

# Vehicle Mounted Computer

Intel® Core™ i5-1235U 3.30 GHz (up to 4.40 GHz)

**10.4"/ 12.1"/ 14"**

**FMAD-V Series**



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## Quick Start Guide

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## Copyright

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**NOTE:**

Display images shown may vary slightly from actual display. Information in this manual is subject to change without prior notification.

**NOTE:**

Use the device when located at least 20 cm (7.9 inches) away from the human body.

## Disclaimer

Winmate Inc. reserves the right to make any product changes without notice, including circuits and/or software described or contained in this manual in order to improve design and/or performance. Winmate Inc. assumes 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 makes 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 guide are for illustration purposes only. Winmate Inc. makes no representation or warranty that such application will be suitable for the specified use without further testing or modification.

## Warranty

Winmate Inc. warrants that each of its products is free from material and workmanship defect for a period of one year starting from the invoice date. If the customer discovers a defect, Winmate Inc. will, at its option, repair or replace the defective product at no charge to the customer, provided it is returned during the warranty period, with transportation charges prepaid. The returned product must be properly packaged in its original packaging to obtain warranty service.

## 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.

## FCC Regulations

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This device 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 in residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced technician for help.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Operation on the 5.15-5.25GHz frequency band is restricted to indoor use only. The FCC requires indoor use for the 5.15-5.25GHz band to reduce the potential for harmful interference to co-channel Mobile Satellite Systems. Therefore, it will only transmit on the 5.25-5.35 GHz, 5.47-5.725 GHz and 5.725 –5.850 GHz band when associated with an access point (AP).

## CE Notice (European Union)

This device has been tested and found to conform to the limits set for a Class B product.

- EN 55022 — “Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment”
- EN 55024 — “Information technology equipment - Immunity characteristics - Limits and methods of measurement”
- EN 61000-3-2 — “Electromagnetic compatibility (EMC) - Part 3: Limits - Section 2”
- EN 61000-3-3 — “Electromagnetic compatibility (EMC) - Part 3: Limits - Section 3”
- EN 60950 — “Safety of Information Technology Equipment”.
- EN 55022 Emissions requirements

## RF Exposure Information (SAR)

This device is compliance with SAR for general population /uncontrolled exposure limits in ANSI/IEEE C95.1-1999 and had been tested in accordance with the measurement methods and procedures specified in OET Bulletin 65 Supplement C.

This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This device was tested for operations with the device contacted directly to the human body to the back side of the EUT. To maintain compliance with FCC RF exposure compliance requirements, avoid direct contact to the transmitted antenna during transmitting.

## IC Regulations

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes:

- (1) l'appareil ne doit pas produire de brouillage, et
- (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.”

This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions:

- (1) This device may not cause interference, and
- (2) This device must accept any interference, including interference that may cause undesired operation of the device.

## This Class B digital apparatus complies with Canadian ICES-003

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

The device could automatically discontinue transmission in case of absence of information to transmit, or operational failure. Note that this is not intended to prohibit transmission of control or signaling information or the use of repetitive codes where required by the technology.

The device for the band 5150-5250 MHz is only for indoor usage to reduce potential for harmful interference to co-channel mobile satellite systems; the maximum antenna gain permitted (for devices in the bands 5250-5350 MHz and 5470-5725 MHz) to comply with the e.i.r.p. limit; and The maximum antenna gain permitted (for devices in the band 5725-5850 MHz) to comply with the e.i.r.p. limits specified for point-to-point and non-point-to-point operation as appropriate, as stated in section A9.2(3). In addition, High-power radars are allocated as primary users (meaning they have priority) of the band 5250-5350 MHz and this radar could cause interference and/or damage to LE-LAN devices.

The County Code Selection feature is disabled for products marketed in the US/Canada. For product available in the USA/ Canada markets, only channel 1~11 can be operated. Selection of other channels is not possible.

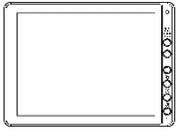
## **IC Radiation Exposure Statement**

This EUT is compliance with SAR for general population/uncontrolled exposure limits in IC RSS-102 and had been tested in accordance with the measurement methods and procedures specified in IEEE 1528

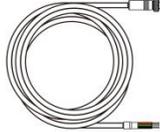
# 1. Unpacking

## 1.1 Package Contents

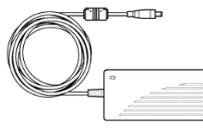
Before using this device, make sure that all the items listed below are included in your package:



**Vehicle Mounted Computer**



**Power Cable with Fuse**



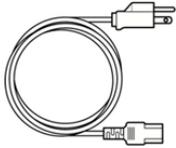
**150W Adapter with Power Cable**



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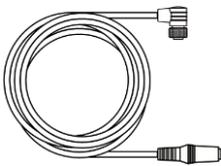
**Power Converter Cable**



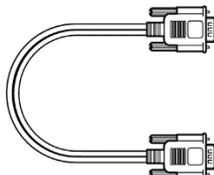
**Power Cord**

## 1.2 Optional Accessories

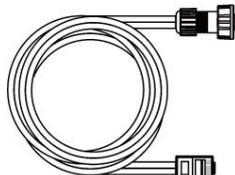
Your package may include the following items based on your order:



