

Thor™ VX8

Vehicle-Mount Computer

Microsoft® Windows® Embedded Standard Operating System

Microsoft® Windows® 7 Professional Operating System

Microsoft® Windows® XP® Professional Operating System

User's Guide

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Chapter 1: Introduction




The Thor VX8 is also known as the Kärva.

The Thor VX8 Vehicle Mount Computer (VMT) is a rugged, vehicle-mounted, PC (Personal Computer) equipped with a Microsoft Windows® operating system. The Thor VX8 is capable of wireless data communications from a fork-lift truck or any properly configured vehicle. The unit uses a PCMCIA radio (spread spectrum 2.4GHz) for wireless data communications.

The Thor VX8 is a tablet-style computer and features a color display. The touch-screen display supports graphic features and Microsoft Windows icons that the installed Windows operating system supports. An illuminated keyboard is available to facilitate use in dimly lit areas.

The Thor VX8 provides the power and functionality of a desktop computer in a vehicle mounted unit, with a wide range of options.

The Thor VX8 is available with the following operating systems:

-  Windows® 7 Professional
-  Windows® Embedded Standard
-  Windows® XP Embedded / Professional

The Thor VX8 can support only one operating system at a time. Information in this guide includes instruction for all operating systems.

About this Guide

This Thor VX8 User's Guide provides instruction for the end-user or system administrator to follow when setting up a new Thor VX8.

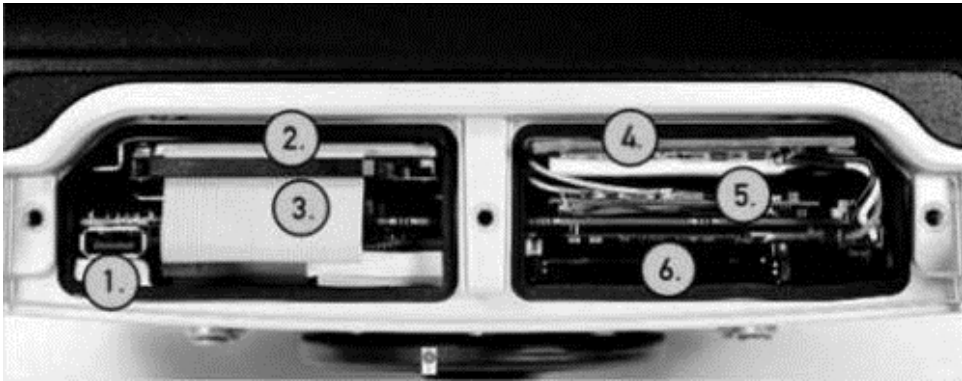
Microsoft Windows License Agreement (First Boot)



If your Thor VX8 is shipped with a Microsoft Windows operating system pre-installed, it may be necessary to complete the Windows licensing/registration screens when starting the Thor VX8 for the first time. To complete this information, you may need the Microsoft Windows software/product key that was included with the Thor VX8.

Components

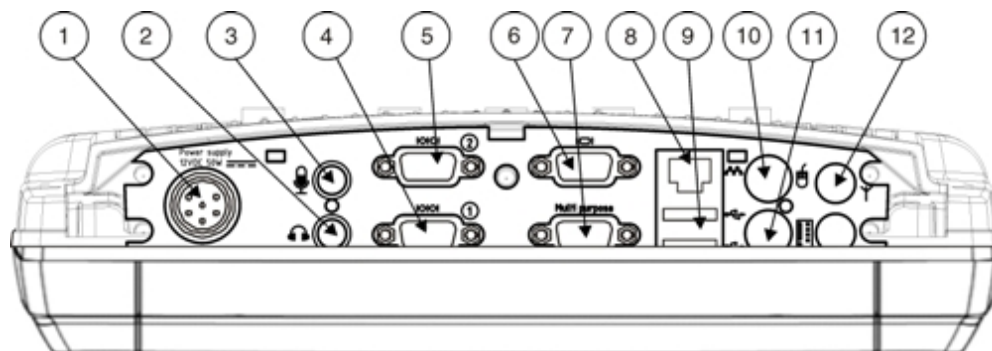
Top View



The service lid has been removed to show components.

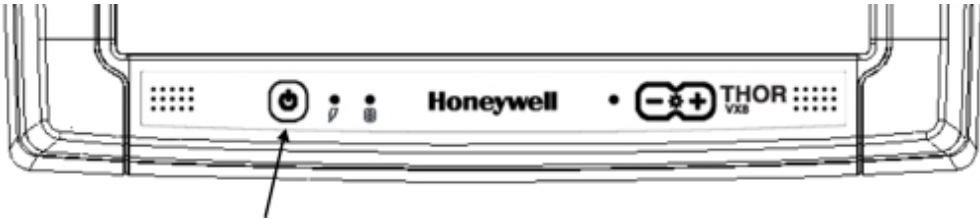
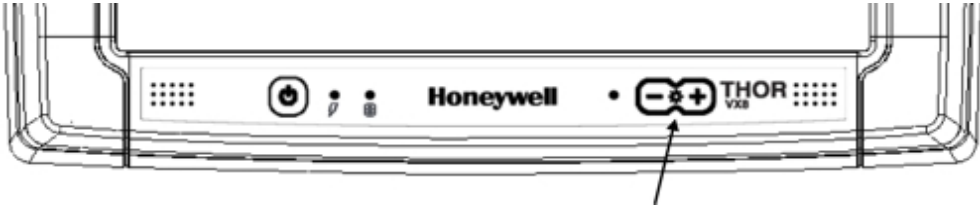
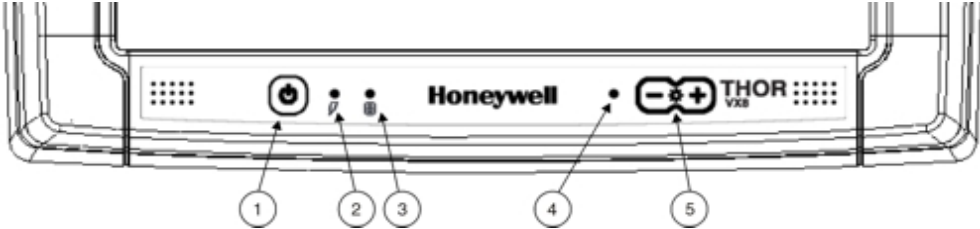
Position	Function
1	USB 2.0
2	Hard drive
3	Compact Flash slot, optional (behind HD cable)
4	Battery/UPS
5	Mini PCI slot
6	PC Card slot (option)

Bottom View



Position	Function
1	Power supply (12V DC 50W)
2	Mic. in
3	Audio out
4	COM2 RS232 +12V
5	COM1 RS232 +5V
6	VGA (external monitor)
7	Multipurpose Connection (provides USB, COM4 with optional +12V on pin 9 or both with optional cables)
8	RJ-45 Ethernet 10/100 (LAN)
9	2x USB 2.0
10	PS/2 Mouse
11	PS/2 Keyboard
12	Bluetooth antenna connector

Indicators and Buttons

	Power Button
	Screen Brightness
	<div>1. Power LED</div> <div>2. UPS Mode LED</div> <div>3. Hard Drive LED</div> <div>4. Light Sensor</div>

Power LED

The Power LED is incorporated into the power button.

Power LED Behavior	System State
Off (no light)	Off and not powered
Green flash very slow	Off but powered
Green on	Operating normally
Green flashing slow	Suspend
Green flashing fast	Black-out Screen
Red on	Over voltage shutdown
Red flashing	Over temperature

UPS Mode LED

The UPS Mode LED is to the immediate right of the power button.

UPS LED Behavior	UPS Battery State
Green flashing fast	UPS battery powered
Green on or flashing slow	UPS battery charging
Off (no light)	UPS battery charged

Hard Drive LED

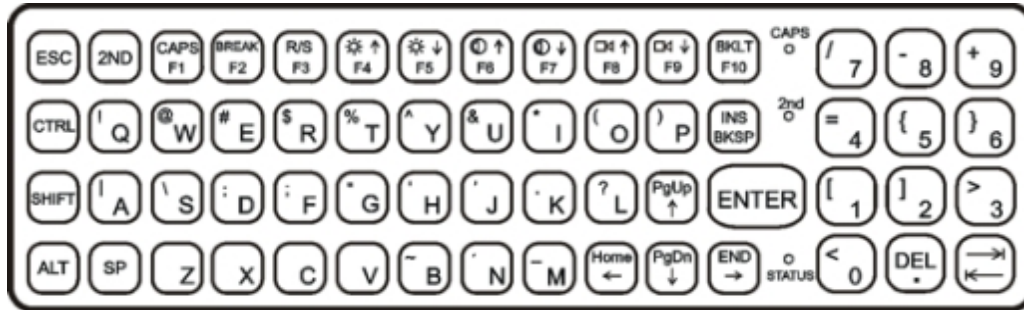
The Hard Drive LED is located to the right of the UPS Mode LED.

