



# Thor™ VM1

Vehicle-Mount Computer

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With Microsoft Windows® Embedded CE 6 or Windows® Embedded Standard 2009 Operating System

## Quick Start Guide



The Thor VM1 can be connected to vehicle power as follows:

- Direct power connection (12-48VDC vehicles). See **Connecting the Power Cable**, below.
- Replace a previously installed VX6/VX6 or Thor VX8/VX9 with an adapter cable. See **Adapter Cables**, below.
- High voltage forklifts (over 60V). Refer to the “DC/DC Power Supply Installation Instructions,” available at [www.honeywellaidc.com](http://www.honeywellaidc.com).

## **Connecting the Power Cable**

The following power option is for 12-48VDC vehicles (10-60VDC direct connection).



**CAUTION** - For installation by trained service personnel only.



### **Fuse Requirements**

**WARNING** - For proper and safe installation, the input power cable must be connected to a fused circuit on the vehicle. If the supply connection is made directly to the battery, the fuse should be installed in the positive lead within 5 inches of the battery's positive (+) terminal. The fused circuit requires a maximum time delay (slow blow) fuse with a current rating as noted below.

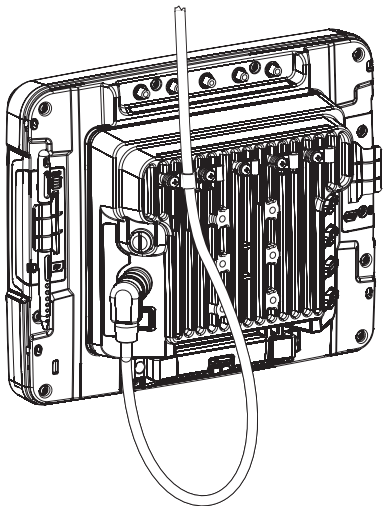
- For **12VDC** input, use a 10A slow blow fuse that has a DC voltage rating greater than 12VDC.
- For **24VDC** input, use a 6A slow blow fuse that has a DC voltage rating greater than 24VDC.
- For **36VDC** input, use a 4A slow blow fuse that has a DC voltage rating greater than 36VDC.
- For **48VDC** input, use a 3A slow blow fuse that has a DC voltage rating greater than 48VDC.

*Note: For North America, a UL Listed fuse must be used.*

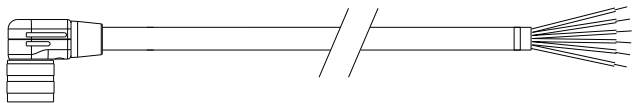
- Refer to the wiring diagram for wire colors and connections.

- Choose a mounting location so that the power cable does not extend outside the vehicle and that provides sufficient clearance so that the power cable (especially the dock connector end) is not pressed against part of the vehicle.
- Regularly inspect power cable for damage, especially in low temperature environments.

### ***Power Cable Routing***



### ***Power Cable Wiring Diagram***



Twist the red and red/white wires together and twist the black and black/white wires together before connecting to vehicle power.

Connect the green wire to vehicle ground:



**For battery powered vehicles:**

*The green wire must be connected to the vehicle chassis ground.*

**For internal combustion engine powered vehicles:**

*The green wire is connected to the vehicle chassis ground, which can also be battery negative.*

Wire Color	Connection
Red	DC + (10-60 VDC)
Red/White	DC + (10-60 VDC)
Black	DC -
Black/White	DC -
Green	Ground
Blue	Ignition Input (optional) <i>Refer to the Thor VM1 User's Guide, available at <a href="http://www.honeywellaidc.com">www.honeywellaidc.com</a>, for further information about ignition control.</i>

### **Power Cable Installation**

1. The Thor VM1 must not be mounted in the Quick Mount Smart Dock. The power switch on the dock must be turned *Off*. The power cable must be UNPLUGGED from the dock.
2. While observing the **Fuse Requirements** in panel 2, connect the power cable as close as possible to the actual battery terminals of the vehicle (if using unswitched power).