**DC Jack Power Cable**



**RS232 Cable**



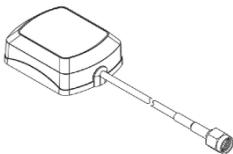
**LAN Cable**



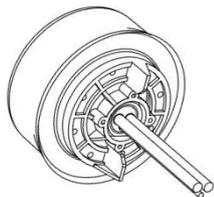
**WWAN Antenna**



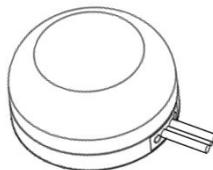
**Fuse Kit**



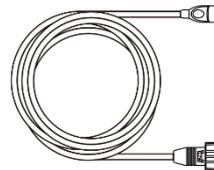
**GPS Antenna**



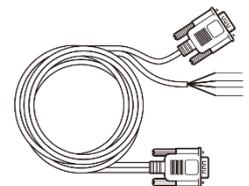
**GPS & LTE (VM9C)**



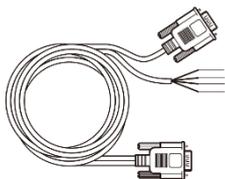
**GPS & LTE (VM10S)**



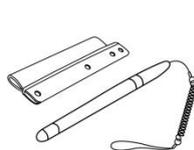
**USB Type A Cable**



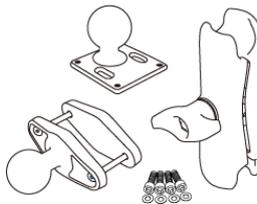
**Comport + Canbus**



**Comport + DIDO**



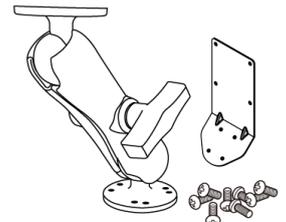
**Stylus Kit**



**Mounting Kit 1 No Drill**



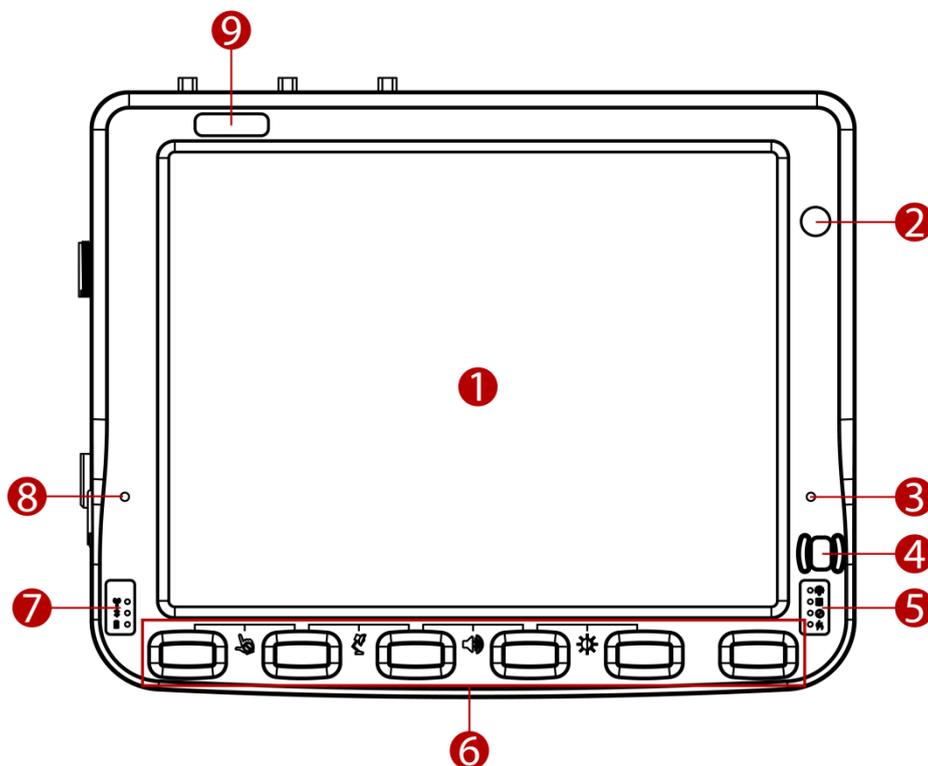
**Mounting Kit 2 Drill**



**Mounting Kit 3 Keyboard Mounting**

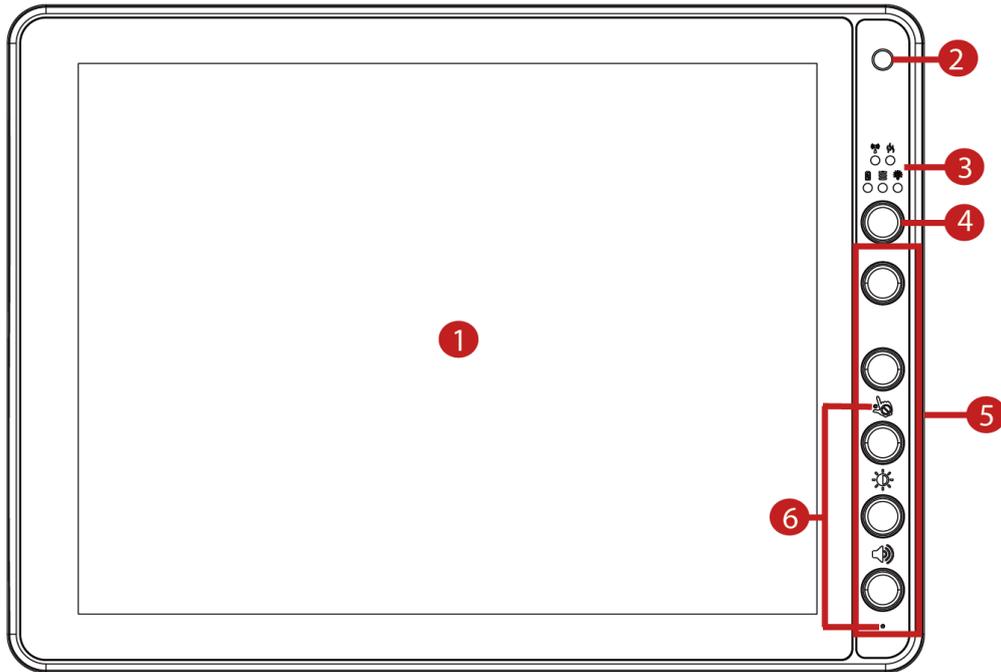
## 2. Components

### 2.1 Front View with FM10AD-V



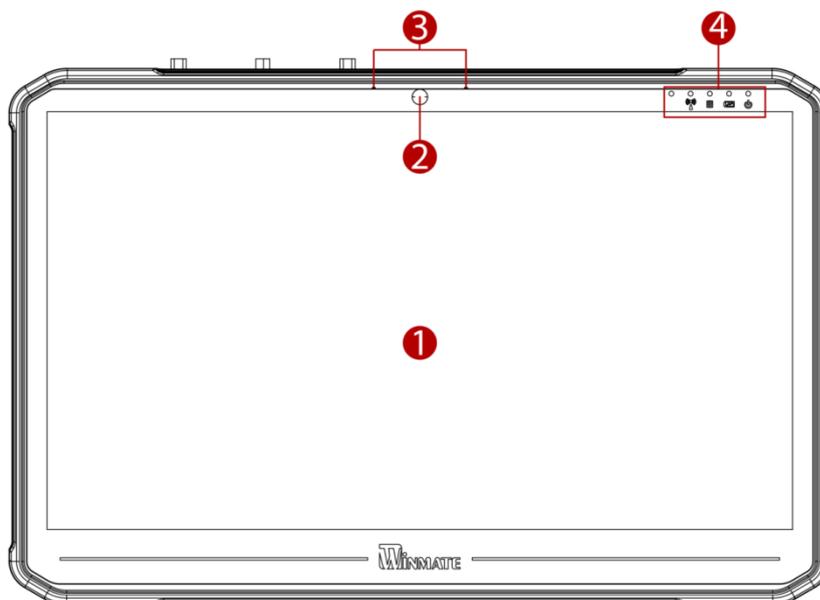
No	Item	Description
1	10.4" Touch Screen	Acts as one of the inputs for the device
2	Camera	2 Megapixel front camera
3	Digital Microphone	For voice communication and voice recording
4	Power Button and Indicator	Press and hold the button for 3 second to turn on the device
5	Light Sensor and LED indicators	 Light Sensor
		 HDD Indicators
		 Blanking Indicators
		 Heater Indicators
6	Function buttons	Programmable Function keys that can be configured by using the Win-Set® Utility
7	LED indicators	 Wi-Fi Indicators
		 Bluetooth Indicators
		 UPS Battery Indicators
8	Digital Microphone	For voice communication and voice recording
9	Label	Space to print the label or company logo

