VCM3

en – Content English

1. Symbols used

1.1 In the documentation

1.1.1 Warning notices – structure and explanation

Warnings warn of dangers to the user or people in the vicinity. Warning notices also indicate the consequences of the danger as well as preventive action. Warnings have the following structure:

Warning symbol	**SIGNAL WORD – nature and source of danger!** Consequences of the danger in the event of failure to take action and observe notices given. ➢ Actions and instructions to prevent the danger.

The signal word indicates the likelihood of occurrence and the severity of the danger in the event of non-observance:

Signal word	Likelihood of occurrence	Severity of danger with non-observance
DANGER	**Immediate** threat of **danger**	**Death** or **serious** injury
WARNING	**Possible** impending **danger**	**Death** or **serious** injury
CAUTION	Possible **dangerous situation**	**Minor** injury

1.1.2 Symbols – designation and explanation

Icon	Designation	Meaning
❗	Attention	Warning of possible damage.
⌙	Information	Practical hints and other useful information.
1. 2.	Multiple-step instruction	Procedure involving several actions.
➢	Single-step instruction	Procedure involving only one action.
⇨	Intermediate result	An instruction produces a visible intermediate result.
➜	Final result	The final result becomes apparent on completion of the instruction.

1.2 On the product

❗ Observe all warning signs on products and ensure they remain legible.

Icon	Meaning
CE	EU declaration of conformity
FC	US declaration of conformity
EAC	Certification for the Russian Federation
⟳	Certification for Ukraine
⟲	Certification for Australia, New Zealand
⟨	Certification for Morocco
KC	Certification for South Korea
⚠	Attention: general warning sign indicating danger. Before commissioning, connecting and operating Ford products, it is absolutely essential to read the entire operating instructions carefully, especially the safety instructions.
🗑	Dispose of used electrical and electronic devices, including cables, accessories and batteries, separately from household waste.
⊖	China RoHS (environmental protection)

2. User instructions

Before commissioning, connecting and operating this product, it is absolutely essential that the operating instructions/owner's manual and, in particular, the safety instructions are studied carefully. By doing so you can eradicate any uncertainties about this product and any associated safety risks upfront; something which is in the interests of your own safety and will ultimately help avoid damage to the device. When this product is handed over to another person, not only the operating instructions but also the safety instructions and information on its designated use must be handed over to the person.

2.1 Intended users

The product may be used by skilled and instructed personnel only. Personnel scheduled to be trained, familiarized, instructed or to take part in a general training course may only work with the product under the supervision of an experienced person.

All work on electrical devices must be carried out by individuals with sufficient knowledge and experience in the fields of electrical and hydraulic equipment.

2.2 FCC Compliance (USA)

VCM3 complies with the requirements of Section 15 of the FCC Rules. The following conditions apply regarding operation:
- VCM3 must not cause any harmful disruptions;
- VCM3 must permit reception of interference, including interference that can cause unwanted operation.

The VCM3 was tested and complies with the limits for a Class A digital device as defined in Part 15 of the FCC regulations. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. VCM3 may generate, use and emit energy at radio frequencies that can disrupt radio communication if installed improperly or used in a manner inconsistent with the operating instructions. Operation of VCM3 in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his or her expense.

2.3 Open-source software (OSS)

For an overview of the open-source software licenses, see "C:\PROGRAM FILES (X86)\ BOSCH\VTX-VCI\VCI SOFTWARE (FORD)\ LEGAL".

2.4 Electromagnetic compatibility (EMC)

The VCM3 satisfies the requirements of the EMC directive 2014/30/EU.

ℹ️ VCM3 is a class/category A product in accordance with EN 61 326. The VCM3 may cause high-frequency household interference (radio interference) so that interference suppression may be necessary. In such cases, the operator may be required to take appropriate action.

2.5 Range of application

The VCM3 is intended for uses that meet the following rules.
- Do not expose VCM3 to rain or moisture and prevent the formation of condensation.
- Degree of contamination 2, keep area around VCM3 clean.

2.6 Wireless link (Bluetooth and WLAN)

❗ VCM3 users are responsible for compliance with the applicable directives and restrictions in the country concerned.

Important information on WLAN and Bluetooth

WLAN (Wireless Local Area Network) is the term used to describe a wireless local network. Bluetooth and WLAN provide a radio link on the free 2.4 GHz ISM band (ISM: Industrial, Scientific, Medical). This frequency range is subject to state legislation, can however be used without a license in most countries. Consequently a large number of applications and devices employ this frequency band for transmission. This can result in frequency interference and faults.

Depending on ambient conditions, the radio link may deteriorate, e.g. in the case of Bluetooth links, cordless telephones, radio-controlled thermometers, radio-controlled garage door openers, radio-controlled light switches or radio-controlled alarm systems.