3. The cable is rated for a maximum temperature of 221°F (105°C). The cable should be protected from surfaces that exceed this temperature, from physical damage from moving parts, and from chemicals or oil that cause the insulation to deteriorate.
4. Avoid sharp bends. The power cable is less flexible in low temperature environments.
5. Route the cable the shortest way possible removing any leftover cable, making sure the cable does not interfere with safe operation and maintenance of the vehicle.
6. Secure the cable to the vehicle structure at approximately one foot intervals, taking care not to over tighten, pinch conductors, or penetrate the insulation.
7. Use proper electrical and mechanical fastening means for terminating the cable. Properly sized “crimp” type electrical terminals are an accepted method of termination. Select electrical connectors sized for use with 20AWG (0.81mm<sup>2</sup>) conductors.
8. Connect the watertight connector end of the power cable to the Thor VM1 Quick Mount Smart Dock power connector by aligning the connector pins to the power connector; push down on the watertight connector and twist it to fasten securely.
9. Secure the power cable to the Thor VM1 using strain relief cable clamps, and place the Thor VM1 in the dock.
10. If using the Screen Blanking feature, install the screen blanking box or switch. (Refer to the installation instructions that came with the Screen Blanking box, or to the Thor VM1 User's Guide, available at [www.honeywellaidc.com](http://www.honeywellaidc.com) for further information about the Screen Blanking box.)
11. Press the power switch on the back of the Thor VM1 dock.
12. Press the power button on the front of the Thor VM1.

## Adapter Cables

This section assumes the VX6/VX7 or Thor VX8/VX9 power cable is properly connected to vehicle power. Refer to the appropriate Vehicle Mounting Reference Guide for details.

*Note: For high voltage forklifts (over 60V), refer to the “DC/DC Power Supply Installation Instructions,” available at [www.honeywellaidc.com](http://www.honeywellaidc.com).*

### VX6/VX7 Adapter Cable



**CAUTION** - Because the Thor supports 10-60 VDC power input, **verify input voltages** before using this adapter cable with an existing VX6 or VX7 power connection installation.

This adapter cable is available to attach the Thor VM1 to a vehicle previously equipped with a VX6/VX7 DC power cable. When this adapter cable is used, there is no provision for an ignition switch input. Therefore the vehicle ignition monitoring function is not available when using this cable.

1. The Thor VM1 must not be mounted in the Quick Mount Smart Dock. The power switch on the dock must be turned *Off*. The power cable must be UNPLUGGED from the dock.
2. Connect the cable to the Thor VM1 power cable by aligning the connector pins to the power connector; push down on the watertight connector and twist it to fasten securely.
3. The cable is rated for a maximum temperature of 221°F (105°C). The cable should be protected from surfaces that exceed this temperature, from physical damage from moving parts, and from chemicals or oil that cause the insulation to deteriorate. Route the cable so that it does not interfere with safe operation and maintenance of the vehicle.

4. Secure the cable to the vehicle structure at approximately one foot intervals, taking care not to over tighten, pinch conductors, or penetrate the insulation.
5. Connect the watertight connector end of the power cable to the Thor VM1 Quick Mount Smart Dock power connector by aligning the connector pins to the power connector; push down on the watertight connector and twist it to fasten securely.
6. Secure the power cable to the Thor VM1 using strain relief cable clamps, and place the Thor VM1 in the dock.
7. If using the Screen Blanking feature, install the screen blanking box or switch. (Refer to the installation instructions that came with the Screen Blanking box, or to the Thor VM1 User's Guide, available at [www.honeywellaidc.com](http://www.honeywellaidc.com) for further information about the Screen Blanking box.)
8. Press the power switch on the back of the Thor VM1 dock.
9. Press the power button on the front of the Thor VM1.

### ***Thor VX8/VX9 Adapter Cable***

This adapter cable is available to attach the Thor VM1 to a vehicle previously equipped with a VX8/VX9 DC power cable. This cable has bare wires for ground and ignition sense connection plus a D9 cable that connects to a COM port on the Thor VM1 dock to provide a screen blanking signal.

1. The Thor VM1 must not be mounted in the Quick Mount Smart Dock. The power switch on the dock must be turned *Off*. The power cable must be UNPLUGGED from the dock.
2. Connect the cable to the Thor VM1 power cable by aligning the connector pins to the power connector; push down on the watertight connector and twist it to fasten securely.

