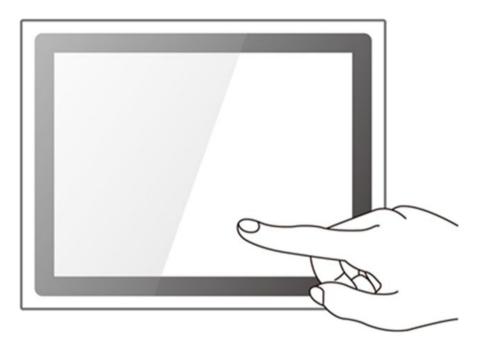


IP65 Stainless P-Cap Panel PC 15/17/19/21.5/23.8"

Intel® Core™ i5-7200U Kaby Lake



Model No.: R15IK3S-SPC3 R17IK3S-SPM1 R19IK3S-SPM1 W22IK3S-SPA3 W24IK3S-SPA2

User Manual

Document Version 1.5 Document Part No. 915211101087

Contents

Preface	4
About This User Manual	9
Chapter 1: Introduction	10
1.1 Introduction	11
1.2 Product Features	11
1.3 Package Content	12
1.4 Connector Placement	13
1.5 Physical Buttons and LED Indicators	13
1.6 Schematics and Dimensions	14
1.6.1 Dimensions 15"	14
1.6.2 Dimensions 17"	14
1.6.3 Dimensions 19"	15
1.6.4 Dimensions 21.5"	15
1.6.5 Dimensions 23.8"	16
Chapter 2: Getting Started	17
2.1 Powering On	18
2.1.1 AC Adapter Components	18
2.1.2 Power Considerations	19
2.1.3 Power Consumption	19
2.1.4 Turning On/ Off Your Device	19
2.2 Connector Pin Assignments	20
2.2.1 Power Cable	20
2.2.2 Serial Cable	21
2.2.3 Ethernet Cable	22
2.2.4 USB 2.0 Cable	23
2.3 Cleaning the Monitor	23
Chapter 3: Mounting	24
3.1 Cable Mounting Considerations	25
3.2 Safety Precautions	25
3.3 VESA Mount	26
3.4 Yoke Mount	27
Chapter 4: Operating the Device	

4.1 Operating System	
4.2 Multi-Touch	
4.3 How to Enable Watchdog	
4.4 Touch Mode	
Chapter 5: Insyde BIOS Setup	
5.1 How and When to Use BIOS Setup	35
5.2 BIOS Functions	
5.2.1 Main Menu	
5.2.2 Advanced	
5.2.3 Boot	
3.2.3 Security	55
5.2.4 Power	
5.2.5 Exit	57
5.3 Using Recovery Wizard to Restore Computer	
Chapter 6: Driver Installation	59
6.1 Chipset Driver	60
6.2 Graphic Driver	62
6.3 Management Engine (ME)	67
6.4 Audio Driver	70
6.5 Ethernet Driver	71
6.6 Watchdog Driver Installation	74
Chapter 7: Technical Support	79
7.1 Software Developer Support	80
7.2 Problem Report Form	
Appendix A: Product Specifications	

Preface

Copyright Notice

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Trademark Acknowledgement

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Disclaimer

We reserve the right to make changes, without notice, to any product, including circuits and/or software described or contained in this manual in order to improve design and/or performance. We assume no responsibility or liability for the use of the described product(s) conveys no license or title under any patent, copyright, or masks work rights to these products, and make no representations or warranties that these products are free from patent, copyright, or mask work right infringement, unless otherwise specified. Applications that are described in this manual are for illustration purposes only. We make no representation or guarantee that such application will be suitable for the specified use without further testing or modification.

Warranty

Our warranty guarantees that each of its products will be free from material and workmanship defects for a period of one year from the invoice date. If the customer discovers a defect, we will, at his/her option, repair or replace the defective product at no charge to the customer, provide it is returned during the warranty period of one year, with transportation charges prepaid. The returned product must be properly packaged in its original packaging to obtain warranty service. If the serial number and the product shipping data differ by over 30 days, the in-warranty service will be made according to the shipping date. In the serial numbers the third and fourth two digits give the year of manufacture, and the fifth digit means the month (e. g., with A for October, B for November and C for December).

For example, the serial number 1W18Axxxxxx means October of year 2018.

Customer Service

We provide a service guide for any problem by the following steps: First, visit the website of our distributor to find the update information about the product. Second, contact with your distributor, sales representative, or our customer service center for technical support if you need additional assistance.

You may need the following information ready before you call:

- Product serial number
- Software (OS, version, application software, etc.)
- Description of complete problem
- The exact wording of any error messages

In addition, free technical support is available from our engineers every business day. We are always ready to give advice on application requirements or specific information on the installation and operation of any of our products.

Advisory Conventions

Four types of advisories are used throughout the user manual to provide helpful information or to alert you to the potential for hardware damage or personal injury. These are Notes, Important, Cautions, and Warnings. The following is an example of each type of advisory.



Note:

A note is used to emphasize helpful information



Important:

An important note indicates information that is important for you to know.



Caution/ Attention

A Caution alert indicates potential damage to hardware and explains how to avoid the potential problem.

Une alerte d'attention indique un dommage possible à l'équipement et explique comment éviter le problème potentiel.



Warning!/ Avertissement!

An Electrical Shock Warning indicates the potential harm from electrical hazards and how to avoid the potential problem.

Un Avertissement de Choc Électrique indique le potentiel de chocs sur des emplacements électriques et comment éviter ces problèmes.



Alternating Current Mise à le terre !

The Protective Conductor Terminal (Earth Ground) symbol indicates the potential risk of serious electrical shock due to improper grounding.

Le symbole de Mise à Terre indique le risqué potential de choc électrique grave à la terre incorrecte.

Safety Information



Warning!/ Avertissement!

Always completely disconnect the power cord from your chassis whenever you work with the hardware. Do not make connections while the power is on. Sensitive electronic components can be damaged by sudden power surges. Only experienced electronics personnel should open the PC chassis.

Toujours débrancher le cordon d'alimentation du chassis lorsque vous travaillez sur celui-ci. Ne pas brancher de connections lorsque l'alimentation est présente. Des composantes électroniques sensibles peuvent être endommagées par des sauts d'alimentation. Seulement du personnel expérimenté devrait ouvrir ces chassis.



Caution/ Attention

Always ground yourself to remove any static charge before touching the CPU card. Modern electronic devices are very sensitive to static electric charges. As a safety precaution, use a grounding wrist strap at all times. Place all electronic components in a static-dissipative surface or static-shielded bag when they are not in the chassis.

Toujours verifier votre mise à la terre afin d'éliminer toute charge statique avant de toucher la carte CPU. Les équipements électroniques moderns sont très sensibles aux décharges d'électricité statique. Toujours utiliser un bracelet de mise à la terre comme précaution. Placer toutes les composantes électroniques sur une surface conçue pour dissiper les charge, ou dans un sac anti-statique lorsqu'elles ne sont pas dans le chassis.

For your safety carefully read all the safety instructions before using the device. Keep this user manual for future reference.

- Always disconnect this equipment from any AC outlet before cleaning. Do not use liquid or spray detergents for cleaning. Use a damp cloth.
- For pluggable equipment, the power outlet must be installed near the equipment and must be easily accessible.
- Keep this equipment away from humidity.
- Put this equipment on a reliable surface during installation. Dropping it or letting it fall could cause damage.
- The openings on the enclosure are for air convection and to protect the equipment from overheating.



Caution/Attention

Do not cover the openings!

Ne pas couvrir les ouvertures!

- Before connecting the equipment to the power outlet make sure the voltage of the power source is correct.
- Position the power cord so that people cannot step on it. Do not place anything over the power cord.
- If the equipment is not used for a long time, disconnect it from the power source to avoid damage by transient over-voltage.
- Never pour any liquid into an opening. This could cause fire or electrical shock.
- All cautions and warnings on the equipment should be noted.

*Let service personnel to check the equipment in case any of the following problems appear:

- \circ $\,$ The power cord or plug is damaged.
- Liquid has penetrated into the equipment.
- \circ The equipment has been exposed to moisture.
- The equipment does not work well or you cannot get it to work according to the user manual.
- The equipment has been dropped and damaged.
- The equipment has obvious signs of breakage.
- Do not leave this equipment in an uncontrolled environment where the storage temperature is below -20°C (-4°F) or above 60°C (140°F). It may damage the equipment.



Caution/Attention

Use the recommended mounting apparatus to avoid risk of injury. Utiliser l'appareil de fixation recommandé pour éliminer le risque de blessure.



Warning!/ Avertissement!

Only use the connection cords that come with the product. When in doubt, please contact the manufacturer.

Utiliser seulement les cordons d'alimentation fournis avec le produit. Si vous doutez de leur provenance, contactez le manufacturier.



Warning!/ Avertissement!

Always ground yourself against electrostatic damage to the device. Toujours vérifier votre mise à la terre afin que l'équipement ne se décharge pas sur vous.

- Cover workstations with approved anti-static material. Use a wrist strap connected to a work surface and properly grounded tools and equipment.
- Use anti-static mats, heel straps, or air ionizer for added protection.
- Avoid contact with pins, leads, or circuitry.
- Turn off power and input signals before inserting and removing connectors or test equipment.
- Keep the work area free of non-conductive materials, such as ordinary plastic assembly aids and Styrofoam.
- Use filed service tools, such as cutters, screwdrivers, and vacuum cleaners that are conductive.
- Always put drivers and PCB's component side on anti-static foam.

Important Information

Federal Communications Commission Radio Frequency Interface Statement



This device complies with part 15 FCC rules.

Operation is subject to the following two conditions:

- This device may not cause harmful interference.
- This device must accept any interference received including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a class "B" digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at him own expense.

EC Declaration of Conformity



This equipment is in conformity with the requirement of the following EU legislations and harmonized standards. Product also complies with the Council directions.

Electromagnetic Compatibility Directive (2014/30/EU)

- EN55024: 2010 EN 55022: 2010 Class B
 - o IEC61000-4-2: 2009
 - o IEC61000-4-3: 2006+A1: 2007+A2: 2010
 - o IEC61000-4-4: 2012
 - o IEC61000-4-5: 2014
 - o IEC61000-4-6: 2013
 - o IEC61000-4-8: 2010
 - o IEC61000-4-11: 2004
- EN55022: 2010/AC:2011
- EN61000-3-2:2014
- EN61000-3-3:2013

Low Voltage Directive (2014/35/EU)

• EN 60950-1:2006/A11:2009/A1:2010/A12:2011/ A2:2013

About This User Manual

This User Manual provides information about using the Winmate® IP65 Stainless P-Cap Panel PC with Intel® Core[™] i5-7200U Kaby Lake processor. This User Manual applies to the IP65 Flat Stainless P-Cap Panel PC.

The documentation set for the IP65 Flat Stainless P-Cap Panel PC provides information for specific user needs, and includes:

- **IP65 Stainless P-Cap Panel PC User Manual** contains detailed description on how to use the Panel PC, its components and features.
- **IP65 Stainless P-Cap Panel PC Quick Start Guide** contains detailed description on how to use the Panel PC, its components and features.



Note:

Some pictures in this guide are samples and can differ from actual product.

Chapter 1: Introduction

This chapter gives you product overview, describes features and hardware specification. You will find all accessories that come with the Panel PC in the packing list. Mechanical dimensions and drawings included in this chapter.

1.1 Introduction

Congratulations on purchasing Winmate® IP65 Flat Stainless P-CAP Series Panel PC.

Winmate IP65 Flat Stainless P-CAP Series Panel PC is rugged, industrial-grade panel PC series built to withstand challenging environments, undergoing rigorous testing to ensure safety and top performance. All of the models in the series are sealed to IP65 standard. Stainless housing features anti-corrosion properties making it suitable for food, chemical and pharmaceutical industries. P-CAP multi-touch screen supports glove mode and provides even more convenience for the operator.

Winmate IP65 Flat Stainless P-CAP Panel PC goes beyond that of the standard industrial panel computers with elegant, edge-to-edge design, rugged construction, powerful performance, and flexible mounting options.

The IP65 stainless series work well in food, beverage industry, including food processing operations and packaging, chemical manufacturing and other industrial applications.