Hard Drive LED Behavior	Hard Drive State
Green flashing	Hard drive activity
Off (dark)	No activity

60-Key Keyboard

The 60-key QWERTY keyboard has 101 keyboard functions, including a numeric keyboard pad.

The 60 key keyboard is also available with overlays designed for use with IBM 3270 and IBM 5250 terminal emulations.



Key Maps

The 60-key keyboard supports all 101 keyboard functions. However, because the keyboard only has 60 keys, all functions are not visible (or printed on the keyboard).

Please refer to the Key Maps section of the *Thor VX8 Reference Guide*.

NumLock

The 60-key keyboard does not have a NumLock indicator or key. NumLock can be toggled On or Off using the **2nd SHIFT F10** keypress sequence. Changes made to the NumLock status persist across a Windows restart.

CapsLock

The CAPS LED indicates the state of the keyboard CapsLock mode. If CapsLock is enabled this LED is illuminated green. When CapsLock is off, the LED is dark.

Press **2nd** then F1 to toggle CapsLock On and Off.

The default value of CapsLock is “Off”.

Secondary Keys

The VMT keyboard is equipped with several secondary keys. These keys are identified by the superscripted text found on the keyboard keys. The secondary keys are accessible by using two (2) keystrokes: the 2nd key followed by the superscripted key.

Once the 2nd state is enabled (by pressing the 2nd key) the Secondary Mode LED is illuminated and the 2nd state is enabled until another key is pressed. The 2nd key is toggled on with a 2nd keypress and then immediately off with another 2nd keypress.

Keyboard Backlight

The keyboard keys are backlit with LEDs. The backlight is manually controlled using the **2nd + CTRL + F10** keypress sequence.

95-Key Keyboard with Pointing Device

Designed for ease of use with Windows operating systems, the 95-key QWERTY keyboard with pointing device connects via a cable to the keyboard port on the Thor VX8. Additional Windows keys (the Windows logo key and the Application key) and an integrated pointing device are provided for ease of use with Windows operating systems.



Key Maps

The 95-key keyboard supports all 104 keyboard functions (101 keyboard standard plus Windows keys) and includes an integrated pointing device and left and right mouse buttons. However, because the keyboard only has 95 keys, all functions are not visible (or printed on the keyboard).

Please refer to the Key Maps section of the *Thor VX8 Reference Guide*.

NumLock

For the 95-key keyboard, the NumLock key and the numeric keys are backlit green when NumLock is off. When NumLock is on, the backlight for the NumLock key and the numeric keys is amber.

CapsLock and Scroll Lock

For the 95-key keyboard, the CapsLock key is backlit green when CapsLock is off. When CapsLock is on, the backlight for the CapsLock key is amber.

The Scroll Lock key is backlit green when Scroll Lock is off. When Scroll Lock is on, the backlight for the Scroll Lock key is amber.

The default values for CapsLock and Scroll Lock are Off.

Keyboard Backlight

The 95-key keyboard backlights each key with an LED. The keyboard backlight is manually controlled using the “backlight” key in the upper right hand corner of the keyboard. Pressing the backlight key cycles the keyboard backlight through the levels of backlight intensity:

- Off
- Maximum intensity
- Medium intensity
- Low intensity.

Chapter 2: Set Up A New Thor VX8

This page lists a quick outline of the steps you might take when setting up a new Thor VX8. More instruction for each step is listed later in this guide. Please refer to the *Thor VX8 Reference Guide* for additional information and instruction.

Contact [Technical Assistance](#) if you need additional help.

Note: Installing or removing accessories should be performed on a clean, well-lit surface. When necessary, protect the work surface, the Thor VX8, and components from electrostatic discharge.

Hardware Setup

1. Connect accessories.
2. Connect power cable.
3. Secure all cables to the Thor VX8 with the Strain Relief Cable Clamps.
4. Press the Power key.

Software Setup

Hardware setup should be completed before beginning software setup.

1. [Adjust date and time](#)
2. [Setup power management](#)
3. [Adjust speaker volume](#)
4. [Connect Bluetooth devices](#)
5. [Save settings with Restart](#)
6. [Enable the Soft Keyboard](#)

Tapping the Touch Screen with a Stylus

Note: Always use the point of the stylus for tapping or making strokes on the touch screen.

Never use an actual pen, pencil, or sharp/abrasive object to write on the touch screen.

Hold the stylus as if it were a pen or pencil. Touch an element on the screen with the tip of the stylus then remove the stylus from the screen.

Firmly press the stylus into the stylus holder when the stylus is not in use.

Using a stylus is similar to moving the mouse pointer then left-clicking icons on a desktop computer screen.

Using the stylus to tap icons on the touch screen is the basic action that can:

- Open applications
- Choose menu commands
- Select options in dialog boxes or drop-down boxes
- Drag the slider in a scroll bar
- Select text by dragging the stylus across the text
- Place the cursor in a text box prior to typing in data
- Place the cursor in a text box prior to retrieving data using a scanner/imager or an input/output device connected to a serial port.



A right click is generated by tapping the mouse icon in the system tray. After tapping, the mouse icon highlights the right button of the icon in red. The next touch screen tap is treated as a right click. The mouse icon returns to the left button highlighted in red so subsequent taps are treated as left clicks.



A stylus replacement kit is available.

Thor VX8 Configuration Options

Many configuration options are available via the Microsoft Windows Control panel. Refer to the *Thor VX8 Reference Guide* or For **Help and Support** on the **Start** menu for configuration details.



Date and Time

Use the Windows interface to set date, time and time zone. Tap the time displayed in the task bar or tap:

	Start > Control Panel > Clock, Language and Region > Date and Time (Category view) Start > Control Panel > Date and Time (Classic view)
	Start > Control Panel > Date and Time (Classic view) Start > Control Panel > Date, Time, Language and Regional Options > Change the Date and Time (Category view)



Power Management

Use the Windows interface to set power management options.

	Start > Control Panel > Hardware and Sound > Power Options (Category view) Start > Control Panel > Power Options (Classic view)
	Start > Control Panel > Power Options (Classic view), or tap Start > Control Panel > Performance and Maintenance > Power Options (Category view)



Speaker Volume

Use the Windows interface to control speaker volume. Tap the speaker icon displayed in the task bar or tap:

	Start > Control Panel > Hardware and Sound > Sound (Category view) Start > Control Panel > Sound (Classic view)
	Start > Control Panel > Sound and Audio Devices > Sounds (Classic view), or tap Start > Control Panel > Sounds, Speech and Audio Devices > Adjust the System Volume (Category view)



Connect Bluetooth Devices

Use the Windows interface to manage Bluetooth devices.

	Tap the Bluetooth icon on the Desktop.
	Start > Control Panel > Bluetooth Devices (Classic view), or tap Start > Control Panel > Printers and Other Hardware > Bluetooth Devices (Category view)

Restart/Shutdown

Use the Windows interface to restart or shut down the Thor VX8.

	Start > Shut down <i>right arrow list menu</i> > Restart Start > Shut down
	Start > Shut down > Restart Start > Shut down > Shut down

Soft Keyboard

The optional soft keyboard can be enabled and configured from the keyboard control panel in the MountFocus software.

Tap **Start > Programs > MountFocus POS > Keyboard Control Panel**

Calibrate Touch Screen

To calibrate the touch screen, access the touch screen software. Select:

- Tap **Start > Programs > UPDD > Calibrate** and touch the center of the cross displayed on screen and release.
Repeat as the cross is displayed in various locations. The utility closes automatically upon calibration completion.

Setup Terminal Emulation Parameters

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 configured and functional. If you are connecting over wireless LAN (802.11x), make sure your mobile client is communicating with the Access Point.
 2. From **Start > Program**, run **RFTerm** or tap the RFTerm icon on the desktop.
 3. Select **Session > Configure** from the application menu and select the "host type" that you require. This will depend on the type of host system that you are going to connect to; i.e., 3270 mainframe, AS/400 5250 server or VT host.
 4. Enter the "Host Address" of the host system that you wish to connect to. 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, just 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. Upon a successful connection, you should see the host application screen displayed.

