DARVEEN

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DARVEEN

# In-Vehicle Computers and Rugged Tablets for Container Ports

www.darveen.com

The container terminal must withstand various factors, including sunlight, salt, humidity, and extreme temperatures. The aluminum alloy casing of the Darveen vehicle mount computer is not only corrosion-resistant but also features IP65 dust and waterproof capabilities, making them the ideal choice for cranes at the Yangshan Port in southeast Shanghai.

## Advanced Computing Technology Drives Smart Port Evolution

The expansion of ports worldwide has caused supply chain bottlenecks, made worse by the difficulties in managing ports during the pandemic recovery. Smart ports utilize technologies like 5G, big data, and the Internet of Things to enable interconnected port equipment, facilitating efficient cargo flow, service provision, and smooth flow of information, thus aiding in cost reduction and efficiency enhancement in port operations.

Smart ports require robust computing power to handle vast amounts of data generated at the terminals, addressing operational issues with equipment such as gantry cranes, quay cranes, yard cranes, reach stackers, forklifts, and trucks. Rugged computers can solve an array of problems and offer numerous benefits.

Key areas where rugged computers play a crucial role in port operations include:

- Job assignment
- Real-time monitoring
- Navigation and route optimization
- Data logging
- Reporting
- Safety enhancements
- Operator user experience
- Communication and connectivity
- Emergency response
- Environmental impact reduction

Darveen vehicle mount computers and rugged tablets feature shock and vibration resistance, meeting MIL-STD-810 standards. They can be securely installed on reach stackers and trailers for stable operation.

## Why Darveen?

- Robust designs for vehicle mount computers and rugged tablet product portfolios
- Comprehensive installation mounting kits and other accessories
- Flexible customized services
- Professionally manufactured and ISO-certified, with extensive production capacity and significant flexibility
- Nearly 20 years of reliable experience


## About Darveen

Since 2007, Darveen has focused on developing rugged industrial computer solutions for diverse industries. Darveen's vehicle mount computers have effectively streamlined processes and operations for hundreds of container terminals worldwide.