1.2 Product Features

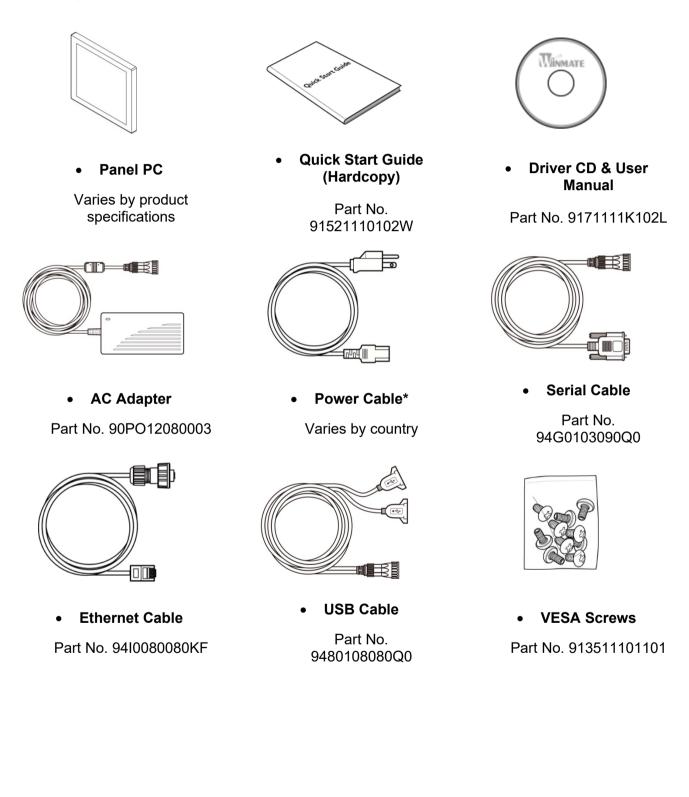
The IP65 Stainless P-Cap Panel PC features:

- Intel® Core™ i5-7200U Kaby Lake 2.5GHz (turbo to 3.1GHz)
- SUS 316/ AISI 316 stainless steel for food and chemical industries
- Full IP65 waterproof enclosure, good corrosion resistance
- A true flat, easy-to-clean front surface with edge-to-edge design
- Flat multi-touch panel pc with superior readability and P-CAP technology
- Various mounting solutions, Yoke mount and VESA mount
- Plenty of I/O s including USB 2.0, RS-232 serial port and RJ45-10/100/1000 LAN ports
- Waterproof ports with adapter cables for external connectivity
- Supports VESA mount
- Supports Rain/ Glove mode (Optional)

1.3 Package Content

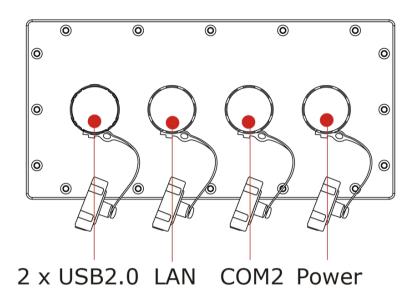
Carefully remove the box and unpack your device. Please check if all the items listed below are inside your package. If any of these items are missing or damaged contact us immediately.

Standard shipment list:



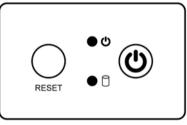
1.4 Connector Placement

IP65 Flat Stainless P-CAP Panel PC has IP65 type connectors with protection cap. For cable specifications refer to the <u>Ch.2, "Cable Specifications</u>" of this user manual.



1.5 Physical Buttons and LED Indicators

Physical buttons and LED indicators located on the rear side of the Panel PC.



Physical Buttons

lcon	Button	Description
RESET	Reset	Press to reset the system
0	Power On/ Off	Press to power on or power off the device

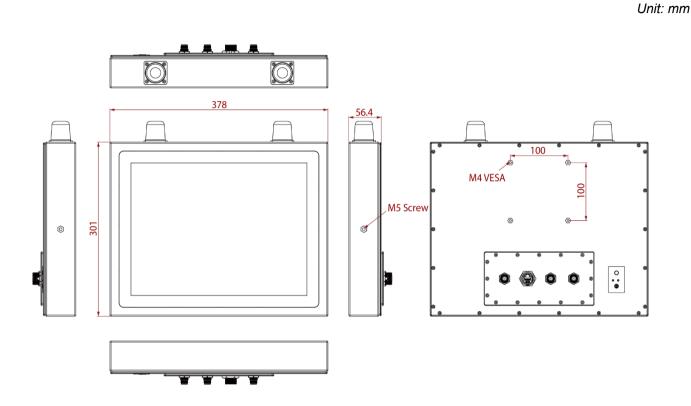
LED Indicators

LED Typ	pe	Status	Description	
	Ŋ	On	Power is on	
		Off	Power is off	
	٩	Blinking	Storage activity (Data is being read or written)	
		Off	System is idle	

1.6 Schematics and Dimensions

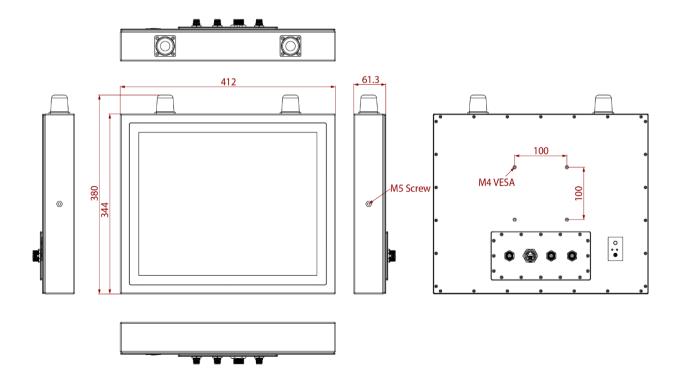
This section contains mechanical drawing of the Panel PC. Notice that this is a simplified drawing and some components are not marked in detail.

1.6.1 Dimensions 15"



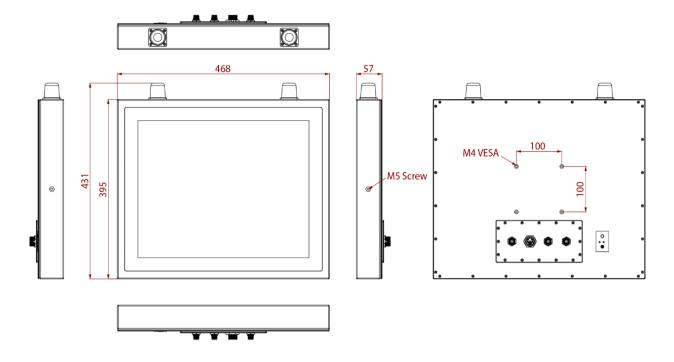
1.6.2 Dimensions 17"

Unit: mm



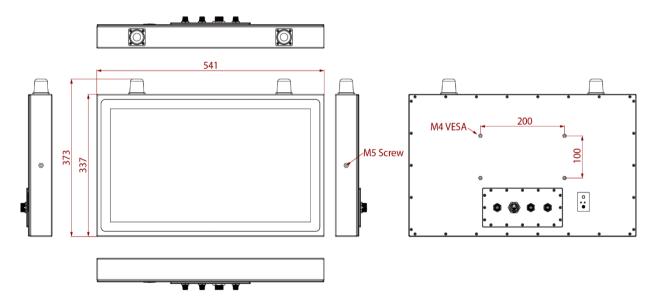
1.6.3 Dimensions 19"

Unit: mm

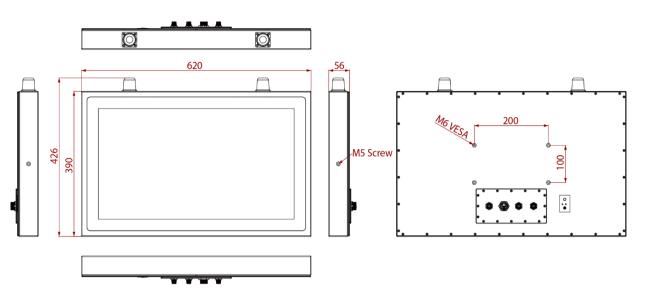


1.6.4 Dimensions 21.5"

Unit: mm



1.6.5 Dimensions 23.8"



Unit: mm

Chapter 2: Getting Started

This chapter tells you important information on power supply, adapter and precautions tips. Pay attention to power considerations.

2.1 Powering On

2.1.1 AC Adapter Components

AC Adapter supplied with the power cord.



AC Adapter specifications vary by panel size.

Size	15"	19"	21.5"	23.8"
AC Adapter	12V/ 80W	12V/ 80W	12V/ 80W	12V/ 80W

Safety Precautions:

- Do not use the adapter in a high moisture environment
- Never touch the adapter with wet hands or foot
- Allow adequate ventilation around adapter while using
- Do not cover the adapter with paper or other objects that will reduce cooling
- Do not use the adapter while it is inside a carrying case
- Do not use the adapter if the cord is damaged
- There are NO serviceable parts inside
- Replace the unit if it is damaged or exposed to excess moisture

While using the AC Adapter always:

- Plug-in the power cord to easy accessible AC outlet
- Plug-in the AC adapter to a grounded outlet



Alternating Current Mise à le terre !

This product must be grounded. Use only a grounded AC outlet. Install the additional PE ground wire if the local installation regulations require it.

*If you do not use a grounded outlet while using the device, you may notice an electrical tingling sensation when the palms of your hands touch the device.

Ce produit doit être mis à la terre. Utiliser seulement un cordon d'alimentation avec mise à la terre. Si les règlements locaux le requiert, installer des câbles de mise à la terre supplémentaires.

*Si vous n'utiliser pas une prise d'alimentation avec mise à la terre, vous pourriez remarquer une sensation de picotement électrique quand la paume de vos mains touche à l'appareil.

2.1.2 Power Considerations

The Panel PC operates on external DC power. Use the AC adapter included in the package.



Caution/Attention

Use only the AC adapter included in your package. Using other AC adapters may damage the device.

Utiliser seulement le convertisseur AC inclu avec votre appareil. Utiliser d'autres convertisseurs pourraient endommager l'appareil.

2.1.3 Power Consumption

The table below shows power consumption and AC adapter for the Flat Stainless P-CAP Panel PC.

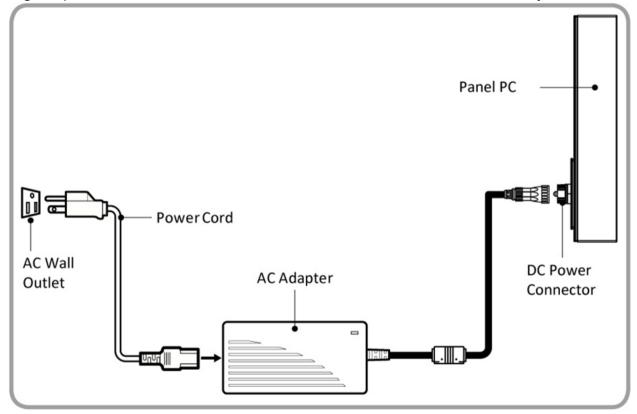
Size	15"	19"	21.5"	23.8"
Power Consumption*	52W (typ.)	56W (typ.)	66W (typ.)	66W (typ.)

*With maximum backlight and high CPU load.

2.1.4 Turning On/ Off Your Device

To turn on your device:

- 1. Connect the AC adapter to the DC-in jack connector located on the back side of the Panel PC.
- 2. Connect the power cord to AC adapter.
- 3. Plug the power cord to the AC outlet and the device will turn on automatically.



To turn off your device:

To shut down your device, do the following: Tap Start () > Shut down. Wait for your Panel PC to completely turn off before disconnecting the power cord (if necessary).

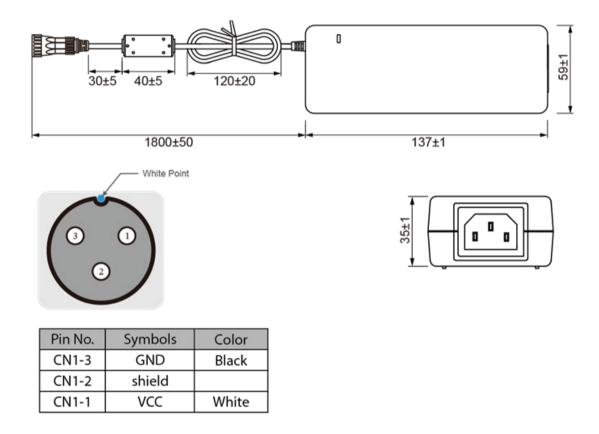
2.2 Connector Pin Assignments

This Panel PC is equipped with four M25 type waterproof connectors. Use only the cables that are included in the package. The pin assignments of the cables are as follows.

