

# SOLUTIONS TO DRIVE SUPPLY CHAIN INNOVATION



EU certification  
(EC), the e-Mark



Ingress  
Protection



MIL-STD-810G/  
H compliance

# Transportation

Diagnostics | Engineering | Manufacturing

# 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.

“  
**INNOVATIVE  
TECHNOLOGY FOR  
OPERATIONAL  
EXCELLENCE.**  
”

### 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.

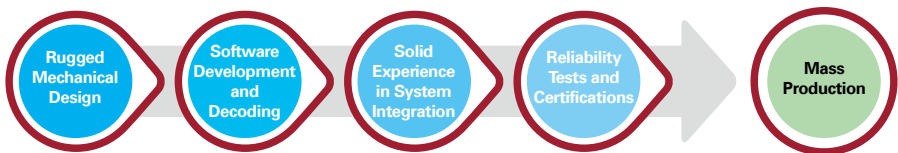
From product design to accessories, our engineering team designs and support the system integration process.

- 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



**WE DELIVER RUGGED COMPUTING SOLUTIONS  
FOR YOUR LOGISTICAL NEEDS.**



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### **RUGGED TABLETS**

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

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### **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.

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### **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.

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# 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-1K32

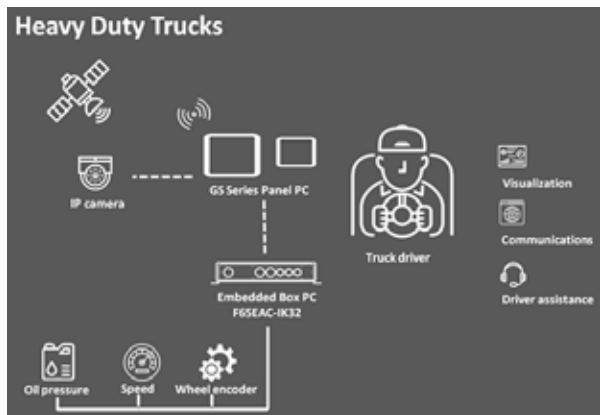
“ PROVIDE CONNECTIVITY FOR VEHICLES ON THE ROAD. ”

### 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



**RELIABLE AND DURABLE DISPLAY SOLUTION FOR NAVIGATION AND TASK MANAGEMENT**

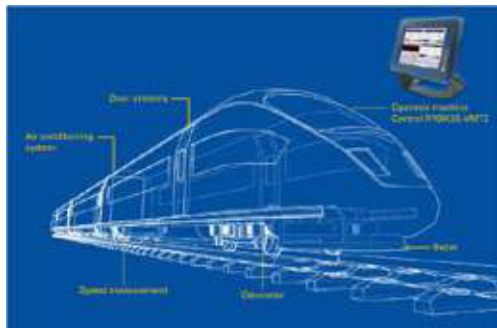


### Main Challenges

- 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" Windows Vehicle Mounted Computer FM07



## “ IN-VEHICLE SOLUTION IN A COMPACT FORM FACTOR. ”

- 7", 1024 x 600, PCAP touchscreen
- Intel® Celeron® N3350 (2M Cache, up to 2.4 GHz)
- Windows 10 IoT Enterprise (Optional),  
Ubuntu 18.04 (Optional)

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4 GB SO-DIMM, DDR3L 1600 MHz, 64 GB M.2 2242 SSD

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WLAN, BT, GPS/AGPS

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RS232, DIDO, 2xUSB, CANBUS

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Gigabit Ethernet LAN 10/100/100 Mbps (M12 type)

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RAM mount, support VESA mount

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Power input 9~36 V DC with ignition control

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IP65 waterproof and dustproof

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

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## Custom configuration



Memory



Storage



WWAN

## Application



### Cargo Truck Navigation

“IMPROVE EFFICIENCY  
OF ROAD CARGO”

Compact 7" vehicle mount computer with external WWAN and GPS antennas give operators the ability to monitor the truck's location and delivery status. Using wireless connectivity, truck drivers can communicate with each other and with operations HQ.