Bluetooth can cause bandwidth collapse in the WLAN network. The antennas of Bluetooth and WLAN devices should be at least 30 centimeters apart. Use the USB extension cable (special accessory) to maintain a distance between the Bluetooth USB adapter on the computer and the WLAN antenna.

Extreme caution is to be taken if wearing pacemakers or other vital electronic devices when using wireless systems, as proper functioning of these items could be impaired.

Pay attention to the following to ensure the best possible connection:

➢ The radio signal always tries to find the most direct path. When setting up the computer and access point, make sure there are as few obstacles as possible (e.g. steel doors and concrete walls) which could interfere with the signal from and to the VCM3.

➢ Inside buildings, the range of the WLAN / Bluetooth is also greatly influenced by the construction materials used. Conventional masonry, wooden walls and various types of dry construction wall scarcely impair the propagation of radio waves. Thin gypsum walls are however problematic, as considerable amounts of moisture may accumulate in the gypsum and result in the absorption of radio signals. Metal walls and concrete (in particular reinforced concrete) largely block out radio waves. Cellar ceilings are often impenetrable. Generally speaking, walls with a lot of installed metal (e.g. pipes, cables) obstruct radio waves.

➢ Radio reception is also impeded by large metal objects such as radiators and window frames as well as active sources of interference such as radio telephones, motion detectors and microwave ovens.

➢ Human beings are also an obstacle to wireless transmission. It must therefore always be ensured that no-one stands between the transmitter and receiver.

➢ We advise having the network infrastructure installed and maintained by a network specialist.

➢ When using a WLAN connection, keep the SSID and the codes for the wireless link in a safe place. Make sure these data are readily to hand in case faults occur.

➢ When commissioning, we recommend that you tour the site thoroughly: Determine where in your building VCM3 functions and where the limits for wireless transmission are located.

➢ The wireless link is affected by weather conditions. The reception signal may therefore vary.

➢ Please contact your network specialist for any queries.

➢ In the event of problems with the radio link, the USB link can be activated and used instead of the radio connection.

3. Safety instructions

⚠ These operating instructions are intended to ensure easy and safe setup and use of the VCM3. Read these operating instructions and other applicable documentation carefully before using the VCM3 and the software.

4. Product description

4.1 Intended use

⚠ If the VCM3 and the scope of delivery are operated contrary to the way specified by the manufacturer in the operating instructions, the protection provided by the VCM3 and the supplied accessories may be compromised.

The VCM3 is a communication instrument used by professional technicians as an aid in diagnosing and repairing automotive electrical and electronic systems.

4.2 Scope of delivery

The VCM3 Base Kit includes connecting cables and hardware needed to transfer data and reprogram ECUs on vehicles through the diagnostic connector.
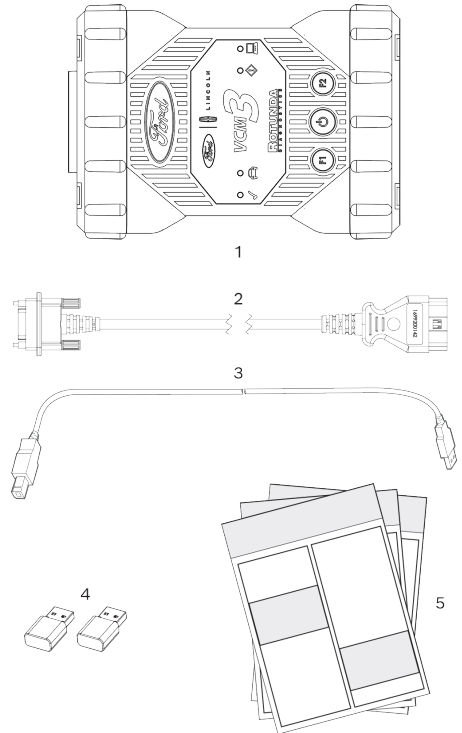
Item	Kit Component	Part number	Qty.
1	VCM3	164-R9865	1
2	Diagnostic connection cable (VCMM/VCM3 DLC cable)	164-R9837	1
3	Heavy duty USB cable	1257-1699200385	1
4	VCM WiFi adapter	257-1699200155	2
5	Applicable documentation	–	3