2.2.1 Power Cable

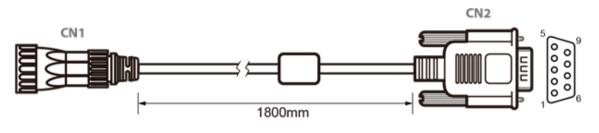
The IP65 Stainless P-Cap Panel PC has M25 type connector. Use power cable to connect Panel PC to the source of power.

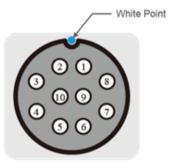
IP65 Stainless P-Cap Panel PC support 12V DC power input.



2.2.2 Serial Cable

The IP65 Stainless P-Cap Panel PC has M25 type serial port connector. Use serial cable to connect serial interfaces.



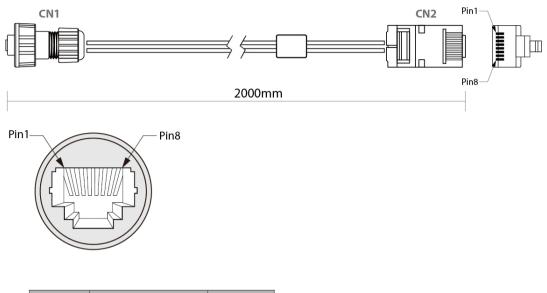


Pin No.	Symbols	Color	
CN1-1	DCD-CON2	Green	←
CN1-2	DSR-CON2	Brown	←
CN1-3	RXD-CON2	Red	←
CN1-4	RTS-CON2	Orange	←
CN1-5	TXD-CON2	Blue	←
CN1-6	CTS-CON2	White	←
CN1-7	DTR-CON2	Purple	←
CN1-8	RI-CON2	Yellow	←
CN1-9	GND-CON2	Black	←
CN1-10	NC		←

Pin No.	Symbols	Color
CN2-1	DCD-CON2	Green
CN2-6	DSR-CON2	Brown
CN2-2	RXD-CON2	Red
CN2-7	RTS-CON2	Orange
CN2-3	TXD-CON2	Blue
CN2-8	CTS-CON2	White
CN2-4	DTR-CON2	Purple
CN2-9	RI-CON2	Yellow
CN2-5	GND-CON2	Black
CN2-10	NC	
	CN2-1 CN2-6 CN2-2 CN2-7 CN2-3 CN2-3 CN2-8 CN2-8 CN2-4 CN2-9 CN2-5	CN2-1 DCD-CON2 CN2-6 DSR-CON2 CN2-2 RXD-CON2 CN2-7 RTS-CON2 CN2-3 TXD-CON2 CN2-8 CTS-CON2 CN2-4 DTR-CON2 CN2-9 RI-CON2 CN2-5 GND-CON2

2.2.3 Ethernet Cable

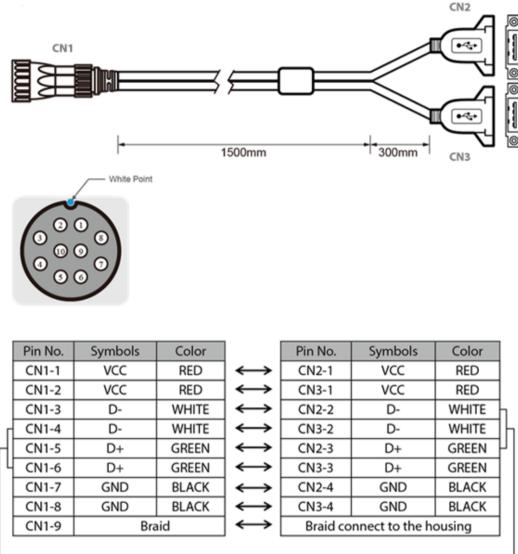
The IP65 Stainless P-Cap Panel PC has M25 type Ethernet connector. Use Ethernet cable to connect the Panel PC to the Internet.



Plug	Wire Color	Conn.	
1	Orange / White	1	Twist
2	Orange	2	
3	Green / White	3	
4	Blue	4	Twist Twist
5	Blue / White	5	Twist Twist
6	Green	6	
7	Brown / White	7	Twist
8	Brown	8	

2.2.4 USB 2.0 Cable

The IP65 Stainless P-Cap Panel PC has one M25 type USB2.0 connector. Use USB2.0 cable to connect external devices such as mouse or keyboard to the Panel PC.



L twisted pair

twisted pair -

2.3 Cleaning the Monitor

Before cleaning:

- Make sure the device is turned off.
- Disconnect the power cable from any AC outlet.

When cleaning:

- Use water up to 80°C to clean the housing.
- Wipe the screen with a clean, soft, lint-free cloth. This removes dust and other particles.
- The display area is highly prone to scratching. Do not use ketene type material (ex. Acetone), Ethyl alcohol, toluene, ethyl acid or Methyl chloride to clear the panel. It may permanently damage the panel and void the warranty.
- If it is still not clean enough, apply a small amount of non-ammonia, non-alcohol based glass cleaner onto a clean, soft, lint-free cloth, and wipe the screen.
- Don not use oil directly on the display screen. If droplets are allowed to drop on the screen, permanent staining or discoloration may occur.

Chapter 3: Mounting

This chapter provides mounting guide for all available mounting options. Pay attention to cautions and warning to avoid any damages.

3.1 Cable Mounting Considerations

For a nice look and safe installation, make sure cables are neatly hidden behind the device. Refer to <u>Chapter 2, section 2.1</u> for the cable installation instruction.

Warning!/ Avertissement!



Observe all local installation requirements for connection cable type and protection level.

Suivre tous les règlements locaux d'installations, de câblage et niveaux de protection.

Warning!/ Avertissement!

Turn off the device and disconnect other peripherals before installation. Éteindre l'appareil et débrancher tous les périphériques avant l'installation.

Alternating Current Mise à le terre !



To prevent electrical shock, the Safety Ground location on the rear must be bonded to the local earth ground through a minimum 12 AWG wire as short as possible

Pour éviter les chocs électriques, l'emplacement de la prise terre à l'arrière doit être lié à terre locale, à travers un 12 AWG minimum et aussi court que possible.

3.2 Safety Precautions

Observe the following common safety precautions before installing any electronic device:

- Use separate, non-intersecting paths to route power and networking wires. If power wiring and device wiring paths must be crossed make sure the wires are perpendicular at the intersection point.
- Keep the wires separated according to the interface. Wires that share similar electrical characteristics must be bundled together.
- Do not bundle input wiring with output wiring. Keep them separate.

When necessary, it is strongly advised that you label wiring to all devices in the system.

Warning!/ Avertissement!



Follow mounting instructions and use recommended mounting hardware to avoid the risk of injury.

Suivez les instructions de montage et d'utilisation recommandé le matériel de montage pour éviter le risque de blessure.

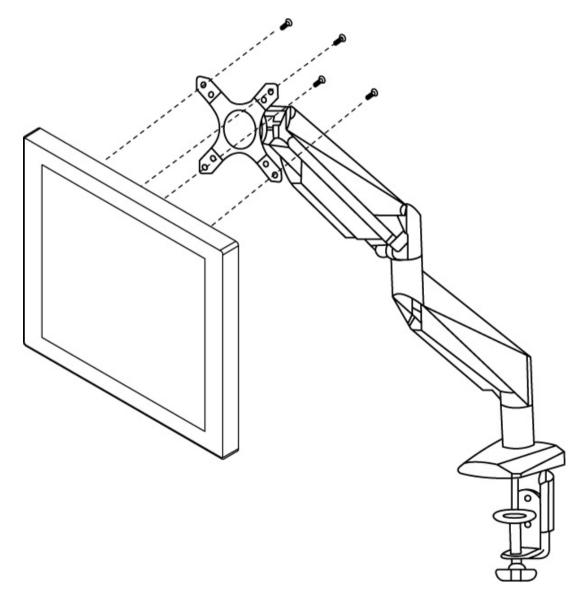
3.3 VESA Mount

Flat Stainless P-CAP Panel PC has VESA mount holes on the rear side. Follow instructions below to mount the unit with VESA Mount bracket (not supplied by Winmate).

Size	VESA Plate Dimensions	Screw hole diameter
15",19"	100 x 100 mm	VESA M4x5 mm
21.5"	100 x 200 mm	VESA M4x5 mm
23.8"	100 x 200 mm	VESA M6x8 mm

Mounting Instruction:

- 1. Screw VESA bracket to the fixture (ex. swing arm) with four VESA screws.
- 2. Place the device on VESA bracket.





Note:

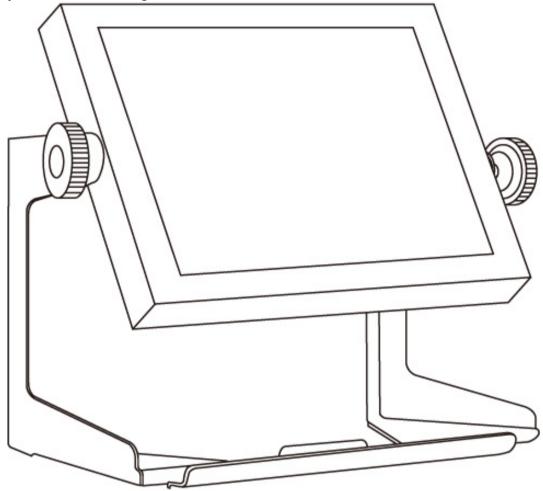
Notice that both hooks on bracket should lock the notches on the back cover of the device.

3.4 Yoke Mount

Yoke Mount solution allows installing the Panel PC with the bracket (not supplied by Winmate).

Mounting instruction:

- 1. Place the Panel PC on the bracket stand, aiming screw holes for each other.
- 2. Secure screws to fix the device upon the bracket stand.
- 3. Firmly secure the locking handle to the Panel PC.



Chapter 4: Operating the Device

In this chapter you will find instructions on how to operate the HMI device.

4.1 Operating System

The Panel PCs supports Windows 10 IoT Enterprise operating system.

4.2 Multi-Touch

The touchpad supports the core gestures for Windows.

Gesture	Windows Usage	Gesture Action	Action
Tap/ Double-tap	Click / Double-click	Click or double-click	A
Panning with Inertia	Scrolling	Drag one or two fingers up and down	۲ ۲
Selection/Dr ag (left to right with one finger)	Mouse-drag/ Selection	Drag one finger left/right	
Zoom	Zoom (default to CTRL key + scroll wheel)	Move two fingers apart/ toward each other	ملك الملك
Rotate	No system default unless handled by Application (using WM_Gesture API)	Move two fingers in opposite directions <i>or</i> Use one finger to pivot around another	
Press and Hold	Right-click	Press, wait for blue-ring animation to complete, then release	Verse
Flicks	Default: Pan Up/ Down/ Back, and Forward	Make quick drag gestures in the described direction	€ E E E E E E E E E E E E E E E E E E E

*Reference from Microsoft®

4.3 How to Enable Watchdog

To enable Watchdog, you need to download Winmate Watchdog utility. Find more information on Watchdog in "Watchdog Guide" that you can download from Winmate Download Center or File Share. Refer to the User Manual for more details.

To enable watchdog in Watchdog AP follow the instructions below:

1. On the right bottom side of the desktop screen, click **triangle button** to show hidden icons.



2. Click ^W icon to open Watchdog utility.

3. In Watchdog utility window set countdown time and periodically feed time, or disable watchdog.



Example:

Every 10 min watchdog will monitor the system, in case any error occurs the system will restart automatically when the countdown time reaches 0.

Every 9 min watchdog timer will be reset to 10 min.