# 10" Android Vehicle Mounted PC FM10Q

## Custom configuration



WWAN



Heater



FC CE

## “ ANDROID-BASED VEHICLE MOUNTED COMPUTER. ”

- 10.4" 1024 x 768 Panel with PCAP touchscreen
- Qualcomm® Snapdragon™ 660 octa-core, 2.2 GHz
- Android 9.0

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RAM Mount/VESA Mount

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Field replaceable front panel to reduce service costs

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IP65 waterproof and dustproof vehicle mounted computer

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

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GPS/GLONASS, G-Sensor, Temp. Sensor

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Magnesium alloy back cover with plastic bezel

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Fanless design

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s1 x USB 3.0 Type C (OTG)(Tablet), 1 x DB9 Connector for 2 x USB 2.0 Port(Docking)

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## Application



### Forklift Automation

“COMPACT AND RUGGED,  
IDEAL FOR FORKLIFT”

The 10.4" vehicle mounted computer FM10Q gives forklift operators the ability to monitor pick-up and drop-off locations to optimize in-house routes for faster and more precise delivery.

# 12" Android Vehicle Mounted PC FM12Q



## “ FOR YOUR UNIQUE ANDROID IN-VEHICLE APPLICATION ”

- 12.1" 1024 x 768 Panel with PCAP touchscreen
- Qualcomm® Snapdragon™ 660 octa-core, 2.2 GHz
- Android 9.0

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RAM Mount/VESA 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)

---

### Custom configuration



WWAN



Heater

### Application

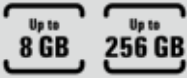


### **Forklift Automation**

“MEETING A VARIETY  
OF CUSTOMER  
REQUIREMENTS”

Winmate's FM12Q is a powerful vehicle mounted computer 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.

## Custom configuration



Memory      Storage



WWAN

## Application



### Forklift Automation

“ULTRA-RUGGED TOUCH SCREEN FOR THE TOUGHEST ENVIRONMENTS”

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

# 12" Windows Vehicle Mounted PC FM12E

NEW  
PRODUCT



## “ DATA COLLECTION IN LOGISTICS APPLICATIONS. ”

- 12.1" 1024 x 768 Panel with PCAP Touch
- Intel® Elkhart lake x6425E Processor
- Windows 10 IoT Enterprise

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4 GB SODIMM DDR4-3200, 64 GB M.2 MLC SSD

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WLAN, BT, GPS/AGPS

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G-Sensor, light sensor, temperature sensor

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2 MP front Camera

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Screen blanking function for driver's safety

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RAM mount, support VESA mount

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Power input 10-60 V DC with ignition control

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IP65 waterproof and dustproof

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MIL-STD-810H vibration, shock resistant

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# 8" Windows Vehicle Mounted PC M101BK



**“ QWERTY KEYPAD TO INPUT  
DATA IN ANY CONDITIONS. ”**

- Long battery life with Intel® Celeron® N2930 Bay Trail-M Processor
- 8", 1280x800 wide viewing angle with PCAP touch, in vehicle computer mounts
- 5MP Auto-focus camera

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IP65 waterproof and dustproof

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ISO/IEC 9995-3 QWERTY Keypad

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Hot-swappable battery design with optional high capacity battery pack

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MIL-STD-810G compliant

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Optional extendable UHF RFID reader

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Optional built-in 1D/2D barcode, HF RFID reader

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4GB SO-DIMM, DDR3L 1600 MHz

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1 x Intel® Ethernet Controller WG82574L

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## Custom configuration



Memory



Storage



WWAN

## Application



## **Warehouse Management**

“TRUSTWORTHY  
PERFORMANCE  
ACROSS THE LOGISTICS  
ECOSYSTEM”

The M101BK rugged tablet features high processing capabilities, wireless connectivity options, and data capture modules for extraordinary performance.