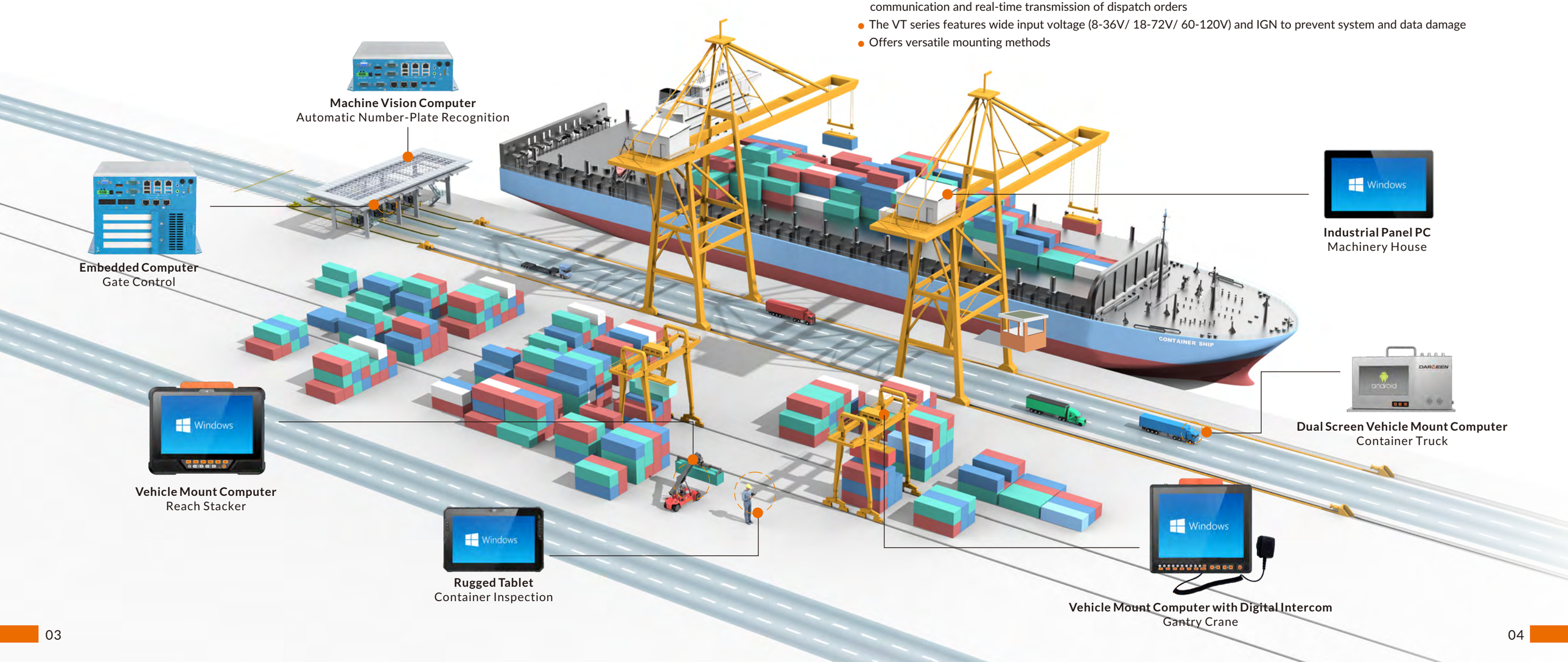
# Empowering Container Port Operations

## Requirements

- Rugged design, resistant to salt, fog, dust, and water. IP65 dust and waterproof
- Wide selection of touchscreens, ranging from 7" to 15" and various touch types
- Sunlight-readable display
- Seamless data communication capability, including roaming Wi-Fi, 4G/5G, and multiple network switching
- Precise and real-time vehicle location through GNSS positioning
- Uninterrupted power supply for stable system performance
- Anti-vibration and shock, meeting MIL-STD-810 standard
- Wide operating temperatures

## Darveen's Solutions

- Complete product lines including the VT series of vehicle mount computers for on-board use and the rugged tablet RTC series for mobile use
- High-brightness touchscreen
- Both VT series and RTC series support Windows and Android OS, and x86 and ARM CPUs
- Constructed with die-cast aluminum alloy, the VT series ensures anti-corrosion and exceptional durability
- Fanless design minimizes maintenance efforts and downtime costs
- Supports a wide operating temperature range and shock/vibration resistance, compliant with MIL-STD-810 standards
- Equipped with built-in Wi-Fi 6E, 4G/5G communication modules, and GPS positioning capabilities for seamless communication and real-time transmission of dispatch orders
- The VT series features wide input voltage (8-36V/ 18-72V/ 60-120V) and IGN to prevent system and data damage
- Offers versatile mounting methods