Setting	Description
Watchdog Countdown Time	The system automaticity restarts when this countdown time reaches zero. <i>Default: 10 min</i>
Periodically Feed Time	To set a cycle time to automatically reset watchdog timer. <i>Default: 9 min</i>
Enable / Disable	Enable or disable watchdog. <i>Default: Enable</i>

4.4 Touch Mode

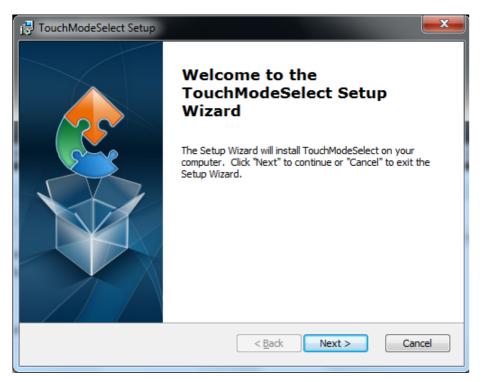
IP65 Stainless P-Cap Panel PC has three types touch modes pre-installed with Windows OS. The icon is on the bottom right corner of the toolbar. Programs and Features Control Panel Home Uninstall or change a program View installed updates To uninstall a program, select it from the list and then click Uninstall, Change, or Repair. Turn Windows features on or off Organize 🔻 Publisher Name Intel Intel(R) Network Connections 22.3.108.0 3 Intel(R) Sideband Fabric Device Driver Intel Corporation 號 Intel® Graphics Driver Intel Corporation Intel[®] Trusted Execution Engine Intel Corporation Kealtek High Definition Audio Driver Realtek Semiconductor Corp. TouchModeSelect TouchModeSelect W WatchDog_AP WatchDog_AP TouchModeSelect × Touch Mode



If the OS is not installed, please download the application on our website for switching the touch modes. If you cannot find it, please download it from Winmate Download Center or contact Winmate sales representative.

Follow the instructions below to install the *TouchModeSelect* Utility.

- 1. Download, install and execute **TouchModeSelect_1.2.3** setup wizard.
- 2. Click **Next** to continue.



3. Select the installation folder, and click **Next** to continue.

H TouchModeSelect Setup	
Select Installation Folder This is the folder where TouchModeSelect will be installed.	
To install in this folder, dick "Next". To install to a different folder, enter it bel "Browse".	ow or click
Eolder: C:\Program Files (x86)\TouchModeSelect\TouchModeSelect\	Br <u>o</u> wse
Advanced Installer	Cancel

4. The Setup Wizard is ready to begin the **TouchModeSelect** installation. Click **Install** to proceed.

H TouchModeSelect Setup	x
Ready to Install The Setup Wizard is ready to begin the TouchModeSelect installation	
Click "Install" to begin the installation. If you want to review or change any of your installation settings, click "Back". Click "Cancel" to exit the wizard.	
Advanced Installer	:el

5. When installation is complete, click **Finish** button to exit the Setup Wizard.



Chapter 5: Insyde BIOS Setup

BIOS Setup Utility is a program for configuration basic Input / Output system settings of the computer for optimum use. This chapter provides information on how to use BIOS setup, its functions and menu.

5.1 How and When to Use BIOS Setup

To enter the BIOS setup, you need to connect an external USB keyboard, external monitor and press Del key when the prompt appears on the screen during start up. The prompt screen shows only few seconds so need press Del key quickly.



Important:

Updated BIOS version may be published after the manual released. Check the latest version of BIOS on the website.

You may need to run BIOS setup utility for reasons listed below:

- 1. Error message on screen indicates to check BIOS setup
- 2. Restoring the factory default settings.
- 3. Modifying the specific hardware specifications
- 4. Necessity to optimize specifications

BIOS Navigation Keys

The following keys are enabled during POST:

Кеу	Function
Del	Enters the BIOS setup menu.
F7	Display the boot menu. Lists all bootable devices that are connected to
	the system. With cursor \uparrow and cursor \downarrow and by pressing <enter>, select</enter>
	the device used for the boot.
Pause	Pressing the [Pause] key stops the POST. Press any other key to resume
	the POST.

The following Keys can be used after entering the BIOS Setup.

Кеу	Function
F1	Help
F5/ F6	Change Values
F9	Setup Defaults
F10	Save & Exit
Esc	Exit
Enter	Select SubMenu
<u>↑</u> /↓	Select Item
\leftarrow / \rightarrow	Select Item



Note:

You can press the F1, F2, F3, F4, –/+, and Esc keys by connecting a USB keyboard to your computer.

For items marked ► press **<Enter>** for more options.

5.2 BIOS Functions

5.2.1 Main Menu

The Main menu displays the basic information about yoursystem including BIOS version, processor RC version, system language, time, and date. When you enter BIOS setup, the first menu that appears on the screen is the main menu. It contains the system information including BIOS version, processor RC version, system language, time, and date.

	InsvdeH20	Setup Utility	Rev. 5.0
Main Advanced Security Power			
InsydeH20 Version Processor Type System Bus Speed Cache RAM Total Hemory Channel A SODIMI O Channel B Unknown O Platform Configuration CPUID: CPU Speed: CPU Stepping: Number Of Processors: Hicrocode Rev: GT Info: SHX/TXT: PCH Rev / SKU GOP Ver: Intel HE Version / SKU LAN PHY Revision Language System Time System Date	100 HHz 2133 HHz 512 KB 8192 HB 8192 HB [Not Installed] 0x806E9 (KABYLAKE 2700 HHz 09 (KBL H0/J0 Step 2 Corre(s) / 4 Thre 00000070 612 (0x5916) Un-Supported	i5-7200U CPU @ 2.50GHz ULT ULX) ping) ad(s) SKL PCH-LP (U) iHDCP	Select the current default language used by the InsydeH2O.
•	/↓ Select Item /→ Select Item	F5/F6 Change Values Enter Select ► SubMenu	F9 Setup Defaults F10 Save and Exit

BIOS Setting	Description	Setting Option	Effect
Language	Displays the system	Adjustment of	Set the language in
	language. [English] is	the	other language. The
	set up by default.	language	language in this
			device is English.
System Time	This is current time	Date and time	Set the time in the
	setting. The time is	changes.	format:
	maintained by the		[hh/mm/ss]
	battery when the		
	device is turned off.		
System Date	This is current date	Date and time	Set the date in the
	setting.	changes.	format [mm/dd/yyyy];

5.2.2 Advanced

Select the Advanced Tab from the setup menu to enter the advanced BIOS setup screen. You can select any of the items on the left frame of the screen to go to the sub menu for the item, such as CPU Configuration. You can use the <Arrow> keys enter all advanced BIOS setup options. The advanced BIOS setup menu is shown below. The submenus described on the following pages.



Caution

Handle advanced BIOS settings page with caution. Any changes can affect the operation of your computer.

Main Advanced Security Po	ln: ower Boot Exit	sydeH20 Setup Utility	Rev. 5.
Hain Advanced Security P ▶CPU Configuration ▶System Agent (SA) Configuration ▶System Agent (SA) Configuration ▶CH-TU Configuration ▶S10 F81866A	ower Boot Exit	Co	nfigure Management Engine Technology rameters
F1 Help Esc Exit	1/4 Select Item +/+ Select Item	F5/F6 Change Values Enter Select ► SubHenu	F9 Setup Defaults F10 Save and Exit

BIOS Setting	Description	Setting Option	Effect
CPU	Configures Trusted	Enter	Opens
Configuration	Computing parameters		submenu
Power &	Configures Power &	Enter	Opens
Performance	Performance parameters		submenu
System Agent	Configures System Agent	Enter	Opens
Configuration	Configuration parameters		submenu
PCH-OI	Configures PCH-OI	Enter	Opens
Configuration	parameters		submenu
PCH-FM	Configures PCH-FM	Enter	Opens
Configuration	parameters		submenu
SIO F81866A	Configures SIO F81866A	Enter	Opens
	parameters		submenu

5.2.2.1 CPU Configuration

	InsydeH2	0 Setup Utility	Rev. 5.0
Advanced			
CPU Configuration			When enabled, a VMM can utilize the additional hardware capabilities
Type ID Speed	Ox806E9 2700 MHz	i5-7200U CPU @ 2.50GHz	provided by Vanderpool Technology.
VHX SHX/TXT	Supported Not Supported		
Intel (VMX) Virtualization Technology Active Processor Cores Hyper-Threading AES	<enabled> <all> <enabled> <enabled></enabled></enabled></all></enabled>		
			R
			×
F1 Help 1/4 Selec		F5/F6 Change Values	F9 Setup Defaults
Esc Exit +/+ Selec	t Item	Enter Select ► SubMenu	F10 Save and Exit

BIOS Setting	Description	Setting Option	Effect
Intel (VMM)	Enable or disable Intel	Enable/Disable	When enabled, a VMM
Virtualization	Virtualization		can utilize the additional
Technology	Technology.		hardware capabilities
			provided by Vanderpool
			Technology.
Active Processor	Number of core to	All / 1 / 2/ 3	Select number of core to
Cores	enable in each		enable in each processor
	processor package		package
Hyper Threading	Intel Hyper-Threading	Enable / Disable	Enable or disable Hyper
	Technology allows a		Threading
	single processor to		
	execute two or more		
	separate threads		
	concurrently.		
AES	Enable or disable AES	Enable/Disable	Enable or disable AES
	(Advanced Encyption		
	Standard)		

5.2.2.1.1 F81886A Configuration



Advanced	Ins	ydeH20 Setup Utility	Rev. 5.
Serial Port A Serial Port A UART Mode Serial Port B Serial Port D Serial Port E WDT +Hardware Monitor >GP10 Group 0 Configuration >GP10 Group 1 Configuration	<pre><auto> <rs232> <auto> <auto> <auto> <auto> <auto> <disable></disable></auto></auto></auto></auto></auto></rs232></auto></pre>		Configure Serial port using options : [Disable] No Configuration [Enable] User Configuration [Auto] EFI/OS chooses configuration
F1 Help Esc Exit	1/↓ Select Item +/→ Select Item	F5/F6 Change Values Enter Select⊧ SubMenu	F9 Setup Defaults F10 Save and Exit

5.2.2.1.2 GPIO Configuration

	Insyde	H20 Setup Utility	Rev.	5.0
Advanced Advanced				
General Purpose Group 0 Input/0 GP1000	utput		User can pull internal resistance push-pull/open-drain	
Internal Resistance Input/Output Mode	<push pull=""> <input/></push>			
GP1001				
Internal Resistance	<push pull=""></push>			
Input/Output Mode GP1002	<input/>			
Internal Resistance	<push pull=""></push>			
Input/Output Mode GP1003	<input/>			
Internal Resistance	<push pull=""></push>			
Input/Output Mode GP1004	<input/>			
Internal Resistance	<push pull=""></push>			
Input/Output Mode	<input/>			
				R
				Ĩ
	t∕↓ Select Item	F5/F6 Change Values	F9 Setup Defaults	
Esc Exit	⊢/→ Select Item	Enter Select 🕨 SubMenu	F10 Save and Exit	

Advanced	Insyde	H20 Setup Utility	Rev	v. 5.(
General Purpose Group 1 Input/Ou	tout		ser can pull internal resistance	
GP1010	φut		ush-pull/open-drain	
Internal Resistance	<push pull=""></push>	5		
Input/Output Mode GP1011	<input/>			
Internal Resistance	<push pull=""></push>			
Input/Output Mode GP1012	<input/>			
Internal Resistance	<push pull=""></push>			
Input/Output Hode	<input/>			
				R
F1 Help t	/1 Select Item	F5/F6 Change Values	F9 Setup Defaults	
	/→ Select Item	Enter Select 🕨 SubMenu	F10 Save and Exit	

5.2.2.1.3 Hardware Monitor

Advanced	InsydeH2	0 Setup Utility		Rev. 5.
Hardware Monitor				
Voltage				
VCC (V)	3.344 V			
VIN1 (V)	0.864 V			
VIN2 (V)	12.144 V			
VIN3 (V)	1.936 V			
VIN4 (V)	0.000 V			
VASB3 (V)	3.328 V			
VBAT	3.136 V			
VASB5 (V)	5.136 V			
Temperature				
Temperature O (°C/°F)	32.0 C/ 89.6 F	:		
Temperature 2 (°C/°F)	37.0 C/ 98.6 F			
				۲
F1 Help Esc Exit	1/1 Select Item +/+ Select Item	F5/F6 Change Values Enter Select ▶ SubHenu	F9 Setup Defaults F10 Save and Exit	