## 2.2 Front View with FM12AD-V



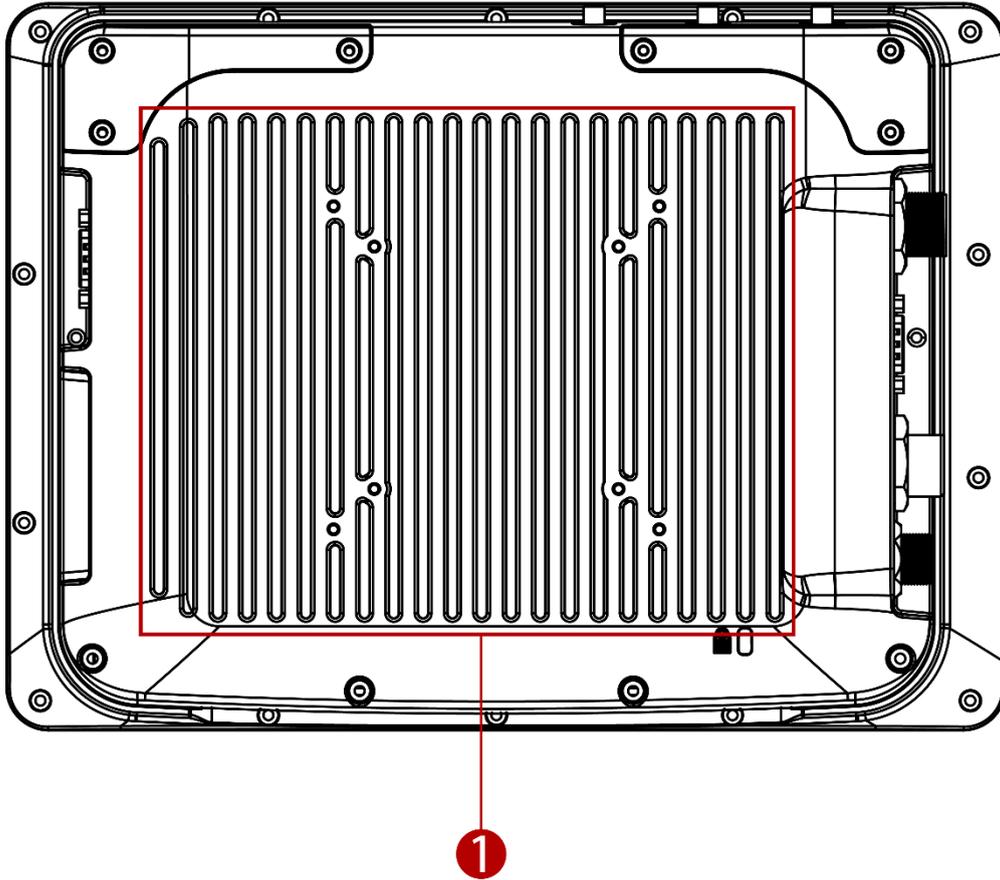
No	Item	Description
1	12.1" Touch Screen	Acts as one of the inputs for the device
2	Camera	2 Megapixel front camera
3	Light Sensor and LED indicators	<ul style="list-style-type: none"> <li> Wireless communication indicators</li> <li> Defroster indicators (Defroster is customized feature available by request)</li> <li> UPS Battery Indicators</li> <li> HDD indicators</li> <li> Light sensor</li> </ul>
4	Power Button and Indicator	Press and hold the button for 3 second to turn on the device
5	Function buttons	Programmable Function keys that can be configured by using the Win-Set® Utility
6	Digital Microphone	For voice communication and voice recording

## 2.3 Front View with FM14AD-V



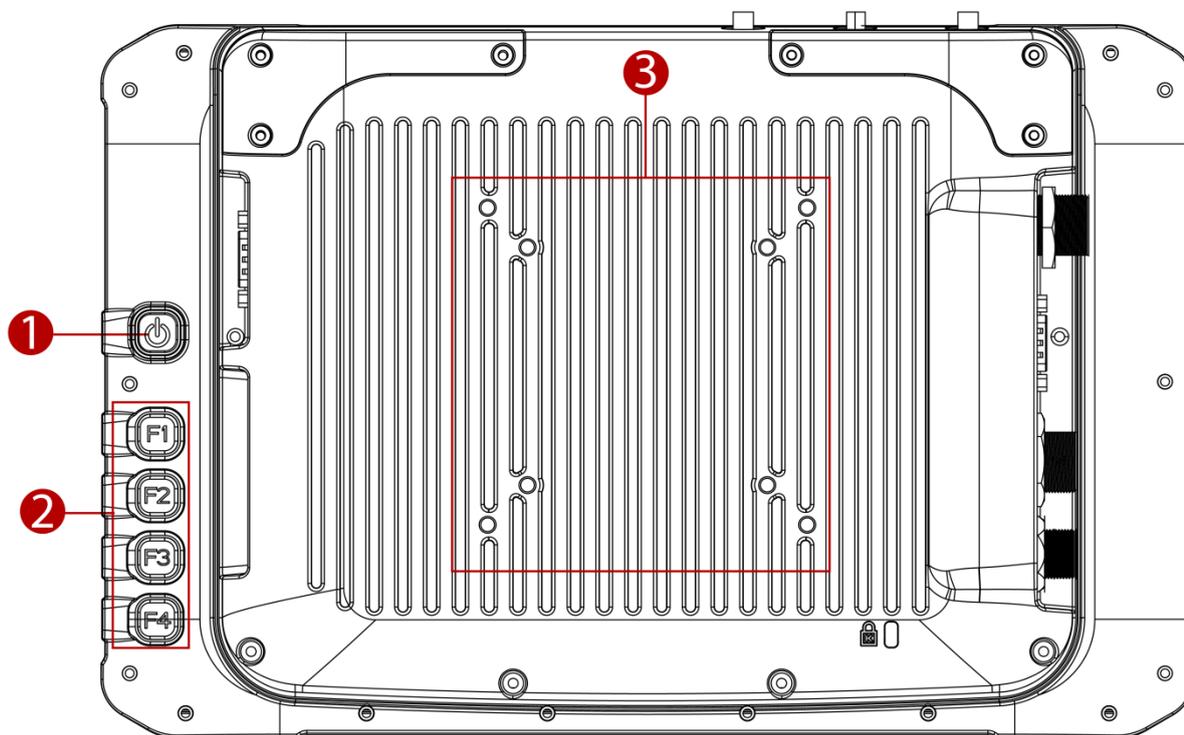
No	Item	Description
1	14" Touch Screen	Acts as one of the inputs for the device
2	Camera	2 Megapixel front camera
3	Microphone	For voice communication and voice recording
4	Light Sensor and LED indicators	 Wi-Fi Indicators
		 UPS Battery Indicators
		 HDD Indicators
		 Power Indicator

## 2.4 Rear View with FM10AD-V and FM12AD-V



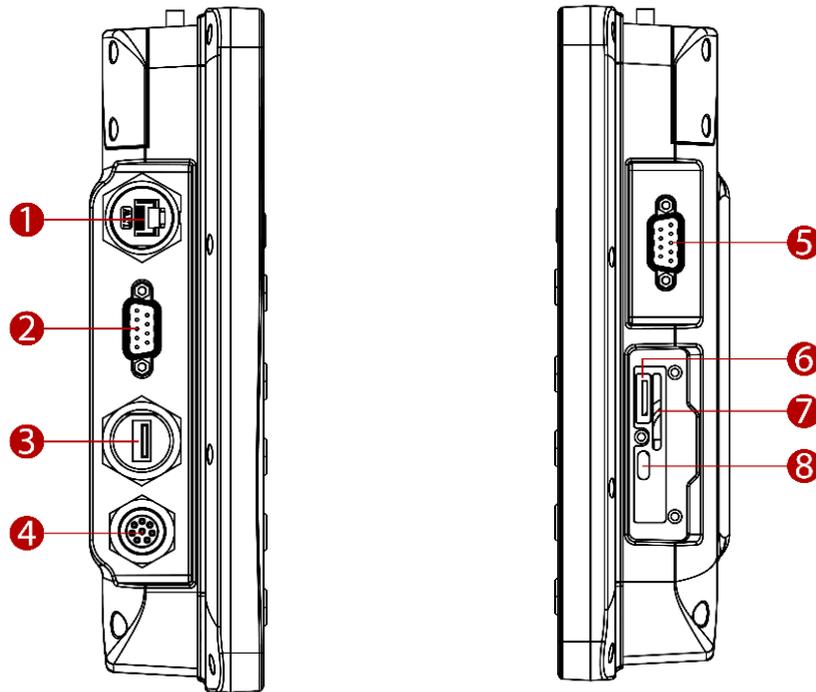
No	Item	Description
1	VESA Mount Hole	VESA 75, 100, and RAM Mount

## 2.5 Rear View with FM14AD-V



No	Item	Description
1	Power Button	Press and hold the button for 3 second to turn on the device
2	Function buttons	Programmable Function keys that can be configured by using the Win-Set® Utility
3	VESA Mount Hole	VESA 75, 100, and RAM Mount