3. Connect the green wire to vehicle ground:



***For battery powered vehicles:***

*The green wire must be connected to the vehicle chassis ground.*

***For internal combustion engine powered vehicles:***

*The green wire is connected to the vehicle chassis ground, which can also be battery negative.*

4. If ignition control will be used, connect the blue wire to an ignition switched circuit (less than 1mA over input voltage range). If ignition control is not used, the blue wire can be left disconnected,
5. If the VX8/VX9 cable is connected to a screen blanking box or switch, connect the D9 connector to a COM port on the dock. (Refer to the installation instructions that came with the Screen Blanking box, or to the Thor VM1 User's Guide, available at [www.honeywellaidc.com](http://www.honeywellaidc.com), for further information about the Screen Blanking box.)
6. The cable is rated for a maximum temperature of 221°F (105°C). The cable should be protected from surfaces that exceed this temperature, from physical damage from moving parts, and from chemicals or oil that cause the insulation to deteriorate. Route the cable so that it does not interfere with safe operation and maintenance of the vehicle.
7. Secure the cable to the vehicle structure at approximately one foot intervals, taking care not to over tighten, pinch conductors, or penetrate the insulation.
8. Connect the watertight connector end of the power cable to the Thor VM1 Quick Mount Smart Dock power connector by aligning the connector pins to the power connector; push down on the watertight connector and twist it to fasten securely.
9. Secure the power cable to the Thor VM1 using strain relief cable clamps, and place the Thor VM1 in the dock.



10. If using the Screen Blanking feature, install the screen blanking box or switch.
11. Press the power switch on the back of the Thor VM1 dock.
12. Press the power button on the front of the Thor VM1.

*Note: Have the following information available before setting up your Thor VM1:*

- Network ID (SSID) of the Access Point
- WEP key or LEAP authentication credentials

## ***Setting up the Thor VM1 Software***

1. Connect the Thor VM1 to an external power source.
2. Press the Power button.
3. For a 12-key Thor VM1, you may want to attach a USB keyboard via the USB adapter cable during the setup process.
4. Accept the EULA.
5. Calibrate the touch screen.
6. Set the date and time.
7. Edit the radio parameters.
8. Edit the RFTerm Terminal Emulation parameters (optional).
9. Perform a reboot.

# ***Bluetooth and Thor VM1***

Refer to the Thor VM1 User's Guide, available at [www.honeywellaidc.com](http://www.honeywellaidc.com), for information when using the Thor VM1 with Bluetooth.

## ***ActiveSync***

### ***Installing ActiveSync on Desktop/Laptop***

ActiveSync (version 4.5 or higher for Windows desktop/laptop computers) must be resident on the host (desktop/laptop) computer. Windows Mobile Device Center is required for a Windows Vista/Windows 7 desktop/laptop computer. ActiveSync and Windows Mobile Device Center for the PC are available from the Microsoft website. Follow Microsoft's instructions to locate, download and install ActiveSync or Windows Mobile Device Center on your desktop/laptop.

### ***ActiveSync using USB-Client Connection***

The only connection type is USB Client.

1. Connect the Thor VM1 end of the USB cable to the USB port on the back of the Thor VM1 Quick Mount Smart Dock.
2. Connect the other end of the cable to a USB port on a PC or laptop.

ActiveSync starts automatically when the USB cable is connected.

When the Thor VM1 loses connection (e.g., enters Suspend Mode), the connection to ActiveSync will be temporarily lost. When the Thor VM1 resumes, the ActiveSync session will automatically re-connect.

Refer to the Thor VM1 User's Guide, available at [www.honeywellaidc.com](http://www.honeywellaidc.com), for further information about ActiveSync information.

## ***Wireless Network Configuration***

If the access point uses an authentication protocol (WEP, LEAP, etc.), your radio must use the same authentication. Contact your IT department for any necessary keys, login credentials, or certificates. Refer to the Thor VM1 User's Guide, available at [www.honeywellaidc.com](http://www.honeywellaidc.com), for further information or for configuration options not listed here.

1. Tap **Start > Programs > Summit > SCU** or tap the Summit Client Utility icon on the desktop.
2. Tap the **Admin Login** button and enter the password (default = SUMMIT).
3. Tap the **Profile** tab and make sure the Default profile is selected.
4. Select **SSID** and enter the SSID of the access point.
5. If the access point is using WPA or WPA2:
  - 5a. Set **Encryption** to WPA TKIP, WPA CCKM, WPA2 AES, WPA2-TKIP, or WPA2 CCKM.
  - 5b. Set **EAP type** to PEAP/MSCHAP, PEAP/GTC, WPA/LEAP, EAP-FAST or EAP-TLS.
  - 5c. Set **Auth Type** to Open unless using WEP/LEAP. For WEP/LEAP set Auth Type to correspond to the access point's setting.
  - 5d. Tap the **Credentials** button and complete the entries on the popup screen.
  - 5e. Tap **OK**. Skip to step 8.

