

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



OVERVIEW



Vibration and shock-proof design ensure reliable performance

When it comes to industrial usage, Winmate FM12E-V that is rugged enough to survive harsh environments is a must. Its solid enclosure proves the FM12E's durability with MIL-STD-810H certification and IP65 rating.



PCAP Touch Screen

The FM12E-V features a compact panel with a PCAP touch screen. Resistant to dirt, debris, and highly sensitive touch commands make you enjoy every touch and convenience of using the device.



High-Performance CPU

To support the next generation of IoT edge devices, FM12E-V has developed a new line of processors enhanced for IoT—The Intel Elkhart Lake Series processors. These processors build on new levels of CPU, and graphics performances with integrated IoT features, real-time performance, manageability, security, and functional safety.



Windows 10 IoT Enterprise

Windows 10 IoT Enterprise is a full version of Windows 10 that delivers enterprise manageability and security to IoT solutions. Windows 10 IoT Enterprise shares all the benefits of the world-wide Windows ecosystem. It is a binary equivalent to Windows 10 Enterprise to use the same familiar development and management tools as client PCs and laptops.



Reliable computing under extreme operating temperatures

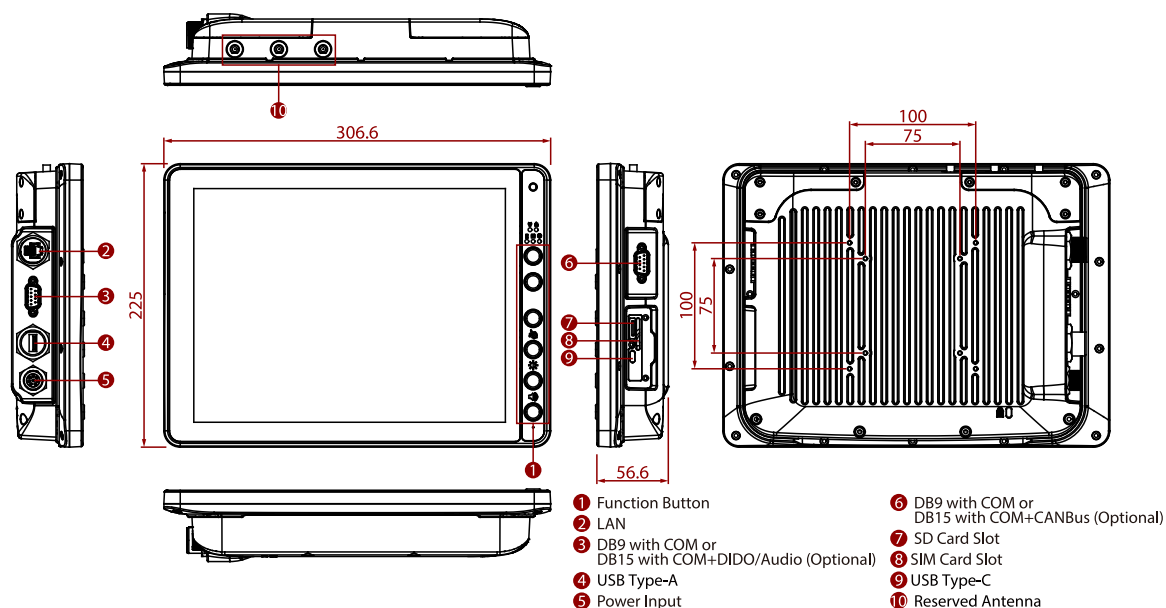
Low-power components of industrial computers prevent overheating and are less likely to achieve high temperatures in the first place.

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 800 nits(Optional)
View Angles	89,89,89,89		
System Specification			
Processor	Intel Atom x6413E 1.5GHz (up to 3GHz) Intel Atom x6425E 2GHz (up to 3GHz) (Optional)	Memory	1 x SO-DIMM, DDR4 3200 MHz, 4GB 8GB (Optional)
Storage	1 x M.2 2242 SSD 128GB 256GB (Optional)	Security	TPM 2.0
Operating System	Windows 10 IoT Enterprise LTSC (64 bit) 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
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 ±8kV direct & ±12kV air
Certification			
Certification	CE, FCC FCC (Electromagnetic Emissions), IC (ICES-003) UL60950-1, EN60950-1, PTCRB		
Control			
Button	1 x Power Button, 5 x Function Button (Programmable Function Key Configured by Winset)		
IO Ports			
USB Port	1 x USB Type-C 1 x USB 2.0 Type-A	Serial Port	2 x RS232/422/485 (Default RS232)
SD Card Slot	1 x Micro SD Card Slot	SIM Card Slot	1 x Dual-Nano SIM Card Slot
Audio	1 x Audio(Mic in & Line Out) either one with DIDO (Optional)	LAN	1 x Gigabit LAN port PSE (IEEE 802.3at 30W) (Optional)
Indicator	4 x LED Indicator (WLAN, UPS battery, HDD, Heater)	DIDO	1 x DIDO (2XDI ; 2XDO) either one with Audio (Optional)
CANBUS	1 x CANBus (Optional)		
Mechanical			
Dimension	306.6 x 225 x 56.6 mm	Weight	2.4kg
Mounting	VESA mount	Cooling System	Fanless Design
Security Function			
SOTI MobiControl	SOTI MobiControl Compliance		
Accessory			
Accessory	1.8M Power Cable with Fuse Kit 0.15M Power Converter Cable DC Jack Power Cable 84W Adapter with power cable Quick Start Guide	Optional Accessory	5M Power Cable with Fuse Kit Stylus Kit + Screw 1.8M RS232 Cable 2M IP65 LAN Cable GPS & LTE 5M Combo Antenna (VM9C) GPS & LTE Magnetic Combo Antenna (VM10S) GPS Antenna WWAN Antenna 2M Waterproof USB Type-A to A Cable Cable Clamp Kit COM Port + CANBus Cable COM Port + DIDO Cable
Power			
Battery	400mAh UPS Battery for 20 minutes backup (Optional)	Power Rating	10V~60V with ignition control
Consumption	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.