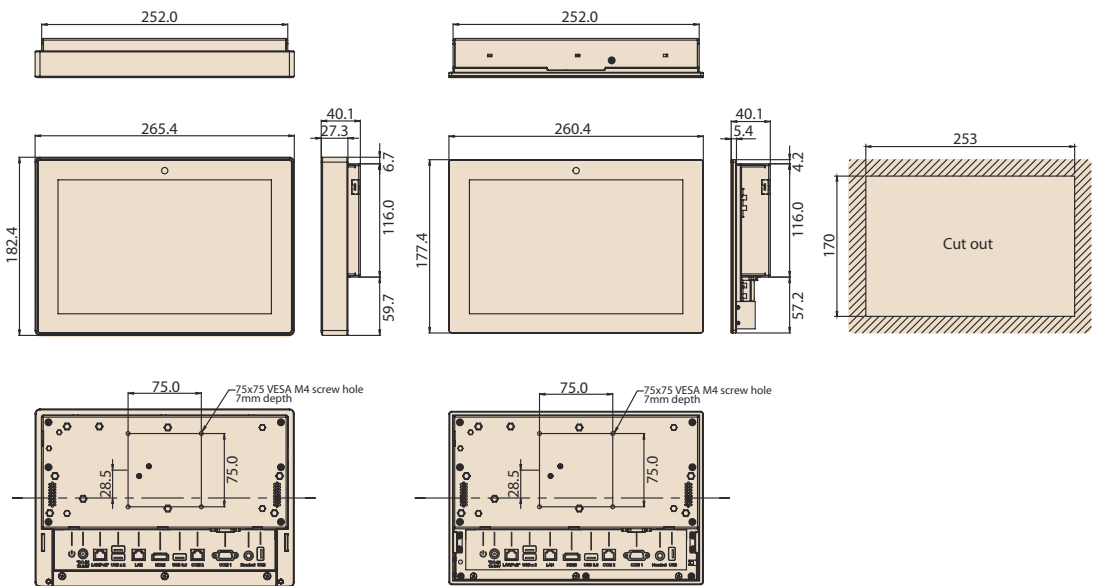
Touchscreen (PE/GE)	Type	Glass panel with projected capacitive touch
	Light Transmission	>90% (pure glass); >25% (mirror coating)
	Surface Treatment	Anti-glare 3H mirror coating (optional)
	Controller	USB interface