To change options such as Display, Colors, Cursor, Bar Code, etc., please refer to these sections in the *RFTerm Reference Guide* for complete descriptions of these and other features.

Cleaning the Touch Screen

Note: These instructions are for components made of glass. If there is a removable protective film sheet on the display, remove the film sheet before cleaning the screen.

Keep fingers and rough or sharp objects away from the bar code reader scanning aperture and the mobile device touch screen.

If the glass becomes soiled or smudged, clean only with a standard household cleaner such as Windex® without vinegar or use Isopropyl Alcohol. Dampen the cloth with the cleaner and then wipe the surface.

Do not use paper towels or harsh-chemical-based cleaning fluids since they may result in damage to the glass surface. Use a clean, damp, lint-free cloth.

Do not scrub optical surfaces. If possible, clean only those areas which are soiled. Lint and particulates can be removed with clean, filtered canned air.

Apply the Touch Screen Protective Film

First, [clean the touch screen](#) of fingerprints, lint particles, dust and smudges.

Remove the protective film from its container. Remove any protective backing from the film sheet by lifting the backing from a corner of the film. Discard the backing.

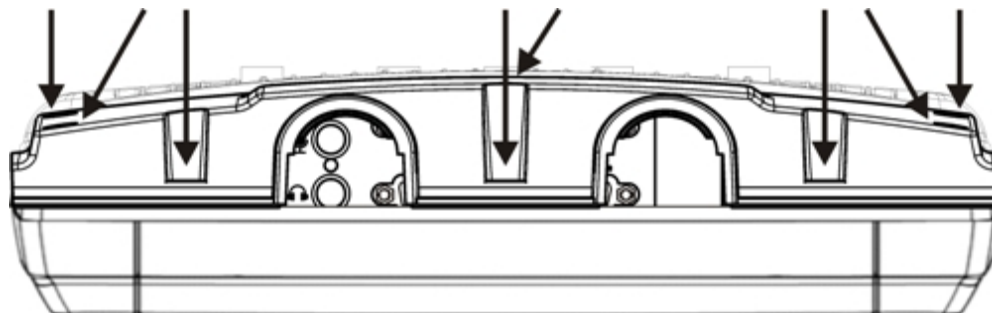
Apply the film to the touch screen starting at one side and smoothing it across the display. If air bubbles appear, raise the film slightly and continue smoothing the film across the display until it covers the glass surface of the display. If dust, lint or smudges are trapped between the protective film and the glass display, remove the protective film, clean the display and apply the protective film again.

Contact [Technical Assistance](#) about protective film packs designed specifically for your Thor VX8 touch screen.

Chapter 3: Connecting Cables to the Thor VX8

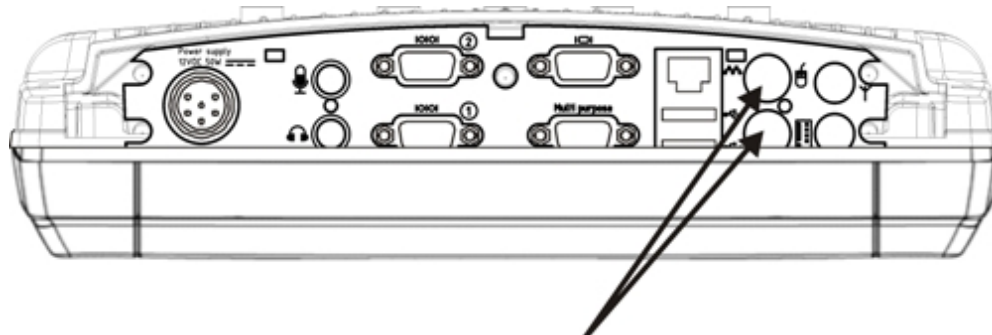
Removing the Port Lid

Before any cables can be attached to the Thor VX8, the port lid must be removed. The port lid is held in place with eight (8) Torx 20 screws. Remove the screws and the port lid and set aside for reinstallation once all accessories are attached.



Connect Keyboard

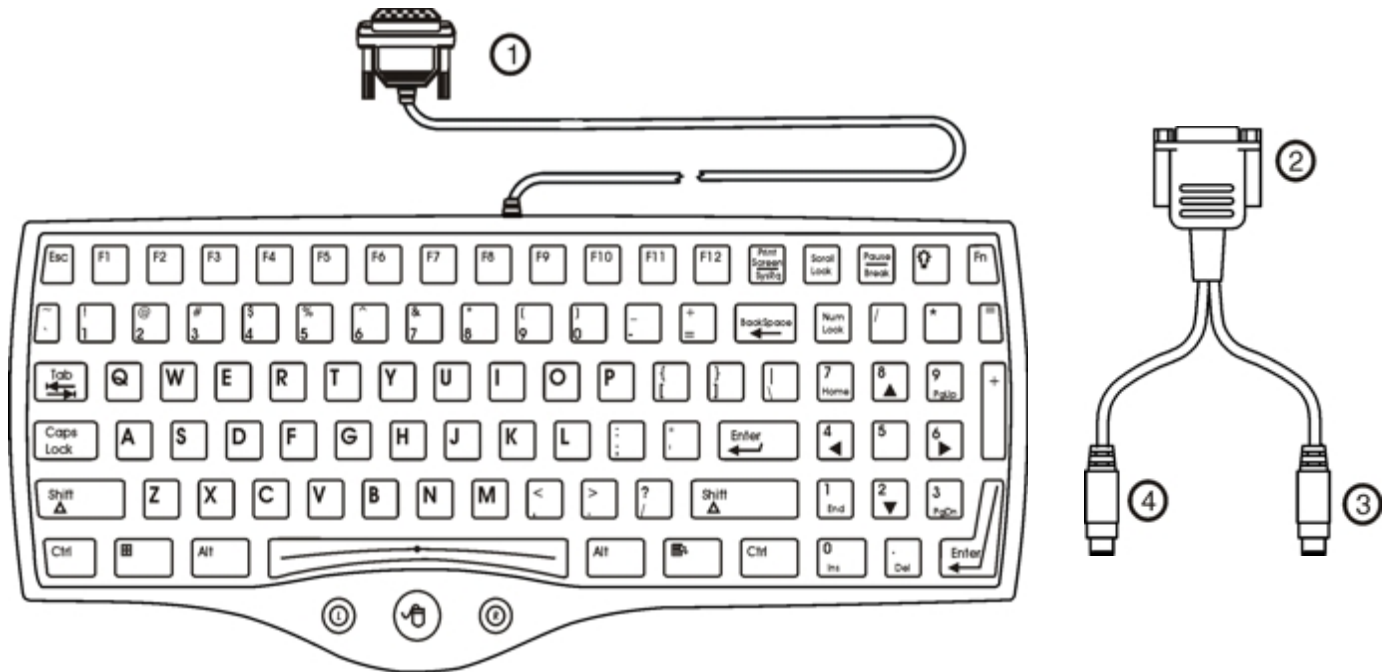
The Thor VX8 has PS/2 connectors for the keyboard and mouse.



1. Connect the adapter cable to the PS/2 connectors on the Thor VX8.
2. Connect the keyboard to the adapter cable.

95 key Rugged Keyboard

The 95 key keyboard contains an integrated 2 button mouse, shown with adapter cable.



1. To adapter cable
2. To 95-key keyboard cable
3. To VX8 PS/2 keyboard connector (color coded)
4. To VX8 PS/2 mouse connector (color coded)

60 key Rugged Keyboard

Shown with adapter cable.



1. To adapter cable
2. To 60-key keyboard cable
3. To VX8 PS/2 keyboard connector (color coded)
4. To VX8 PS/2 mouse connector (color coded)

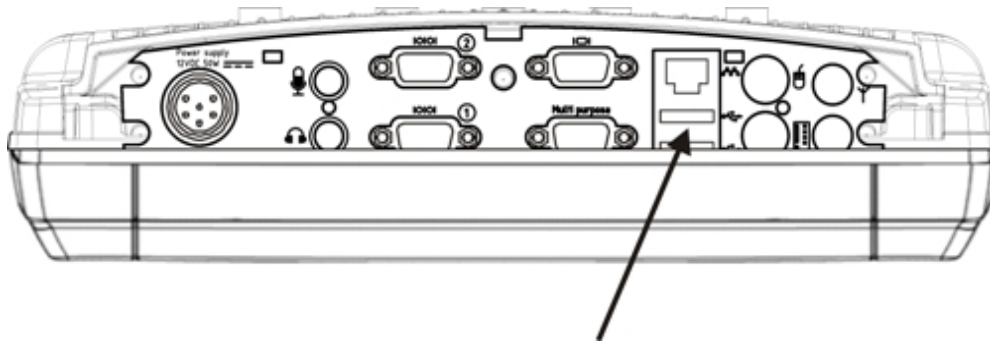
Connect USB Devices

The Thor VX8 provides the following Type A ports:

- internal USB port, accessible when the service lid is removed
- two external USB ports (see below)
- a USB port via a [dongle cable attached to the multipurpose port](#).