5.2.2.1.4 PCH-IO Configuration

<u> </u>	Insyde	H2O Setup Utility	Rev. 5.0
Advanced			
PCH-10 Configuration		PCI	Express Configuration settings
▶PCI Express Configuration ▶SATA And RST Configuration ▶USB Configuration			
State After G3	<\$5 State>		
			ß
F1 Help Fsc Exit	1/↓ Select Item +/→ Select Item	F5/F6 Change Values Enter Select ► SubMenu	F9 Setup Defaults F10 Save and Exit

BIOS Setting	Description	Setting Option	Effect
PCI Express	PCI Express clock	Enter	Opens sub-menu
Configuration	gating enable/disable for		
	each root port.		
SATA And	Enable/ Disable SATA	Enter	Opens sub-menu
RST	device		
Configuratuion			
USB	Selectively enable/	Enter	Opens sub-menu
Configuration	disable the		
	corresponding USB port		
	from reporting a Device		
	Connection to the		
	controller.		
State After G3	System power state	S0 State	
	setting	S5 State	

5.2.2.1.5 PCI Express Configuration

	InsydeH20	Setup Utility	Rev. 5.0
Advanced			
PCI Express Configuration			PCI Express Clock Gating Enable/Disable for each root port.
PCI Express Clock Gating PCIE Port assigned to LAN	<enabled> 5</enabled>		
 ▶PCI Express Root Port 1 ▶PCI Express Root Port 6 ▶PCI Express Root Port 7 ▶PCI Express Root Port 8 ▶PCI Express Root Port 10 ▶PCI Express Root Port 11 ▶PCI Express Root Port 12 			
			R
F1 Help Esc Exit	1/↓ Select Item +/→ Select Item	F5/F6 Change Values Enter Select ► SubMenu	F9 Setup Defaults F10 Save and Exit
	InsvdeH20		
Advanced		Setup Utility	Rev. 5. (
PCI Express Root Port 1 Topology ASPH L1 Substates Gen3 Eq Phase3 Method UPTP DPTP ACS URR FER NFER CER CTO SEFE SENFE SEOE PHE SCI Hot Plug Advanced Error Reporting PCIe Speed Transmitter Half Swing Detect Timeout Extra Bus Reserved Reserved Memory Reserved I/O PCH PCIE LTR Configuration PCH PCIE1 LTR Snoop Latency Override Non Snoop Latency Override	<pre></pre> <enabled> <unknown> <disabled> <disabled> <software search=""> [5] [5] [7] <enabled> <disabled> <us> <cnabled> <us> <td></td><td>Control the PCI Express Root Port.</td></us></cnabled></us></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></enabled></software></disabled></disabled></unknown></enabled>		Control the PCI Express Root Port.
PCI Express Root Port 1 Topology ASPH L1 Substates Gen3 Eq Phase3 Method UPTP DPTP ACS URR FER NFER CER CER CER CER CER SEGE PHE SCI Hot Plug Advanced Error Reporting PCIe Speed Transmitter Half Swing Detect Timeout Extra Bus Reserved Reserved Hemory Reserved 1/0 PCH PCIE LTR Configuration PCH PCIE LTR Snoop Latency Override	<pre></pre> <enabled> <unknown> <disabled> <disabled> <software search=""> [5] [7] <enabled> <disabled> <disabl< td=""><td></td><td>Rev. 5. (</td></disabl<></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></disabled></enabled></software></disabled></disabled></unknown></enabled>		Rev. 5. (

5.2.2.1.6 SATA and RST Configuration

Advanced		InsydeH20	Setup Utility		Rev. 5.0
SATA And RST Configuration				Enable/Disable SATA Device.	
SATA Controller(s)		<enabled></enabled>			
SATA Mode Selection		<ahcl></ahcl>			
Serial ATA Port O		Empty			
Software Preserve		Unknown			
Port O		<enabled></enabled>			
Hot Plug		<disabled></disabled>			
Configured as eSATA		Hot Plug supported			
Spin Up Device		<d i="" led="" sab=""></d>			
SATA Device Type		<hard disk="" drive=""></hard>			
Topology		<unknown></unknown>			
SATA Port 0 DevSlp		<disabled></disabled>			
DITO Configuration		<disabled></disabled>			
DITO Value		[625]			
DM Value		[15]			
Serial ATA Port 1		Empty			
Software Preserve		Unknown			
Port 1		<enabled></enabled>			
Hot Plug		<disabled></disabled>			
Configured as eSATA		Hot Plug supported			
Spin Up Device		<disabled></disabled>			
SATA Device Type		<hard disk="" drive=""></hard>			
Topology		<unknown></unknown>			
SATA Port 1 DevSlp		<disabled></disabled>			
DITO Configuration		<disabled></disabled>			
DITO Value		[625]			
DM Value		[15]			
Serial ATA Port 2		Phison SSMP064 (64.	OGB)		~
Software Preserve		SUPPORTED			ß
Port 2		<enabled></enabled>			
Hot Plug		<d i="" led="" sab=""></d>			
Configured as eSATA		Hot Plug supported			
F1 Help	1/↓ Select		F5/F6 Change Values	F9 Setup Defaults	
Esc Exit	←/→ Select	Item	Enter Select 🕨 SubMenu	F10 Save and Exit	

5.2.2.1.7 USB Configuration

Advanced	Ins	ydeH20 Setup Utility	Rev. 5
USB Configuration			Selectively Enable/Disable the corresponding USB port from reporting a Device Connection to the controller.
USB Port Disable Override	<disable></disable>		
F1 Help Esc Exit	1/↓ Select Item +/→ Select Item	F5/F6 Change Values Enter Select ► SubMenu	F9 Setup Defaults F10 Save and Exit

5.2.2.1.8 ME Firmware Configuration

Advanced		InsydeH20 Setup Utility		Rev. 5.
ME Firmware Version HE Firmware Mode ME Firmware SKU HE File System Integrity Value HE Firmware Status 1 HE Firmware Status 2 NFC Support HE State Manageability Features State AMT Configuration HE Unconfig on RTC Clear State Comms Hub Support JHI Support Core Bios Done Message Firmware Update Configuration PTT Configuration HE Debug Configuration	0x90000 0x89108 D i sab le <enab le<br=""><enab le<br=""><d i="" l<br="" sab=""><d i="" l<br="" sab=""><enab le<="" td=""><td>tode te SKU 255 106 1 1> 1> 1> 1> 1> 1></td><td>When Disabled ME will be put in Temporarily Disabled Mode.</td><td>to HE</td></enab></d></d></enab></enab>	tode te SKU 255 106 1 1> 1> 1> 1> 1> 1>	When Disabled ME will be put in Temporarily Disabled Mode.	to HE
F1 Help Esc Exit	1/↓ Select Item +/→ Select Item	F5/F6 Change Values Enter Select ► SubMenu	F9 Setup Defaults F10 Save and Exit	
Advanced		InsydeH20 Setup Utility		Rev. 5.
Me FW Image Re-Flash		ada		
F1 Help	<disabl< td=""><td>F5/F6 Change Values</td><td>Enable/Disable He FW Image Re-F function.</td><td>I ash</td></disabl<>	F5/F6 Change Values	Enable/Disable He FW Image Re-F function.	I ash

	Insy	deH20 Setup Utility		Rev. 5.0
Advanced				_
HECI Timeouts Force HE DID Init Status CPU Replaced Polling Disable ME DID Message HECI Retry Disable HECI Message check Disable HBP HOB Skip HEC12 Interface Communication KT Device IDER Device End Of Post Message D013 Setting for HECI Disable	[X] <d i="" led="" sab=""> <d i="" led="" sab=""> []] [X] [X] (X] <send dxe="" in=""> <d i="" led="" sab=""> </d></send></d></d></d></d></d></d>		Enable/Disable HECl Send/Receive Timeouts.	Ŕ
F1 Help Esc Exit	1/↓ Select Item +/→ Select Item	F5/F6 Change Values Enter Select ▶ SubMenu	F9 Setup Defaults F10 Save and Exit	

Advanced	Insyde	H2O Setup Utility	Rev. 5.0
PTT Capability / State	171		elect whether or not the OS you will oot to will be PTP aware
PTP aware OS	<ptp aware=""></ptp>		GOT TO WITT DE FIF AWAIE
			K
F1 Help Esc Exit	1/↓ Select Item +/→ Select Item	F5/F6 Change Values Enter Select ► SubMenu	F9 Setup Defaults F10 Save and Exit

5.2.2.1.9 Power & Performance

	Ins	ydeH20 Setup Utility	Rev. 5.
Advanced			
Power & Performance		c	2PU - Power Management Control Options
►CPU - Power Managemer	nt Control		
			1
ET			
F1 Help Esc Exit	1/↓ Select Item +/→ Select Item	F5/F6 Change Values Enter Select ► SubMenu	F9 Setup Defaults F10 Save and Exit

BIOS Setting	Description	Setting Option	Effect
CPU – Power	Configure CPU –	Enter	Opens sub-menu
Management	Power Management		
Control	parameters		

	InsydeH20 Setup Uti	lity	Rev. 5.0
Advanced			
CPU - Power Management Control		Select the performance BIOS will set starting	
Boot performance mode Intel(R) SpeedStep(tm) Intel(R) Speed Shift Technology Turbo Mode C states ▶Custom P-state Table	<tax non-turbo="" performance=""> <enabled> <enabled> <enabled> <disabled></disabled></enabled></enabled></enabled></tax>		
			K
		hange Values F9 Setup Defau	

Advanced	Ins	ydeH20 Setup Utility	Rev. 5.0
Custom P-state Table			ets the number of custom P-states. At
Number of P states	[0]	1	east 2 states must be present.
			R
F1 Help Esc Exit	1/1 Select Item +/+ Select Item	F5/F6 Change Values Enter Select ► SubMenu	F9 Setup Defaults F10 Save and Exit

BIOS Setting	Description	Setting Option	Effect
Boot	Configure Boot	-Max non-turbo	Select the performance
Performance	Performance Mode	performance	state that the BIOS will
Mode	parameters	-Max battery	set starting from reset
		-Turbo	vector
		Performance	
Intel	Configure Intel	Enabled/	Allows more than two
SpeedStep (ta)	SpeedStep (ta)	Disabled	frequency ranges to be
	parameters		supported
Intel Speed	Configure Intel Speed	Enabled/	Enable/ Disable Intel
Shift	Shift Technology	Disabled	Speed Shift Technology
Technology	parameters		support. Enabling will
			expose the CPP v2
			interface to allow for
			hardware controlled P-
			states
-Turbo Mode	Enable or disable	Enabled/	Enable/ Disable
	Turbo Mode	Disabled	processor Turbo Mode
			(requires EMTTM
			enabled too). Auto means
			enabled, unless max
			turbo ratio is bigger than
			16 – SKL AO W/A
C states	Enable or disable	Enabled/	Enable/ Disable CPU
	C states	Disabled	Power Management.
			Allows COU to go to C
			states when it is not
			100% utilized
Custom P-	Configure Custom P-	Enter	Enters sub-menu
state Table	state Table		
	parameters		
-Number of P-	Select the number of	[Number]	Set the number of custom
states	custom P-states.		P-states. At least 2 states
			must be present

5.2.2.1.10 System Agent (SA) Configuration

	Insyde	H20 Setup Utility	Rev.	5.0
Advanced				_
System Agent (SA) Configuratio	n		Graphics Configuration	
SA PCle Code Version VT-d	2, 7, 2, 0 Supported			
▶Graphics Configuration				
VT-d	<enabled></enabled>			
				R
F1 Help	1/4 Select Item	F5/F6 Change Values	F9 Setup Defaults	

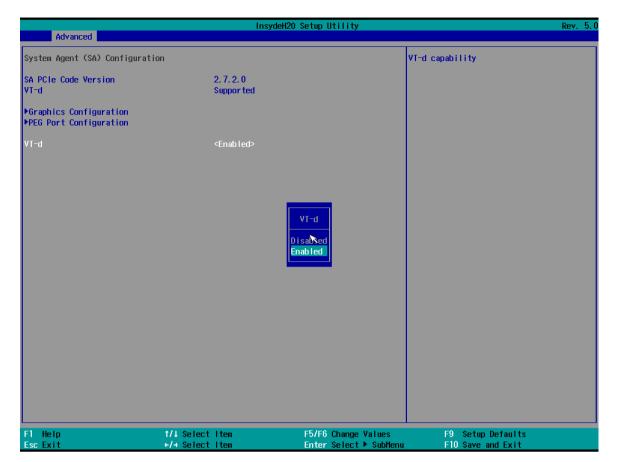
BIOS Setting	Description	Setting Option	Effect
Graphics	Configure	Enter	Opens sub-menu
Configuration	Graphics		
	Configuration		
	parameters		
Vt-d	Intel®	Enabled	Vt-d capability
	Virtualization	Disabled	
	Technology for		
	Directed I/O		