1.3 Dimensions

1.3.1 UTC-510

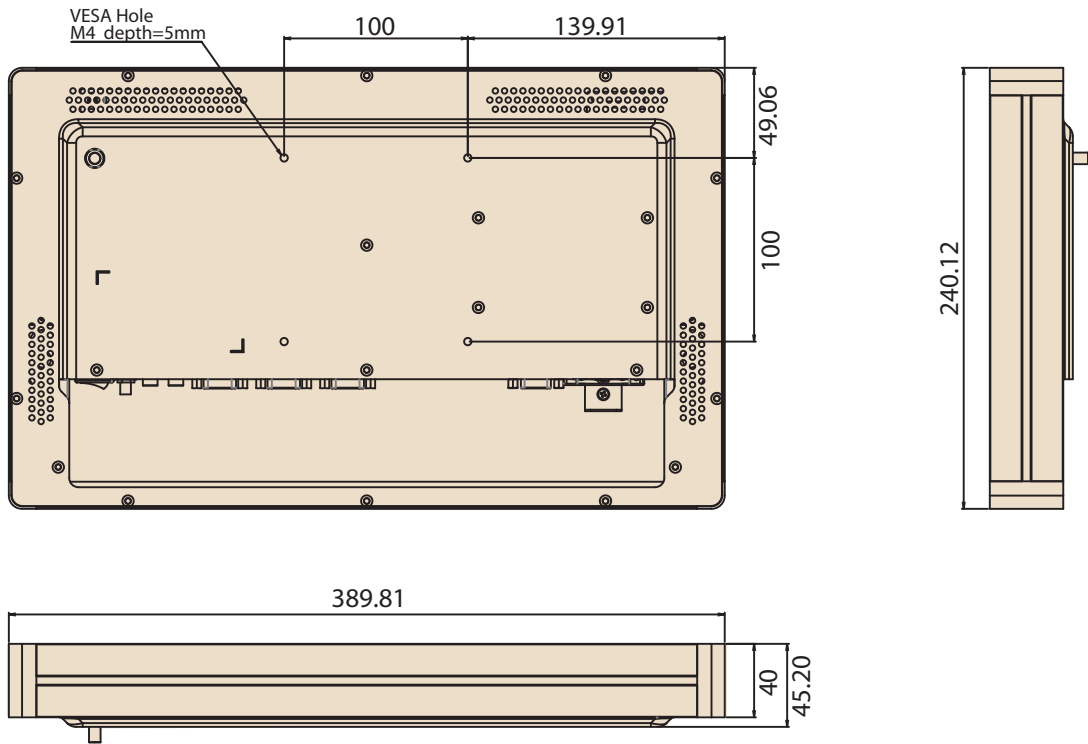


Unit: mm

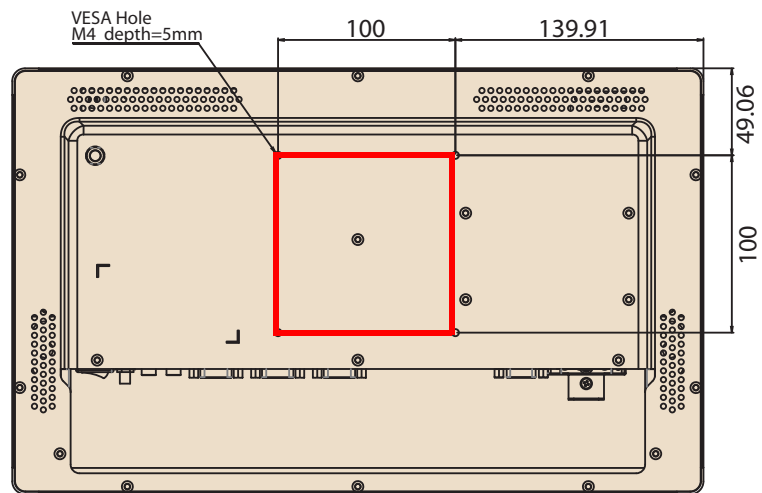


1.3.2 UTC-515

Dimensions: 390 x 240 x 45 mm

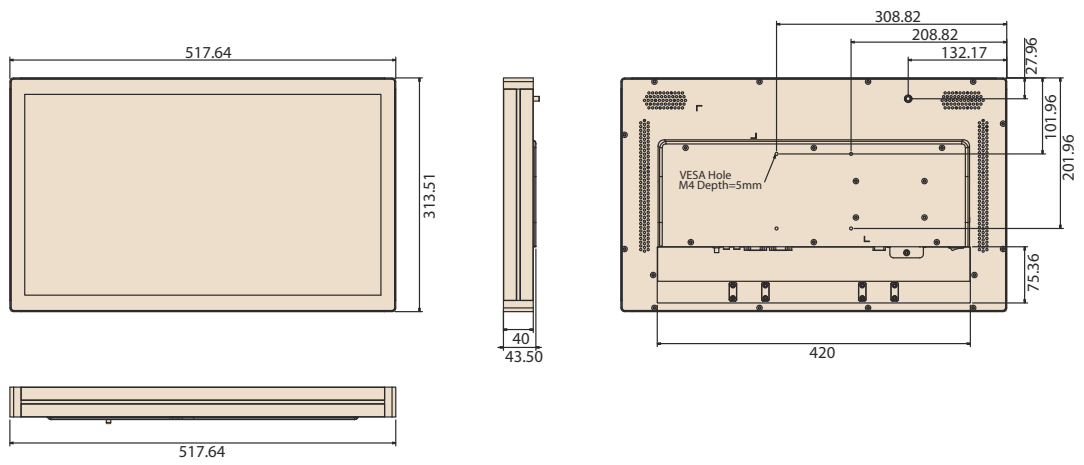


VESA Mounting: 100 x 100 mm



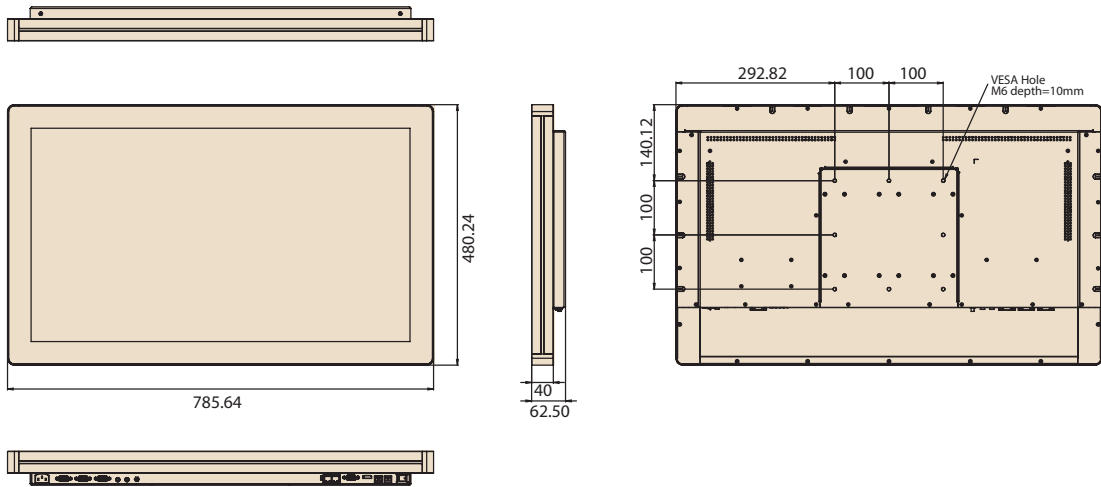
1.3.3 UTC-520

Unit: mm

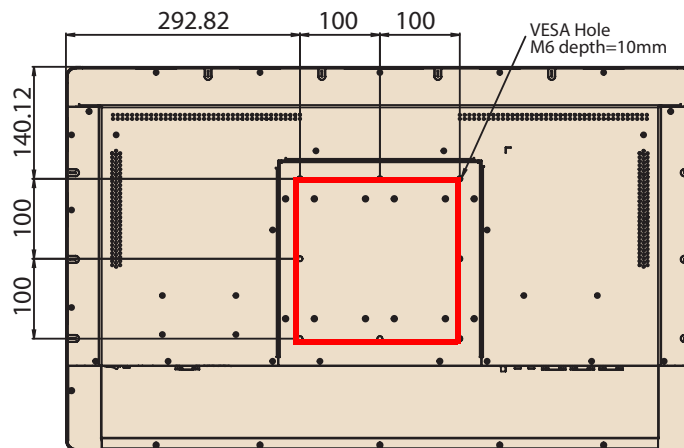


1.3.4 UTC-532

Dimensions: 786 x 480 x 63 mm



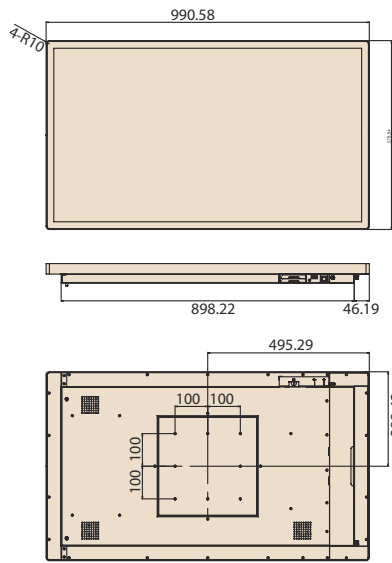
VESA Mounting: 200 x 200 mm



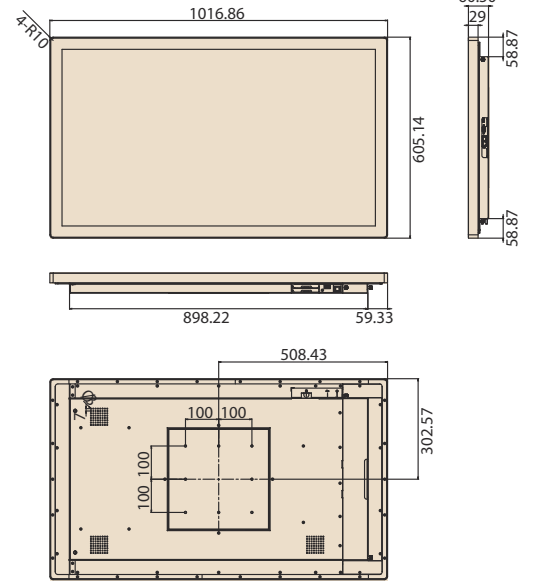
1.3.5 UTC-542

Unit: mm

Mirror



Pcap



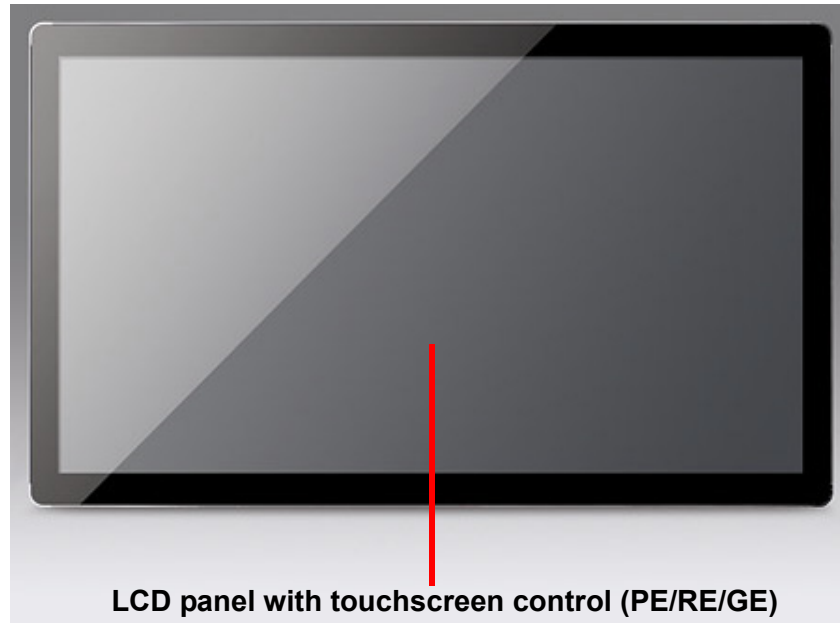
Chapter 2


System Setup

2.1 Quick Start Tour

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

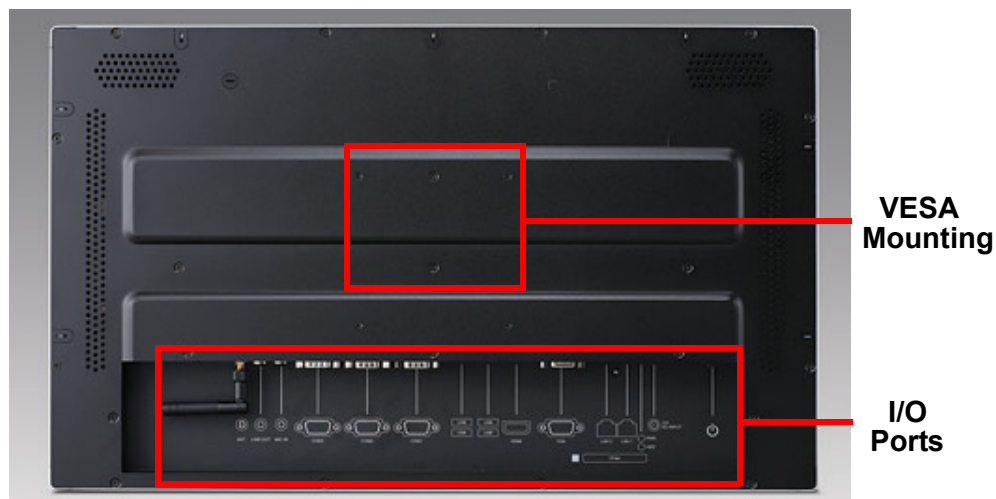
2.1.1 Front View



Note!  The UTC-515 and UTC-520 PE models feature an anti-microbial Corning® Gorilla® Glass panel with capacitive touch control. See Appendix C for additional details.

Resistive touch control is not available for the UTC-510/532/542 series.

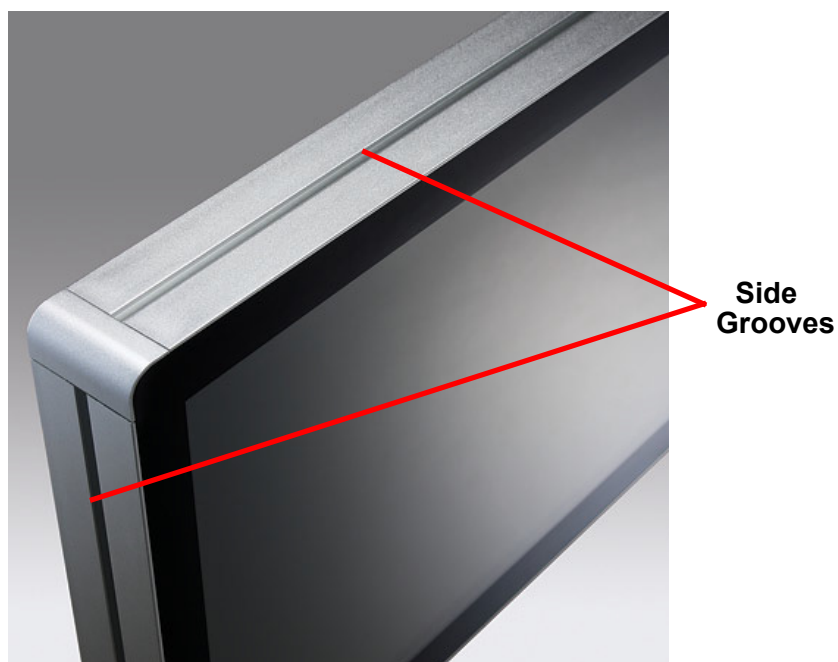
2.1.2 Rear View



Note! Use only VESA-compatible floor, stand, and wall mount kits.
See Appendix A for additional details.
Refer to Section 2.2 regarding system I/O according to UTC model.



