

# FM12E

12.1" Forklift Mounted Computers with Intel® Elkhart lake x6413E



## KEY FEATURES

- Intel® Elkhart lake x6413E Processor, Windows forklift mounted computers
- 12.1" 1024 x 768 Panel with PCAP Touch
- Field replaceable front panel to reduce service costs
- IP65 waterproof and dustproof
- Wide range operating temperature

## INTRODUCTION

Winmate FM Series Windows Vehicle Mounted Computer (VMC) is engineered for industrial reliability and versatility, offering sizes from 8" to 12" and powered by the Intel® Elkhart Lake x6413E processor. Built for tough environments, it features an IP65-rated waterproof and dustproof design, wide operating temperature range, and a field-replaceable front panel for reduced service costs. Optional QWERTY keypad and PCAP touch screen provide enhanced usability, making it ideal for logistics, fleet management, and demanding industrial applications.

## 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/AGPS                                                                                                                                                                                                  | 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                         |
| Storage Temperature | -30°C to 60°C                         | Shock                 | MIL-STD-810H Method 516.8 Procedure I |
| Vibration           | MIL-STD-810H Method 514.8 Procedure I | IP rating             | IP65                                  |

|        |                             |     |                                                                                              |
|--------|-----------------------------|-----|----------------------------------------------------------------------------------------------|
| Impact | Support EN62262 IK07 Rating | ESD | Compliant with EN 61000-4-2, enhanced ESD to $\pm 8\text{kV}$ direct & $\pm 12\text{kV}$ air |
|--------|-----------------------------|-----|----------------------------------------------------------------------------------------------|

## Certification

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

## Control

|        |                                                                                           |
|--------|-------------------------------------------------------------------------------------------|
| Button | 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(Tablet)<br>1 x DB9 Connector for 2 x USB 2.0 Port(Docking) | <b>Serial Port</b>       | 2 x COM Port(Docking)                                                                                                                                                      |
| <b>SD Card Slot</b> | 1 x Micro SD Card Slot(Tablet)                                            | <b>SIM Card Slot</b>     | 1 x Dual-Nano SIM Card Slot                                                                                                                                                |
| <b>Audio</b>        | 2 x Speaker(Docking)<br>1 x CANBus or 1 x Audio(Docking)                  | <b>LAN</b>               | 1 x Gigabit LAN port(Docking)                                                                                                                                              |
| <b>Indicator</b>    | 4 x LED Indicator<br>(WLAN, UPS battery, HDD, Heater)                     | <b>Docking Connector</b> | SMA Connector(female) for external antenna WLAN<br>SMA Connector(female) for external antenna GPS (Optional)<br>SMA Connector(female) for external antenna WWAN (Optional) |

## Mechanical

|                        |                                                         |                       |                                 |
|------------------------|---------------------------------------------------------|-----------------------|---------------------------------|
| <b>Dimension</b>       | Tablet: 307 x 225 x 41 mm<br>Docking: 202 x 245 x 52 mm | <b>Weight</b>         | Tablet 1.7 kg<br>Docking 1.6 kg |
| <b>Mounting</b>        | RAM mount/ VESA mount                                   | <b>Cooling System</b> | Fanless Design                  |
| <b>Docking Housing</b> | Aluminum Alloy Housing                                  |                       |                                 |

## Security Function

|                  |                             |
|------------------|-----------------------------|
| SOTI MobiControl | SOTI MobiControl Compliance |
|------------------|-----------------------------|

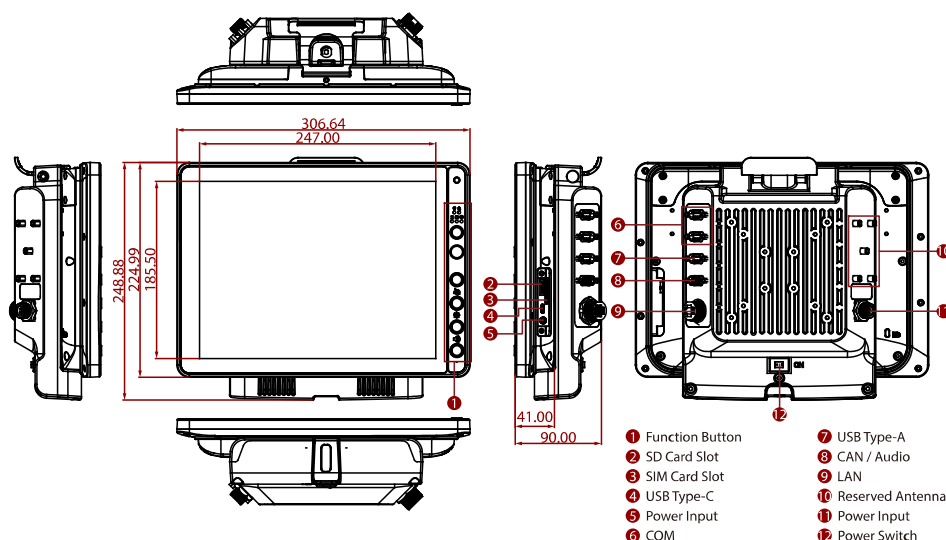
## Accessory

|                  |                                                                                                                                                                                                                                                                                        |                           |                                                                                                                                                                                                                                             |
|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Accessory</b> | 5M Power Cable with Fuse Kit<br>0.3M USB Cable<br>0.15M Power Converter Cable<br>DC Jack Power Cable<br>84W Adapter with power cable<br>Cable Clamp Kit<br>Wi-Fi Antenna x 2<br>Quick Start Guide<br>External Antenna Fixing Bracket<br>Dock + Latch Locking Key<br>Stylus Kit + Screw | <b>Optional Accessory</b> | 1.8M RS232 Cable<br>0.3M Audio Cable<br>1.8M CAN BUS Cable<br>1.8M CAN BUS Open Wire Cable<br>2M IP65 LAN Cable<br>GPS & LTE 2M Combo Antenna(VM240)<br>GPS & LTE 5M Combo Antenna (VM9C)<br>Magnetic Combo Antenna (VM10S)<br>WWAN Antenna |
|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## Power

|                    |                                               |                     |                                                             |
|--------------------|-----------------------------------------------|---------------------|-------------------------------------------------------------|
| <b>Battery</b>     | 7.6V UPS Battery (2S1P)<br>Minimum 30 minutes | <b>Power Rating</b> | Docking: 10V-60V with ignition control<br>Tablet: 12V DC In |
| <b>Consumption</b> | 45W (Typical)                                 |                     |                                                             |

## DIMENSIONS UNIT:MM



## NOTE

- Total usable memory will be less dependent upon actual system configuration.
- SOTI is available upon request.
- Length measurements do not include protrusions. Weight varies with options.
- Measured at dimming LCD brightness. Varies depending on the usage conditions, or when an external device is attached.
- Accessories may vary depending on your configuration.
- This is a simplified drawing and some components are not marked in detail.
- 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.
- COM port can supply 5V power via the 9th pin.