

Thor VM2

Vehicle-Mount Computer

Solidifying Honeywell's position as the leader in vehicle-mount computing, the Thor VM2 builds on the best-in-class Thor VM1 that was created specifically to address the unique challenges of supply chain applications.

Ideally suitable for warehouse, port and yard process automation, the Thor VM2 introduces an additional form factor option granting greater flexibility which is emphasized by its 9.7" XGA display, programmable multi-function keys, and WLAN and WWAN connectivity. Available with Microsoft Windows CE 6.0, Windows 7 Pro, Windows Embedded Standard 7 and Windows Embedded Standard 2009 operating systems and compatible with many industry standard terminal emulation and web browser applications including the popular Honeywell RFTerm™ TE, the Thor VM2 is built for simple and easy application development and system integration.

The same key features that have made the Thor VM1 an overwhelming success are in VM2. Delivering laptop-like simplicity, the Smart Dock capability allows for the separation of the computer from the power supply empowering users to seamlessly migrate from vehicle to vehicle and reducing the required number of computers. Further, the field-replaceable front panel enables single-tool touch screen repairs, which significantly minimizes downtime and maintenance costs resulting from wear and tear at the most common breaking point. Lastly, the power management settings that accompany the ignition control feature virtually eliminate dead vehicle batteries and the subsequent productivity losses.

The supply chain industry requires workers to function in rough conditions where unique challenges exist. As a result, it is important to incorporate the highest efficiency while maintaining low cost. With the unique features in Thor VM2, businesses are able to address and respond to these versatile issues as they occur, dramatically improving operations.

Features

- **Smart Dock:** Enables mounting and removal in seconds like a laptop dock but with the ruggedness and sealing required for industrial applications; maximizes efficiency by dynamically shifting workers and computers as the workload changes, while minimizing maintenance cost by enabling a computer to be shifted from one vehicle to another in 1/6 the standard time
- **Field-Replaceable Front Panel:** Reduces capital and maintenance cost by integrating the two most wear and abuse prone components, the keyboard and touchscreen, into a user-replaceable part; reduces capital costs by substituting spare front panels for spare computers
- **Ignition Control:** Eliminates the maintenance expense and lost productivity caused by a dead vehicle battery; unit can be configured to automatically go into standby or hibernate at a selectable time after the ignition switch is turned off, saving time for associates while eliminating a point of concern for warehouse management



Thor VM2 Technical Specifications

Mechanical

Dimensions	Computer: 10.6" x 8.4" x 2.1 (268 x 214 x 53); Dock: 7.1" x 6.1" x 2.5" (180 x155 x 64mm)
Weight	Computer: 4.8 lb (2.2 kg); Dock: 3.2 lb (1.2 kg)
Operating Temperature	-4°to +122°F (-20° to +50°C)
Storage Temperature	-4°to +122°F (-20° to +50°C)
Humidity	5% to 95% non-condensing
Environmental Sealing	Independently certified to meet IP66 standards for moisture and particle resistance
ESD	EN 55024:1998 (enhanced ESD to 8kV direct & 15kV air)
Vibration	MIL-STD-810F, composite wheeled vehicles
Shock	SAE-J1455

System Architecture

Processor	Intel® Atom Z530 1.6GHz
Operating System	Microsoft® Windows® CE 6.0, Microsoft® Windows® 7 Pro, Microsoft® Windows® Embedded Standard 7 (WES 7), Microsoft® Windows® Embedded Standard (WES 2009)
Memory	CE 6.0: 1GB, Windows 7 Pro, WES 7 & WES 2009: 2GB, DDR2 SDRAM
System Software	CE 6.0: Microsoft® Internet Explorer 6, Microsoft® on-screen keyboard, DCWedge barcode wedge Windows 7 Pro & WES 7: Microsoft® Internet Explorer 10, Freefloat Key on-screen keyboard, Freefloat Link wedge WES 2009: Microsoft® Internet Explorer 8, Microsoft® on-screen keyboard, Freefloat Link wedge
Optional Software	CE 6.0: RFTerm TE, Naurtech CETerm & Industrial Browser, and Stay-Linked Terminal Emulators, Wavelink Avalanche & eXpress-Config network management; Windows 7 Pro, WES 7 & WES 2009: RFTerm TE, Freefloat Access TE Optional Remote Mastermind (ReM) remote device management
Mass Storage	CE 6.0: 1GB Windows 7 Pro: 32GB, optional 4GB industrial SD secondary SSD WES 7: 16GB, optional 4GB industrial SD secondary SSD WES 2009: 4GB, 8GB
Graphics Processor	Intel® GMA 500
Power Supply & UPS	10 to 60 VDC isolated, Optional external converters for AC (90-240VAC) & extended range DC (60-150 VDC); Integrated Li-ION maintenance UPS with 30-min life at -20°C, charging range 0°C to +35°C
Display	9.7" (246 mm) XGA (1024x768) LED backlit display, 400 NIT, Optional screen blanking
Touch Panel	Industrial touch panel with resistive touch and support for finger touch and stylus
Keyboard	Five programmable multi-function keys
Audio	Audio for headset, Integrated stereo speakers w/ adjustable volume control, Integrated microphone
I/O Ports	1x USB 2.0 powered host port, 1x USB 1.1 client port, 2x powered RS-232 COM ports, 1x CAN-bus port, 1x Headset port, DC power input & ignition control input, RF Antenna ports for WiFi (2), WWAN (1) & GPS (1)
Storage Expansion	User installable expansion slot supports 1GB and 4GB SD card
Development Environment	Honeywell SDK available for Windows® CE 6.0; Standard Windows® SDK for Windows 7 Pro, WES 7, WES 2009
Warranty	1 year factory warranty
Service Plans	Optional three- and five-year service programs offer worry-free mobile computing