2.1.3 Side View

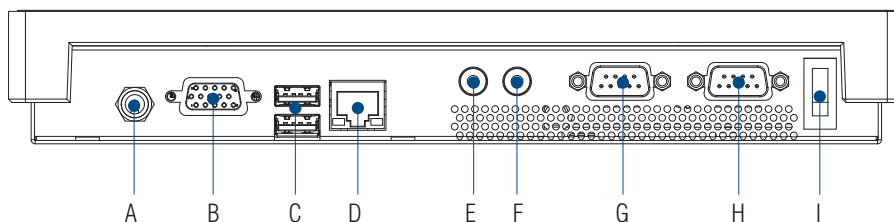


Note! The UTC-500 series (excluding the UTC-510/542 models) features unique side grooves for easy peripheral integration using two screws. Refer to Section 3.6 for installation information.



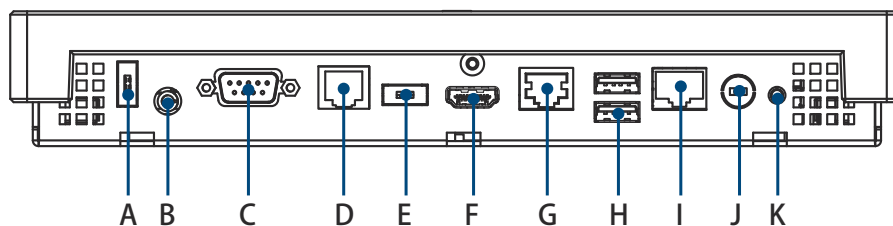
2.2 I/O Ports

2.2.1 UTC-510



- | | |
|-----------------------------|-----------------|
| A. DC power jack | F. Line-out |
| B. VGA | G. COM 2 |
| C. 1 x USB 3.0, 1 x USB 2.0 | H. COM 1 |
| D. LAN | I. Power switch |
| E. Mic-In | |

2.2.2 UTC-510(PoE)



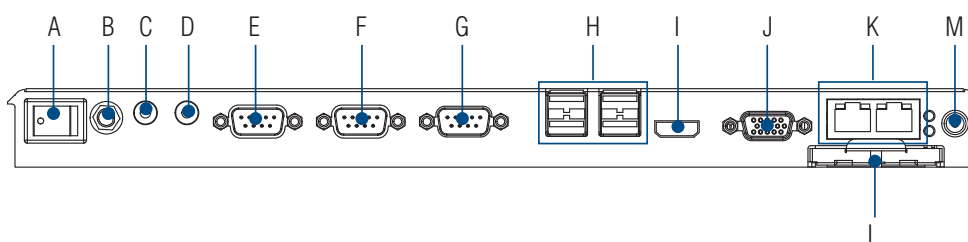
- | | |
|------------------------------|------------------------------------|
| A. USB 2.0 (DC version only) | G. LAN |
| B. Headset | H. 2 x USB 2.0 |
| C. COM1 | I. LAN/PoE |
| D. COM2 | J. DC power jack (DC version only) |
| E. USB 3.0 (DC version only) | K. Power switch |
| F. HDMI | |

With the standard UTC-510 PoE model, users are recommended to avoid using the USB 2.0 (A) and USB 3.0 (E) ports. To change the configuration, the total power input must be under 25.5W.

Caution! *The UTC-510 (PoE) model is a PoE-powered device that consumes energy. Always use power sourcing equipment (PSE) that complies with the IEEE 802.3at PoE standard, also known as “PoE+” or “PoE plus”, and provides up to 30W of DC power output because only 25.5W is guaranteed to be available because of in-cable power dissipation.*

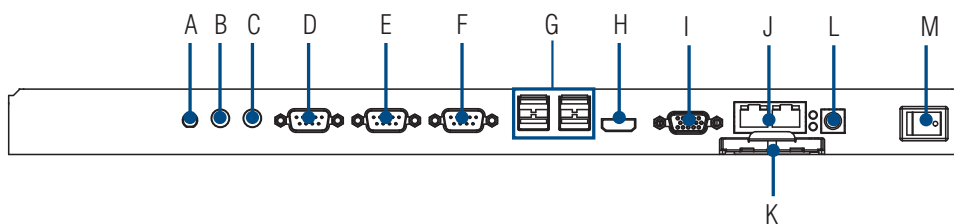


2.2.3 UTC-515



- | | |
|---------------------------|--------------------------------|
| A. Power switch | H. 4 x USB 2.0 |
| B. Antenna connector | (2 x USB 3.0 for UTC-515C/E/F) |
| C. Line-Out | I. HDMI |
| D. Mic-In | J. VGA |
| E. COM3 (UTC-515A/B only) | K. 2 x LAN |
| F. COM2 | L. CFast (UTC-515A/B only) |
| G. COM1 | M. DC input |

2.2.4 UTC-520



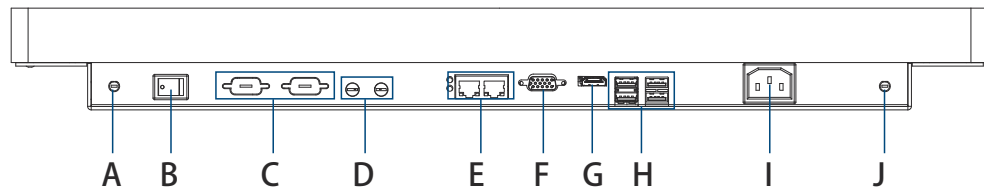
- | | |
|---|----------------------------|
| A. Antenna connector | H. HDMI |
| B. Line-Out | I. VGA |
| C. Mic-In | J. 2 x LAN |
| D. COM3 (UTC-520A/B only) | K. CFast (UTC-520A/B only) |
| E. COM2 | L. DC input |
| F. COM1 | M. Power switch |
| G. 4 x USB 2.0 (1 x USB 3.0 for UTC-520D; 2 x USB 3.0 for UTC-520C/E) | |

2.2.5 UTC-532



- | | |
|---|-------------------------|
| A. Power switch | F. Antenna connector |
| B. 4 x USB 2.0
(1 x USB 3.0 for UTC-532D;
2 x USB 3.0 for UTC-532C/E) | G. Line-Out |
| C. HDMI | H. Mic-In |
| D. VGA | I. COM3 (UTC-532A only) |
| E. 2 x LAN | J. COM2 |
| | K.COM1 |
| | L. AC input |

2.2.6 UTC-542



- | | |
|----------------------|---|
| A. Antenna connector | G. HDMI |
| B. Power switch | H. 1 x USB 3.0, 3 x USB 2.0 (UTC-542D)
USB 3.0 x 2, USB 2.0 x 2 (UTC-542F) |
| C. 2 x COM | I. AC power |
| D. Mic-In/Line-Out | J. Antenna connector |
| E. 2 x LAN | |
| F. VGA | |

2.3 Setup Procedures

2.3.1 System Power On

1. For the UTC-510 model, connect the system to a power adaptor with 12V/3A input voltage. For the UTC-515 and UTC-520A/B/C/D/E models, a 12V/5A power adaptor. For the UTC-520C/E models, a 12V/7A power adaptor. For the UTC-532/542 models, connect the system to an AC power cable.
2. Hold power cords by the plugs ends only. Refer to Section 2.2 for the location of the DC/AC power input and power switch.
3. Press the power switch to activate the system. The PWR LED should emit a green light.

2.3.2 BIOS Setup

For most UTC series, the system setup and configuration will be completed by the dealer or system integrator prior to delivery. However, users may still need to access the BIOS setup program to adjust the system configuration, such as the date/ time or hard drive type. The setup program is stored in read-only memory (ROM) and can be accessed following system reset or by pressing the “Del” key after powering on the computer. The settings selected in the setup program 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 System 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 users must purchase separately.*



2.3.4 Driver Installation

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

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



Chapter 3

Upgrades and
Installation

3.1 Introduction

Advantech's UTC series systems are PC-based computers housed in an aluminum enclosure. To perform system maintenance or hardware upgrades, such as installing an HDD, DRAM, or CompactFlash (A/B models only), simply remove the unit's rear cover.

