

TRANSPORTATION



About Winmate

Founded in 1996, Winmate Inc. is a pioneer in rugged computing technology. Winmate has provided business leaders worldwide with reliable, robust solutions for the most challenging industrial conditions for over two decades. From R&D to manufacturing to in-house testing, Winmate Inc. manages the entire product development process with ready-made products available for quick deployment. Today Winmate's innovative approach has helped countless enterprises at every level with equipment automation and seamless Industrial Internet of Things (IIoT) integration.

From the industrial display, panel PC, HMI, embedded systems to rugged mobile devices, Winmate caters to industries ranging from transportation and logistics to marine and military, railway, oil, and gas, and provides customization services to create a unique solution for specific customer requirements.

The Winmate Difference

Innovation and Ruggedness

With innovation and ruggedness, our products are designed to meet the requirements of vertical markets' environmental standards.

Engineering Intelligence

We are committed to maintaining the highest standards in engineering excellence to ensure our products deliver reliability, durability, and optimized performance.

Quality Commitment

Quality assurance and entire engineering processes are conducted in-house. It is why we invested significantly in our state-of-the-art testing facility with additional global support.



Efficiency

Our team is committed to efficiency and maintaining the shortest possible development cycles. The whole development process is conducted in-house to achieve the market advantage in speed and quality from design to testing.

Reliability

Reliability, service, and support are part of our foundation. Every product scrutinizes industrial standards testing to verify electrical, mechanical, thermal, and firmware design performance.

Customized Solutions

Years of experience allow Winmate to offer customized solutions for different applications.

From product design to accessories, our engineering team designs and support the system integration process.

- CUSTOMIZED CONFIGURATION
- CUSTOM OS IMAGE
- CUSTOM BIOS
- ENCLOSURE DESIGN
- PERIPHERALS AND OPTIONS
- CUSTOM-DESIGNED ACCESSORIES

Technical Know-How

We understand that access to cutting-edge solutions purposely built for their applications is imperative for enterprises operating in rugged or potentially hazardous environments. As a result, Winmate locates its resources from project research and design, software development and customization, product verification and validation, and in-house testing to research and implement the latest technologies available.

The latest technologies we deploy for our rugged products:



- Dry and wet optical bonding
- Panel enhancement for sunlight readability
- Anti-reflection (AR) and anti-glare (AG) glass protection coating
- · Light sensor
- Hyper dimming
- Electronic potting
- Touch screen integration: projected capacitive, resistive, or SAW touch

- Waterproof enclosure
- Military EMI and mesh coating
- Wireless capabilities
- Data capture devices integration
- Defroster for ultra-low temperature environments
- Stainless steel SUS 316/ AISI 316
- Shock and vibration resistance
- Wide-range operation temperature

Logistics and Transportation

Overview

In the warehouse environment, the ability to mount mobile devices and computers to forklifts, trucks, tuggers, and inventory pickers is essential for maximizing productivity. From inventory management to order fulfillment, asset tracking, shipping, and receiving, the warehouse floor is a complex ecosystem requiring highly efficient technology to keep things running smoothly.

Our vehicle mount computers include:

- The latest Android™ or Windows® operating system
- Robust wireless communications
- · Vehicle mounting solutions

Winmate's rugged vehicle-mounted computers and rugged tablets are designed to fit seamlessly into forklifts and other warehouse vehicles, which helps minimize errors, streamline ordering and inventory management, and improve operational efficiencies.

Industrial Challenges

• In-vehicle installation

Computer hardware tailored for warehouse and logistics must be compatible with RAM mount or VESA mount in-vehicle installation methods.

• Unstable power supply from the vehicle

Instability during start-up and shutdown can cause system crashes and restarting issues. Devices that receive power from the vehicle must have a solution to ensure stable performance in unstable power supply situations.

· Working in cold storage areas

In a large warehouse environment, forklifts frequently go back and forth between the cold storage areas and room-temperature environments. The computer devices must show stable performance in low and high temperatures.

Driver's safety

The computer must not distract the driver.