6. If the access point is using WPA PSK:
  - 6a. Set **Encryption** to WPA PSK, WPA2-PSK-TKIP, WPA-PSK-AES, or WPA2 PSK.
  - 6b. Set **EAP type** to None.
  - 6c. Tap the **WEP keys/PSKs** button and enter the PSK .
  - 6d. Tap **OK**. Skip to step 8.
7. If the access point is using LEAP:
  - 7a. Set **Encryption** to WEP EAP.
  - 7b. Set **EAP Type** to LEAP.
  - 7c. Set **Auth Type** to correspond to the access point's setting.
  - 7d. Tap the **Credentials** button and enter the User Name and Password.
  - 7e. Tap **OK**. Skip to step 8.
8. Tap the **Commit** button to save the radio configuration.
9. Tap the **Main** tab. Wait for a radio connected message.
10. Tap the **Admin Logout** button when finished.
11. Reboot the Thor VM1.

## ***Setting Up AppLock (CE 6.0 only)***

Thor VM1 devices are shipped to boot in Administration mode. In this mode, the user has full access to the device and no password is needed. After the administrator completes the process below, the Thor VM1 switches to end-user mode and restricts access to only the specified application(s).

1. Tap the **Start > Settings > Control Panel or System > Administration** icon.
2. Assign application(s) on the Application tab screen.
3. Assign a password on the **Security** tab screen.
4. Select a view level on the **Status** tab screen, if desired.
5. Tap **OK**.
6. Press the hotkey (**Ctrl + Shift + A**) sequence to launch AppLock and lock the configured application(s).
7. The device is now in end-user mode.

## ***Connecting Using RFTerm®***

Before you make a host connection, you will, at a minimum, need to know:

- the alias name or IP address (Host Address) and
  - the port number (Telnet Port) of the host system to properly set up your host session.
1. Make sure the mobile client network settings are properly configured. If you are connecting via WLAN (802.11x), make sure your Thor VM1 is connected to the network.
  2. Launch RFTerm by tapping the **RFTerm** icon on the desktop.
  3. Select **Session > Configure** from the application menu and select the **host type**. This is dependent on the host system to which you are connecting; i.e., 3270 mainframe, AS/400 5250 server or VT host.
  4. Enter the **Host Address** of the system. This may either be a DNS name or an IP address of the host system.

5. Update the **telnet port number** if your host application is configured to listen on a specific port. If not, use the default telnet port.
6. Select **OK**.
7. Select **Session > Connect** from the application menu or tap the **Connect** button on the Tool Bar.
8. Upon a successful connection, the host application screen is displayed.

To change options (e.g., Display, Colors, Cursor, Bar Code), refer to the RFTerm Reference Guide, available at [www.honeywellaidc.com](http://www.honeywellaidc.com), for further information about these and other features.

## ***Rebooting the Thor VM1***

To warmboot the Thor VM1 with Windows CE 6.0:

1. Select **Start > Settings > Control Panel > Registry**.
2. Tap the **Warmboot** button.

To warmboot the Thor VM1 with Windows Embedded Standard:

1. Select **Start > Shutdown > Restart** to reboot.

When the Thor VM1 is booting, there may be small delays while the wireless client connects, applications launch, remote management completes and Bluetooth devices connect.

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Web Address: [www.honeywellaidc.com](http://www.honeywellaidc.com)

## ***Patents***

For patent information, please refer to [www.hsmpats.com](http://www.hsmpats.com).

## ***Technical Assistance***

Contact information for technical support, product service, and repair can be found at [www.honeywellaidc.com](http://www.honeywellaidc.com).

## ***Limited Warranty***

Refer to [www.honeywellaidc.com/warranty\\_information](http://www.honeywellaidc.com/warranty_information) for your product’s warranty information.

## ***User Documentation***

To download the Thor VM1 user documentation go to [www.honeywellaidc.com](http://www.honeywellaidc.com).