4.3 VCM3 Ports and control elements

The VCM3 has various keys and standardized ports for operating the device and connecting it to the vehicle electrical system and workshop network. These connectors and controls are shown in the following illustrations.
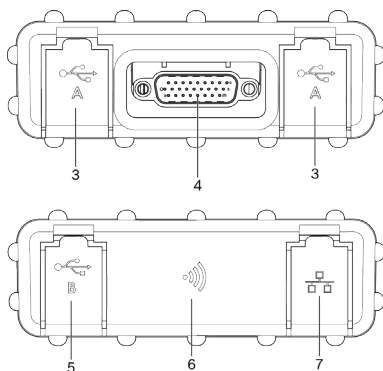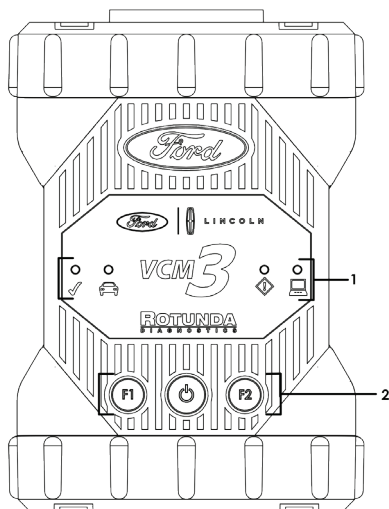
Item	Description
1	LED status display
2	Control keys
3	2x USB-A port
4	Port for diagnostic connection cable
5	USB-B port
6	WiFi Adapter
7	Ethernet Port (not used)

4.4 Universal Serial Bus (USB) Port

The VCM3 has a fixed USB configuration which cannot be changed. This ensures that the VCM3 can always be connected to a single computer running the software "VCI Manager" or the user software so you can configure LAN or WLAN settings required by your local network. In addition, it is important to note that a USB connection is required to configure the firmware on the VCM3, to pair the computer with the VCM3 and to update the firmware.

4.5 Wireless Local Area Network (WLAN)

During setup and configuration of the WLAN connection (802.11b/g/n), the VCM3 must be connected via USB to a computer running the software "VCI Manager" and be paired with the computer.

4.6 Additional VCM3 Features

4.6.1 Data transfer

The connection between the VCM3 and the vehicle electronics is established via the 26-pin diagnostic connection cable.

4.6.2 Power Supply

The VCM3 is designed for voltage to be supplied from the vehicle via the diagnostic connection cable. For data transfer or a system update, the VCM3 can also be supplied with voltage from the USB port on a computer.

> If the VCM3 is to be configured for a wireless connection, the voltage must be supplied via the diagnostic connection cable.

4.6.3 LED status display

Four light emitting diodes (LEDs) are located on the front of the VCM3. The LED indicators provide the following status information.

Icon	Color Status	LED Function
	green	VCM3 without errors
	red	Error occurred, perform a reset
	green	VCM3 connected to vehicle
	Flashing red	Not connected to external 12 or 24 V power
	off	VCM3 without errors
	red	Error occurred or VCM3 in recovery state
	off	VCM3 not connected to a computer
	Flashing green	VCM3 connected to computer
	off	VCM3 off
	green	VCM3 on
F1	yellow/green	depending on user software
F2	yellow/green	depending on user software

4.7 VCI Manager program

The "VCI Manager" program is a host computer application which runs on the Windows operating system to configure and update VCM3. The software "VCI Manager" allows the configuration of VCI-to-host computer communications and facilitates VCI firmware updates.

4.8 System requirements

The VCM3 is set up and updated via the "VCI Manager" software. VCI Manager is installed on a computer. The VCM3 is controlled in the corresponding user software.

> Go to PTS website for minimum PC requirements.

5. Operation

The following sections provide the information needed to begin using the VCM3, including installing the "VCI Manager" and "VCI Manager Launcher" software, updating the firmware on the device, configuring connection methods, and communicating with the vehicle.

5.1 Installation notes

Please follow the installation instructions for the user software.

5.2 Installing the VCI Manager software

The "VCI Manager" and "VCI Manager Launcher" software must be installed on the computer in order to configure, update and run diagnostic applications targeted for the computer. Initially you use the "VCI Manager" and "VCI Manager Launcher" software to set up the configuration of each VCM3.

5.3 Setting up the diagnostic device hardware

5.3.1 Identifying your diagnostic device

The rating plate is located on the back of VCM3. The VCM3 identification number has two parts: a manufacturing code for traceability and a unique serial number. The serial number is used to identify VCM3 in the "VCI Manager" software. You will need to refer to this serial number when you are using VCI Manager to configure VCM3 and perform software updates.

5.3.2 Updating the diagnostic device software

VCM3 is shipped from the factory without firmware. Your first connection is to the computer where you have installed the "VCI Manager" software. You will need the USB connecting cable to configure your VCM3 using VCI Manager.

Use the following procedure to update the firmware on your VCI.

1. Start the "VCI Manager Launcher" program, and select VCM3 by clicking the box next to that option, then press "OK".
2. Power the VCM3 by connecting the diagnostic cable to the vehicle's DLC connector.
3. Connect the VCM3 to your computer using the USB connecting cable.
   • The VCM3 will boot in Recovery mode. (only in factory setup)
4. Choose the new VCM3 from the shown list.
   • The button <Connect> will be renamed to the button <Recover>. Your VCM3 will be displayed without the serial number when initially connected to VCI Manager.
5. Press <Recover> to start the update process.