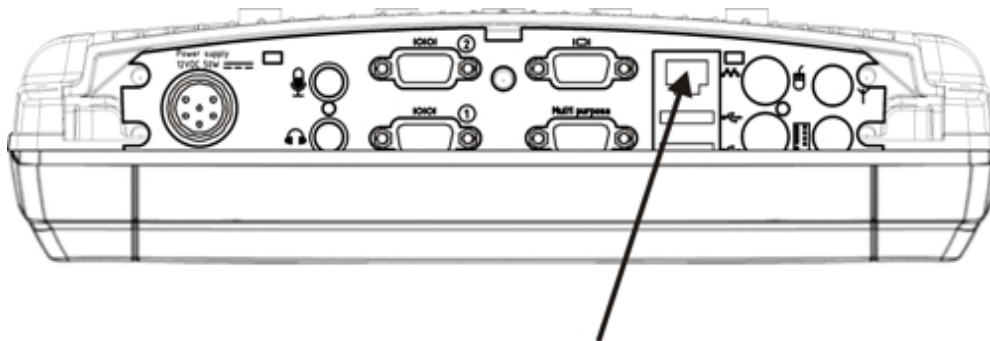
Plug the desired device, such as a USB mouse or storage device, into the USB port. Refer to **Start > Help and Support** and the documentation for your USB device for more information.

USB devices may be installed, removed or swapped without turning off the Thor VX8.



Connect Ethernet Cable

Note: Use of a shielded cable is required to maintain emissions and susceptibility compliance..



1. Insert the network cable and ensure it is firmly seated in the connector jack.
2. To remove the Ethernet cable, press the release tab on the cable end.

Connect Serial Bar Code Scanner



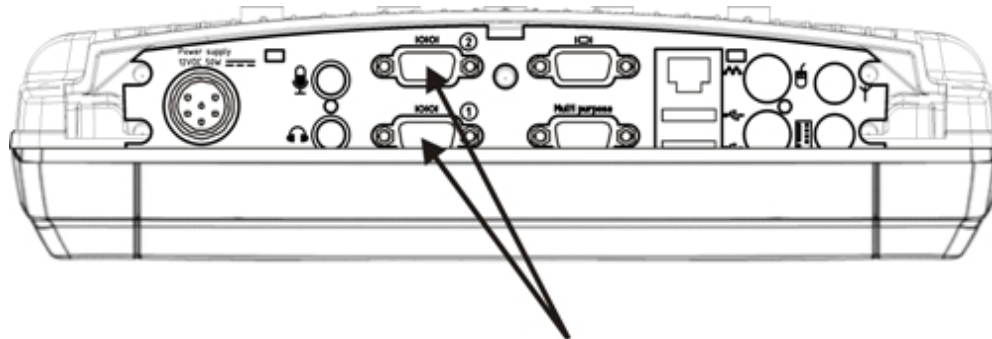
Refer to the documentation received with the bar code scanner for complete instructions. Read all warnings and caution labels.

Pin 9 of COM1 provides +5V. **Do not** connect a serial bar code scanner to COM2 or COM4 as this may damage the scanner, the Thor VX8 or both.

Configuration of COM port power is handled via the VMT Manager option in the Control Panel. For more information consult the *Thor VX8 Reference Guide* or the system administrator responsible for the configuration of the Thor VX8.

The scanner cable is attached to the COM1 port. The cable requires a nine-pin D-shell female connector for the Thor VX8.

Note: Use of a shielded cable is required to maintain emissions and susceptibility compliance.

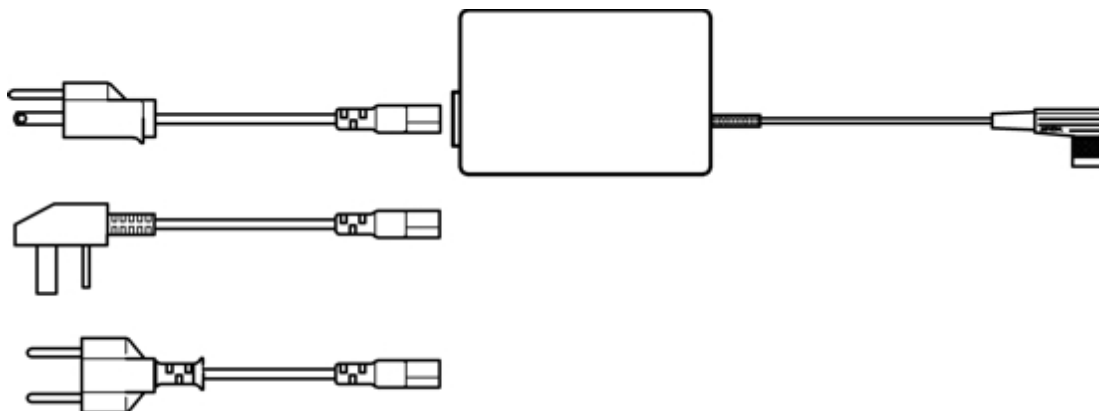


Seat the connector firmly over the pins and turn the thumbscrews in a clockwise direction. Do not overtighten.

When you have finished using the scanner, remove it from the Thor VX8 and store the scanner in a closed container or bag.

Refer to the documentation received with the bar code scanner for complete instructions.

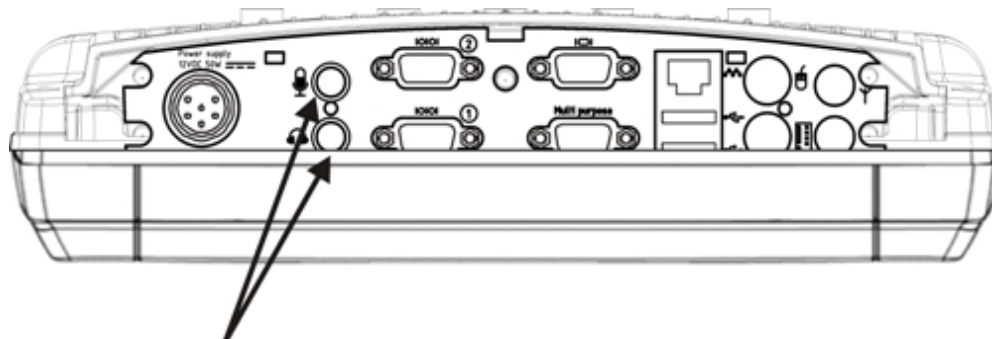
External AC Power Supply, Optional



1. Turn the Thor VX8 off.
2. Connect the appropriate detachable cordset to the external power supply.
3. Plug cordset into appropriate, grounded, electrical supply receptacle (AC mains).
4. Connect the watertight connector end to the Thor VX8's Power Connector by aligning the connector pins to the power connector; push down on the watertight connector and twist it to fasten securely.
5. Turn the Thor VX8 on.

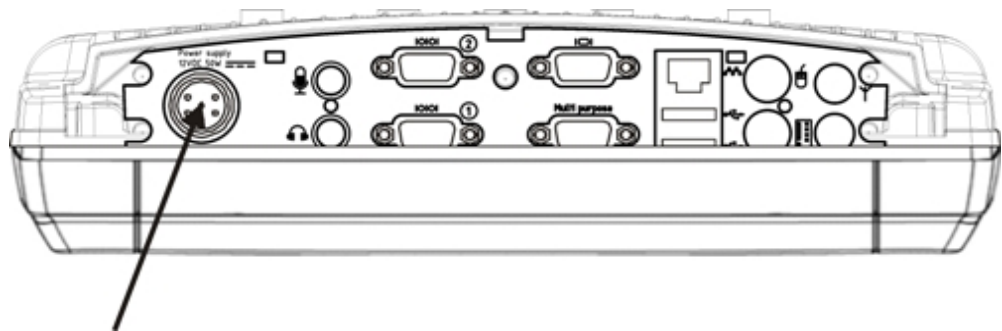
Connect External Headset

The Thor VX8 provides an external headset connection via an audio jack connector and a microphone to a separate microphone jack connector. The connectors are color keyed and marked with the headset and microphone symbols.