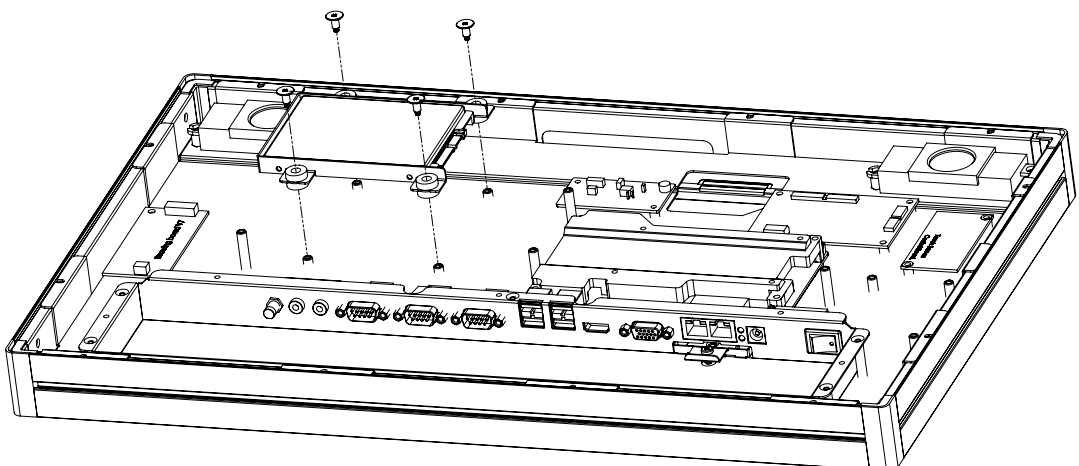
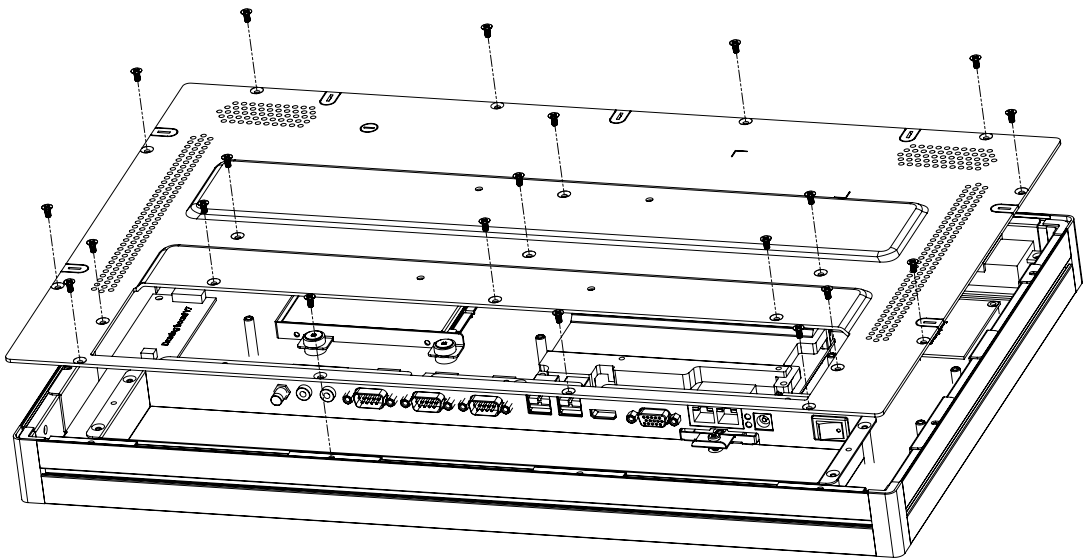
Warning! Do not remove the rear cover until you have verified that power is not flowing within the device. The system power should be switched off and the power cord unplugged before opening the device enclosure.



3.2 Installing a 2.5" SATA HDD

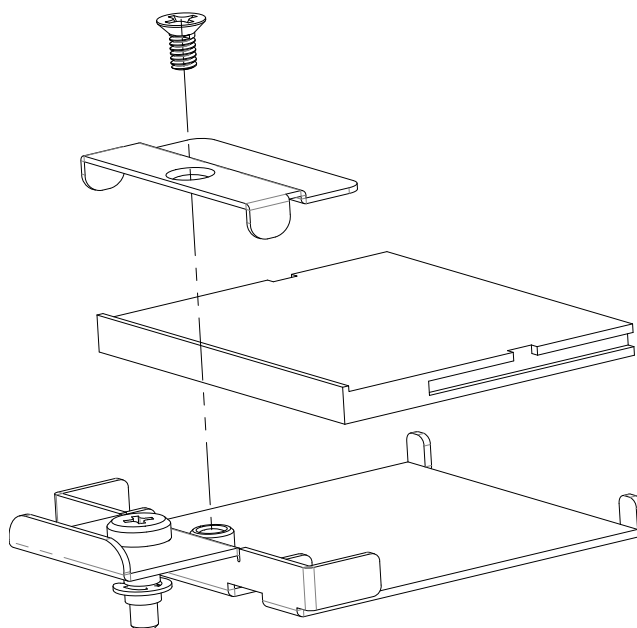
UTC systems feature a 2.5" SATA HDD bay reserved for customizable storage. To install a 2.5" SATA HDD, follow the steps below.

1. Loosen the affixing screws and remove the rear cover.
2. Insert the SATA HDD into the metal bracket and fasten in place with screws.
3. Use a power cable to connect the SATA HDD to the power supply unit.
4. Use a SATA data cable to connect the SATA HDD to the motherboard.
5. Replace the rear cover and tighten the screws.



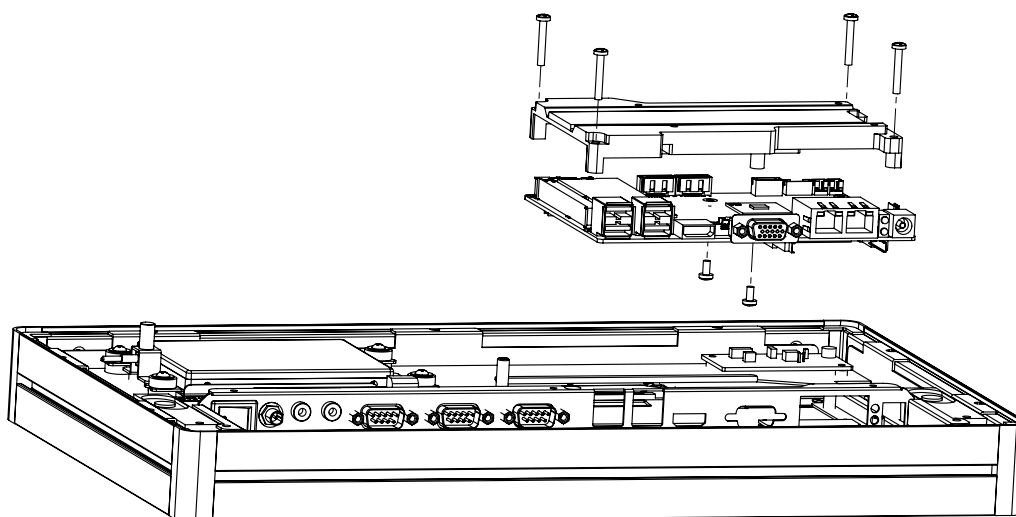
3.3 Installing a CFAST Card (A/B Models Only)

The image below illustrates the process for installing a CFAST card. (Note the direction of the CFAST card during assembly).



3.4 Installing a Memory Module

1. Loosen the affixing screws and remove the rear cover.
2. Remove the 4 screws from the DRAM memory module heatsink.
3. Turn the memory module over and remove the 2 screws on the underside.
4. Install the DRAM module into the SODIMM socket.



3.5 Installing a Wireless LAN Card (Optional)

1. Loosen the affixing screws and remove the rear cover.
2. Remove the 4 screws holding the heatsink in place.
3. Insert the WLAN card into the mini PCIe slot located on the underside of the motherboard.
4. Connect a coaxial cable to ANT1 and ANT2 ports on the WLAN card.
5. Install the antenna brackets, washers, and nuts inside chassis.
6. Reassemble the back cover.
7. Install the antenna on SMA connector on chassis exterior.

Note! *If the motherboard is removed from the chassis and the cables detached and reattached, Pin 1 of the header can be located by aligning the red side of the ribbon cable to the edge indicated by a small triangle marking on the PCB.*

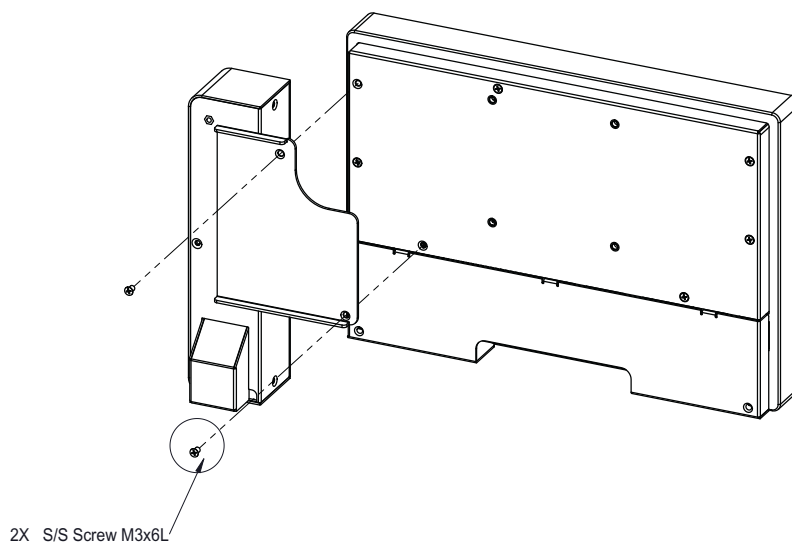
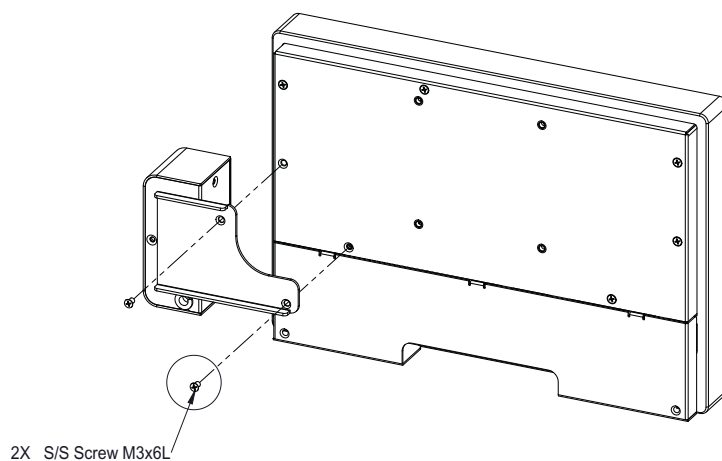
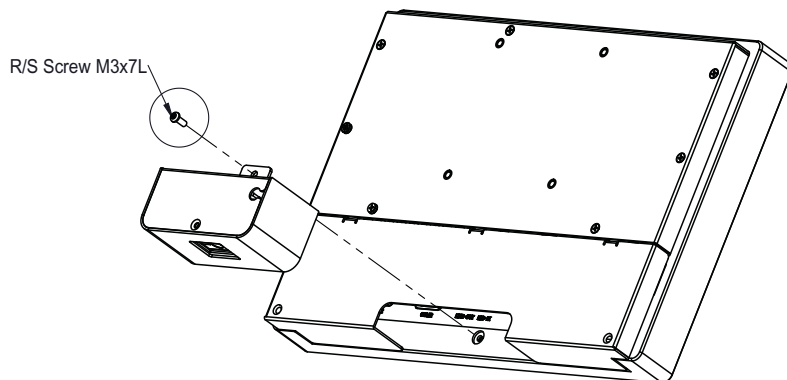


3.6 Installing Peripherals (Optional)

3.6.1 UTC-510/510(PoE)

Installing Optional Modules

1. Attach the peripheral module to the bottom of the UTC system.
2. Affix the module in place using the screws removed from the frame.
3. Connect a cable to the peripheral module and to an I/O port (USB).