## 2.6 Side View

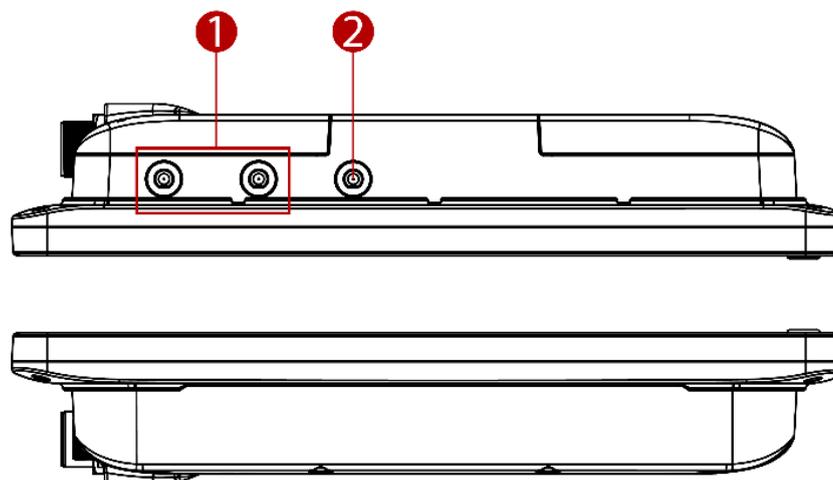


No	Item	Description
1	LAN Port	Connect to a local area network (LAN) using an Ethernet cable and provide optional PSE with 30W.
2	D-SUB A: DB9 male with COM1	Connect a peripheral device such as a printer or scanner with serial port . There is 5V DC output on pin 9.
	D-SUB A: DB15 male with COM1+DIDO/Audio (Optional)	DIDO connector allows direct linking into vehicle, enable access to wide range of vehicle data. Audio connector allows connecting headphone or other audio output devices.
3	USB Type-A	Connect USB peripheral devices such as USB Flash drive, mouse, keyboard, printer, etc.
4	Wide Range Power Input	Connect a 10-60V DC IN wide range power input
5	D-SUB B: DB9 male with COM2	Connect a peripheral device such as a printer or scanner with serial port .There is 5V DC output on pin 9.
	D-SUB B: DB15 female with COM2+CANBus (Optional)	CANBus connector allows direct linking into vehicle, enable access to wide range of vehicle data
6	SD Card Slot	Service window to insert MicroSD card.
7	Dual Nano SIM Card Slot*	Service window to insert Nano SIM cards.
8	USB Type-C	A high-speed USB port connects to USB devices.

**Note:** Service window covers SD Card Slot/ SIM Card Slot and USB Type-C.

**Note:** For the defroster function please connect a device to a power supply.

## 2.7 Top and Bottom View



No	Item	Description
1	WWAN Antenna Connector(optional)	Connect a WWAN external antenna and allow the device to be remotely mounted on the vehicle.
2	GPS Antenna Connector(optional)	Connect a GPS external antenna and allow the device to be remotely mounted on the vehicle.

## 3. Power Cable Installation

### 3.1 Wiring the Power Cable



#### **WARNING! / AVERTISSEMENT!**

This procedure requires a trained service personnel only, improper installation can cause serious damage to the vehicle or the device.

Cette procédure nécessite un personnel de maintenance qualifié uniquement, une mauvaise installation peut causer des dommages importants au véhicule ou le dispositif.

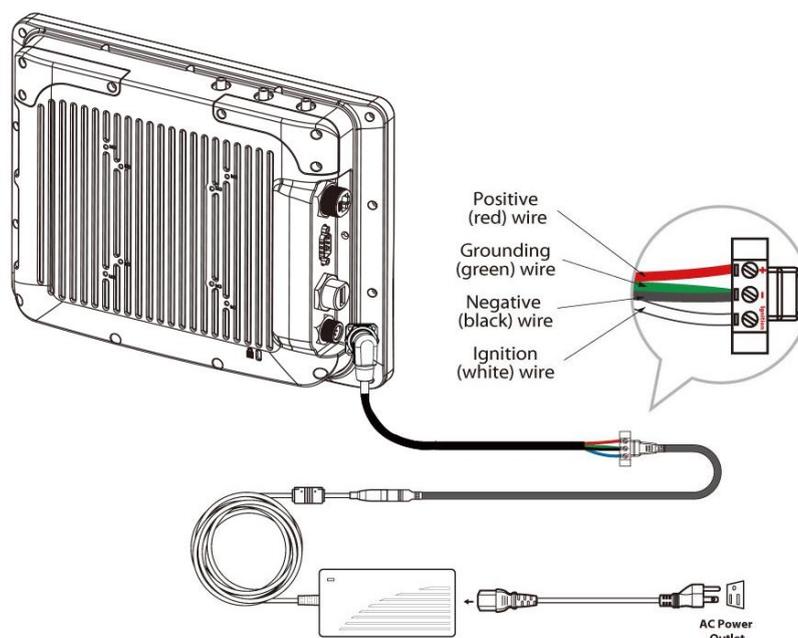
### 3.2 Connecting the Power Cable for Testing



#### **IMPORTANT:**

It is highly recommended to purchase the power cable for testing purpose.

#### Wiring Instruction



1. Place the device on the vehicle dock and make sure the device is Off.
2. Connect the power cable to the FM-V Series by aligning the connector pins and then push it, twist to fasten the connection.
3. Connect the AC plug to the electrical outlet.
4. Press the On button, the device is ready for testing.

### 3.3 Connecting the power cable for installation on the vehicle



#### **WARNING! / AVERTISSEMENT!**

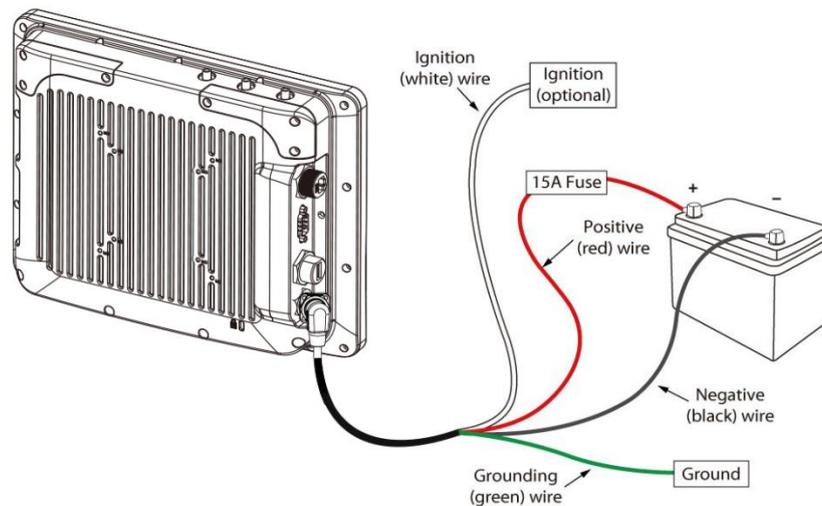
Select a mounting location and make sure it is not located on the outside the vehicle.  
Sélectionnez un emplacement de montage et assurez-vous qu'il ne se trouve pas à l'extérieur du véhicule.



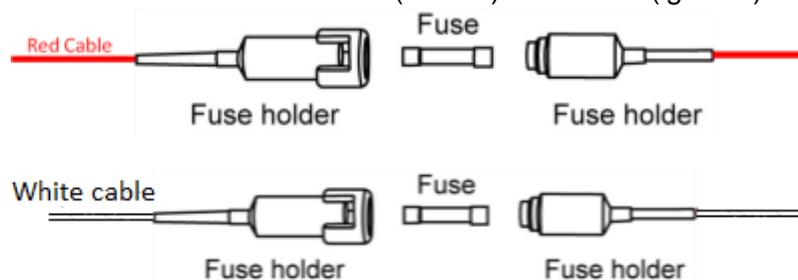
#### **WARNING! / AVERTISSEMENT!**

Do not perform the installation on a moving or live electric forklift.  
Ne pas effectuer l'installation sur un mobile ou un chariot élévateur électrique sous tension.

#### Wiring Instruction



1. Remove the vehicle battery before connecting the power cable
2. Connect the **Green** Wire (Ground) to the vehicle's chassis (grounding), which can also be negative pole of the battery
3. Place the fuse and fuse holder in-line of the **Red** (VCC +) and **White** (ignition) wires as shown below.