1. Insert the speaker or headphone plug into the audio connector; making sure the plug is firmly seated in the jack.
2. Insert the microphone plug into the microphone connector; making sure the plug is firmly seated in the jack.

Connecting Vehicle Power



Complete vehicle cradle mounting and power instruction is contained in the *Thor VX8 Cradle Guide*.
The DC to DC converter is used to power the Thor VX8. The converter must be used with the Thor VX8 regardless of vehicle voltage.

Specifications for electrical supply

Input Voltage	Always observe input voltage range specified on the DC to DC power supply and the optional screen blanking box.
Output Voltage	12VDC \pm 10%: models VX89301PWRSPLY, VX89A302PSDC48V, VX89303PWPSPLY 13.2VDC \pm 10%: models VX89305PWRSPLY, VX89306PWRSPLY
Power	60 W: models VX89301PWRSPLY, VX89302PSDC48V, VX89303PWPSPLY 75 W: models VX89305PWRSPLY, VX89306PWRSPLY
Fuse	10 A (slow blow fuse) 3 A (for optional screen blanking box) Fuses are USER SUPPLIED

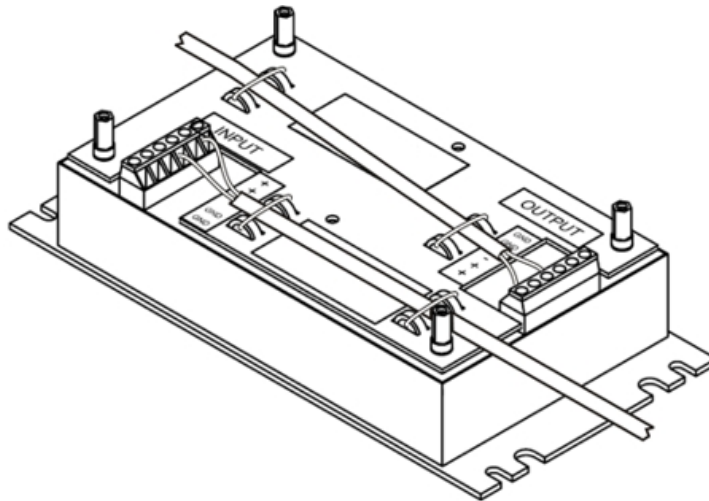
Please refer to the appropriate wiring schematic below for wiring colors and connections:

	For proper and safe installation, the input power cable must be connected to a fused circuit on the vehicle. This fused circuit requires a user supplied 10 Amp maximum time delay (slow blow) high interrupting rating fuse. 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 positive (+) terminal.
	For installation by trained service personnel only.
	Risk of ignition or explosion. Explosive gas mixture may be vented from battery. Work only in well ventilated area. Avoid creating arcs and sparks at battery terminals.

Connect Vehicle Electrical Connection

1. Please review the proper wiring schematic illustration, later in this section, before beginning power cable install.
2. The computer must be powered off.
3. Begin by connecting the power cable to the Thor VX8. Work from this connection with the last connection being to the vehicle's power source.
4. Route the cable from the Thor VX8 to the DC to DC converter and, optionally, the screen blanking box. Cut the cable to length and strip the wire ends. If the screen blanking box is not used, do not strip the green and yellow wires. Route the power cable the shortest way possible. The cable is rated for a maximum temperature of 105°C (221°F). When routing this cable it should be protected from physical damage and from surfaces that might exceed this temperature. Do not expose the cable to chemicals or oil that may cause the wiring insulation to deteriorate. Always route the cable so that it does not interfere with safe operation and maintenance of the vehicle.
- 5a. For models VX89301PWRSPPLY, VX89A302PSDC48V, VX89303PWPSPLY only:

DC to DC Converter



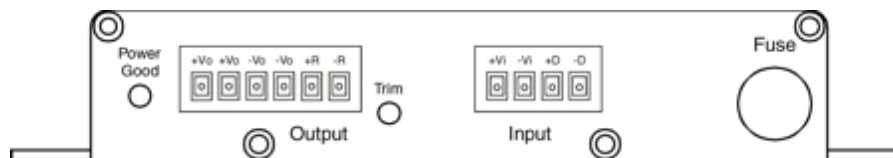
Remove the lid from the DC to DC converter. Attach the stripped wire ends to the output side of the DC to DC converter. Attach stripped wire ends to the input side of the DC to DC converter.

The input and output blocks each have two + and two – minus connectors. Either connector in the block can be used to connect the matching polarity wire.

Use the looms and wire ties to secure all wiring then reattach the cover with the screws.

- 5b. For models VX89305PWRSPPLY, VX89306PWRSPPLY only:

DC to DC Converter



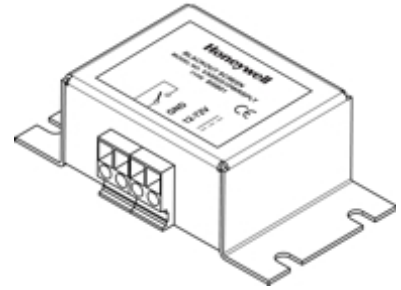
Attach the stripped wire ends to the output side of the DC to DC converter. Attach stripped wire ends to the input side of the DC to DC converter.

The input block has one +Vi and one –Vi connection to connect the matching polarity wire.

The output block has two +Vo and two –Vo connectors. Either connector in the block can be used to connect the matching polarity wire.

Use wire ties to secure all wiring, providing strain relief for the power supply connections.

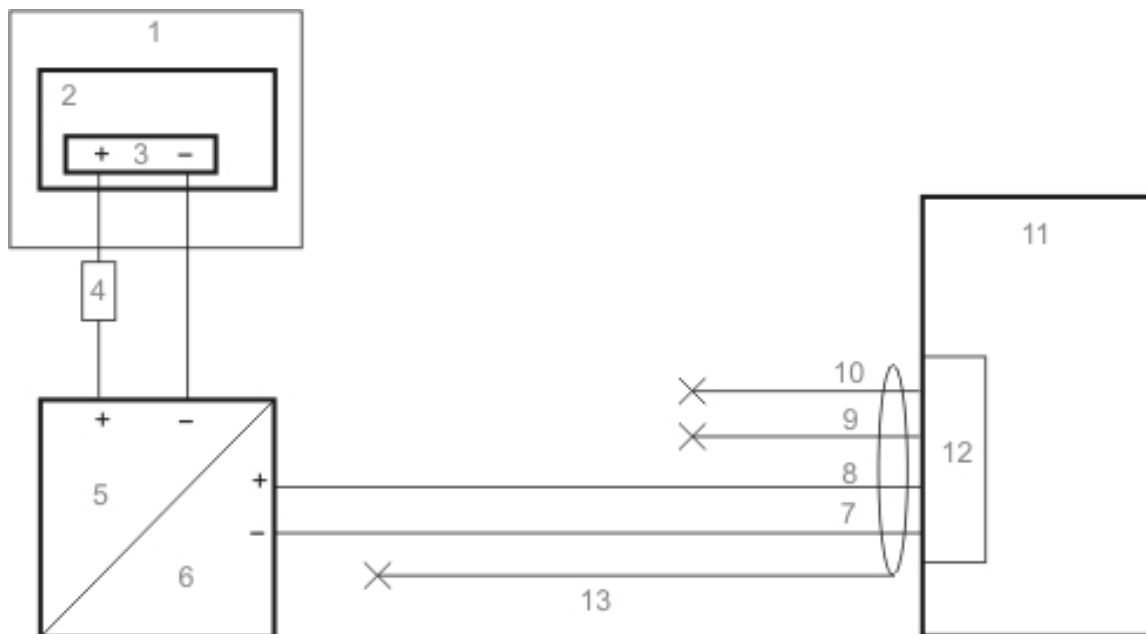
-
6. If the screen blanking box is used for the Thor VX8 installation, attach the stripped wire ends to the box. Refer to the applicable following diagram and the label on the screen blanking box for proper wiring connection.



7. Connect the DC to DC converter to the vehicle's electrical system.
8. While observing the fuse requirements specified above, connect the power cable as close as possible to the actual battery terminals of the vehicle. When available, always connect to unswitched terminals in vehicle fuse panel, after providing proper fusing.
ATTENTION: For uninterrupted power, electrical supply connections should not be made at any point after the ignition switch of the vehicle.
9. If used, connect the wiring for the screen blanking box.
10. Use proper electrical and mechanical fastening means for terminating the cable. Properly sized "crimp" type electrical terminals are an accepted method of termination. Please select electrical connectors sized for use with 18AWG (1mm²) conductors.
11. Provide mechanical support for the cable by securing it to the vehicle structure at approximately one foot intervals, taking care not to over tighten and pinch conductors or penetrate outer cable jacket.