5.2.2.1.11 Graphics Configuration

	Ins	ydeH20 Setup Utility	Rev. 5.0
Advanced			
Graphics Configuration			Graphics turbo IMON current values supported (14-31)
Graphics Turbo IMON Current	[31]		
Internal Graphics Aperture Size DVHT Pre-Allocated	<auto> <256MB> <32M></auto>		
DVHT Total Gfx Mem Gfx Low Power Mode	<256H> <enabled></enabled>		
			R
F1 Help Esc Exit	1/↓ Select Item +/→ Select Item	F5/F6 Change Values Enter Select⊧ SubMenu	F9 Setup Defaults F10 Save and Exit

BIOS Setting	Description	Setting Option	Effect
Internal Graphics	Internal	Auto	Keep IGFX enabled based on
	Graphics	Enabled	the setup options
	settings	Disabled	
Aperture Size	Select the	128MB	Select the aperture size
	aperture size	256MB	Note: Above 4MB MMIO BIOS
		512MB	assignment is automatically
		1024MB	enabled when selecting 2048MB
		2048 MB	aperture. To use this feature
			please disable CSM port
DVMT Pre-	Select DVMT	0M~60M	Select DVMT 5.0 Pre-Allocated
Allocated	Pre-Allocated		(Fixed) Graphic Memory size
			used by Internal Graphic Device
DVMT Total Gfx	Select DVMT	256M	Select DVMT 5.0 Total Graphic
Mem	Total Gfx Mem	128M	Memory size used by the
		MAX	Internal Graphic Device
Gfx Low Power	Select Gfx Low	Enabled/ Disabled	This option is applicable for SFF
Mode	Power Mode		only

5.2.2.1.12 Vt-d



BIOS Setting	Description	Setting Option	Effect
Vt-d	Intel®	Enabled	Vt-d capability
	Virtualization	Disabled	
	Technology for		
	Directed I/O		

<u>5.2.3 Boot</u>

	InsydeH20	Setup Utility		Rev. 5.0
Main Advanced Security Pow	er Boot Exit			
Boot Type Quick Boot Quiet Boot Network Stack PXE Boot capability Timeout Automatic Failover	<uef1 boot="" type=""> <enabled> <enabled> <disabled> <disabled> <disabled> [0] <enabled></enabled></disabled></disabled></disabled></enabled></enabled></uef1>		Select boot type to Dual type, type or UEFI type	Legacy
▶Boot Type Order				
				ß
F1 Help Esc Exit	1/↓ Select Item +/→ Select Item	F5/F6 Change Values Enter Select ► SubMenu	F9 Setup Defaults F10 Save and Exit	

BIOS Setting	Description	Setting Option	Effect
Boot Type	Boot Type	UEFI Boot Type	Select boot type to Dual type,
	configuration		Legacy type or UEFI type
Quick Boot	Quick Boot	Enabled	Allows InsydeH20 to skip
	configuration	Disabled	certain tests while booting.
			This will decrease the time
			needed to boot the system
Quiet Boot	Quiet Boot	Enabled	Disable or enable booting in
	configuration	Disabled	text Mode.
Timeout	Timeout	[Value]	Timeout settings
Automatic		Enable	If boot to default device fail, it
Failover			will directly try to boot next
			device
		Disable	If boot to default device fail, it
			will pop warning message then
			go to firmware UI
Boot Type	Boot Type	Enter	Opens sub-menu
Order	Order		

5.2.3.1 Boot Type Order

	lns	ydeH20 Setup Utility	Rev. 5.0
	Boot		
Boot Type Order		Boo	t Type Order
USB BEV Hard Disk Drive Others			
▶Hard Disk Drive ▶Others			
			R
F1 Help Esc Exit	↑/↓ Select Item €/→ Select Item	F5/F6 Change Values	F9 Setup Defaults F10 Save and Exit

BIOS Setting	Description	Setting Option	Effect
Hard Disk Type	Hard Disk Type configuration	Enter	Opens Sub-menu
Others	Other configuration	Enter	Opens Sub-menu

5.2.3.1.1 Hard Disk Type

Insyde	H2O Setup Utility	Rev. 5.0
Hard Disk Drive	Hard Disk Drive	
Windows Boot Manager (Phison SSMP064GTB3CO-S11)		
		R
		, v
F1 Help 1/4 Select Item Esc Exit +/→ Select Item	F5/F6 Change Values F9 Setup Defa Enter Select ► SubMenu F10 Save and I	aults Exit

5.2.3.1.2 Others

	lns Boot	ydeH20 Setup Utility		Rev. 5.(
Others		0	thers	
Internal EFI Shell				
				~
				R
F1 Help	↑/↓ Select Item	F5/F6 Change Values	F9 Setup Defaults	
Esc Exit	+/→ Select Item	Enter Select 🕨 SubMenu	F10 Save and Exit	

3.2.3 Security

		Setup Utility	Rev. 5.0
Main Advanced Security Power Boo	t Exit		
Current TPM Device TPM State TPM Active PCR Hash Algorithm TPM Hardware Supported Hash Algorithm TFEE Protocol Version TPM Availability TPM Operation Clear TPM	<tpm (ftpm)="" 2.0=""> All Hierarchies En SHA1 SHA1, SHA256 <1.0> <available> <no operation=""> []</no></available></tpm>		TrEE Protocol Version: 1.0 or 1.1
Supervisor Password	Not Installed		
Set Supervisor Password		R	
-	lect Item lect Item	F5/F6 Change Values Enter Select ► SubMenu	F9 Setup Defaults F10 Save and Exit

BIOS Setting	Description	Setting Option	Effect
TrEE Protocol	Choose TrEE	1.0	TrEE Protovol
Version	Protocol Version	1.1	Version: 1.0 or 1.1
TPM Availability	TPM Availability	Available	When hidden don't
	configuration	Hidden	exposes TPM to 0
TPM Operation	TPM Operation	[]	Select one of the
	configuration		supported
			operation to
			change TPM2state
Clear TPM	Clear TPM	[]	Select to Clear
	configuration		ТРМ
Set Supervisor	Set Supervisor	Enter New	Install or Change
Password	Password	password	the password and
			the length of
			password must be
			greater than one
			character

5.2.4 Power

	Insyde	H2O Setup Utility	Rev. 5.
Main Advanced Security P	ower Boot Exit		
			Enable/Disable ACP1 \$1/\$3 Sleep state
ACPI S3 Auto Wake on S5	<enabled> <disabled></disabled></enabled>		
	~D130D1C0>		
			R
			~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
F1 Help Esc Exit	î/↓ Select Item +/→ Select Item	F5/F6 Change Values Enter Select ▶ SubMenu	F9 Setup Defaults F10 Save and Exit

BIOS Setting	Description	Setting Option	Effect
ACPI S3	ACPI S3	Disabled	Enable/ Disable
	configuration	Enabled	ACPI S1/S3
			Sleep state
Auto Wake on S5	Auto Wake on S5	Disabled	Auto Wake on S5,
	configuration	By Every Day	by Day or Month
		By Every Month	or fixed time of
			every day

# <u>5.2.5 Exit</u>

	Ins	sydeH20 Setup Utility	Rev. 5.
Main Advanced Security F	Power Boot Exit		
ixit Saving Changes Save Change Without Exit Exit Discarding Changes Load Optimal Defaults Load Custom Defaults Save Custom Defaults Discard Changes		Exit system setu	p and save your changes.
scard Unanges			
			,
1 Help scExit	1/↓ Select Item +/→ Select Item		p Defaults and Exit

# **5.3 Using Recovery Wizard to Restore Computer**



#### Note:

Before starting the recovery process, make sure to backup all user data. The data will be lost after the recovery process.



#### Important:

Before starting the recovery process, remove the PCI/ PCIe card and CFast card.

To enable quick one-key recovery procedure:

- 1. Connect the computer to the power source. Make sure the computer stays plugged in to power source during the recovery process.
- 2. Turn on the computer, and when the boot screen shows up, press **Tab+ F6** to initiate the Recovery Wizard.
- 3. The following screen shows the Recovery Wizard. Click **Recovery** button to continue.

Click <b>" Recovery</b> " to restore your system. WARNING" The process will clear all of your data. If you do not want to restore your system please press <b>" Quit "</b> to reboot.	Recovery Wizard	
If you do not want to restore your system please press " Quit " to	Click " Recovery " to restore your	system.
	The process will clear all of you	ır data.
Recovery Quit	If you do not want to restore your reboot.	

4. A warning message about data loss will show up. Make sure the data is backed up before recovery, and click **Yes** to continue.



Wait the recovery process to complete. During the recovery process, a command prompt will show up to indicate the percent of recovery process complete. The system will restart automatically after recovery completed.

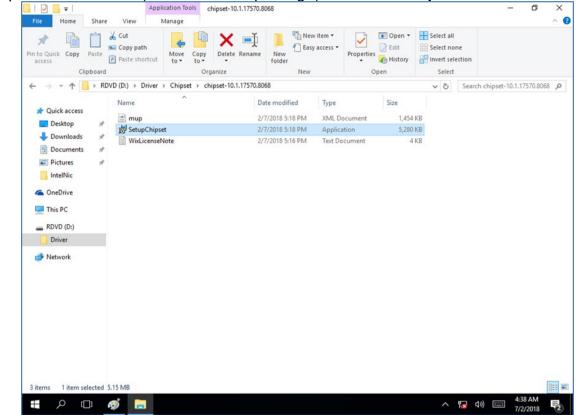
# **Chapter 6: Driver Installation**

This chapter provides guideline to driver installations.

## **6.1 Chipset Driver**

Follow instructions below to install Chipset driver.

1. Open the Driver CD (included in the package) and select Chipset driver.



2. Installation window will pop up, select Next.



3. Select Accept to agree with the terms of license agreement.



4. Check the ReadMe file information, select **Install** to continue.

Intel(R) Chipset Device Software	(intel)
Completion	
You have successfully installed the following product:	
Intel(R) Chipset Device Software	
You must restart this computer for the changes to take effect.	
View Log Files	
Restart Now	Restart Later

#### 62 IP65 Stainless P-Cap Panel PC User Manual

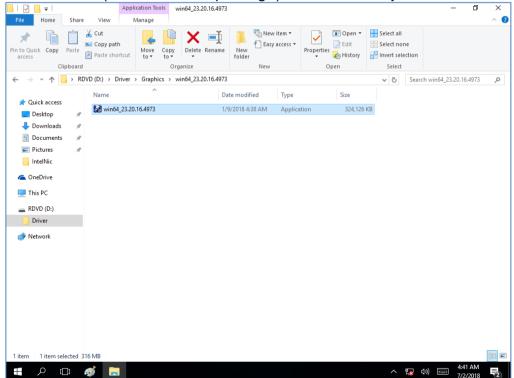
5. Wait for the driver to be installed. When installation completed, select **Restart Now** to restart your computer.



# **6.2 Graphic Driver**

Follow instructions below to install Graphic driver.

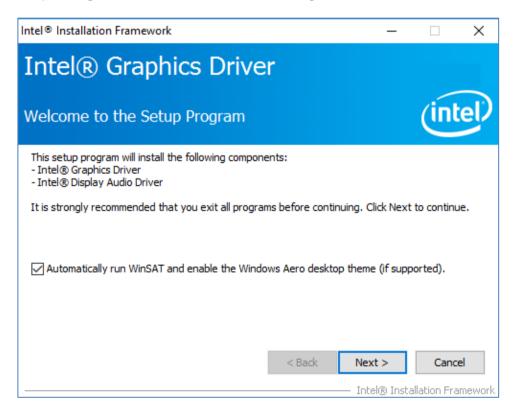
1. Open the Driver CD (included in the package) and select Graphic driver.

