

# FM12E-V

12.1" Vehicle Computer with Intel® Elkhart lake x6413E



## KEY FEATURES

- Intel® Elkhart lake x6413E Processor vehicle computer
- 12.1" 1024 x 768 Panel with PCAP touch screen
- IP65 waterproof and dustproof
- Wide power input 10-60V DC with ignition
- Wide range operating temperature
- Support VESA Mount

## INTRODUCTION

Winmate FM-V Series Windows Vehicle Mounted Computer (VMC) is designed for reliable performance in demanding industrial and automotive environments. Available in sizes from 7" to 14", it offers processor options ranging from Intel® Celeron® N6211 and N3350 to the powerful 12th Gen Intel® Alder Lake processors. Built with an IP65-rated waterproof and dustproof enclosure, wide 10-60V DC power input with ignition support, and a rugged design for extreme temperatures, the FM-V Series ensures durability and efficiency. VESA mount compatibility provides easy installation, making it ideal for fleet management, logistics, and warehouse operations.

## SPECIFICATIONS

### Display

|                |                                  |                  |                                  |
|----------------|----------------------------------|------------------|----------------------------------|
| Type           | Projected Capacitive Multi Touch | Touch Mode       | Support Hand, Stylus, Glove Mode |
| Resolution     | 1024x768                         | Size             | 12.1 inches                      |
| Contrast Ratio | 1000:1                           | Panel Brightness | 400 nits<br>800 nits(Optional)   |
| View Angles    | 89,89,89,89                      |                  |                                  |

### System Specification

|                  |                                                                                                                                                                                                           |          |                                                                      |
|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|----------------------------------------------------------------------|
| Processor        | Intel Atom x6413E 1.5GHz (up to 3GHz)<br>Intel Atom x6425E 2GHz (up to 3GHz) (Optional)<br>Intel Atom x7433RE 1.5 GHz (up to 3.4 GHz) (Optional)<br>Intel Atom x7835RE 1.3 GHz (up to 3.6 GHz) (Optional) | Memory   | 1 x SO-DIMM, DDR4 3200 MHz, 4GB<br>8GB (Optional)<br>16GB (Optional) |
| Storage          | 1 x M.2 2242 SSD 128GB<br>256GB (Optional)<br>512GB (Optional)                                                                                                                                            | Security | TPM 2.0                                                              |
| Operating System | Windows 10 IoT Enterprise LTSC (64 bit)<br>Windows 11 IoT Enterprise LTSC (64 bit) (Optional)                                                                                                             | WLAN     | Support                                                              |
| BT               | Support                                                                                                                                                                                                   | WWAN     | 4G/LTE (Optional)                                                    |
| GNSS             | GPS/GLONASS (Optional)                                                                                                                                                                                    | Sensors  | G-Sensor, Light Sensor ,Temp Sensor                                  |

### Camera

|              |            |
|--------------|------------|
| Front Camera | 2MP Camera |
|--------------|------------|

### Environment

|                    |                              |                       |               |
|--------------------|------------------------------|-----------------------|---------------|
| Operating Humidity | 5% to 90% RH, Non-Condensing | Operating Temperature | -30°C to 60°C |
|--------------------|------------------------------|-----------------------|---------------|

|                            |                                       |                  |                                                                      |
|----------------------------|---------------------------------------|------------------|----------------------------------------------------------------------|
| <b>Storage Temperature</b> | -30°C to 60°C                         | <b>Shock</b>     | MIL-STD-810H Method 516.8 Procedure I                                |
| <b>Vibration</b>           | MIL-STD-810H Method 514.8 Procedure I | <b>IP rating</b> | IP65                                                                 |
| <b>Impact</b>              | Support EN62262 IK07 Rating           | <b>ESD</b>       | Compliant with EN 61000-4-2, enhanced ESD to ±8kV direct & ±12kV air |

## Certification

|                      |                                                                                          |
|----------------------|------------------------------------------------------------------------------------------|
| <b>Certification</b> | CE, FCC<br>FCC (Electromagnetic Emissions), IC (ICES-003)<br>UL60950-1, EN60950-1, PTCRB |
|----------------------|------------------------------------------------------------------------------------------|

## Control

|               |                                                                                           |
|---------------|-------------------------------------------------------------------------------------------|
| <b>Button</b> | 1 x Power Button, 5 x Function Button<br>(Programmable Function Key Configured by Winset) |
|---------------|-------------------------------------------------------------------------------------------|