Connection without Screen Blanking

Power Cable Routing without Screen Blanking

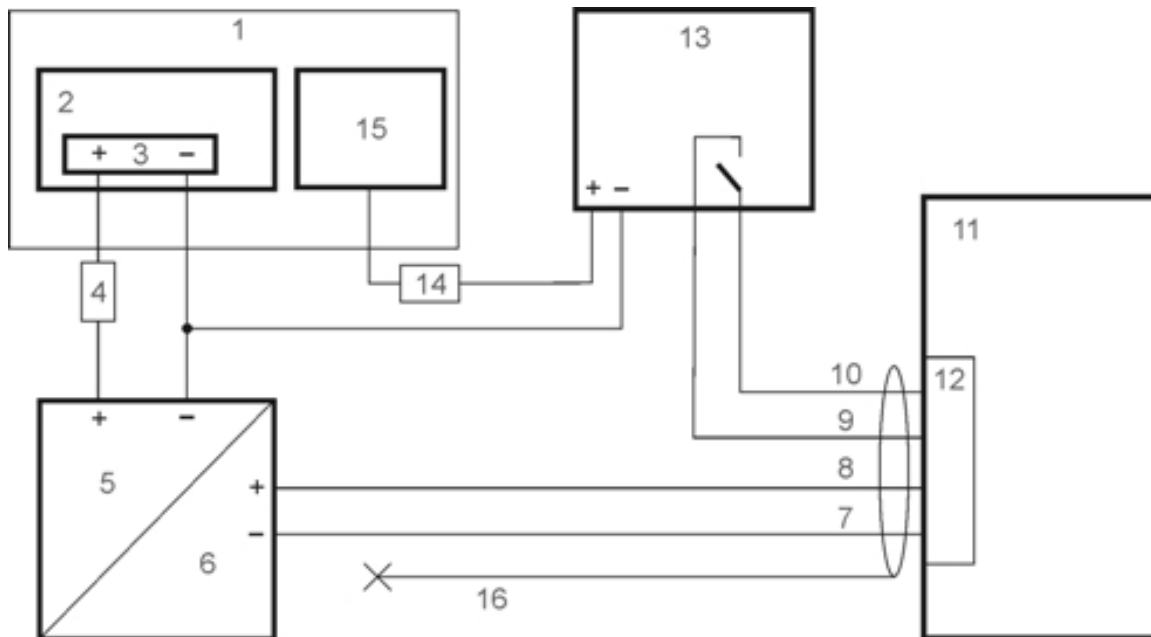


1. Existing circuitry on vehicle
2. Forklift Battery
3. Main Switch
4. 10A slow fuse close to power source
5. Power input
6. Isolated DC power output
7. White
8. Brown
9. Yellow
10. Green
11. Vehicle mounted computer
12. Circular power connector
13. Supplied power cable (shielding to be trimmed)

Connection with Screen Blanking Box

It is assumed that the motion sensing circuitry in the illustration below is powered by internal vehicle circuitry.

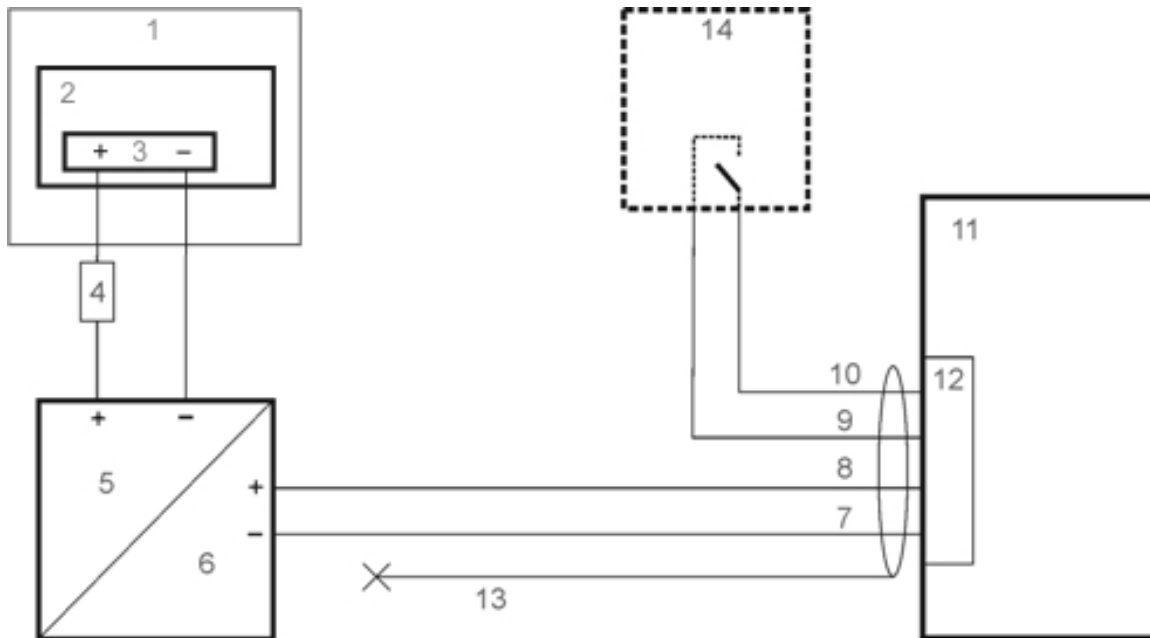
Power Cable Routing with Screen Blanking Box



1. Existing Circuitry on Vehicle
2. Forklift Battery
3. Main Switch
4. 10A slow fuse close to power source
5. Power Input
6. Isolated DC power output
7. White
8. Brown
9. Yellow
10. Green
11. Vehicle mounted computer
12. Circular power connector
13. Screen blanking box
14. 3A fuse
15. Motion circuitry - The voltage at the +Vi input on the Screen Blanking Box must be between 10VDC and 60 or 72VDC (see Screen Blanking Box label) when the vehicle is in motion and less than 5VDC when the vehicle is not in motion.
16. Supplied power cable (shielding to be trimmed)

Connection with Relay/Mechanical Switch for Screen Blanking

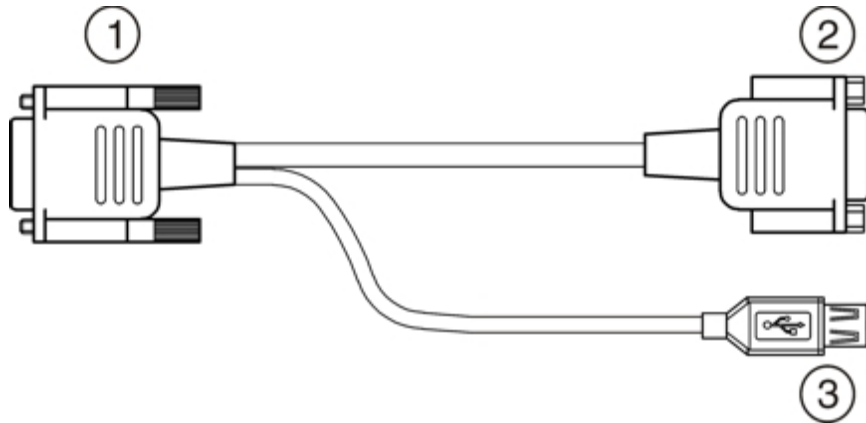
Power Cable Routing with Screen Blanking Switch/Relay



1. Existing Circuitry on Vehicle
2. Forklift Battery
3. Main Switch
4. 10A slow fuse close to power source
5. Power Input
6. Isolated DC power output
7. White
8. Brown
9. Yellow
10. Green
11. Vehicle mounted computer
12. Circular power connector
13. Supplied power cable (shielding to be trimmed)
14. Relay/switch that supplies a mechanical electrically conductive connection on vehicle motion.

Connect Multipurpose Cable

There are three optional dongle cables for use with the multipurpose port.