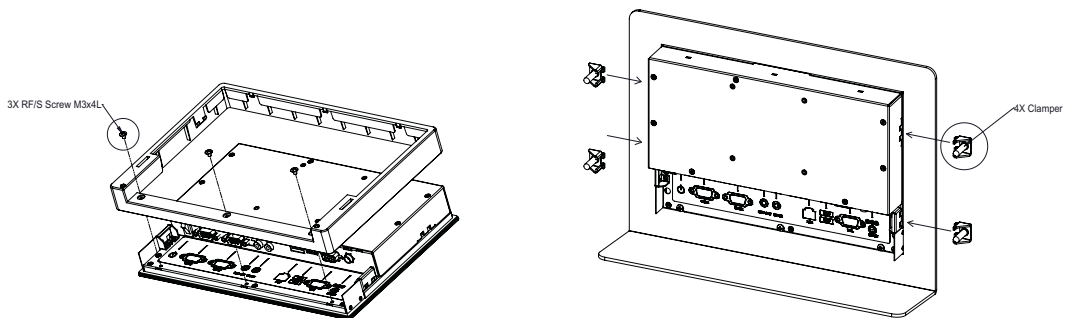


3.6.2 UTC-515/520/532

1. Affix the peripheral module to the computing device via the side grooves.
2. Use 2 screws to fasten the module in place.
3. Connect a cable to the peripheral module and to an I/O port (USB).
4. Place the cable clamp in a secure location and attach the cable to it for simple cable routing.