Strong vibration

Devices installed on a forklift must be rugged enough to withstand all-day operations and vibration from the vehicle.

Technology

- RAM mount and VESA mount solutions.
- Wide-range power input and ignition control
- Built-in defroster to work in cold storage
- Screen blanking function to automatically control screen behavior
- Waterproof, dust, and drop resistant IP65-rated enclosure
- Accessories tailored for warehouse and logistic applications





RUGGED TABLETS

Portable and wireless rugged tablet computers can survive in any environment and get real work done.



VEHICLE-MOUNTED COMPUTERS

Rugged vehicle-mounted computers are used for data collection in the warehouse and logistic applications, designed to fit seamlessly into forklifts, trucks, and other vehicles.



G-WIN PANEL PC

Rugged Panel PC are used for data collection in the warehouse and logistic applications, designed to fit seamlessly into forklifts, trucks, and other vehicles.

Application Story

Heavy Duty Trucks



Background

Integrating connected vehicle technology into the trucking sector presents enormous potential for creating safer and more efficient roadways. Winmate provides fixed-mounted computers for conventional field service fleet management to perform location tracking and task management.

Core Products

- GS Series Full IP65 Panel PC
- Embedded Box PC F65EAC-IK32

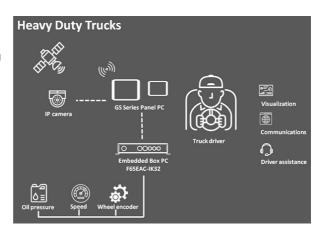
PROVIDE CONNECTIVITY FOR VEHICLES ON THE ROAD.

Main Challenges

· Connectivity in remote locations

Why Winmate

- Provide solution to enhance signal
- Devices resist strong vibration
- Customized BIOS



Application Diagram: Truck automation

Application Story

Train Cabin Operator Panel



Background

Winmate provides total solution for information display and computing for railway transportation. In the control room, Winmate offers displays of various sizes, and a full array of mounting options for limited installation space in trains. For computing needs, our EAC computer box provides I/O, thermal, and anti-shock requirements in a train. In addition, for passengers on board, we have displays to show timing information, as well as playing back entertainment or advertisement clips.

Core Products

- 10.4" G-WIN Panel PC R10IK3S-VMT2
- EAC Box PC

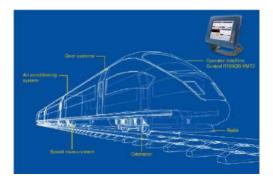
DURABLE DISPLAY SOLUTION FOR NAVIGATION AND TASK MANAGEMENT

Main Challenges

- Strong vibration
- Operating in cold environments

Why Winmate

- Vibration resistant design
- EN50155 EMC test report
- Offers a solution for operating in extreme temperatures -20°C to 60°C
- Strong hardware design capabilities to accommodate various truck configurations.



Application Diagram: The dashboard cabin

Application Story

Urban Waste Collection



Background

An innovative waste management company catering to millions of residents through municipal services deploys the IoT for intelligent waste collection. Yet, they were looking for a rugged Android-based vehicle-mounted computer to help integrate the data collected through the sensors, and RFID readers, then communicate with the command center to take their truck tracking system to the next level.

Core Products

• 10.4" FM10Q vehicle-mounted computer

A SMART IN-VEHICLE COMPUTING SOLUTION FOR SMART CITIES.

Main Challenges

- Extreme operating environment
- Multiple I/O ports
- Reliable wireless communication capabilities.

Why Winmate

- We provide IP65 rated and MIL-STD-810G certified rugged computers to survive the dusty waste collection environments.
- We provide a customization service to meet your specific needs.



FM10Q VMC installed firmly on the truck

7" Android Vehicle Mounted PC

FM07M







VEHICLE POWER SOLUTION.