#### **Fuse Specification:**

Two Fuses, 15A, 250Volt, UDA Type Fuses



#### **WARNING! AVERTISSEMENT!**

All power wiring must use the supplied power cable.  
Tout le câblage électrique doit utiliser le câble d'alimentation fourni.

4. Slide tubing over wires, remove the wires and insert it to the fuse holder, crimp it.
5. Connect the **red** wire to the vehicle's positive power source. Connect the black wire to the vehicle's negative power source.
6. Connect the white wire to the vehicle's ignition switch for the ignition function, if the requirement is connected to vehicle without ignition, please connect ignition pin to battery V+.

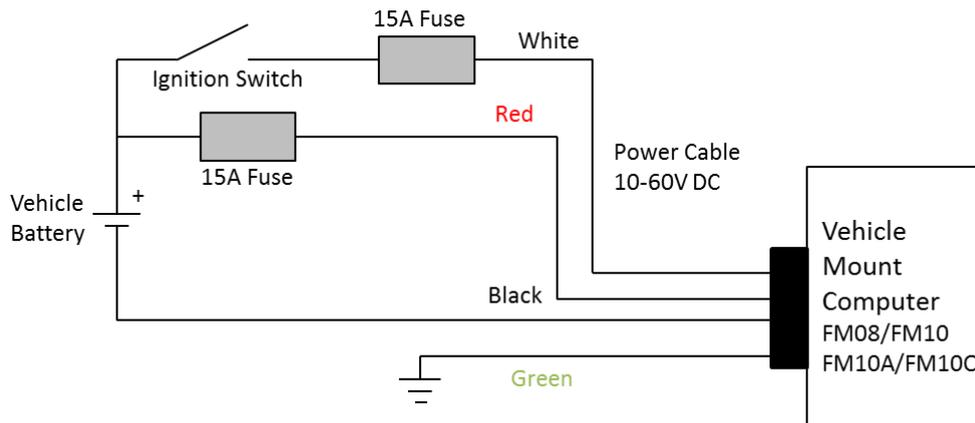
**Warning!**

When power is on, ignition pin connects to battery V+ will cause the power consumption even ignition is off.

**Power cable description:**

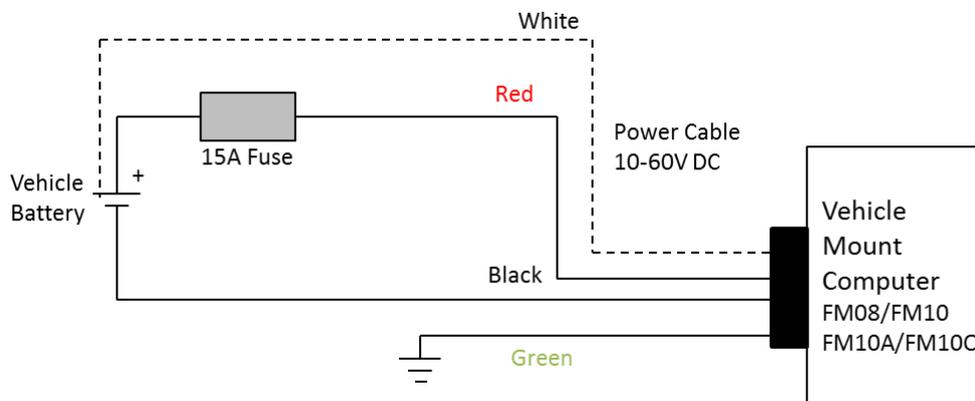
Color	Symbol
Red	VCC+
Black	VCC-
Green	Ground
White	Ignition input (optional)

**With Ignition Function**



- The ignition cable (White cable) must be connected to the battery positive if the customer does not want to have ignition function, as following.

**Without Ignition Function**



**WARNING! / AVERTISSEMENT!**

Use the proper cable clamps and do not over tighten it to prevent it from break.  
 Utilisez les pinces appropriées du câble et ne serrez pas pour l'empêcher de pause.

- Press the power button on the front of the device See *Power Button*.

## 4. Power Management Mode

### 4.1 Power Mode

The FM-V Series VMC has four power modes:

- Full ON
- Standby / Sleep
- Hibernate
- OFF

Action	Button		Power Button Backlight	Indicator
Turn On		Press the On button for “2 seconds” until the battery indicator On (solid green) and then release the button	Off	
Standby or Sleep Mode *		Press the On button for “2 seconds” until the screen On and then release the button. The battery indicator will Off after the screen is Off, the system is already in the standby / sleep mode	On	
Wake up		Press the On button for “2 second” until the screen On and then release the button. The battery indicator will On (solid green)	Off	
Turn Off		Press the On button for “4 second” until the system is turns Off and then releases the button.	Off	

### 4.2 Battery (Optional)

Your device has optional UPS battery. This UPS battery is automatically charged when the device is connected to the external power. The charging time takes approximately 4 hours. The UPS battery is only expected to use for backup under low system loading and without I/O function, and limits power to a maximum of 5 watts.

When running on the UPS battery power, the power timeouts maybe different than when vehicle power is applied. Using the UPS battery power, it allows the device to continue operation even when the device is not connected to the external power. The UPS battery is designed to supply power to your device for a minimum of 1 hour.

If there is no external power source, UPS cannot support the power consumption required for FMAD-V to boot up, so the function of booting up in battery mode is disabled for FMAD-V.

Additionally, discharging the battery at low temperatures can damage it. Therefore, when the battery temperature is below 0 degrees Celsius, the system will not discharge the battery. If users need to remove the power supply at -20 degrees Celsius, please wait for at least thirty minutes after booting up before disconnecting the power supply.

## 5. Thermal Optional

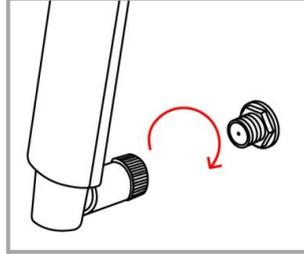
Users can adjust "Thermal Options" in the Win-Set "System Information" page. If the user selects "Performance Priority", the CPU power range is 13W to 15W. If the user selects "Thermal Priority", the CPU power range is 11W to 13W.

System Information	Function Buttons	Blanking Function	Scanner Wedge	Defroster (if equipped)	Exit
PC Information					
BIOS Version	V017				
EC Version	017FM12				
Win-Set Version	3.23.7(FM12)				
OS Version	95Z_0467_231220				
Serial Number	123456789				
Model Name	FMAD				
Battery Health	Good				
<input type="checkbox"/> Check for Update					
Password	<input type="button" value="Set Password"/>				
Touch Mode	<input type="button" value="Set"/>				
Thermal Options	<input type="button" value="Performance Priority"/> <input checked="" type="button" value="Thermal Priority"/>				

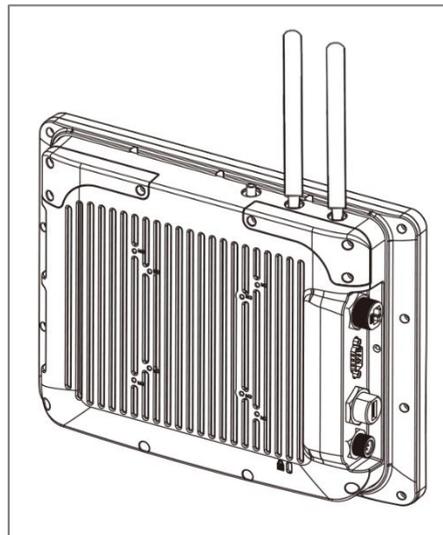
## 6. External / Vehicle Remote Antenna

The FM-V Series is equipped with SMA Connector for additional external antenna (optional WWAN and GPS), to install the antenna please perform the following:

1. Remove the rubber cap on the SMA connector before installing the antenna.
2. Align the antenna with the SMA connector and fasten it as following picture.