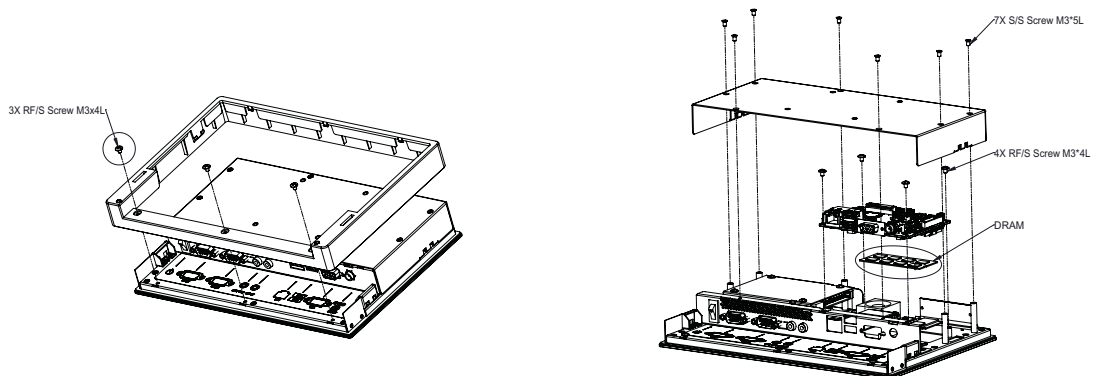


3.7 Panel Mount Installation for UTC-510

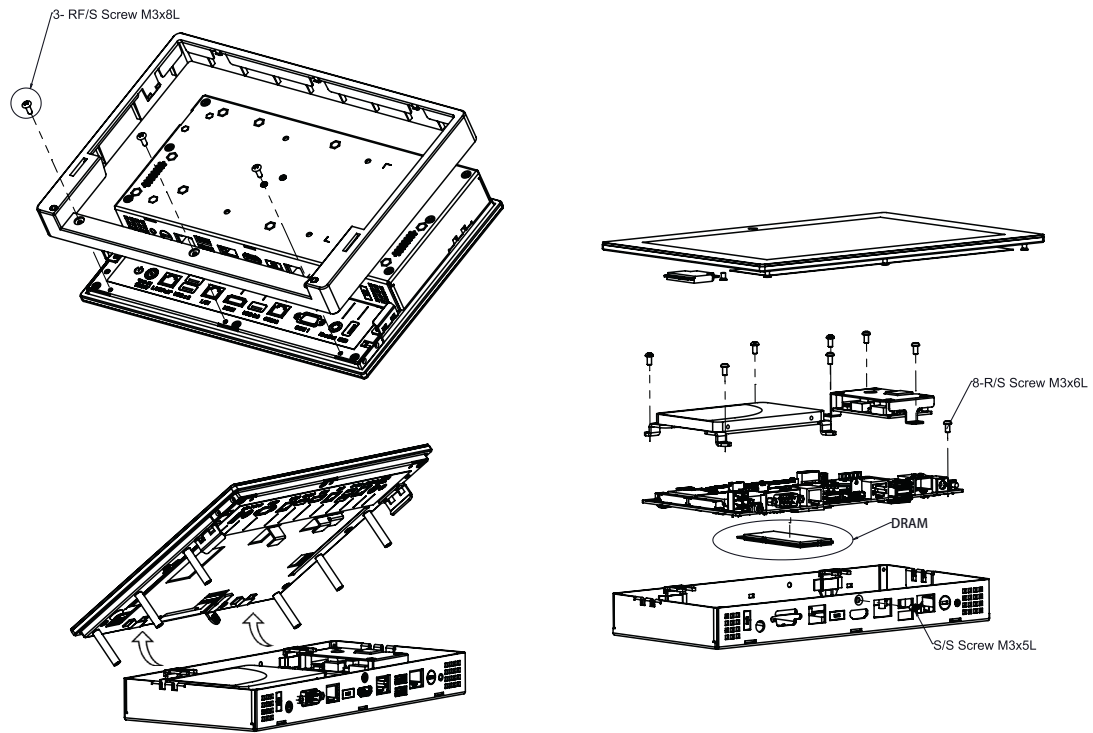


3.8 Installing a DRAM Module for UTC-510

3.8.1 UTC-510

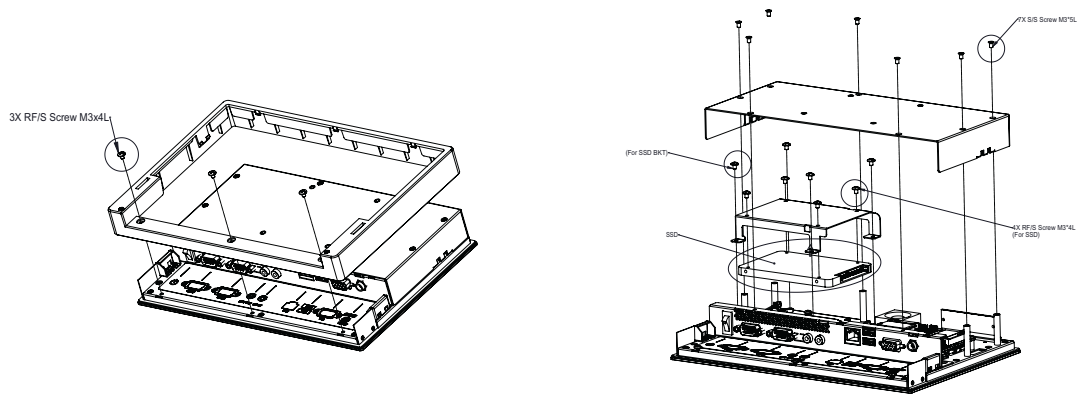


3.8.2 UTC-510(PoE)

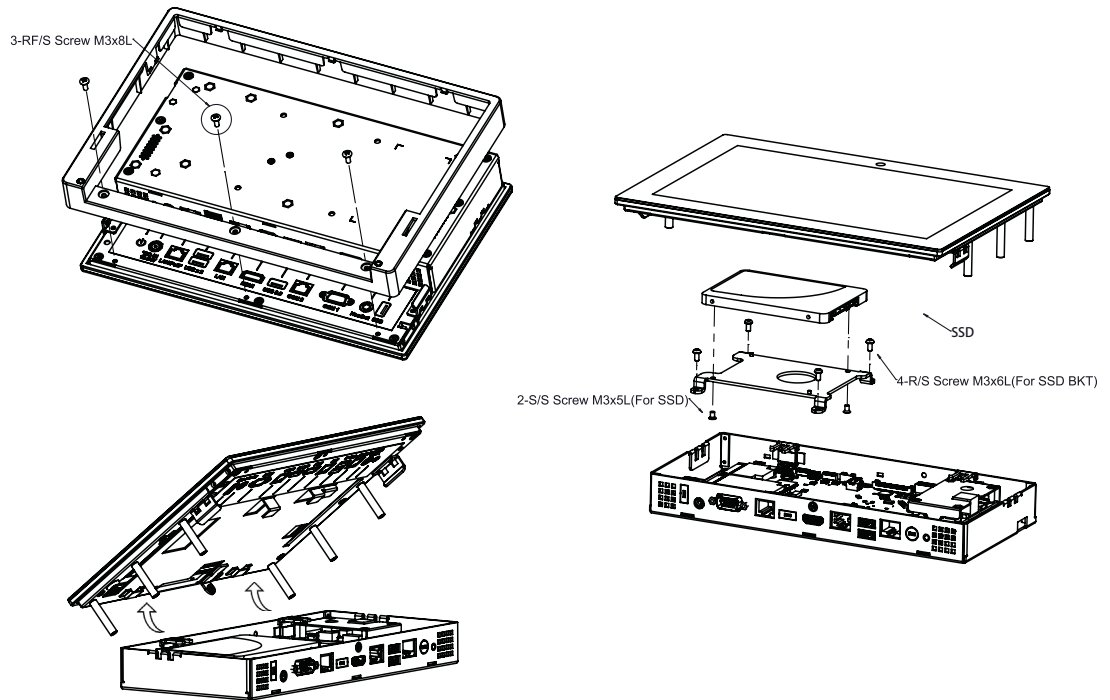


3.9 Installing an SSD Module for UTC-510

3.9.1 UTC-510

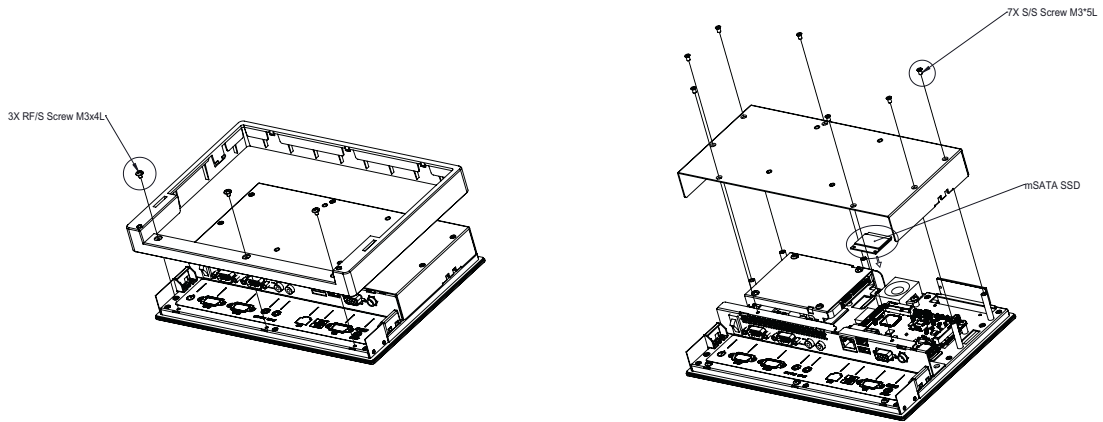


3.9.2 UTC-510(PoE)

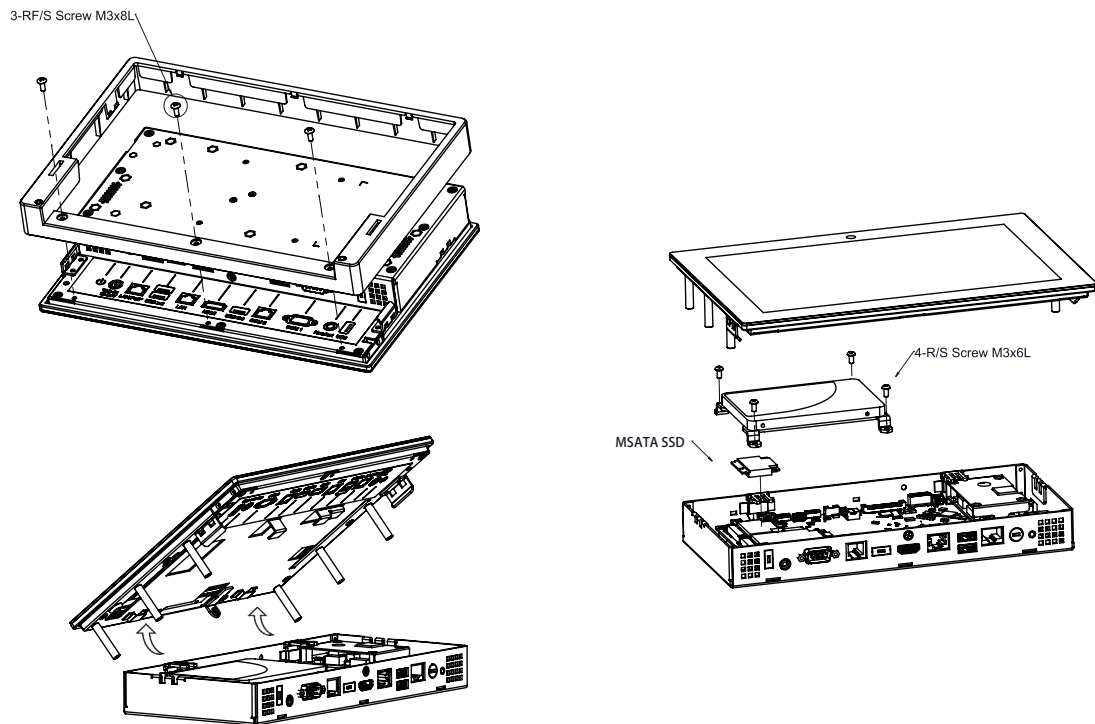


3.10 Installing an mSATA SSD Module for UTC-510

3.10.1 UTC-510

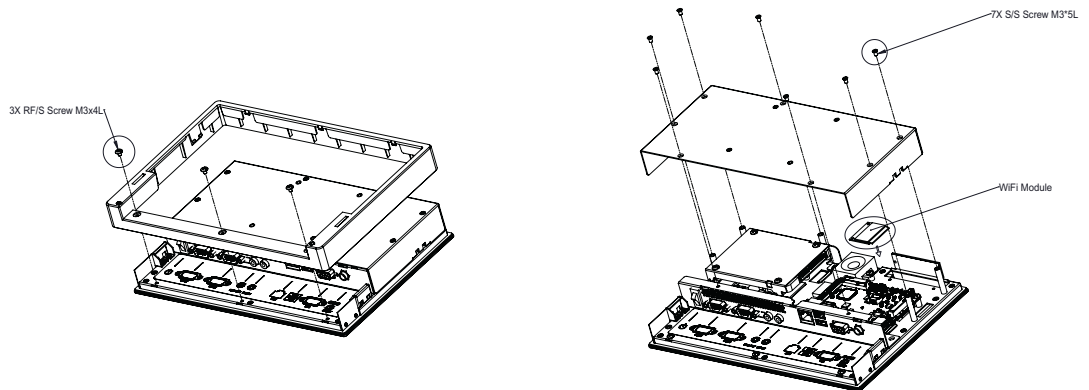


3.10.2 UTC-510(PoE)

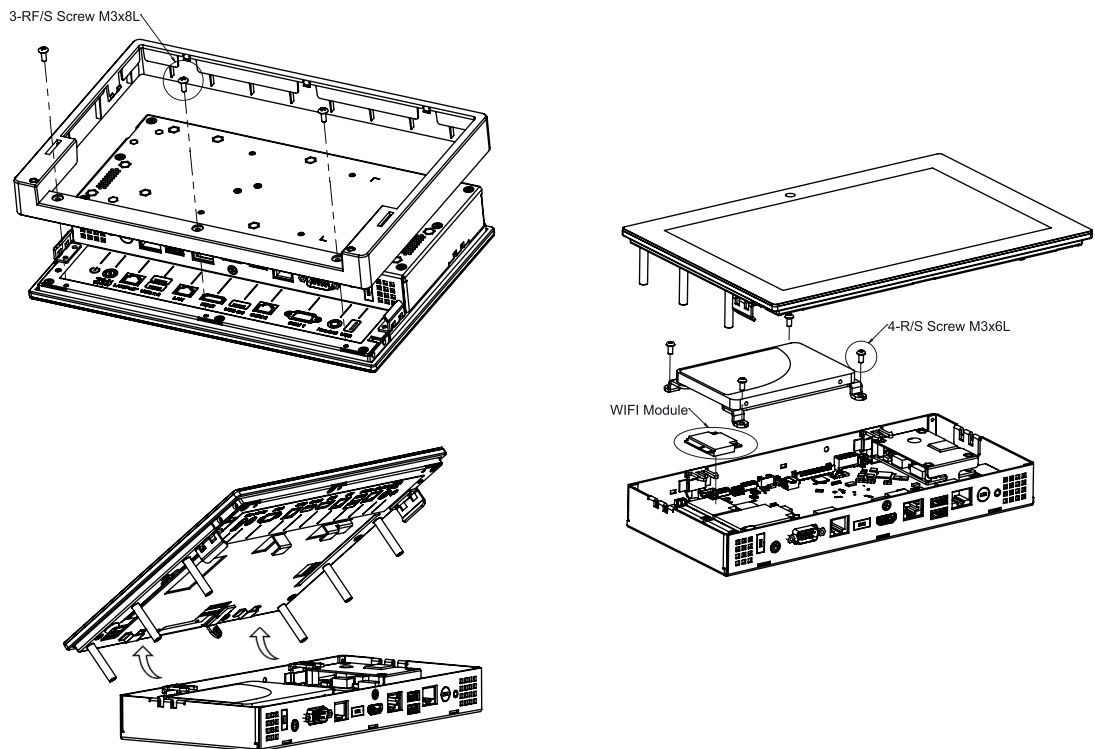


3.11 Installing a Wi-Fi Module for UTC-510

3.11.1 UTC-510



3.11.2 UTC-510(PoE)



Appendix **A**

Installation
Accessories

A.1 Introduction

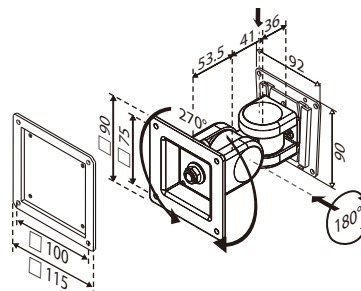
The floor stand and wall mount accessories provided for Advantech's UTC series systems combine simplicity with style, making them easy to install without additional costs or space requirements. Additionally, because the UTC series are aimed at supporting applications in diverse usage scenarios, such as self-service kiosks in hospitality reception areas, the units are slim and compact, and feature an attractive elegant appearance that ensures integration in a variety of environments.