# 8" Windows Rugged Tablet M900P/ PT Series

## Custom configuration



Memory



Storage



HF RFID  
Reader



Barcode Reader



WWAN



“ **PORTABLE AND POWERFUL  
SOLUTION.** ”

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

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4 GB LPDDR4, 64 GB SSD

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Light sensor, g-sensor, Gyro

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2 MP webcam, 8 MP rear camera with autofocus

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WLAN, BT, GPS, GLONASS

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

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D-sub for vehicle gateway connection

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Built-in smart card reader (Default M900PT)

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IP65 waterproof and dustproof

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

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## 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.

# 10.1" Windows Rugged Tablet M101S



“ **ROBUST TABLET TO  
WITHSTAND INDUSTRIAL USE.** ”

- 10.1", 1920 x 1200, PCAP touchscreen
- Intel® Core™ i5-7200U Kaby Lake 2.5 GHz, up to 3.1GHz
- Windows 10 IoT Enterprise

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4 GB DDR4 SDRAM, 128 GB SSD, micro SDXC card slot

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Light sensor, g-sensor, Gyro

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2 MP webcam, 8 MP rear camera with autofocus

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HF RFID 13.56MHZ (Optional)

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USB 3.0 Type-A, USB 3.0 Type-C, docking connector

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WLAN, BT, GPS, GLONASS

---

IP65 waterproof and dustproof

---

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

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## Custom configuration



Memory



Storage



Barcode Reader



WWAN



HF RFID Reader



Micro HDMI Port



High Capacity Battery  
16hr

## Application



## Delivery Service

“INSTANTLY ACCESS  
ORDER INFORMATION”

The M101S 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.

# 10.4"/ 15" G-WIN Android Panel PC

## G-WIN GS Series



### Custom configuration



Memory



Storage



WLAN



Protection  
Glass

### Application



### Maritime Port Logistics Chain (PLC)

"FOR DEMANDING  
WORKING CONDITIONS"

Winmate's 10.4" GS Series Panel PC was installed inside trucks to improve port logistic operations. Heavy-duty G-WIN panel PC designed for demanding conditions and survive both water drops and temperature changes.

“ **SATISFY YOUR  
HEAVY-DUTY NEEDS.** ”

- 10.4"/ 15", P-CAP touchscreen
- NXP i.MX6 Dual Core 1GHz (Optional Quad Core)
- Fanless cooling system and Ultra-low power

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Onboard LPDDR3 1GB

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Onboard 16GB eMMC Flash

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Full IP65

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1 x LAN, 1 x RS232, 1 x USB, 1 x USB OTG, 1 x Console, 1 x Micro SD

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Onboard 16GB eMMC

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Storage temperature -30°C to 60°C

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1 x RS232 (M12 type)(Optional 422/485)

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# 10.4"~21.5" G-WIN Windows Panel PC

## G-WIN GS Series



“ **TOUGH. RUGGED.  
HEAVY DUTY.** ”

- 10.4" ~ 21.5", P-CAP touchscreen
- Low power consumption with Intel® Celeron® N2930
- Fanless cooling system and ultra low power

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1 x SO-DIMM, DDR3L 1600 MHz, 4GB 8GB (Optional)

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VESA Mount/ Panel Mount

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A true flat, easy-to-clean front surface with edge-to-edge design

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Plenty of I/O, including 2 x LAN, 1 x COM, 1 x USB 3.0, 1 x USB 2.0, 1 x HDMI

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Complete input range power supply

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Front IP65 protection against water and dust with M12 connectors

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### Custom configuration

Up to  
**8 GB**

Memory

Up to  
**512 GB**

Storage



mPCIe



WLAN



Protection Glass

### Application



### Straw Collector

“ INTERACTIVE AND SMART TERMINAL 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.



# RELIABLE COMPUTING SOLUTIONS FOR NAVIGATION AND TASK MANAGEMENT.

[WWW.WINMATE.COM](http://WWW.WINMATE.COM)



**M900P/PT SERIES  
9" RUGGED TABLET**



**M101S  
10.1" WINDOWS  
RUGGED TABLET**



**VMC SERIES**  
**7" ~12.1" VEHICLE**  
**MOUNTED COMPUTER**

**G-WIN SERIES**  
**7" ~21.5" PANEL PC**