3. Adjust the position of external antennas.

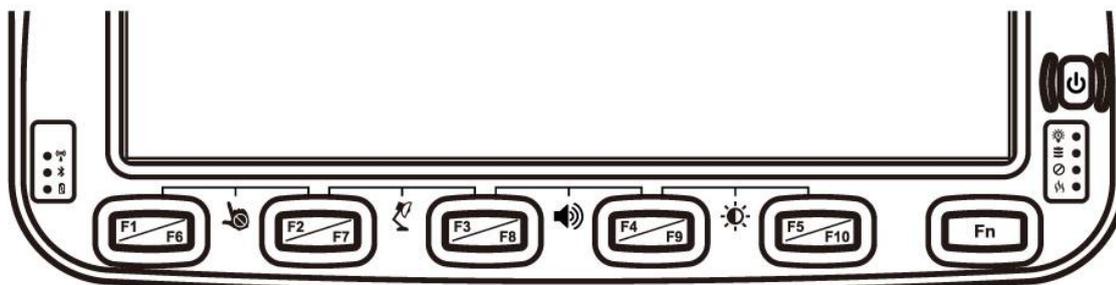


WWAN Antenna Installation

## 7. Keyboard Options

The integrated keypad contains several programmable keys, which are user-programmable keys. Key Mapping is configured via the Win-Set ® utility on the control panel. See the Programmable key to remap these keys.

### 7.1 Integrated Keypad for FM10AD-V



The FM10AD-V has ten programmable keys from F1 to F10.

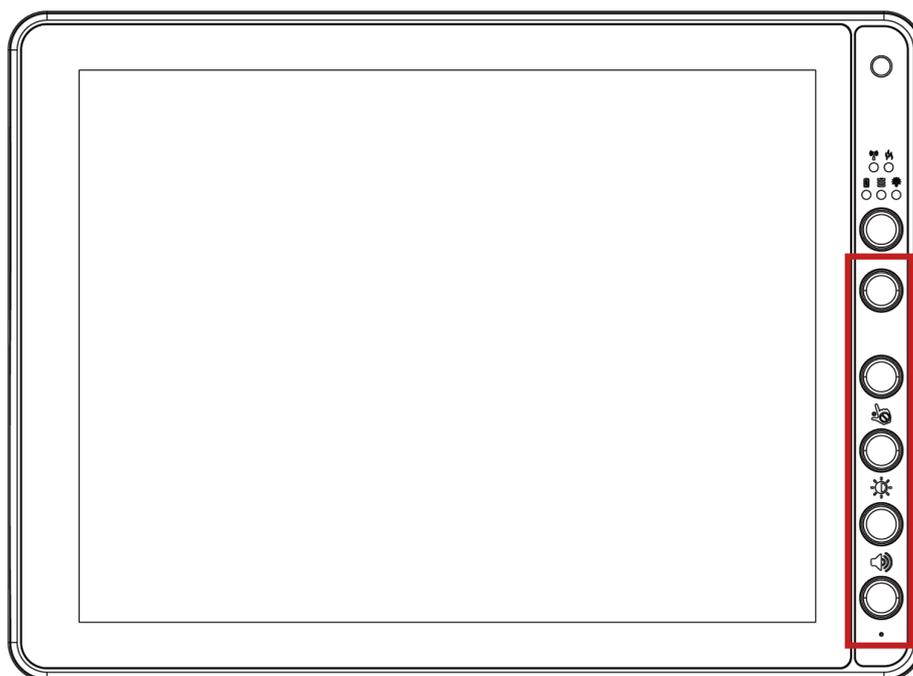
The default values for these keys are:

Press these keys in this order	Default Key Value
F1+F2	Touch Keypad Lock/Unlock
F3+F4	Volume adjustment
F4+F5	Brightness adjustment (Panel + Keypad)
Long Press on F1	Open WinSet
Long press on F4	RF Hot Tab Function
Long press on F5	Camera
Press on Fn	Function key form F6~F10
Long press on Fn	Function key form F11~F24

\*Sign plus “+” means that you have to press both function keys at the same time.

To Get this Programmable Key	POST Key
F1 (Programmable Key 1)	Recovery
F2 (Programmable Key 2)	ESC
F3 (Programmable Key 3)	F3 Key
F4 (Programmable Key 4)	F4 Key
F5 (Programmable Key 5)	F5 Key
F6 (Programmable Key 6)	Enter
F7 (Programmable Key 7)	Up Key
F8 (Programmable Key 8)	Down Key
F9 (Programmable Key 9)	Left Key
F10 (Programmable Key 10)	Right Key

## 7.2 Integrated Keypad for FM12AD-V



The FM12AD-V has eight programmable keys from F1 to F8.

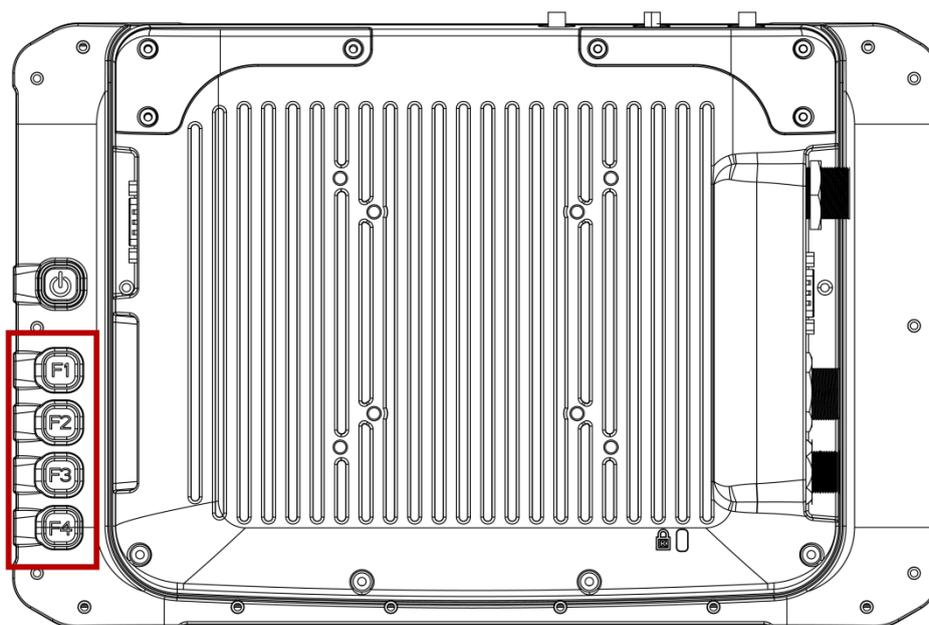
The default values for these keys are:

Press these keys in this order	Default Key Value
F1+F2	Touch Keypad Lock/Unlock
F2+F3	Brightness adjustment (Panel+keypad)
F3+F4	Volume adjustment
Long press on F1	Open WinSet
Long press on F2	RF Hot Tab Function
Long press on F4	Camera
Press on Fn	Function key form F5~F8

\*Sign plus “+” means that you have to press both function keys at the same time.

To Get this Programmable Key	POST Key
F1 (Programmable Key 1)	Recovery
F2 (Programmable Key 2)	ESC
F3 (Programmable Key 3)	Enter
F4 (Programmable Key 4)	F4 Key
F5 (Programmable Key 5)	Up Key
F6 (Programmable Key 6)	Down Key
F7 (Programmable Key 7)	Left Key
F8 (Programmable Key 8)	Right Key

## 7.3 Integrated Keypad for FM14AD-V



The FM14AD-V has four programmable keys from F1 to F4.

The default values for these keys are:

Press these keys in this order	Default Key Value
F1+F2	Touch Keypad Lock/Unlock
F2+F3	Brightness adjustment (Panel+keypad)
F3+F4	Volume adjustment
Long press on F1	Open WinSet
Long press on F2	RF Hot Tab Function
Long press on F4	Camera

\*Sign plus "+" means that you have to press both function keys at the same time.