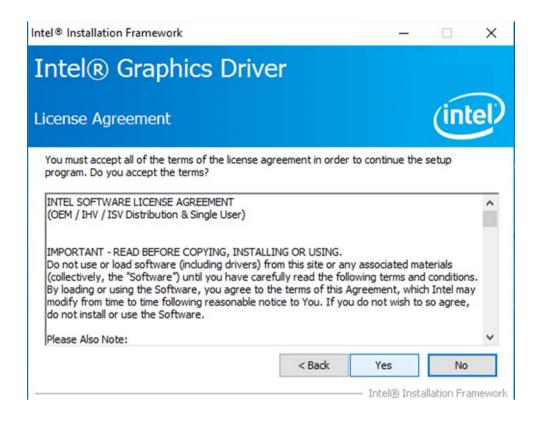


2. Installation window will pop up, select Next.

🛃 Intel(R) Graphics Driver Soft	tware - InstallShield Wizard		$\times$
	Driver Version: 23.20.16.4901 Release Version: Production Version Build Date: December 21, 2017 Platforms: 6th Gen Intel(R) Core(TM) processor family (codename Skylake) 7th Gen Intel(R) Core(TM) processor family (codename Kaby Lake) 8th Gen Intel(R) Core(TM) processor family (codename Coffee Lake) Apollo Lake GeminI Lake Operating System(s): Microsoft Windows* 10-64 - Aniversary Update Microsoft Windows* 10-64 - Creators Update Microsoft Windows* 10-64 - Fall Creators Update Microsoft Windows* 10-64 - Fall Creators Update Microsoft Windows* 10-64 - Fall Creators Update Microsoft Windows* 10-64 - Intel Creators Update Mi	~	
	< Back Next > Can	ncel	

3. Select Accept to agree with the terms of license agreement.





4. Check the ReadMe file information, select Next to continue.

el® Installation Framework		-		Х
ntel® Graphics Driv	er			
eadme File Information			(inl	el
Refer to the Readme file below to view the syst	em requirements and	d installation ir	nformation	
Driver Version: 23.20.16.4901 Release Version: Production Version Build Date: December 21, 2017				^
Release Version: Production Version	dename Kaby Lake)	)		^
Release Version: Production Version Build Date: December 21, 2017 Platforms: 6th Gen Intel(R) Core(TM) processor family (co 7th Gen Intel(R) Core(TM) processor family (co 8th Gen Intel(R) Core(TM) processor family (co Apollo Lake	dename Kaby Lake)	)		<

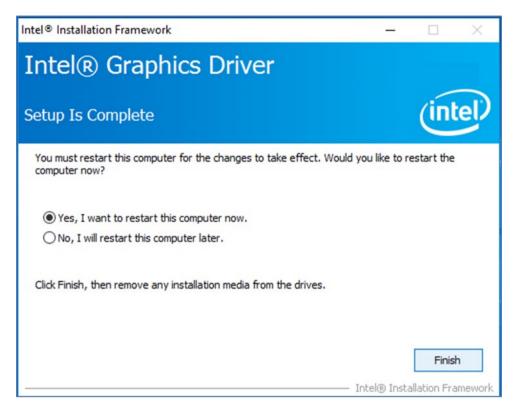
5. Wait for the driver to be installed.

ntel® Installation Framework	
Intel® Graphics Driver	
Setup Progress	intel
Please wait while the following setup operations are performed:	
Creating Process: C:\Program Files (x86)\Intel\Intel(R) Processor Graphics\ Installing Driver: Intel(R) Display Audio Version: 10.24.00.01 •••	uninstall\UninstallVulka
<	>
	Next >
Intel@	) Installation Framework

6. Select **Next** to continue.

Intel® Installation Framework	
Intel® Graphics Driver	
Setup Progress	(intel)
Please wait while the following setup operations are performed:	
Deleting File: C:\ProgramData\Microsoft\Windows\Start Menu\Prog Deleting File: C:\ProgramData\Microsoft\Windows\Start Menu\Prog Deleting File: C:\Users\Public\Desktop\Intel(R) HD Graphics Control Deleting File: C:\Users\Public\Desktop\Intel(R) Graphics and Media Deleting File: C:\ProgramData\Microsoft\Windows\Start Menu\Prog Deleting File: C:\ProgramData\Microsoft\Windows\Start Menu\Prog Deleting File: C:\Users\Public\Desktop\Intel(R) Iris(R) Graphics Con Deleting File: C:\Users\Public\Desktop\Intel(R) Iris(R) Graphics Con Deleting File: C:\Users\Public\Desktop\Intel(R) Iris(R) Graphics Con Deleting File: C:\Users\Public\Desktop\Intel\Intel(R) Iris(R) Graphics Deleting Registry Key: HKLM\SOFTWARE\Intel\GFX\Internal\Audiof Deleting Registry Key: HKLM\SOFTWARE\Intel\GFX\Internal\Audiof	rams (Intel (Intel (R) Graphic Panel.lnk Control Panel.lnk Irams (Intel (Intel (R) Iris (R) ( Irams (Intel (R) Iris (R) Graph Itrol Panel.lnk s Control Panel.lnk Fix
Click Next to continue.	~
<	>
	Next >
	<ul> <li>Intel® Installation Framework</li> </ul>

- 66 IP65 Stainless P-Cap Panel PC User Manual
  - 7. After installation is completed, select "Yes, I want to restart this computer now", and click **Finish**.



# **6.3 Management Engine (ME)**

Follow instructions below to install Management Engine (ME).

1. Open the Driver CD (included in the package) and select **ME** driver.

i i i i i i i i i i i i i i i i i i i	Share		cation Tools	VIE Software In:	staller			- 0	× ^ (?
access	Paste	Cut Copy path Paste shortcut	Move to •	X Delete - Rename	New folder New	Properti	Edit Edit Mistory Open	Select all Select none Invert selection Select	n
← → ~ ↑ 📃	« In	tel Management Eng	gine Driver(Ka	> ME Softwar	re Installer	ٽ v	Search ME	Software Installer	Q
★ Quick access Desktop	Name	^ er.dll		Date modifie 11/21/2017 1 11/21/2017 1	1:12	Type Application extension XML Document			
👆 Downloads	*	M SetupME			11/21/2017 1		Application	75,094 KB	
Pictures IntelNic ConeDrive This PC RDVD (D:)	A		Size: 73		2017 11:31 AM				
Driver									
i Network									
3 items 1 item sel	ected	73.3 MB							==

2. Select **Next** to start the installation.

Setup		×
Intel® Management Engine Components Welcome	(inte	
You are about to install the following product:		
Intel® Management Engine Components 11.7.0.1058		
It is strongly recommended that you exit all programs before continuing. Click Next to continue, or click Cancel to exit the setup program.		
Intel Corporation < Back	Next >	Cancel

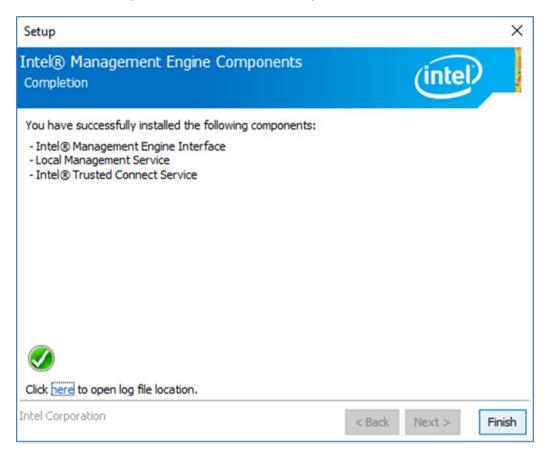
3. Select **Next** to agree with the terms of license agreement.

Setup	×
Intel® Management Engine Components License Agreement	
INTEL SOFTWARE LICENSE AGREEMENT (OEM / IHV / ISV Distribution & Single User)	^
IMPORTANT - READ BEFORE COPYING, INSTALLING OR USING. Do not use or load software (including drivers) from this site or any associated materials (collectively, the "Software") until you have carefully read the following terms and conditions. By loading or using the Software, you agree to the terms of this Agreement, which Intel may modify from time to time following reasonable notice to You. If you do not wish to so agree, do not install or use the Software.	
Please Also Note: • If you are an Original Equipment Manufacturer (OEM), Independent Hardware Vendor (IHV) or Independent Software Vendor (ISV), this complete LICENSE AGREEMENT applies; • If you are an End-User, then only Exhibit A, the INTEL SOFTWARE LICENSE AGREEMENT, applies.	
For OEMs, IHVs and ISVs:	
LICENSE. Subject to the terms of this Agreement, Intel grants to You a nonexclusive,	~
☑ I accept the terms in the License Agreement.	
Intel Corporation < Back Next > Can	cel

4. Wait for the driver to be installed.

Setup	
Intel® Management Engine Components Progress	(intel)
Please wait while the product is being installed.	
Intel Corporation	<back next=""> Cancel</back>

5. When installation completed, select **Finish** complete installation.



# **6.4 Audio Driver**

Follow instructions below to install Audio driver.

1. Open the Driver CD (included in the package) and select Audio driver.

File Home	Share	View	Application Tools Manage	Realtek High De	finition Driver 6	4bit V6.0.1.	3036(R281)	- 0	× ~
in to Quick Copy	Parte	从 Cut ₩ Copy pati Paste sho	Move to rtcut Copy to		New folder New	Properties	Edit Copen • Copen • Copen	Select all Select none Invert selection Select	n
← → ~ ↑ [	« Au	dio > Realte	ek High Definition Dr	iver 64bit V6.0.1.8	036(R281)	~ Č	Search Real	tek High Definitio	۶
		Name	^		Date modified	t Ty	pe	Size	
Quick access		0008-	64bit_Win7_Win8_Wi	n81 Win10 R281	3/26/2017 7:4	3 PM A	oplication	212,455 KB	
Desktop	A								
🕹 Downloads	A								
Documents	*								
E Pictures	*								
IntelNic									
ConeDrive									
Chebhve									
This PC									
RDVD (D:)									
Driver									
Dilver									
Network									

2. Select Next to continue.



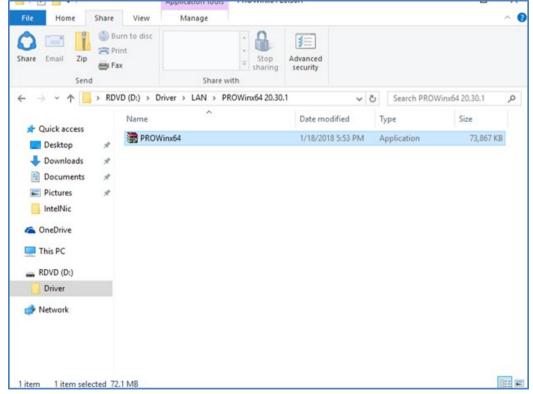
3. When installation completed, select Finish complete installation.



#### **6.5 Ethernet Driver**

Follow instructions below to install LAN driver.

1. Open the Driver CD (included in the package) and select LAN driver.



2. When compression is complete, select **Next**.

Intel(R) Network Connections Install Wizard	×
Welcome to the install wizard for Intel(R) Network Connections	(intel)
Installs drivers, Intel(R) Network Connections, and Advanced Networking Services.	
WARNING: This program is protected by copyright law and international treaties.	
< Back Next >	Cancel

3. Read the license agreement, and then select Next.

🛃 Intel(R) Network Connections Insta	all Wizard	×
License Agreement		(intel)
Please read the following license agre	ement carefully.	<u> </u>
INTEL SOFTWA	ARE LICENSE AGREEN	IENT
IMPORTANT - READ BEFO	RE COPYING, IN STAL	LING OR USING.
Do not copy, install, or use this sof (collectively, the "Software") provi ("Agreement") until you have care By copying, installing, or otherwise the terms of this Agreement. If you do not copy, install, or use the Soft	ded under this license fully read the following e using the Software, I do not agree to the to	e agreement g terms and conditions. you agree to be bound by
LICENSES:		~
I accept the terms in the license agree	ement	Print
○ I do not accept the terms in the licens	e agreement	
	< Back	Next > Cancel

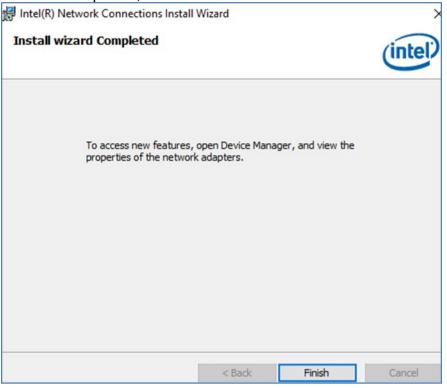
## 4. System displays the installed packages, select Next.