VX89053CABLE

1. D15 Connector (to Thor VX8)
2. D9 Serial Connector (COM4)
3. USB Connector



VX89052CABLE



VX89A051CBLUSB

These cables provide:

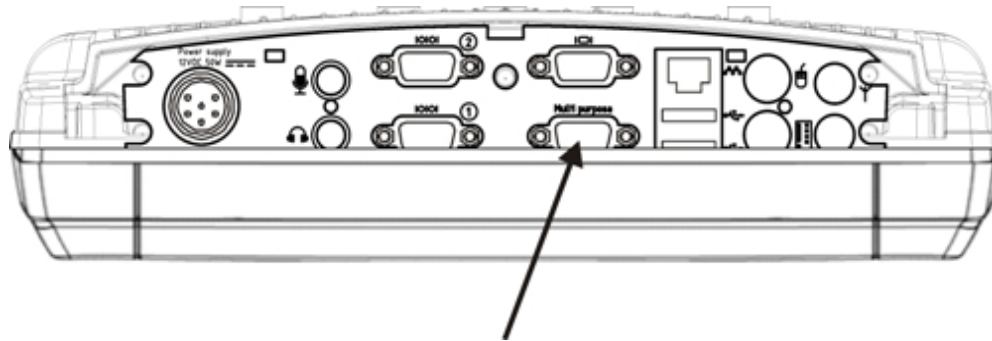
- A USB type A plug,
- A COM4 serial port connector, or
- Both a USB Type A port and a COM4 serial port



Pin 9 of COM4 provides +12V. Verify acceptable input voltages before connecting serial devices.

Configuration of COM port power is handled via the VMT Manager option in the Control Panel. For more information consult the *Thor VX8 Reference Guide* or the system administrator responsible for the configuration of the Thor VX8.

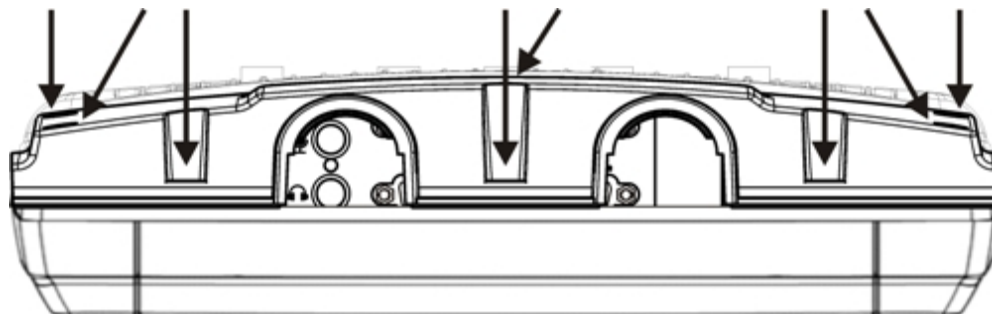
The multipurpose cable is attached to the port. The cable requires a nine-pin D-shell female connector for the Thor VX8.



1. Seat the cable connector firmly over the pins and turn the thumbscrews in a clockwise direction. Do not overtighten.
2. If a USB port is present, plug the desired device, such as a USB mouse or storage device, into the USB port. Refer to the Windows help system and the documentation for your USB device for more information. USB devices may be installed, removed or swapped without turning off the Thor VX8.
3. If a COM4 port is present, seat the serial device cable connector firmly over the pins and turn the thumbscrews in a clockwise direction. Do not overtighten.

Securing Port Lid

The screws used for the port lid should be alternately tightened to provide proper dust and moist protection (IP65 requirement). There are eight (8) Torx 20 screws securing the port lid.



Fasten the cable tube in the vehicle, without putting strain on the tube. Now the Thor VX8 is ready to be mounted in the vehicle.

Chapter 4: Product Agency Compliance - Thor VX8

Class A Digital Device

FCC Rules, Part 15

This device complies with FCC Rules, part 15. Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Notice

Changes or modifications made to this equipment not expressly approved by Honeywell may void the FCC authorization to operate this equipment.

Industry Canada

This Class A digital apparatus meets all requirements of the Canadian Interference Causing Equipment Regulations. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. Cet appareil numérique de la classe A respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada. Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de Classe A prescrites dans le Règlement sur le brouillage radioélectrique édictés par le ministère des Communications du Canada.

EMC Directive Requirements:

This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

Li-Ion Battery

When disposing of the Thor VX8 main battery, the following precautions should be observed: The battery should be disposed of properly. The battery should not be disassembled or crushed. The battery should not be heated above 212°F (100°C) or incinerated.

RF Safety Notice



This device is intended to transmit RF energy. For protection against RF exposure to humans and in accordance with FCC rules and Industry Canada rules, this transmitter should be installed such that a minimum separation distance of at least 20 cm (7.8 in.) is maintained between the antenna and the general population. This device is not to be co-located with other transmitters.

Bluetooth and GSM technology are not available in Brazil. Bluetooth e tecnologia GSM não estão disponíveis no Brasil.

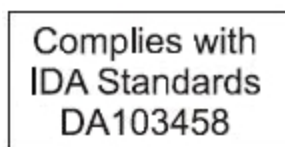
Waste Electrical and Electronic Equipment (WEEE)



Important:

This symbol is placed on the product to remind users to dispose of Waste Electrical and Electronic Equipment (WEEE) appropriately, per Directive 2002-96-EC. In most areas, this product can be recycled, reclaimed and re-used when properly discarded. Do not discard labeled units with trash. For information about proper disposal, visit www.honeywellaidc.com.

Dealer License - Republic of Singapore



Republic of Singapore - LXE Dealer License Number DA103458 complies with IDA Standards.

Lithium Battery Safety Statement

Caution: Lithium battery inside. Danger of explosion if battery is incorrectly replaced. Replace only with same or equivalent type recommended by battery manufacturer. (US)

Attention: Contient une pile de lithium. Risque d'explosion dans le cas où la pile ne serait pas correctement remplacée. Remplacer uniquement avec une pile semblable ou équivalente au type de pile recommandé par le fabricant. (FR)

Forsigtig: Indeholder lithiumbatterier. Risiko for eksplosion, hvis batteriet udskiftes forkert. Må kun udskiftes med samme eller tilsvarende type, som anbefalet af fabrikanten. (DK)

Varoitus: Tämä tuote käyttää laservaloa. Skannerissa on jokin seuraavista tarroista. Lue Huomio-kohta. (FI)

Vorsicht: Enthält Lithium-Batterie. Bei unsachgemäßem Ersatz besteht Explosionsgefahr. Nur durch gleichen oder vom Hersteller empfohlenen Typ ersetzen. (DE)

Attenzione: Batteria al litio. Pericolo di esplosione qualora la batteria venga sostituita in maniera scorretta. Sostituire solo con lo stesso tipo o equivalente consigliato per il fabbricante. (IT)

Atenção: Contém pilha de lítio. Há perigo de explosão no caso de uma substituição incorreta. Substitua somente pelo mesmo tipo, ou equivalente, recomendado pelo fabricante. (PT)

Varning: Innehåller litiumbatteri. Fara för explosion om batteriet är felaktigt placerat eller av fel typ. Använd endast samma eller motsvarande typ batterier rekommenderade av tillverkaren. (SE)

Advarsel: Innmontert Lithium batteri. Eksplosjonsfare ved feil montering av batteri. Benytt kun batteri anbefalt av produsent. (NO)

Cuidado: Pila de litio adentro. Peligro de explosión si la pila se reemplaza incorrectamente. Reemplace solamente con el mismo tipo o equivalente recomendado por el fabricante. (ES)

Oppassen: Bevat Lithium-batterij. Incorrecte plaatsing van batterij kan leiden tot explosiegevaar. Alleen vervangen door hetzelfde of door fabrikant aanbevolen gelijkwaardig type. (NL)

<p>Προσοχή: Υπάρχει μπαταρία από λίθιο εσωτερικά. Υπάρχει κίνδυνος έκρηξης εάν η μπαταρία αντικατασταθεί με λανθασμένο τρόπο. Αντικαταστήστε μόνο με τον ίδιο ή ισοδύναμο τύπο που συνιστάται από τον κατασκευαστή. (GR)</p>	<p>주의: 리튬 배터리 내부. 배터리가 잘못 설치되었을 경우 폭발의 위험이 있습니다. 동일한 배터리, 또는 배터리 제조업체가 권장하는 배터리로 교체하십시오. (KR)</p>
<p>注意: リチウム電池が入っています。間違った種類の電池を使用すると、破裂する恐れがあります。同じ電池、または電池製造元が推奨する同等の電池を使用してください。 (JP)</p>	<p>小心: 内装锂电池。如电池更换不当，则有发生爆炸的危险。只能用电池制造商推荐的相同或同等电池进行更换。 (CN)</p>
<p>Dikkat: İçinde lityum bataryası bulunur. Bataryanın yanlış değiştirilmesi patlama tehlikesi yaratır. Aynısıyla veya üreticinin önerdiği eşdeğer tipte değiştirin. (TR)</p>	

Legend: Chinese – CN; Danish – DK; Dutch – NL; English – US; Finnish – FI; French- - FR; German – DE; Greek – GR; Italian – IT; Japanese – JP; Korean – KR; Norwegian – NO; Portuguese – PT; Spanish – ES; Swedish – SE; Turkish – TR.