A.2 Wall Mount

Part Number	UTC-WALLMOUNT1E	UTC-WALLMOUNT2E	UTC-WALLMOUNT3E
Description	VESA Mount 75/100 mm	VESA Mount 100/200 mm	VESA Mount 75/100 mm
VESA Mount Pattern	75 x 75 mm 100 x 100 mm	200 x 200 mm	75 x 75 mm 100 x 100 mm
Weight Capacity	14 kg	35 kg	20 kg

UTC-WALL-MOUNT1E

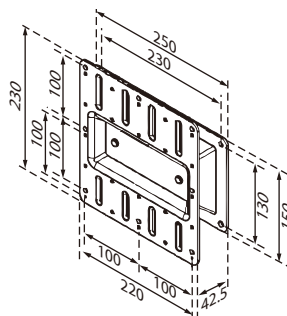
VESA 75/100 mm



- Can be firmly fixed to a solid wall
- Weight capacity: Up to 14 kg
- Material: Steel
- Tilt range: 180° up and down
- Rotation: 270° for portrait or landscape orientation
- Lift: 130.5 mm
- For UTC-515/520

UTC-WALL-MOUNT2E

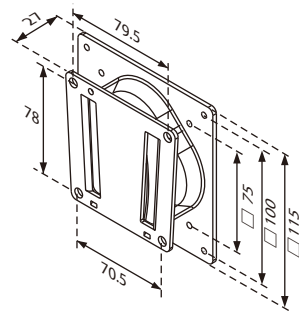
VESA 100/200 mm



- Flush fit without movement
- Weight capacity: Up to 35 kg
- Material: Steel
- Sits: 42.5 mm from a wall
- For UTC-532 only

UTC-WALL-MOUNT3E

VESA 75/100 mm



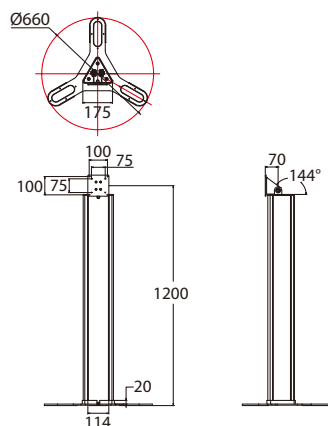
-
- | | |
|---------------------------------------|-----------------------------|
| ■ Can be firmly fixed to a solid wall | ■ Sits: 27 mm from the wall |
| ■ Weight capacity: Up to 20 kg | ■ For UTC-515/520 |
| ■ Material: Steel | |
-

A.3 Floor Stand

Part Number	UTC-T01-STANDE	UTC-H01-STANDE
Description	Triangular floor stand	H-shape floor stand
VESA Mount Pattern	75 x 75 mm; 100 x 100 mm	75 x 75 mm; 100 x 100 mm
Height	120 cm	120 cm
Dimensions	Ø660 mm	58 x 510 mm
Weight	10 kg	10 kg

UTC-T01-STANDE

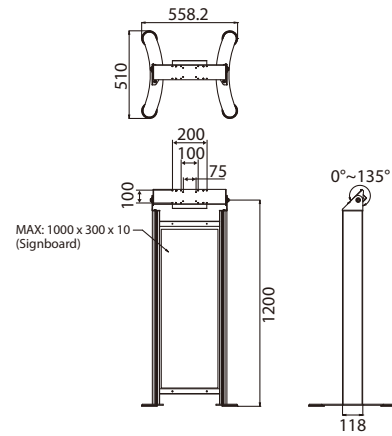
Triangular floor stand



- Organized cable management
 - VESA 75/100 mm
 - Height: 120 cm
 - Easy tilt for optimum viewing comfort
 - Dimensions: Ø660 mm
 - Weight: 10 kg
-

UTC-H01-STANDE

H-shape floor stand



-
- Organized cable management
 - VESA 75/100 mm
 - Height: 120 cm
 - Easy tilt for optimum viewing comfort
 - Dimensions: Ø660 mm
 - Weight: 10 kg
 - Acrylic signboard not included
-

Appendix **B**

UTC Peripherals

B.1 UTC-P01 (Camera Module)



B.1.1 Specifications

Interface	USB (Cable length: 50 cm)
Image Resolution	2592 (H) x 1944 (V)
Focusing Range	10 cm ~ ∞; supports auto focus
Frame Rate	640 x 480 @ 30 fps max. 1280 x 1024 @ 30 fps max. 1600 x 1200 @ 15 fps max. 2592 x 1944 @ 15 fps max.
Video Format	MJPEG
OS Support	Windows XP/7/8
Dimensions	130 x 35 x 40 mm
Operating Temperature	0 ~ 40 °C

B.1.2 Packing List

Description	Quantity
Cable Clamp	2
Camera Module Unit	1

B.1.3 Ordering Information

Part Number	Description
UTC-P01-A1E	5 Megapixel camera module for UTC-500 series

B.2 UTC-P02 (MSR)



B.2.1 Specifications

Interface	USB (Cable length: 50 cm)
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, ABA
Read Speed	3 ips to 60 ips (7 cm/s to 152 cm/s)
Magnetic Head Life	1,000,000 times (ISO test standard)
OS Support	Windows 98/ME/2000/XP/7
Dimensions	130 x 35 x 40 mm
Operating Temperature	0 ~ 40 °C

B.2.2 Packing List

Description	Quantity
Cable Clamp	2
Magnetic Strip Reader Unit	1

B.2.3 Ordering Information

Part Number	Description
UTC-P02-A0E	Magnetic strip reader for UTC-500 series

B.3 UTC-P03 (RFID Reader)



B.3.1 Specifications

Interface	USB (Cable length: 50 cm)			
Frequency	13.56 MHz			
Read Mode	ISO 15693, ISO 14443A, ISO 14443B, ISO 18000- 3 Mode 1, FeliCa			
Card Mode	Simulates ISO14443A mode			
P2P Mode	NFCIP-1, NFCIP-2, ISO 18092, 848 ~ 106 kps			
Support Tag Specifications				
Standard	Tag Model	UID	Read/Write Data	Applications
ISO 15693	NXP I-Code 2(SLI)	Yes	Yes	
	Texas Instruments Tag-it	Yes	Yes	
	MStar MSR3200	Yes	Yes	Library, medical, supply chains
Other ISO15693 compatible tag	OK	Yes		
ISO 14443A	NXP MIFARE® Ultralight	Yes	Yes	Transportation
	NXP MIFARE®	Yes		Access control
ISO 14443B	ST	Yes	Yes	
	ATMEL	Yes	Yes	
ISO 14443A	SONY-FeliCa (Suica/Edy card)	Yes		Japanese railways
Reading Range	3cm ± 1cm			
OS Support	Windows XP/7			
Dimensions	130 x 35 x 40 mm			
Operating Temperature	0 ~ 40 °C			

B.3.2 Packing List

Description	Quantity
Cable Clamp	2
RFID Reader Unit	1

B.3.3 Ordering Information

Part Number	Description
UTC-P03-A0E	RFID reader for UTC-500 series

B.4 UTC-P06 (Smart Card Reader)



B.4.1 Specifications

Interface	USB (Cable length: 50 cm)
Card Acceptor/ Reliability	User card friction type (ID-1), 200,000 cycles
Card Reader	CPU card, compliant with ISO7816-1,2,3,T=1 and T=0 protocols Memory card, synchronous 2-line, 3-line, and I2C interface
LED	Dual-color LED indicators Compliant with PC/SC, version 1.0, standards
OS Support	Windows XP/ 7
Dimensions	130 x 35 x 40 mm
Operating Temperature	0 ~ 40 °C

B.4.2 Packing List

Description	Quantity
Cable Clamp	2
Smart Card Reader Unit	1

B.4.3 Ordering Information

Part Number	Description
UTC-P06-A0E	Smart card reader for UTC-500 series

B.5 UTC-P07 (Barcode Reader)