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- ARM A53 Quad Core 2.0GHz Processor
- 7", 1024 x 600 panel with projected capacitive multitouch screen
- Android 11, Linux Yocto, Linux Ubuntu OS

Wide power input 9-24V DC with ignition

Wide-range operating temperature

RAM mount, support VESA mount

M12 waterproof connectors , IP65 waterproof and dustproof

Shock and vibration resistance according to MIL-STD-810H

Support Android or Linux operating system

Custom Configuration





WWAN





SIM Card Slot

Application



Easy In-Vehicle Installation

SUPPORTS BOTH VESA AND RAM MOUNTS

Winmate FM07M supports both VESA mount and RAM mounts to help you save the time and ease installing the vehicle-mounted computer. The FM07M is easily mounted and fully-rugged, helps you to have higher work efficiency.





Memory (FM07E) Memory



Application



Warehouse Management

IMPROVE OPERATIONAL EFFICIENCIES WITH VEHICLE MOUNTED COMPUTERS

Winmate's vehicle-mounted computers are designed to fit seamlessly into forklifts and other vehicles in a warehouse complex. With a range of mounting options and high-performance Intel processors to choose from, these VMCs can minimize errors and streamline inventory management.

7" Vehicle Mounted Computer with M12 connector

FM07/ FM07E













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VIBRATION AND SHOCK-PROOF DESIGN.



- Intel Celeron N3350 or Intel Pentium N4200 (FM07)
- Intel Celeron N6211(FM07E)
- 7", 1024 x 600 panel with projected capacitive Multi-Touch screen
- Wide power input 9-36V DC with ignition
- Windows 10 IoT Enterprise, Linux, Ubuntu 20.04 (Optional)

M12 waterproof connectors

IP65 waterproof and dustproof

Shock and vibration resistance according to MIL-STD-810G

Programmable function keys

Built to survive the extreme temperature range

10.4" / 12.1" / 14" Android Forklift

Computers

FM10Q-V/ FM12Q-V/ FM14Q-V





WIDE RANGE OPERATING TEMPERATURE

- All in one design, integrated I/O function
- Qualcomm Snapdragon™ 660 octa-core, 2.2 GHz CPU, Android 9
- 10.4"/12.1" 1024 x 768 Panel with P-CAP touchscreen
- 14", 1920 x 1080 Panel with P-CAP touchscreen

Wide power input 10-60V DC with ignition

Wide range operating temperature

Support VESA mount

Compact housing with anti-scratch P-Cap multi-touch screen

Vibration and shock-proof design ensure reliable performance

IP65 waterproof and dustproof vehicle mounted computer

Custom Configuration







WWAN

GLONASS









Brightness

CANBUS



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Application



Reliable And Rugged

WORKABLE IN HOT AND **COLD WAREHOUSE**

To meet the challenging nature of cold chain solutions, our rugged computers are built with thermal sensors to automatically activate and deactivate the defroster (optional) to avoid inner condensation and provide stable performance.







WWAN

GLONASS

UPS Battery







Brightness

CANBUS

DIDO



Audio

Application



Minimize Errors and Streamline Inventory Management

WITH A RANGE OF MOUNTING OPTIONS

The vehicle mounted computers or tablet PCs installed on a forklift must be rugged enough to withstand all-day operations with vibration from the vehicle.

10.4" / 12.1" / 14" Windows Vehicle **Mounted PC**

FM10E-V/ FM12E-V/ FM14E-V









WIDE RANGE OPERATING **TEMPERATURE**



- All in one design, Integrated I/O function
- Intel[®] Flkhart lake x6425F
- 10.4"/12.1", 1024 x 768 Panel with P-CAP touch screen
- 14" 1920 x 1080 Panel with P-CAP touch screen

IP65 waterproof and dustproof

Wide power input 10-60V DC with ignition

Wide range operating temperature

Support VESA mount

10.4"/ 12.1"/ 14" Windows Vehicle Mounted PC

FM10AD-V/ FM12AD-V/ FM14AD-V





ENABLE AUTOMATION IN THE WAREHOUSE.