To Get this Programmable Key	POST Key
F1 (Programmable Key 1)	Recovery
F2 (Programmable Key 2)	ESC
F3 (Programmable Key 3)	F3 Key
F4 (Programmable Key 4)	F4 Key

## 7.4 SB Keyboard / Mouse

A standard USB keyboard or mouse can be attached to the FM-V Series VMC using the appropriate adapter cable. The cable attached to the device and provides USB connector.

## 8. Defroster (Optional)

In cold storage, outdoor or in intermodal facilities condensation may appear on the screen. A defroster clears condensation and thaw frost from the screen. Notice that Defroster is an optional feature for the FM10AD-V / FM12AD-V and may not be present in your device.

To show the defroster status open Win-Set  and go to the Defroster sub-menu to see the information about the defroster.



### IMPORTANT:

The defroster is always **disabled** when the device is operating from UPS battery power.

System Information	Function Buttons	Blanking Function	Scanner Wedge	Defroster (if equipped)	Exit
Defroster is OFF					
Defroster					
<input type="radio"/> Enabled <input checked="" type="radio"/> Disabled					
Defroster on trip point		-5	degrees C		
Defroster off trip point		10	degrees C		

Item	Setting	Setting Options	Default Setting	Description
1	Defroster	Enabled	Disabled	Enables the defroster.
		Disabled		Disables the defroster.
2	Defroster on trip point	-30 ~ 0°C	Default: -5°C	When enabled, defroster automatically starts working when the outside temperature drops down to defroster on trip point (°C)
3	Defroster off trip point	+5°C, +10°C	Default: +10°C	When enabled, defroster automatically stop working when the outside temp. reaches defroster off trip point (°C)

Press Exit  button to close the Win-Set menu and go back to the desktop.

## 9. RAM Mount Installation

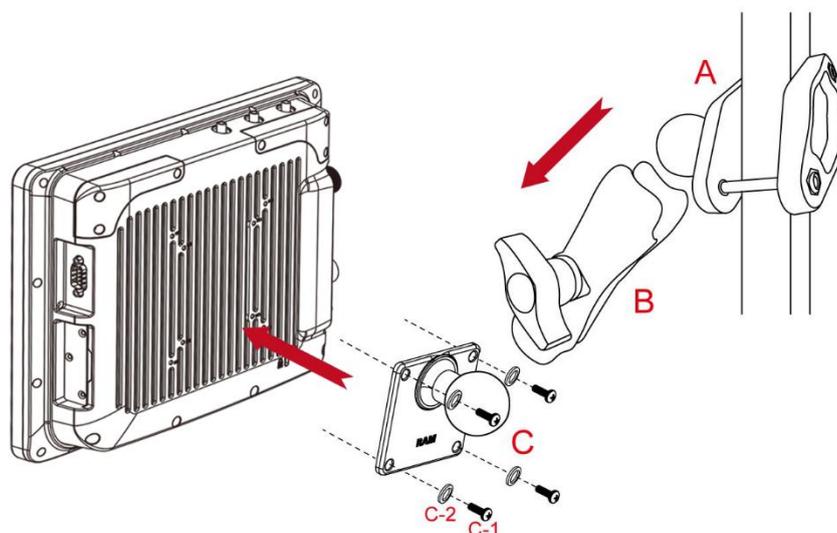
Winmate recommends using RAM Mounting Parts as part of our device mounting solution. The rear cover of this device is designed to be mounted to RAM Mount solutions, which provides different mounting options to fit any industrial use or vehicle. Please notice that mounting kits are not included in the standard package.



### Important:

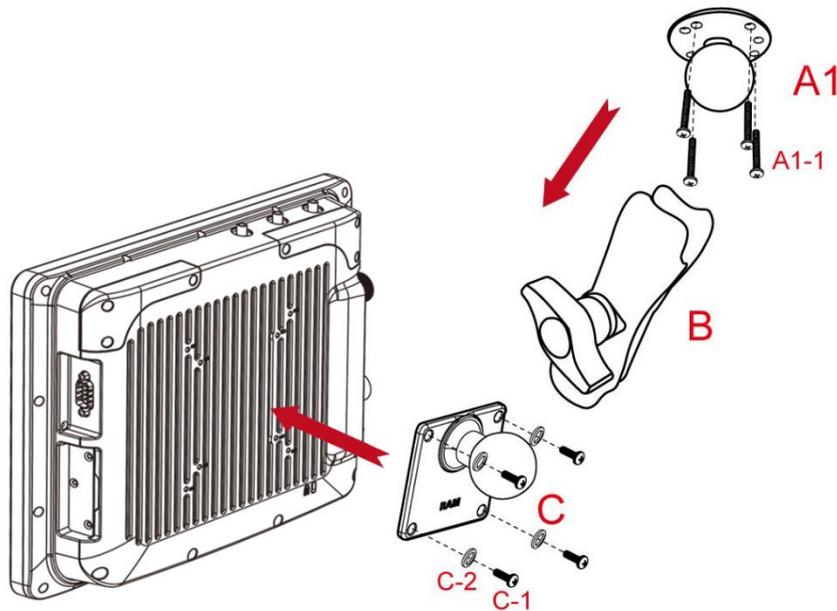
The information below is just a guideline on how you should mount the Winmate device using RAM Mount. To purchase the RAM parts, please follow the RAM Mounts Part and purchase from your preferred retailer.

### Mounting 1 – No Drill Solution



No	Component	RAM Mount Part Number	Description	QTY
A	RAM Clamp Mounts - on the forklift	RAM-D-247U-4	Clamp base with 2.25" Ball	1
B	RAM Arm	RAM-D-201U	Arm for 2.25" Ball(L:8.375")	1
C	RAM Ball on the device side	RAM-D-2461U	75x75mm VESA with 2.25" Ball	1
C-1	Screw	-	SUS304 M5 x 12mm Screw	5
C-2	Washer	-	M5 Washer	5

## Mounting 2 – Drill Solution



No	Component	RAM Mount Part Number	Description	QTY
A1	RAM round base mounts - on the forklift	RAM-D-202U	3.68" Round Base with 2.25" Ball	1
A1-1	Screw	-	SUS304 M8 x 40mm Screw	5
B	RAM Arm	RAM-D-201U	Arm for 2.25" Ball (Length:8.375")	1
C	RAM Ball on the device side	RAM-D-2461U	75x75mm VESA with 2.25" Ball	1
C-1	Screw	-	SUS304 M5 x 12mm Screw	5
C-2	Washer	-	M5 Washer	5

### RAM Mount Assembly

#### Step 1 Install RAM Clamp to vehicle or forklift

1. Determine the position for mounting the RAM clamp mount according to RAM Mounts installation guide and specification.
2. Place the upper clamp with ball on the beam, insert the bolt.
3. Place the lower clamp below the beam. Align the bolts with the holes in the lower clamp.
4. Place the nuts and then tighten it.

#### Step 2 Install RAM Ball base to vehicle dashboard / other surface.

1. Please make sure that the surface is flat and rigid.
2. Attach the RAM ball base to the vehicle and fix it using bolt or fasteners.