B.5.1 Specifications

Interface	USB (Cable length: 50 cm)			
Scanning Performance	Scan rate: 2D mode; 53 images/s			
	Scan angle: 40°/26°			
Typical Reading Distances	Optical resolution: 752 (H) x 480 (V) pixels, 256 gray levels			
	Symbology	Density	Min. Distance	Max. Distance
	Code 39	0.125 mm/5 mils 4	.7 cm/1.8"	17.7 cm/7.0"
		0.25 mm/10 mils	1.7 cm/0.7"	33.2 cm/13.1"
	UPC/EAN	0.33 mm/13 mils	2.5 cm /1.0"	41.9 cm/16.5"
	Data Matrix	0.254 mm/10 mils	2.7 cm /1.0"	17.1 cm/6.7"
		0.381 mm/15 mils	1.2 cm /0.5"	24.6 cm/9.7"
PDF 417	0.254 mm/10 mils	2.2 cm /0.9"	2.2 cm /9.4"	
* Minimum distance depends on symbology length and scan angle				
Symbologies	1D/Linear Symbologies: Automatically discriminates all standard 1D codes including GS1DataBar™ linear codes			
	2D Symbologies: Aztec code, China Han Xin Code, DataMatrix, MaxiCode, Micro QR Code, and QR Code			
	Postal Codes: Australian Post, British Post, China Post, IMB, Japanese Post, KIX Post, Korea Post, Planet Code, Postnet, Royal Mail Code (RM4SCC)			
	Stacked Codes: EAN/JAN Composites, GS1 DataBar Composites, GS1 DataBar Expanded Stacked, GS1 DataBar Stacked, GS1 DataBar			
	Stacked Omnidirectional, MacroPDF, MicroPDF417, PDF417, UPC A/E Composites			
OS Support	Windows 7/8			
Dimensions	130 x 52 x 40 mm			
Operating Temperature	0 ~ 40 °C			

B.5.2 Packing List

Description	Quantity
Cable Clamp	2
Barcode Reader Unit	1

B.5.3 Ordering Information

Part Number	Description
UTC-P07-A1E	2D barcode module for UTC-500 series

B.6 UTC-P21 (4-in-1 Module)



B.6.1 Specifications

RFID	13.56 MHz frequency
	Read mode: ISO 15693/14443A/B/18000-3/FeliCa
	Reading range: 3 +/- 1cm
2D Barcode Reader	2D mode scan rate: 56 images
	Linear emulation scan rate: 200 images/sec
	Optical resolution: 752 x 480 pixels, 256 gray levels
Smart Card Reader	User card friction type (ID-1), 200,000 cycles
	SAM card: 5000 insertion
	Compliant with CPU and memory cards
Magnetic Strip Reader	Card standards: ANSI, ISO, ABA
	Read speed: 3 ~ 60 ips (7 ~ 152 cm/s)
	Magnetic head life: 1,000,000 times (ISO test standard)
OS Support	Windows XP/7
Dimensions	300 x 35 x 40 mm
Operating Temperature	0 ~ 40 °C

B.6.2 Packing List

Description	Quantity
Cable Clamp	2
4-in-1 Module Unit	1

B.6.3 Ordering Information

Part Number	Description
UTC-P21-A0E	4-in-1 module for UTC-500 series

B.7 UTC-510P-R01E



Interface	USB			
Frequency	13.56 MHz			
NFC R/W Mode	NFC Type V/2/3/4			
HF RFID R/W	ISO 15693, ISO14443A, ISO14443B			
Support Tag Specification				
Standard	Tag Model	UID	R/W	Applications
NFC Type 2	NXP NTAG 213/215/216	OK	OK	Brand protection
	NXP MIFARE® S50/S70	OK	OK	Electronic wallet
NFC Type 3	Sony FeliCa RCS 919/965/966	OK	OK	e-Tickets
NFC Type 4	NXP MIFARE® DesFire EV1 4K	OK		Personal identification
	Panasonic MN63Y1213	OK	OK	BT and Wi-Fi pairing
ISO 15693 (NFC Type V)	TI Tag-it Standard/Pro/Plus	OK	OK	Libraries
	ST LRI2K	OK	OK	Access control
	NXP ICODE SLIX/SLI/SLI-L	OK	OK	Patrol
	Infineon my-d SRF55V02P	OK	OK	Mass transit and event ticketing
	Fujitsu/MM89R118/119	OK		Medical equipment
	ST M24LR04/16/64	OK	OK	Electronic shelf labelling
ISO 14443A	NXP MIFARE® Ultralight/Plus X/Plus S	OK		Asset tracking
ISO 14443B	ST SRIX4K	OK	OK	e-Purses
Reading Range	2 cm ± 1 cm			
OS Support	Windows XP/7/8/Windows 10 IoT Enterprise, Android, Linux			
Dimensions	90 x 35 x 38 mm			
Operating Temperature	0 ~ 40 °C			

B.7.1 Packing List

Description	Quantity
RFID Reader Unit	1

B.7.2 Ordering Information

Part Number	Description
UTC-510P-R01E	RFID reader for UTC-510 series (USB connection)

B.8 UTC-510P-S01E



Interface	USB (Cable length: 50 cm)
Card Acceptor/ Reliability	User card friction type (ID-1), 200,000 cycles
Card Reader	CPU card, compliant with ISO7816-1,2,3,T=1 and T=0 protocols Memory card, synchronous 2-line, 3-line and I2C interface
LED	Dual-color LED indicators Compliant with PC/SC, version 1.0, standards
OS Support	Windows XP/7/Windows 10 IoT Enterprise
Dimensions	94 x 38 x 22 mm
Operating Temperature	0 ~ 40 °C

B.8.1 Packing List

Description	Quantity
Smart Card Reader Unit	1

B.8.2 Ordering Information

Part Number	Description
UTC-510P-S01	Smart card reader for UTC-510 series (USB connection)

B.9 UTC-510P-B



	UTC-510P-B01E	UTC-510P-B02E
Data Type	1D Linear	1D/2D
Interface	USB	
Optical System	High-performance linear imaging engine	Image Sensor 752 x 480 CMOS
Print Contrast	20% minimum reflective difference	Processor 2D barcode decoder chip 72 MHz
Minimum Resolution	Typical 3 mil (code 39, PCS 0.9)	Illumination Red LED 625 ± 10 nm
Working Distance *1	Up to 24" on 100% UPC/EAN symbols Up to 31.5" on 20 mil code 39	Reading Precision ≥ 5 mil
Performance	Light Source 630 nm visible red LED	UPC-A 55 ~ 305 mm (13 mil) 65 ~ 175 mm (6.67 mil); PDF417 50 ~ 215 mm (10 mil) Data Matrix 50 ~ 220 mm (15 mil) QR Code 65 ~ 235 mm (15 mil) Symbol Contrast ≥ 25%
	Scan Rate Dynamic scanning rate up to 500 scans per second	Depth of Field
	Reading Direction Bi-directional (forwards and backwards)	
Symbologies	Code 39, Code 39 Full ASCII, Code 32, Code 39 Trioptic Code 128, UCC/EAN-128, Codabar, Code 11, Code 93 Standard and Industrial 2 of 5, Interleaved & Matrix 2 of 5 German Postal Code, China Postal Code, IATA UPC/EAN/JAN, UPC/EAN/JAN with Addendum Telepen, MSI/Plessey and UK/Plessey GS1 DataBar (formerly RSS) Linear, Stacked Linear	2D: PDF417, Data Matrix (ECC200,ECC000,050,080,100,140), QR Code, etc. 1D: Code128, EAN-13, EAN-8, Code39, UPC-A, UPC-E, Codabar, Interleaved 2 of 5, ITF-6, ITF-14, ISBN, Code 93, UCC/EAN-128, GS1 Databar, Matrix 2 of 5, Code 11, Industrial 2 of 5, Standard 2 of 5, Plessey, MSI-Plessey, etc.
OS Support	Windows 7/8, Windows 10 IoT Enterprise	
Dimensions	80 x 35 x 38 mm	
Operating Temperature	0 ~ 40 °C	

B.9.1 Packing List

Description	Quantity
Barcode Reader Unit	1

B.9.2 Ordering Information

Part Number	Description
UTC-510P-B01E	1D barcode scanner for UTC-510 series (USB connection)
UTC-510P-B02E	1D/2D barcode scanner for UTC-510 series (USB connection)

B.10 UTC-510P-M01E



Interface	USB (Cable length: 50 cm)
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, ABA
Read Speed	3 ~ 60 ips (7 ~ 152 cm/s)
Magnetic Head Life	1,000,000 times (ISO test standard)
OS Support	Android, Windows 7/XP, Windows 10 IoT Enterprise
Dimensions	94 x 38 x 22
Operating Temperature	0 ~ 40 °C

B.10.1 Packing List

Description	Quantity
Magnetic Strip Reader Unit	1

B.10.2 Ordering Information

Part Number	Description
UTC-510P-M01E	Magnet strip reader for UTC-510 series (USB connection)

Appendix **C**

Touchscreen Options

C.1 Touchscreen Options

Touchscreen Type	5-wire analog resistive touch	Projected capacitive touch	Corning® Gorilla® panel with projected capacitive touch
Mineral Hardness	3H	7H	9H
Impact Test	510g steel ball dropped from 50 cm - Pass	130g iron ball dropped from 130 cm - Pass	530g iron ball dropped from 130 cm - Pass
Touch Point	Single touch	Multi-touch	Multi-touch
Anti-Microbial	No	No	Yes
Visible Light Transmission	80 ±5%	90 ± 2%	90 ± 2%

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