- All in one HMI design, Integrated I/O function
- 12th Gen. Intel[®] Processor Family Alder Lake Processor
- 10.4"/12.1", 1024 x 768 Panel with P-CAP touch screen
- 14", 1920 x 1080 Panel with P-CAP touch screen

IP65 waterproof and dustproof

Wide power input 10-60V DC with ignition

Wide range operating temperature

Support VESA mount

Custom Configuration







WWAN

GLONASS

Brightness





CANBUS

DIDO

Audio

Application



Advanced Communications

ENABLE UNINTERRUPTED COMMUNICATIONS

In a large warehouse environment, forklifts usually go back and forth between the cold and regular ambient storage. The rugged computers must show the same stable performance in both low and high temperatures.





WWAN

Brightness up to 800 nits





UPS Battery

GPS

Application



Forklift Automation

MEETING A VARIETY OF CUSTOMER REQUIREMENTS

Winmate's FM10Q/FM12Q are powerful vehicle mounted computers that features a Qualcomm® Snapdragon™ 660 CPU and Android 9.0 operating system. The Android-based platform allows fast development of a variety of customized applications for every level across the enterprise.

10.4"/ 12.1" Android Vehicle Mounted PC

FM10Q/ FM12Q





NEV

P65 CORPLAN



FCCE

FOR YOUR UNIQUE ANDROID IN-VEHICLE APPLICATION.

- 10.4"/ 12.1", 1024 x 768, P-CAP touchscreen
- Qualcomm[®] Snapdragon[™] 660 octa-core, 2.2 GHz

RAM mount/VFSA mount

Field replaceable front panel to reduce service costs

IP65 waterproof and dustproof vehicle mounted computer

Wide range -30°C to 50°C operating temperature

GPS/ GLONASS, G-sensor, Temp. sensor

Magnesium alloy back cover with plastic bezel

Fanless design

1 x USB 3.0 Type-C (OTG) (tablet), 1 x DB9 connector for 2 x USB 2.0 port (docking)

10.4" / 12.1" Windows Vehicle **Mounted PC**

FM10E/FM12E













DATA COLLECTION IN LOGISTICS APPLICATIONS.

- 10.4"/ 12.1", 1024 x 768 Panel with P-CAP Touch
- Intel[®] Elkhart lake x6425E Processor
- Windows 10 IoT Enterprise

4 GB SODIMM DDR4-3200, 128 GB M.2

WLAN, BT, GPS/AGPS

G-Sensor, light sensor, temperature sensor

2 MP front camera

Screen blanking function for driver's safety

RAM mount, support VESA mount

Power input 10-60V DC with ignition control

IP65 waterproof and dustproof

MIL-STD-810H vibration, shock resistant

Custom Configuration





Memory

Storage



WWAN

Application



Forklift Automation

ULTRA-RUGGED TOUCH SCREEN FORTHE TOUGHEST ENVIRONMENTS

The large screen with the latest mobility platform for future-proofing, and features that will make the transition to a completely different OS as painless as possible.







Memory

Storage

Barcode Reader





Reader

Application



Ready for Field Service

RUGGEDNESS THAT SAVES YOU MONEY

Winmate rugged computer tablets come with various custom accessories, including a desk dock, hand strap, vehicle dock, high-capacity battery, and many more.

10.1" Windows Rugged Tablet PC

M101AD



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RUGGED, CUSTOM, AND READY FOR FIELD SERVICE

- 10.1", 1920x1200 IPS LED Panel with PCAP touch
- Intel® Core i5-1235U Alder Lake processor
- Windows 10 IoT Enterprise

Sunlight readable with antiglare solution

IP65 waterproof and dustproof, MILSTD-810H shock, vibration and drop resistance

Hot swappable battery design

USB Type-C port support power delivery and ALT mode WLAN, BT, GPS, GLONASS, WWAN (Optional)

10.1" Windows Rugged Tablet **M101TG**



ROBUST TABLET TO WITHSTAND INDUSTRIAL USE.