Intel(R) Network Connections Install	Wizard		×
			~
Ready to Install the Program			(intol)
The wizard is ready to begin installation.			linter
Click Install to begin the installation.			
If you want to review or change any of exit the wizard.	your installation sett	ings, click Back. Clic	k Cancel to
	< Back	Install	Cancel

### 5. Confirm the installation, select **Install** to start the installation.

Intel(R) Network Connections Install	Wizard	
Ready to Install the Program		linta
The wizard is ready to begin installation	ı.	linte
Click Install to begin the installation.		
If you want to review or change any o exit the wizard.	f your installation settings,	dick Back. Click Cancel to
	< Back II	nstall Cancel

6. When installation is completed, select **Finish** to close the window.



## **6.6 Watchdog Driver Installation**

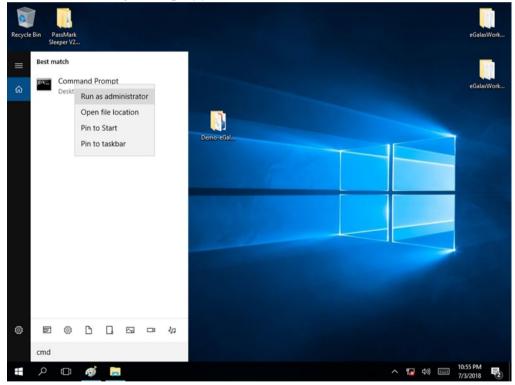
For more details about Winmate Watchdog, please download Watchdog Guide from Winmate Downloads Center:

Follow instructions below to install **Watchdog** driver.

- 1. Type "cmd" in the run box then the cmd.exe will appear in programs.
- 2. Right click on the cmd.exe and click on "Run as administrator" to start
- 3. Open the Driver CD (included in the package) and select Watchdog driver.

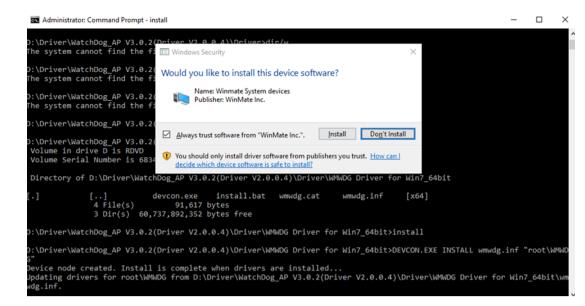
I     I     I       File     Home     Sh.		ication Tools	AP				- 0	× ^ (?
Pin to Quick Copy Past access Clipboa	Cut Copy path Paste shortcut	Move to •	X Delete - Rename	New folder New	Properties	File Open - Edit History	Select all Select none Invert selection Select	
← → • ↑ <mark> </mark> «	Driver > WatchDog_	AP V3.0.2(Driver	V2.0.0.4) > AP		~ Ō	Search AP		P
100 C 100	Name	^		Date modified	н т	ype	Size	
📌 Quick access	1 WatchDog	AP_3.0.2		3/5/2018 12:5	1 AM W	/indows Installe	er 1,593 KB	Ĺ
	*							2
Documents	*							
	*							
IntelNic								
a OneDrive								
This PC								
RDVD (D:)	_							
Driver								
🧀 Network								
1 item 1 item selected	d 1.55 MB						010	

4. When Windows Security dialog appear, select **install** to continue the Installation.

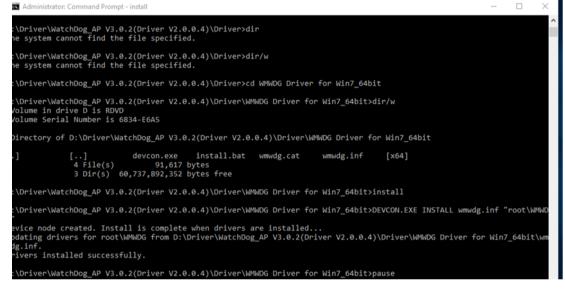


5. Wait for installation to complete. When installation is complete, press any key to close.

#### 76 IP65 Stainless P-Cap Panel PC User Manual



6. Open the Driver CD (included in the package) and select Watchdog AP.



#### 7. Select Next.



8. The installed storage location is displayed, select **Next** to continue.

🛃 WatchDog_AP Setup	—		×
Select Installation Folder			
This is the folder where WatchDog_AP will be installed.			3
To install in this folder, click "Next". To install to a different folder, ent "Browse".	ter it be	low or cli	ck
Eolder:			
C:\Program Files (x86)\WatchDog_AP\WatchDog_AP\		Browse.	
Advanced Installer			
< Back Next >	•	Car	ncel

9. Select **Next** to start the installation.

WatchDog_AP Setup		>
Ready to Install		
The Setup Wizard is ready to begin	the WatchDog_AP installation	2
Click "Install" to begin the installatio installation settings, dick "Back". Cl	n. If you want to review or change an lick "Cancel" to exit the wizard.	y of your
vanced Installer		
	< Back	Cancel

10. When installation is completed, select **Finish** to close the window.



# **Chapter 7: Technical Support**

This chapter includes the directory for technical support. Free technical support is available from our engineers every business day. We are always ready to give advice on application requirements or specific information on the installation and operation of any of our products.

## 7.1 Software Developer Support

Winmate provides the following SDK and Utilities for the IP65 Stainless P-CAP Panel PC.

Item	File Type	Description
1	SDK	Watchdog SDK
2	Utility	Watchdog Utility

To find the Drivers and SDK, please refer to the Driver CD that comes in the package or contact us. Also, you can download drivers from Winmate Download Center.

#### Winmate Download Center

Go to <u>www.winmate.com</u> > Support > Download Center > Full IP65/IP69K Stainless PPC > Kaby Lake

## 7.2 Problem Report Form

#### **IP65 Flat Stainless P-CAP Panel PC**

Customer name:	
Company:	
Tel.:	Fax:
E-mail:	Date:

Product Serial Number:

**Problem Description:** Please describe the problem as clearly as possible. Detailed description of the occurred problem will allow us to find the best solution to solve the problem as soon as possible.

# **Appendix A: Product Specifications**

### Hardware Specifications

			Model Name		
	R15IK3S-SPC3	R17IK3S-SPM1	R19IK3S-SPM1	W22IK3S-SPA3	W24IK3S-SPA2
Display					
Size	15"	17"	19"	21.5"	23.8"
Resolution	1024 x 768	1280 x 1024	1280 x 1024	1920 x 1080	1920 x 1080
Brightness	250 $cd/m^2$	350 $cd/m^2$	250 $cd/m^2$	250 $cd/m^2$	250 <i>cd/m</i> ²
Contrast Ratio	700 : 1(typ.)	1000 : 1 (typ.)	1000 : 1 (typ.)	3000 : 1(typ.)	3000 : 1(typ.)
Viewing Angle	-80~80(H);- 70~70(V)	-85~85(H);- 80~80(V)	-85~85(H);- 80~80(V)	-89~89(H); -89~89(V)	-89~89(H); -89~89(V)
Max Colors	16.2M	16.7M	16.7M	16.7M	16.7M
Touch	P-Cap (Default), AG Coating (Optional)	P-Cap (Default)	P-Cap (Default), AG Coating (Optional)	P-Cap (Default), AG Coating (Optional)	P-Cap (Default)
System					
Processor	Intel® Core™ i5-7200U Kaby Lake 2.5GHz (turbo to 3.1GHz)	Intel® Core™ i5-7200U Kaby Lake 2.5GHz (turbo to 3.1GHz)	Intel® Core™ i5-7200U Kaby Lake 2.5GHz (turbo to 3.1GHz)	Intel® Core™ i5-7200U Kaby Lake 2.5GHz (turbo to 3.1GHz)	Intel® Core™ i5-7200U Kaby Lake 2.5GHz (turbo to 3.1GHz)
BIOS	Insyde BIOS	Insyde BIOS	Insyde BIOS	Insyde BIOS	Insyde BIOS
System Chipset	Intel® SoC Integrated	Intel® SoC Integrated	Intel® SoC Integrated	Intel® SoC Integrated	Intel® SoC Integrated
System Memory	4GB DDR4- 2133 SO- DIMM (Max 16 GB)	4GB DDR4- 2133 SO-DIMM (Max 16 GB)	4GB DDR4- 2133 SO- DIMM (Max 16 GB)	4GB DDR4- 2133 SO-DIMM (Max 16 GB)	4GB DDR4- 2133 SO- DIMM (Max 16 GB)
Storage	64GB M.2 B Key SATA III SSD (Options up to 256GB)	64GB M.2 B Key SATA III SSD (Options up to 256GB)	64GB M.2 B Key SATA III SSD (Options up to 256GB)	64GB M.2 B Key SATA III SSD (Options up to 256GB)	64GB M.2 B Key SATA III SSD (Options up to 256GB)
Graphic Chipset	Intel® HD Graphics 620	Intel® HD Graphics 620	Intel® HD Graphics 620	Intel® HD Graphics 620	Intel® HD Graphics 620
Audio	Realtek ALC283 HD Audio Codec	Realtek ALC283 HD Audio Codec	Realtek ALC283 HD Audio Codec	Realtek ALC283 HD Audio Codec	Realtek ALC283 HD Audio Codec
Ethernet	1000 Base-Tx Gigabit Ethernet Compatible	1000 Base-Tx Gigabit Ethernet Compatible	1000 Base-Tx Gigabit Ethernet Compatible	1000 Base-Tx Gigabit Ethernet Compatible	1000 Base-Tx Gigabit Ethernet Compatible
OS	Windows 10 IoT Enterprise	Windows 10 IoT Enterprise	Windows 10 IoT Enterprise	Windows 10 IoT Enterprise	Windows 10 IoT Enterprise

	Model Name				
	R15IK3S-SPC3	R17IK3S-SPM1	R19IK3S-SPM1	W22IK3S-SPA3	W24IK3S-SPA2
Input/ Output C	onnectors				
Ethernet LAN	1 x RJ45 - 10/100/1000 Mbps	1 x RJ45 - 10/100/1000 Mbps	1 x RJ45 - 10/100/1000 Mbps	1 x RJ45 - 10/100/1000 Mbps	1 x RJ45 - 10/100/1000 Mbps
COM	1 x RS232	1 x RS232	1 x RS232	1 x RS232	1 x RS232
USB	2 x USB Type- A Receptacle	2 x USB Type- A Receptacle	2 x USB Type-A Receptacle	2 x USB Type-A Receptacle	2 x USB Type- A Receptacle
Power	1 x 12VDC	1 x 12VDC	1 x 12VDC	1 x 12VDC	1 x 12VDC
Mechanical Spe	ecification				
Cooling System	Fanless	Fanless	Fanless	Fanless	Fanless
Mounting	Yoke Mount, VESA Mount	Fanless	Fanless	Fanless	Fanless
Housing	Stainless steel SUS 316/ AISI 316	Stainless steel SUS 316/ AISI 316	Stainless steel SUS 316/ AISI 316	Stainless steel SUS 316/ AISI 316	Stainless steel SUS 316/ AISI 316
Environmental	Consideration				
Operating Temp.	0°C to +45°C	0°C to +45°C	0°C to +45°C	0°C to +45°C	0°C to +45°C
Operating Humidity	30% to 90% (non- condensing)	30% to 90% (non- condensing)	30% to 90% (non- condensing)	30% to 90% (non- condensing)	30% to 90% (non- condensing)
IP Rating	Full IP65				
Power Specific	ations				
Power Input	12V DC IN (Lockable Power Jack)	12V DC IN (Lockable Power Jack)	12V DC IN (Lockable Power Jack)	12V DC IN (Lockable Power Jack)	12V DC IN (Lockable Power Jack)
Power Consumption	52W (typ.)	56W (typ.)	56W (typ.)	66W (typ.)	66W (typ.)
Standards and Certification					
Certification	CE, FCC, RoHs	CE, FCC, RoHs	CE, FCC, RoHs	CE, FCC, RoHs	CE, FCC, RoHs

*With maximum backlight and high CPU load

#### NOTE:

- 1. Accessories and Integrated Options may vary depending on your configuration. The product shown in this datasheet is a standard model. For diagrams that contain customized or optional I/O, please contact the Winmate Sales Team for more information.
- 2. All specifications are subject to change without prior notice.






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