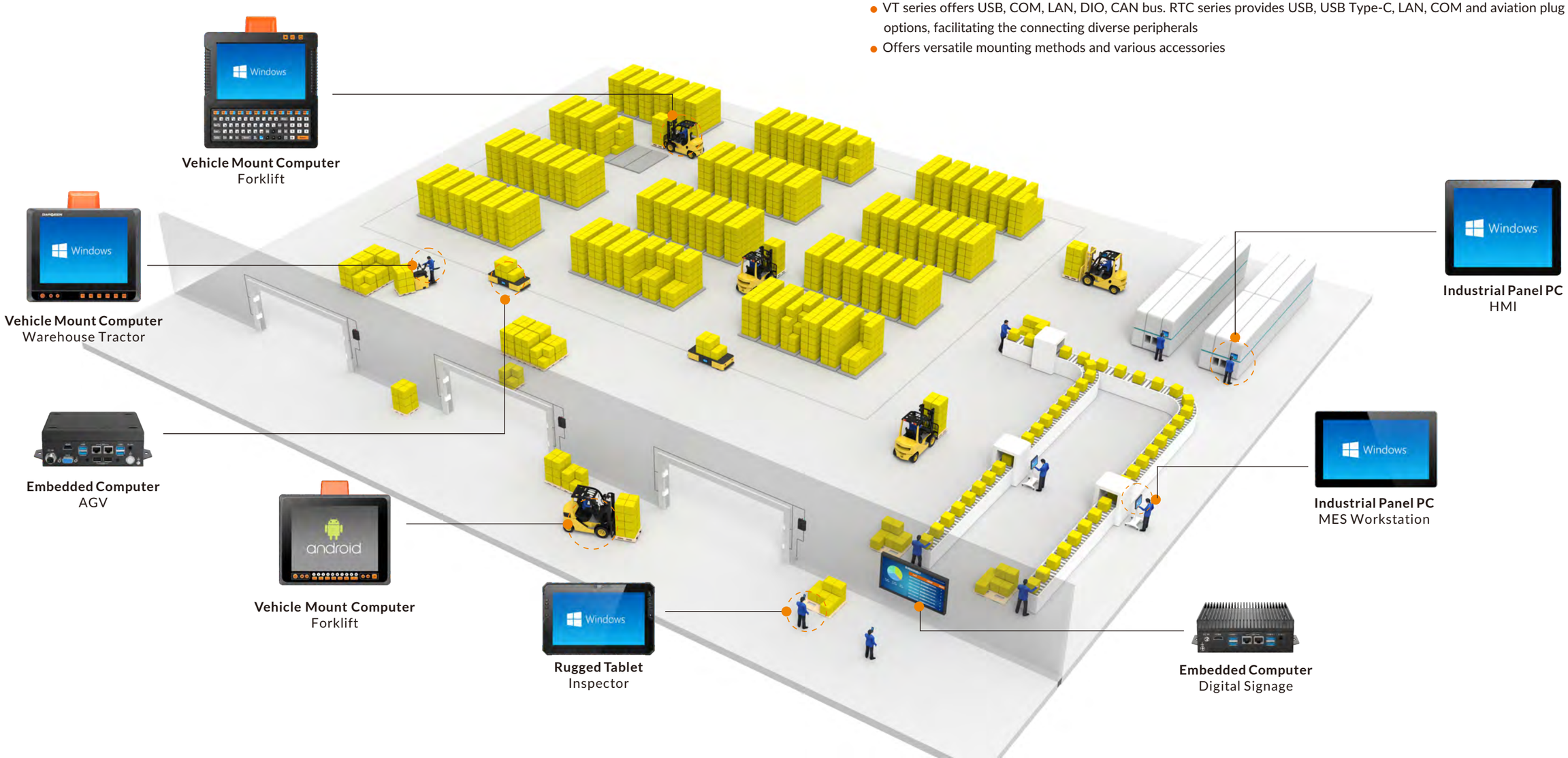

# Energizing Reliable Deliveries in the Warehouse

## Requirements

- Forklift computers need touchscreens, in resistive or capacitive screens, and often require keyboard input
- Able to withstand harsh environments, including extreme temperatures, drops, and vibrations
- Robust wireless communication options like Wi-Fi, Bluetooth, and 4G/5G for real-time data transmission
- Ability to connect to various peripherals such as barcode scanners, RFID readers, and printers
- Wide-range power input to prevent damage from power surges
- Long battery life (for tablets) to support extended use during shifts
- Offers various accessories to meet different needs

## Darveen's Solutions

- Complete product lines including the VT series of vehicle mount computers for on-board use and the rugged tablet RTC series for mobile use. The keyboard option is available for VT series
- Supports Windows and Android OS, and x86 and ARM CPUs
- Supports a wide operating temperature range and shock/vibration resistance, compliant with MIL-STD-810 standards
- Provide diverse wireless connectivity including Wi-Fi 6E, Bluetooth, 4G/5G, and GNSS for efficient data transmission and real-time communication
- The VT series features wide input voltage (8-36V/ 18-72V/ 60-120V) and IGN to prevent system and data damage
- The dual hotswap battery design of RTC-I116 provides sufficient capacity for a full day of work
- VT series offers USB, COM, LAN, DIO, CAN bus. RTC series provides USB, USB Type-C, LAN, COM and aviation plug options, facilitating the connecting diverse peripherals
- Offers versatile mounting methods and various accessories



# Improving Truck Fleet Performance

## Requirements

- Built to withstand the rigors of truck environments, including vibrations and temperature fluctuations
- Complete installation brackets and accessories designed for use inside trucks
- Seamless data communication capability, including Wi-Fi and 4G/5G, enabling real-time telematics for connecting vehicles and the control center
- Precise and real-time vehicle location through GNSS positioning
- Abundant I/O interfaces to connect to various sensors for data collection and preventive maintenance
- Wide input voltage, surge protection, and IGN function for stable operation

## Darveen's Solutions

- Provides vehicle mount computers and tablets with user interface screens, as well as in-vehicle box computers for data collection
- Supports Windows and Android OS, and x86 and ARM CPUs
- Supports Wi-Fi 6E and 4G/5G real-time fleet communication and tracking
- Built-in GPS positioning capabilities for continuous tracking from remote locations
- Offers rich I/O ports, such as USB, COM, GPIO and CAN Bus to connect peripherals and acquire vehicle data. The MVT series features rugged M12 connectors
- Rugged design and compliant with MIL-STD-810 standards for reliable operations in extreme environments
- Fanless design minimizes maintenance efforts and downtime costs
- The VT series features wide input voltage (8-36V/ 18-72V/ 60-120V) and IGN to prevent system and data damage
- Offers versatile mounting methods

# Customer Cases

### Shanghai Yangshan Port, China

Scale: 25 million TEU

Application: CTOS software on VT-558HB and VT-858HB vehicle mount computers, installed on bridge cranes, rubber-tired cranes, and container trailers.

### Nansha Port, China

Scale: 20.8 million TEU

Application: VT-858, VT-859, VT-840A, and VT-640A installed on bridge cranes, gantry cranes, and container trucks, running terminal TOS software and displaying operation instructions.

### JICT, Indonesia

Scale: 12 million TEU

Application: VT-530A mounted on head trucks and VT-730A mounted on RTG cranes to enhance cargo flow and information exchange.

### Dammam Port, Saudi Arabia

Application: VT-708K with an IP65 QWERTY keypad installed on container trucks, facilitating data entry and collection.