- 10.1", 1920 x 1200, P-CAP touchscreen
- Intel® Core™ i5-1135G7
- Windows 10 IoT Enterprise

10.1" 1920 x 1200 IPS LED Panel with direct optical bonding

Intel® Core™ i5-¬1135G7 Tiger Lake processor

IP65 waterproof and dustproof

MIL-¬STD¬-810H shock, vibration and drop resistance

Sunlight readable with anti-glare solution

Hot-swappable battery design

USB Type-C port support power delivery 20V In

Custom Configuration







Storage Memory



WWAN



HF RFID Reader

High Capacity Battery

Application



Delivery Service

INSTANTLY ACCESS ORDER INFORMATION

The M101TG rugged tablet with an LTE module and barcode scanner boosts productivity and speeds up delivery services, giving quick access to order information anywhere you go. The solution includes a vehicle cradle for in-vehicle mounting and charging.





Memory

Storage



WWAN

Application



Distribution Center

IMPROVES OPERATOR PRODUCTIVITY

The M101EKB can handle the challenges of the modern warehouse, even in cold storage environments. The QWERTY keypad allows comfortable typing even while wearing thick gloves. The detachable front panel provides mobility for forklift operators who wish to perform tasks outside the forklift.

8" Windows Vehicle Mounted PC

M101EKB



OWERTY KEYPAD TO INPUT DATA IN ANY CONDITIONS.

• Long battery life with Intel® Celeron® N6211

 8", 1280x800 wide viewing angle with P-CAP touch,in vehicle computer mounts

8MP Auto-focus camera

ISO/IEC 99953 QWERTY Keypad

USB TypeC port supports power delivery 20V In

MIL-STD-810H compliant

Low power consumption with fanless design

Removable battery with hotswap function for all day productivity

Integrated 4G/5G Wireless WWAN (Optional)

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RELIABLE TECH FOR WATER UTILITY MAINTENANCE.

- 11.6" 1920 x 1080 LCD Panel with PCAP touch
- Intel[®] Core[™] i5-1135G7 (2.40GHz, up to 4.20GHz)
- Windows 10 IoT Enterprise

IP65 waterproof and dustproof

MIL-STD-810H shock, vibration, and drop

2MP Webcam, 8MP Auto-Focus Rear Camera

Optional GigaLAN port design

Optional 1D/2D Barcode Reader and HF RFID Reader

Built-in Mic with Noise Cancellation

Hot-swappable Main Battery

Custom Configuration







Memory

Storage



GigaLAN Port

Barcode Reader

HF RFID Reader

Application



Service Tablets for Water Utility Maintenance

RELIABLETECHNOLOGY IN EVERY SITUATION

Winmate rugged mobile computers deployed for receiving work instructions, sending and receiving data, infrastructure maps, and photographic evidence for electronic work records.







Memory

Storage

WWAN







GigaLAN Port

Barcode Reader

HF RFID Reader

Application



Machinery & Equipment Inspections

HIGH PROCESSING POWER AND BRILLIANT TOUCH SCREEN

The M116TG features high processing power and a brilliant 11.6" touch screen, ideal for checking operation manuals and SOP procedures for live inspection and production supervision.

11.6" Windows Rugged Tablet M116TG



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HIGH PROCESSING POWER IN A RUGGED ENCLOSURE.

"

- 11.6", 1920 x 1080, 850 nits IPS LED Panel with direct optical bonding
- Intel[®] Core[™] i5-1135G7 Tiger Lake processor
- Windows 10 IoT Enterprise

IP65 waterproof

Dustproof, MIL-STD-810H shock, vibration and drop resistance

Sunlight readable with antiglare solution

Hotswappable battery design

USB Type-C port support power delivery 20V-in

8" Windows Rugged Tablet M900P/ M900PT















ORTABLE AND POWERFUL SOLUTION

- 8", 1280 x 800, P-CAP touchscreen
- Intel[®] Pentium[®] N4200 (2M Cache, up to 2.5 GHz)
- Windows 10 IoT Enterprise

4 GB LPDDR4, 128 GB SSD

Light sensor, g-sensor, Gyro

2 MP webcam, 8 MP rear camera with autofocus

WLAN, BT, GPS, GLONASS

USB 3.0 (Type A), USB 3.0 (Type C), docking connector

D-sub for vehicle gateway connection

Built-in smart card reader (Default M900PT)