## IO Ports

|                     |                                                              |                      |                                                           |
|---------------------|--------------------------------------------------------------|----------------------|-----------------------------------------------------------|
| <b>USB Port</b>     | 1 x USB Type-C<br>1 x USB 2.0 Type-A                         | <b>Serial Port</b>   | 2 x RS232/422/485 (Default RS232)                         |
| <b>SD Card Slot</b> | 1 x Micro SD Card Slot                                       | <b>SIM Card Slot</b> | 1 x Dual-Nano SIM Card Slot                               |
| <b>Audio</b>        | 1 x Audio(Mic in & Line Out) either one with DIDO (Optional) | <b>LAN</b>           | 1 x Gigabit LAN port<br>PSE (IEEE 802.3at 30W) (Optional) |
| <b>Indicator</b>    | 4 x LED Indicator<br>(WLAN, UPS battery, HDD, Heater)        | <b>DIDO</b>          | 1 x DIDO (2XDI ; 2XDO) either one with Audio (Optional)   |
| <b>CANBUS</b>       | 1 x CANBus (Optional)                                        |                      |                                                           |

## Mechanical

|                  |                       |                       |                |
|------------------|-----------------------|-----------------------|----------------|
| <b>Dimension</b> | 306.6 x 225 x 56.6 mm | <b>Weight</b>         | 2.4kg          |
| <b>Mounting</b>  | VESA mount            | <b>Cooling System</b> | Fanless Design |

## Security Function

|                         |                             |
|-------------------------|-----------------------------|
| <b>SOTI MobiControl</b> | SOTI MobiControl Compliance |
|-------------------------|-----------------------------|

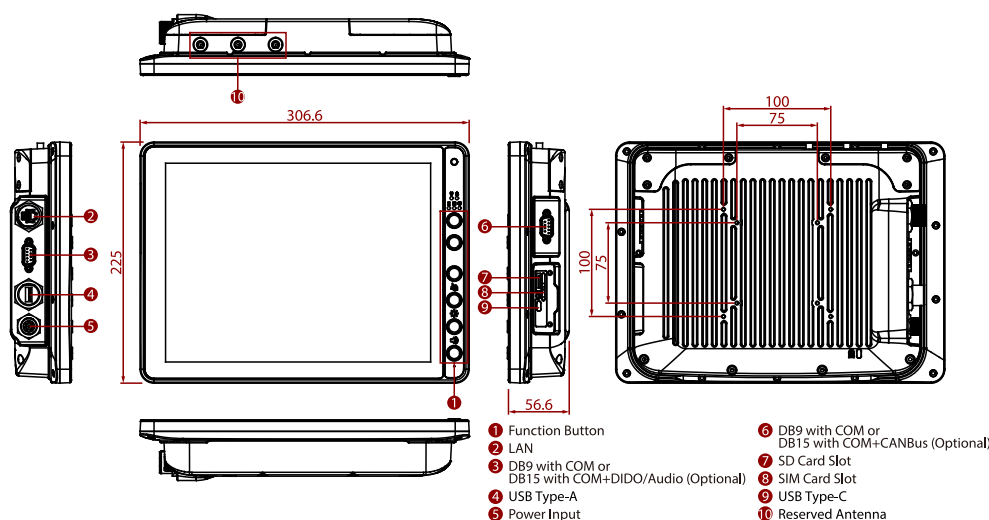
## Accessory

|                  |                                                                                                                                           |                           |                                                                                                                                                                                                                                                                                                                           |
|------------------|-------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Accessory</b> | 1.8M Power Cable with Fuse Kit<br>0.15M Power Converter Cable<br>DC Jack Power Cable<br>84W Adapter with power cable<br>Quick Start Guide | <b>Optional Accessory</b> | 5M Power Cable with Fuse Kit<br>Stylus Kit + Screw<br>1.8M RS232 Cable<br>2M IP65 LAN Cable<br>GPS & LTE 5M Combo Antenna (VM9C)<br>GPS & LTE Magnetic Combo Antenna (VM10S)<br>GPS Antenna<br>WWAN Antenna<br>2M Waterproof USB Type-A to A Cable<br>Cable Clamp Kit<br>COM Port + CANBus Cable<br>COM Port + DIDO Cable |
|------------------|-------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## Power

|                    |                                                     |                     |                               |
|--------------------|-----------------------------------------------------|---------------------|-------------------------------|
| <b>Battery</b>     | 400mAh UPS Battery for 20 minutes backup (Optional) | <b>Power Rating</b> | 10V~60V with ignition control |
| <b>Consumption</b> | 45W (Typical)                                       |                     |                               |

## DIMENSIONS UNIT:MM



## NOTE

1. Total usable memory will be less dependent upon actual system configuration.
2. SOTI is available upon request.
3. Length measurements do not include protrusions. Weight varies with options.
4. Measured at dimming LCD brightness. Varies depending on the usage conditions, or when an external device is attached.
5. Accessories may vary depending on your configuration.
6. This is a simplified drawing and some components are not marked in detail.
7. 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.
8. COM port can supply 5V power via the 9th pin.
9. The UPS battery is only expected to use for backup under low system loading and without I/O function.