MIL-STD-810G certified

Wide-Range voltage input

Wide-Range operating temperature

IP65 protection

Fanless design

X86/ARM CPUs

Wi-Fi 6E and 5G

M12 connectors

# Vehicle Mount Computers

## Windows Vehicle Mount Computers

**VT Series (OS: Windows)**

- Intel® Core™ i5 / Celeron® processor
- 7" to 15" TFT-LCD with 5-wire resistive or P-Cap touchscreen (400-1,000 nits)
- Available with numeric, function keys, or QWERTY keyboard
- Rugged aluminum enclosure and fanless design
- IP65 protection against water and dust
- Compliant with MIL-STD-810G vibration testing standards
- Wide range 8-36VDC power input with ignition control
- Flexible expansion capability for Wi-Fi 6E,  Bluetooth 5.3, LTE, 5G, GPS, CAN2.0B


## Android Vehicle Mount Computers

**VT Series (OS: Android)**

- Rockchip RK3399 processor
- 7" to 15" TFT-LCD with P-Cap touchscreen (400-1,000 nits)
- Available with numeric or function keys
- Rugged aluminum enclosure and fanless design
- IP65 protection against water and dust
- Compliant with MIL-STD-810G vibration testing standards
- Wide range 8-36VDC power input with ignition control
- Flexible expansion capability for Wi-Fi 5, Bluetooth 4.2, LTE, 5G, GNSS


## Fleet Management Terminals

**FMT Series**

- Intel® Celeron® / Unisoc 8581 / Rockchip RK3568 processor
- 7" to 10.1" TFT-LCD with P-Cap touchscreen
- Rugged metal enclosure and fanless design
- Wide range 8-36VDC power input with ignition control
- Flexible expansion capability for Wi-Fi, Bluetooth, LTE, 5G, GPS, CAN2.0B
- Supports Windows, Linux or Android operating systems


## Vehicle Mount Computers with M12 Connectors

**MVT Series**

- Intel® Core™ i5 / Celeron® / Rockchip RK3399 processor
- 10.1” industrial LCD with P-Cap touchscreen
- M12 connector I/O interfaces
- IP65 protection against water and dust
- Wide range 8-36VDC power input with ignition control
- Optional Wi-Fi, Bluetooth, LTE, 5G, GPS, CAN2.0

MIL-STD-810H certified

Fingerprint reader

X86/ARM CPUs

RFID reader

IP67 protection

Long-lasting battery

1D/2D barcode reader

High brightness

# Rugged Tablets

## Windows Rugged Tablets

**RTC Series**

- Intel® Core™ i7/ Core™ i5 / Celeron® processor
- Available with 8, 10.1, and 11.6-inch LED panels, sunlight readable
- Integrated 1D/2D barcode reader, NFC, RFID, fingerprint (optional) for data collection
- Supports 4G, Wi-Fi, Bluetooth, and GNSS
- Rich I/O interfaces, including serial port, RJ45 Ethernet, USB, HDMI
- Removable high-capacity battery design
- Hot-swappable battery (RTC-I116 only)
- IP67 and MIL-STD-810H certified


## Android Rugged Tablets

**RTC Series**

- MediaTek MT6771 Octa-core processor
- Available with 8 and 10.1-inch LED panels, sunlight readable
- Integrated 1D/2D barcode reader, NFC, RFID, fingerprint (optional) for data collection
- Supports 4G, Wi-Fi, Bluetooth, and GNSS
- Rich I/O interfaces, including serial port, RJ45 Ethernet, USB, HDMI
- Removable high-capacity battery design
- IP67 and MIL-STD-810H certified


Darveen provides a full suite of accessories that bring ease of use and management.

| | | | | |
|---|---|---|---|---|
|  |  |  |  |  |
| Office Docking | Vehicle Docking | Hand Strap | Shoulder Strap | Carry Bag |



## Vehicle Dock

**VD100S**

- Vehicle Dock, Adapted to RTC-M81/I81
- Supports VESA 75x 75 and 100x 100, compatible with VESA standard brackets
- I/O interface: USB 2.0 x 2、RJ45 (10/100M) x 1、RS232 x 1
- 65W PD or 19V DC-IN (Type-C )
- Size: 150x 41.5x 198.3mm

## Vehicle Dock

**VD100L**

- Vehicle Dock, Adapted to RTC-M101/I101
- Supports VESA 75x 75 and 100x 100, compatible with VESA standard brackets
- I/O interface: USB 2.0 x 2、RJ45 (10/100M) x 1、RS232x 1
- 65W PD or 19V DC-IN (Type-C )
- Size: 150x 41.5x 230.3mm

## Office Dock

**OD100M/OD100I**

- Office Dock, Adapted to RTC Series
- Charging forRTC Series tablets and batteries
- I/O interface: USB 2.0x 2、RJ45 (10/100M)x 1、RS232x 1
- 65W PD or 19V DC-IN (Type-C )
- Size: 160 x 100x 95.7mm