IP65 waterproof and dustproof

MIL-STD-810G shock, vibration and drop resistance

Custom Configuration







Memory





HF RFID Reader

Barcode Reader



Application



Connected Truck

CONNECTIVITY FOR VEHICLES ON THE ROAD

Winmate developed a smart truck solution for a heavy-duty vehicle. Installed on a dashboard using a vehicle cradle, the 8" rugged tablet M900P and custom-designed vehicle gateway VG-100 now connects in-vehicle systems and allows status monitoring of semi-trucks in Europe.





Memory

RT





WWAN

GNSS





WLAN

SIM Card

Application



Straw Collector

INTERACTIVE AND SMARTTERMINAL FOR HEAVY-DUTY VEHICLE USE

G-WIN series tailored for those who demand excellent in-vehicle computing systems, operating in conditions with great shock and vibration levels.

12" G-WIN GS Series Panel PC

W12IE3S-GSB1/ W12MG3S-GSB1









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TOUGH. RUGGED. HEAVY DUTY.

"

- 12.3", 8:3 Ratio, 1920 x 720 panel with projected capacitive multi-touch screen
- Intel[®] Celeron[®] N6211 Elkhart Lake, Windows 10 IoT Enterprise, Linux OS (Optional) (W12IE3S-GSB1)
- ARM 2 x A78 2.2GHz + 6 x A55 2.0GHz Android 13 (W12MG3S-GSB1)

M12 waterproof connectors

IP65 waterproof and dustproof

Shock and vibration resistance according to MIL-STD-810H

Wide power input 10 ~ 60V DC with ignition

14.9" Panel Mount Series Panel PC

W15IE3S-PPB2/ W15lM3S-PPB2







"POWERING SMART FARMING TRANSFORMATION

- 14.9", 1920 x 720 panel with projected capacitive multi-touch screen
- Intel® Celeron® N6211 (up to 3.0GHz), Windows 10 IoT Enterprise, Linux OS (Optional) (W15IE3S-PPB2)
- ARM A53 Quad Core 2.0GHz CPU, Android 11, Linux OS (Optional) (W15IM3S-PPB2)

PCAP multi-touch screen

Front IP65 Water and Dust Proof

Dual Gigabit Ethernet

Aluminum housing and fanless design

Room booking schedule, access control, room information display

Custom Configuration







Memory (IE)

WWAN









Audio









Expansion Mini PCle Port (IE)

Application



Transforming Rice Fields

14.9" PANEL PC DRIVING SMART AUTOMATED **FARMING**

14.9" Panel PC serves as the brain behind an ingenious automated farming system become a lifeline for the region's agriculture, ensuring that the impending labor shortage does not translate into reduced vields.





Protection Glass USB for Touch (OF)



DVI

HDMI



Audio

Application



Driving Agricultural Innovation

14.9" DISPLAY REVOLUTIONIZES FARMING PRACTICES

Designed to thrive in rugged environments, this 14.9" rugged display proved to be the perfect fit for the demanding conditions of South American farms.

14.9" Open Frame Series Display

W15L100-PPB2/ W15L100-POB2/ W15L100-OFB2







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RUGGED INNOVATION IN FARMING



- 14.9", 1920 x 720 panel with projected capacitive multi-touch screen (PP & PO)
- 14.9", 1920 x 720 panel with Protection Glass (Optional) (OF)

VGA input and HDMI input

Panel Mount

Open frame (PO & OF)

Front IP65 (PP)

Fanless design



RELIABLE COMPUTING SOLUTIONS FOR NAVIGATION AND TASK MANAGEMENT.



M900P/PT SERIES 9" RUGGED TABLET



M101S 10.1" WINDOWS RUGGED TABLET



VMC SERIES
7" ~12.1" VEHICLE
MOUNTED COMPUTER



G-WIN SERIES
12.3" PANEL PC

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WINMATE ALL-IN-ONE DESIGN VEHICLE COMPUTING SOLUTIONS.