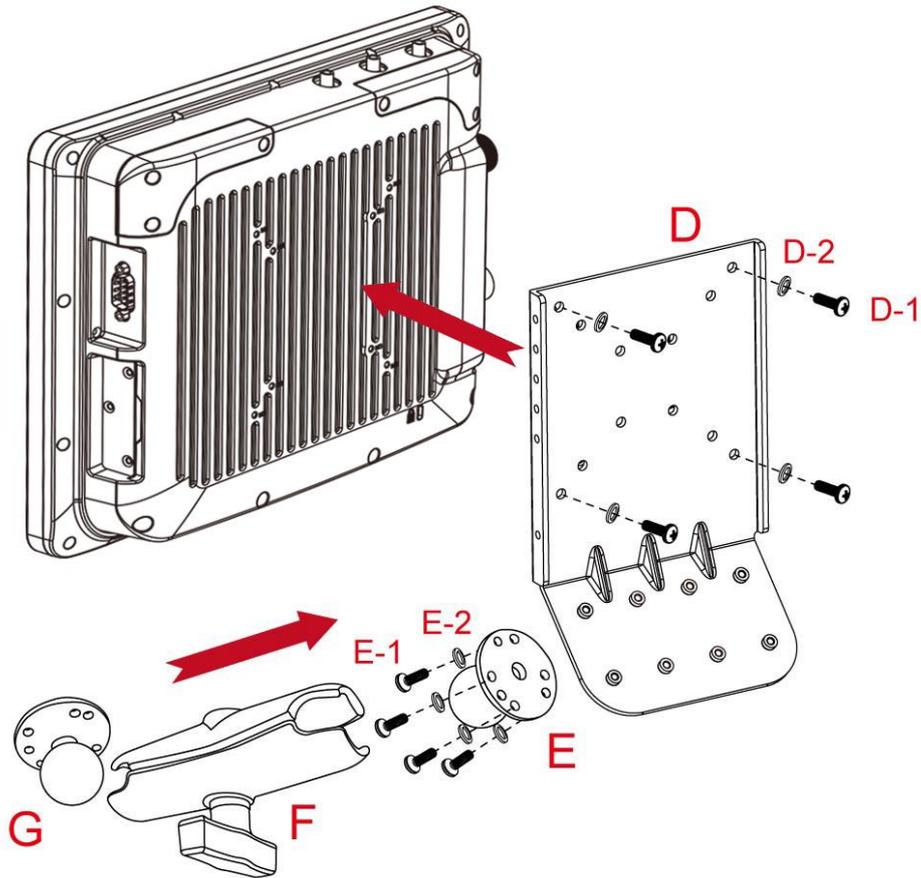
#### Step 3 Attach RAM Mount Ball to the device.

1. Turn the device off before installing the RAM mount ball.
2. Locate the VESA mount holes on the back of the device and align it with the holes from RAM Ball base. Fix with four M5 screws.

#### Step 4 Attach the device to RAM arm.

1. Insert the RAM arm over the ball on the vehicle RAM mount (shown here).
2. Insert the ball on the dock into the RAM arm and tighten the knob.

### Mounting 3 – Keyboard Mounting Installation

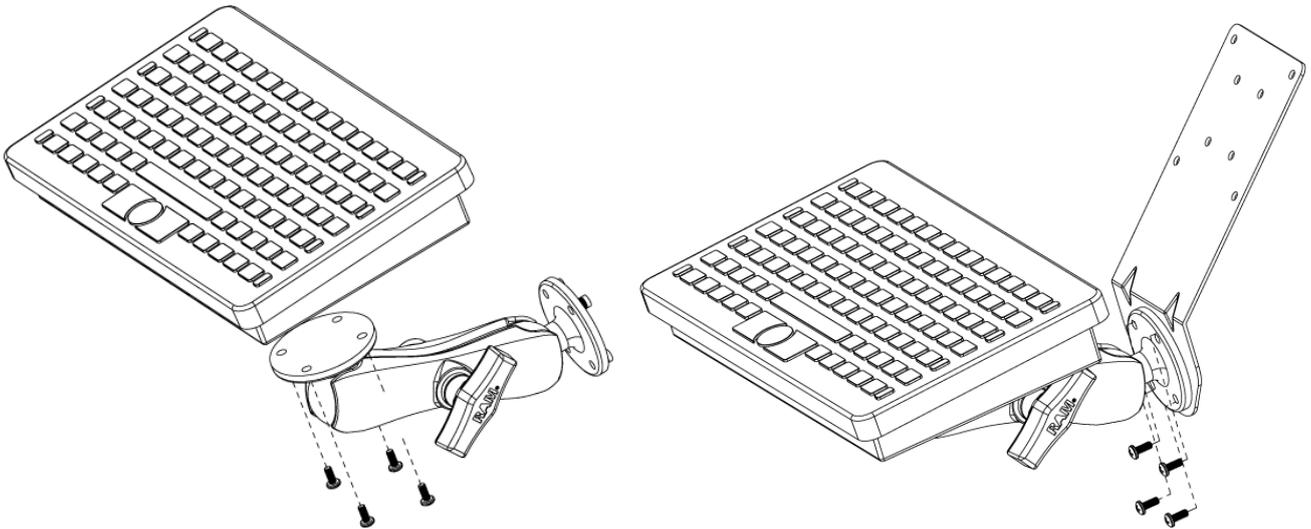


No	Component	RAM Mount Part Number	Description	QTY
D	Winmate Keyboard Adapter Plate (designed by Winmate)	-	4 VESA Holes on the plate to device and 4 AMPS holes to RAM Ball	1
D-1	Screw	-	SUS304 M5 x 20mm Screw	5
D-2	Washer	-	M5 WASHER	5
E	RAM Ball on the sloped part of the keyboard adapter plate	RAM-202U	2.5" Round Base with 1.5" Ball	1
E-1	Screw	-	SUS304 M4 x 14mm Screw	5
E-2	Washer	-	M4 WASHER	5
F	RAM Arm	RAM-201U	Arm for 1.5" Ball (Length:5.6")	1
G	RAM Ball on the sloped part of the keyboard adapter plate	RAM-202U	2.5" Round Base with 1.5" Ball	1

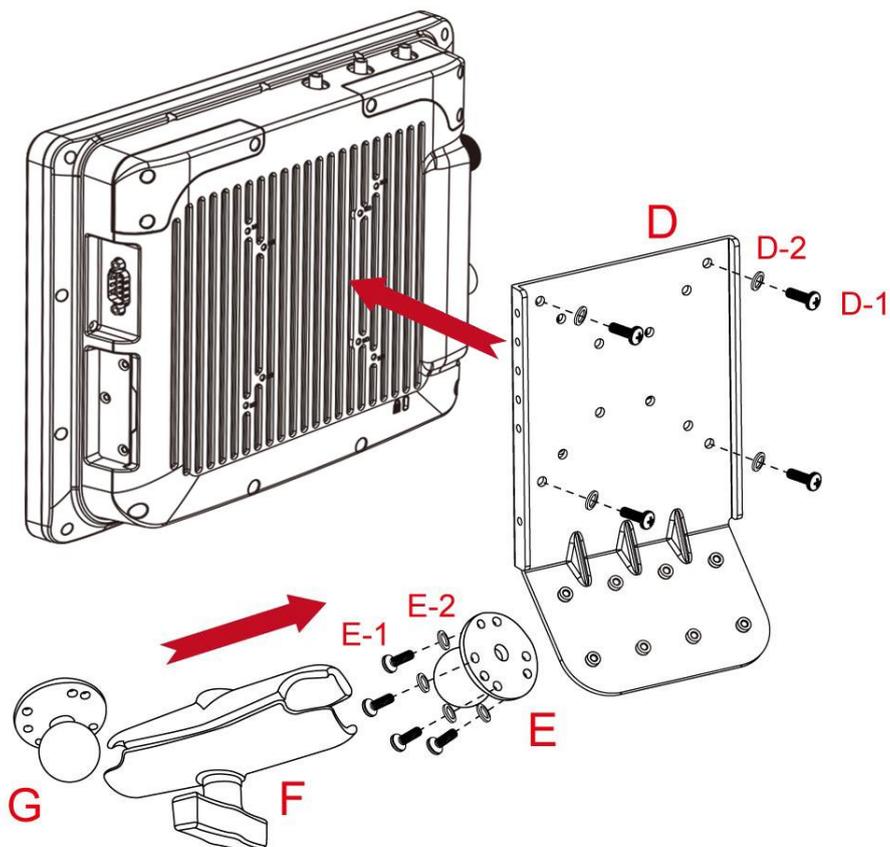
## Keyboard Assembly

This part shows the steps to install the keyboard.

1. Fasten all four screws on the RAM mount ball on the back of the keyboard.
2. Fasten the keyboard adapter on the other end of the RAM mount ball.



3. Fasten the RAM mount ball screws on the back of the device, so all mounting parts are fastening together.









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