Wireless Connectivity

WWAN	Optional software definable (data only) 3.75G radio with five-band UMTS/HSPA+ (800/850/900/1900/2100MHz), quadband GSM/GPRS/EDGE (850/900/1800/1900MHz) and dual-band EV-DO/CDMA (800/1900)
WLAN	Microsoft® Windows® CE 6.0: 802.11 a/b/g Windows 7 Pro, WES 7 & WES 2009: 802.11 a/b/g/n Wi-Fi™ – certified, CCX certified for data
WLAN Security	Authentication: Support for a full range of 802.1X (EAP) types, including EAP-TLS, PEAP-MSCHAPv2, PEAP-GTC, LEAP, and EAP-FAST Encryption: Support for Static, pre-shared, and dynamic encryption keys, 40-bit and 128-bit keys, WEP, WPA (TKIP), and WPA2 (AES) Encryption Methods
WLAN Antennas	Dual internal antennas, dual external remote and direct connect antenna accessories
WPAN	Bluetooth® 2.0+EDR standard, internal antenna
GPS	Integrated Assisted GPS (A-GPS) with fast position acquisition and low power consumption. Included with WWAN radio

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Thor VM3

Vehicle-Mounted Computer

Designed for use in the toughest distribution center environments, manufacturing facilities and freight operations, the Honeywell Thor™ VM3 is the industry's most capable full-size vehicle-mounted computer, delivering unmatched operational efficiencies. The Thor VM3 computer offers breakthrough features designed to eliminate downtime and maximize capital investment. The Smart Dock feature delivers immediate savings on support and maintenance costs while maximizing efficiency by enabling users to dynamically shift computers as vehicles fail or workloads change. The field-replaceable front panel allows enterprises to minimize investments in spare parts by substituting spare front panels for spare computers, and saves valuable time and maintenance costs by leveraging in-house support staff to service the most common breaking point. With the Thor VM3 computer, you gain the compatibility you need to upgrade to next-generation Microsoft® Windows® operating systems and the power to take advantage of the latest security and productivity-enhancing features and functionality. The Thor VM3 computer supports multiple Windows-based operating systems, so integration and application development are simple as business needs grow. For enterprises currently running on the Windows CE operating system, the Thor VM3 computer offers easy implementation and deployment into existing and future IT infrastructures. With memory expandable up to 4 GB RAM and 64 GB solid-state disk, the Thor VM3 computer can run powerful programs and applications to maximize efficiencies in activities such as case picking, truck loading, putaway and replenishment - giving workers real-time access to information anywhere it is needed.

Whether indoors, outdoors, in a warehouse, on a shop floor or in intermodal facilities, the Thor VM3 computer enables enterprises to choose the options needed to maximize efficiencies in the most demanding environments. The Thor VM3 computer supports standard resistive touchscreen or optional capacitive touchscreen for multi-touch applications. A WWAN radio option enables use in expansive outdoor operations where a Wi-Fi network can't be deployed. The Thor VM3 computer is built to withstand extreme temperatures and supports an optional screen defroster for cold storage and freezer environments and a brighter outdoor display for outdoor applications. An optional screen blanking feature restricts driver access to the screen when the vehicle is in motion to comply with the highest safety standards.



The Thor VM3 full-size vehicle-mounted computer delivers unmatched operational efficiencies in the toughest distribution center environments.

FEATURES & BENEFITS



Smart Dock feature enables mounting and removal in seconds, saving on support and maintenance costs while maximizing efficiency by allowing dynamic shifting of computers as workloads change..



A user field-replaceable front panel reduces maintenance costs by allowing users to service the most wear- and abuse-prone components themselves rather than returning them to the repair depot.



Built-in ignition control eliminates the maintenance expense and lost productivity caused by a dead vehicle battery.



The Intel® x86 architecture and Dual Core 1.5 GHz processor enable superior performance in data-intensive applications.



With support for multiple versions of Windows (including Windows CE), the Thor VM3 easily integrates into existing IT infrastructures while enabling an upgrade path for the future.