Vehicle Power Supply Connection Safety Statement

Vehicle Power Supply Connection: If the supply connection is made directly to the battery, a 10A slow-blow fuse should be installed in the positive lead within 5 inches (12.7 cm.) of the battery positive (+) terminal. (US)

Raccordement de l'alimentation du véhicule Si l'alimentation est raccordée directement à la batterie, un fusible à action retardée de 10A doit être installé sur le câble positif à moins de 12,7 cm de la borne positive (+) de la batterie. (FR)

EL forsyning af køretøjet. Er forsyningsforbindelsen direkte tilknyttet til batteriet og og tilsluttet til den positive part indenfor 12,7 cm (+ delen). vil der være en langsom tændelse af 10 ampere. (DK)

Kytkenä ajoneuvon virtalähteeseen Jos virtaa otetaan suoraan akusta, 10 ampeerin hidas sulake on asennettava positiiviseen johtoon enintään 12 cm:n etäisyydelle akun positiivisesta (+) navasta. (FI)

Anschluss an Fahrzeugbatterie Bei direktem Anschluss an die Fahrzeugbatterie sollte eine träge 10A-Sicherung in die positive Leitung zwischengeschaltet werden, und zwar nicht weiter als ca. 13 cm von der positiven (+) Batterieklemme entfernt. (DE)

Σύνδεση Τροφοδοτικού Ισχύος Οχήματος Αν η σύνδεση του τροφοδοτικού γίνει κατευθείαν στη μπαταρία, μια ασφάλεια βραδείας τήξης των 10Α θα πρέπει να τοποθετηθεί στο θετικό καλώδιο εντός 5 ιντσών (12,7 εκ.) του θετικού (+) ακροδέκτη της μπαταρίας. (GR)

Collegamento dell'alimentazione del veicolo Se il collegamento dell'alimentazione viene stabilito direttamente con la batteria, è necessario installare un fusibile ad azione lenta da 10A nel conduttore positivo a meno di 5 in. (12,7 cm) dal terminale positivo (+) della batteria. (IT)

Tilkople strømforsyningen til kjøretøyet Hvis strømforsyningen koples direkte til batteriet, skal det installeres en 10A treg sikring i den positive ledningen innen 12,7 cm fra plusspolen (+) på batteriet. (NO)

Ligação do fornecimento de corrente do veículo Se a ligação de fornecimento de corrente for ligada directamente à bateria, deve instalar-se um fusível de 10A no terminal positivo, a 12,7 cm. do terminal positivo (+) da bateria. (PT)

Conexión de suministro eléctrico para el vehículo Si el suministro eléctrico se proporciona directamente a la batería, se debe instalar un fusible de retardo de 10A en el conductor positivo, como máximo a 12,7 cm (5 pulgadas) del terminal positivo (+). (ES)

Fordonets strömförsörjningskoppling Om strömkopplingen görs direkt till batteriet, måste en 10A-säkring installeras i den positivt laddade ledningen inom 12.7 cm från batteriets pluspol (+). (SE)

Taşıt Güç Kaynağı Bağlantısı Kaynak bağlantısı doğrudan aküye yapılırsa, pozitif bağlantı kablosu üzerinde akünün pozitif (+) kutbuna 12.7 cm mesafede 10A'lık yavaş atan bir sigorta monte edilmelidir. (TR)

Legend: Danish – DK; English – US; Finnish – FI; French- - FR; German – DE; Greek – GR; Italian – IT; Norwegian – NO; Portuguese – PT; Spanish – ES; Swedish – SE; Turkish – TR.

Chapter 5: Technical Assistance

If you need assistance installing or troubleshooting your device, please contact us by using one of the methods below:

Knowledge Base: www.hsmknowledgebase.com

Our Knowledge Base provides thousands of immediate solutions. If the Knowledge Base cannot help, our Technical Support Portal (see below) provides an easy way to report your problem or ask your question.

Technical Support Portal: www.hsmsupportportal.com

The Technical Support Portal not only allows you to report your problem, but it also provides immediate solutions to your technical issues by searching our Knowledge Base. With the Portal, you can submit and track your questions online and send and receive attachments.

Web form: www.hsmcontactsupport.com

You can contact our technical support team directly by filling out our online support form. Enter your contact details and the description of the question/problem.

Telephone: www.honeywellaidc.com/locations

For our latest contact information, please check our website at the link above.

Product Service and Repair

Honeywell International Inc. provides service for all of its products through service centers throughout the world. To obtain warranty or non-warranty service, please visit www.honeywellaidc.com and select **Support > Contact Service and Repair** to see your region's instructions on how to obtain a Return Material Authorization number (RMA #). You should do this prior to returning the product.

Limited Warranty

Honeywell International Inc. ("HII") warrants its products to be free from defects in materials and workmanship and to conform to HII's published specifications applicable to the products purchased at the time of shipment. This warranty does not cover any HII product which is (i) improperly installed or used; (ii) damaged by accident or negligence, including failure to follow the proper maintenance, service, and cleaning schedule; or (iii) damaged as a result of (A) modification or alteration by the purchaser or other party, (B) excessive voltage or current supplied to or drawn from the interface connections, (C) static electricity or electro-static discharge, (D) operation under conditions beyond the specified operating parameters, or (E) repair or service of the product by anyone other than HII or its authorized representatives.

This warranty shall extend from the time of shipment for the duration published by HII for the product at the time of purchase ("Warranty Period"). Any defective product must be returned (at purchaser's expense) during the Warranty Period to HII factory or authorized service center for inspection. No product will be accepted by HII without a Return Materials Authorization, which may be obtained by contacting HII. In the event that the product is returned to HII or its authorized service center within the Warranty Period and HII determines to its satisfaction that the product is defective due to defects in materials or workmanship, HII, at its sole option, will either repair or replace the product without charge, except for return shipping to HII.

EXCEPT AS MAY BE OTHERWISE PROVIDED BY APPLICABLE LAW, THE FOREGOING WARRANTY IS IN LIEU OF ALL OTHER COVENANTS OR WARRANTIES, EITHER EXPRESSED OR IMPLIED, ORAL OR WRITTEN, INCLUDING, WITHOUT LIMITATION, ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OR NON-INFRINGEMENT.

HII'S RESPONSIBILITY AND PURCHASER'S EXCLUSIVE REMEDY UNDER THIS WARRANTY IS LIMITED TO THE REPAIR OR REPLACEMENT OF THE DEFECTIVE PRODUCT WITH NEW OR REFURBISHED PARTS. IN NO EVENT

SHALL HII BE LIABLE FOR INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, AND, IN NO EVENT, SHALL ANY LIABILITY OF HII ARISING IN CONNECTION WITH ANY PRODUCT SOLD HEREUNDER (WHETHER SUCH LIABILITY ARISES FROM A CLAIM BASED ON CONTRACT, WARRANTY, TORT, OR OTHERWISE) EXCEED THE ACTUAL AMOUNT PAID TO HII FOR THE PRODUCT. THESE LIMITATIONS ON LIABILITY SHALL REMAIN IN FULL FORCE AND EFFECT EVEN WHEN HII MAY HAVE BEEN ADVISED OF THE POSSIBILITY OF SUCH INJURIES, LOSSES, OR DAMAGES. SOME STATES, PROVINCES, OR COUNTRIES DO NOT ALLOW THE EXCLUSION OR LIMITATIONS OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU.

All provisions of this Limited Warranty are separate and severable, which means that if any provision is held invalid and unenforceable, such determination shall not affect the validity of enforceability of the other provisions hereof. Use of any peripherals not provided by the manufacturer may result in damage not covered by this warranty. This includes but is not limited to: cables, power supplies, cradles, and docking stations. HII extends these warranties only to the first end-users of the products. These warranties are non-transferable.

The duration of the limited warranty for the Thor VX8 is 1 year.

The duration of the limited warranty for the Thor VX8 Vehicle Mount Assembly is 1 year.

The duration of the limited warranty for the Thor VX8 internal UPS battery is 1 year.

The duration of the limited warranty for the Thor VX8 AC power supply and cables is 1 year.

The duration of the limited warranty for the Thor VX8 DC-DC Converter is 1 year.

The duration of the limited warranty for the Thor VX8 cables (USB, Serial, Communication, Power) is 1 year.

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