Thor VM3 Technical Specifications

MECHANICAL

Dimensions: Computer: 318 x 260 x 62 mm (12.5 x 10.3 x 2.4 in); Dock: 180 x 155 x 54 mm (7.1 x 6.1 x 2.1 in); Assembled Depth: 104 mm (4.1 in)

Weight: Computer: 3.0 kg (6.65 lbs); Standard

Dock: 1.5 kg (3.2 lbs); Enhanced Dock: 1.1 kg (2.4 lbs) Dock weights include mounting ball.

Operating Temperature: -30°C to +50°C (-22°F to +122°F)

Storage Temperature: -30°C to +50°C (-22°F to +122°F)

Humidity: 5% to 95% non-condensing

Environmental Sealing: Independently certified to meet IP66 standards for moisture and particle resistance

ESD: EN 55024:2010 (enhanced ESD to 8kV direct and 15kV air)

Vibration: MIL-STD-810F, composite wheeled vehicles

Shock: SAE-J1455 (MIL-STD-810g-4.6.6 Procedure V-Crash Hazard Shock Test)

SYSTEM ARCHITECTURE

Processor: 1.5 GHz Dual Core Intel Atom E3826

Operating System: Microsoft Windows Embedded Compact 7 (WEC 7), Microsoft Windows Embedded Standard 7 (WES 7), Microsoft Windows 7 (Win 7), Microsoft Windows 10 IoT Enterprise (Win 10 Industry)

Memory: 4 GB DDR3 System Software: Data Collection Engine for support of external scanners, Bluetooth® wireless technology configuration utilities, Microsoft Internet Explorer, Microsoft on-screen keyboard, Configuration Cloning Utility, Screen Blanking, Zoom Zone, Launcher

Optional Software: RFTerm and ETE Terminal Emulators, Enterprise Browser, SOTI device management

Mass Storage: WEC 7: 2 GB

WES 7: 64 GB, optional 4 GB industrial mSATA secondary SSD

Win 7: 64 GB, optional 4 GB industrial mSATA secondary SSD

Win 10 Industry: 64 GB, optional 4 GB industrial mSATA secondary SSD

Graphics Processor: Intel HD Graphics Base Frequency 533 MHz, Burst Frequency 667 MHz

Power Supply & UPS: 10 to 60 VDC isolated, optional external converters for AC (90–240 VAC) and extended range DC (60–150 VDC); integrated Li-Ion maintenance UPS with 30-min life at -30°C (-22°F)

Display: Indoor: 307 mm (12.1 in) XGA (1024 x 768) LED backlit display, 400 NIT, optional screen blanking

Outdoor: 307 mm (12.1 in) XGA (1024 x 768) LED backlit display, 900 NIT, optional screen blanking

Touch Panel: Standard: Industrial touch panel with resistive touch and support for finger touch and standard stylus

Multitouch: Optional industrial touch panel with Projected Capacitance touch for finger and conductive stylus; hardened glass overlay

Cold Storage: Optional industrial resistive touchscreen with integrated defroster

Integrated Keypad: Seven programmable multi-function keys

Audio: Audio for headset, integrated stereo speakers with adjustable volume control, integrated microphone

Enhanced Dock: 2x powered RS-232 COM ports, 1x USB 2.0 powered host port Type A, 3 additional USB 2.0 powered host ports, 1x USB 2.0 Client port, 1x Ethernet RJ45 port, 1x CAN-bus port, 1x headset port, DC power input and ignition control input.

Standard Dock: 2x powered RS-232 COM ports, 1x USB 2.0 powered host port, 1x USB 2.0 Client port, 1x CAN-bus port, 1x headset port, DC power input and ignition control input.

Computer: RF Antenna ports for Wi-Fi (2), optional RF ports for WWAN (2) and GPS (1)

Storage Expansion: User-installable expansion slot supports 4 GB mSATA card

Development Environment: Honeywell SDK available for Windows Embedded Compact 7

Warranty: One-year factory warranty

Service Plans: Optional three- and five-year service programs offer worry-free mobile computing

WIRELESS CONNECTIVITY

WWAN: Optional software-definable (data only)

4G radio: LTE/UMTS/HSPA+/GSM/GPRS/EDGE/EV-DO Rev A/1xRTT with data speeds up to 100 Mbps downlink and 50 Mbps uplink

WLAN: 802.11 a/b/g/n Wi-Fi certified, CCX certified for data

WLAN Security: Authentication: Support for a full range of 802.1X (EAP) types, including EAP-TLS, PEAP-MSCHAPv2, PEAP-GTC, LEAP and EAP Fast Encryption; support for static, pre-shared, and dynamic encryption keys, 40-bit and 128-bit keys, WEP, WPA (TKIP), and WPA2 (AES) Encryption Methods

WLAN Antennas: Dual internal antennas, dual external remote and direct connect antenna accessories

WPAN: WEC 7, WES 7, Win 7: Bluetooth 2.0+EDR standard, internal antenna

Win 10 Industry: Bluetooth 4.0 standard, internal antenna

GPS: Integrated Assisted GPS (A-GPS) with fast position acquisition and low power consumption; included with WWAN radio

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