❗ Do not unplug the VCM3 from the computer during the update process.

6. Click <Start update> to install firmware on the VCM3.
7. Click <OK> to continue.
8. The update process will take about 5 minutes to complete. Once the update process is complete, the VCM3 will automatically reboot. Wait until you hear the beep from the VCM3 before proceeding to use your VCM3.

5.3.3 Configuring the VCM3 using VCI Manager

In order to configure the VCM3 to communicate on your network, you must connect the VCM3, via USB, to a computer running the "VCI Manager" software. The VCI Manager icon displayed on the VCM3 will inform you of the communication method to be used when <Connect> is selected.

Icon	Description
	VCI Manager will connect to the VCM3 via USB
	VCI Manager will connect to the VCM3 via Wireless
	Wireless Point-to-Point is not set up. Use a USB connecting cable to connect the VCM3 to the computer to complete setup.
	Wireless adapters in the computer and in the diagnostic device are incompatible with each other.
	VCI Manager is connected to the VCM3

Use the following steps to configure your VCM3.

1. Double-click the VCI Manager Launcher icon on your desktop to start the "VCI Manager Launcher" software, then select the VCM3 by clicking the box next to that item, and press "OK" to launch the "VCI Manager" software.
2. Select VCM3 in "**VCI Explorer**".
3. Click <**Connect**> to connect to the selected VCM3 over USB.
➜ VCM3 is displayed with a green checkmark on your display, indicating that your "VCI Manager" software is in control of this VCM3.
4. Click <**Show details**> to see details about the selected VCM3.

ℹ If your VCM3 is connected to another networked computer, it will still be detected by the VCI Manager, but will not be available for connection.

ℹ If your VCM3 is connected via USB to your computer, the VCI Manager functions on all tabs are available; if your VCM3 is not connected via USB, the functions on the **Network Setup** and VCM3 Update tabs are not available.

5.3.4 Checking the computer and VCM3 software versions

ℹ Ensure, that the "VCI Manager" software installed on your computer and the software installed on the VCM3 have matching software versions in order for VCM3 to operate properly. Use the following steps to check your software versions.

1. Connect the VCM3 to your computer using the USB connecting cable.
2. Double-click the VCI Manager Launcher icon on your desktop to start the "VCI Manager Launcher" software, then select the VCM3 by clicking the box next to that item, and press "OK" to launch the "VCI Manager" software.
3. Choose your VCM3 in "**VCI Explorer**".
4. Click <**Connect**> to connect to the selected VCM3 over USB.
5. Choose "**Help**" to see details about the software versions.

5.4 Setting up wireless communications

ℹ The VCM3 supports both the Point-to-Point method (recommended) and the Access Point method for wireless communication.

Point-to-point

With the Point-to-Point Wireless Communication method, the VCM3 connects to your computer directly using a USB wireless adapter. Each of these methods are described in the following sections.

5.4.1 Enabling point-to-point wireless communication

The VCM3 is configured by default for point-to-point configuration. The following illustration shows a single diagnostic device connected to a computer using point-to-point wireless communication.

If you need to reconfigure Point-to-Point on your VCM3, use the following procedure. The steps presented below assume you are running the Windows 10 operating system on your computer. The steps may differ depending on the operating system.

1. Plug the WLAN USB adapter into an available USB port on your computer.
2. Switch on your computer.
3. Connect the VCM3 to your computer via the USB connecting cable and allow the VCM3 to boot completely.
4. Double-click the VCI Manager Launcher icon on your desktop to start the "VCI Manager Launcher" software, then select the VCM3 by clicking the box next to that item, and press "OK" to launch the "VCI Manager" software.

ℹ The Point-to-Point connection is automatically configured. Wireless communication will be available when you are powered through the DLC cable.

If you have the need to reset your Point-to-Point pairing, you can use the following steps.

1. Click the Wireless Network icon in your Windows taskbar.
   • A list of the available wireless networks in range of your computer is displayed.
2. Choose "**Network and Internet Settings**".
3. Choose "**Wi-Fi**" from the left column.
4. Under "**VCM3**", choose **"Manage Known Networks"**.
5. Click on a VCI in the list and choose "Forget" to remove your stored Point-to-Point network. The name will contain VCI and the last 8 digits of VCM3 serial number, (VCIxxxxxxxx).
6. When you disconnect, then reconnect VCM3 to the computer using the USB connecting cable, a new pairing will be established with the VCI.

5.4.2 Activating the WLAN link via an access point

VCM3 is capable of communicating on your workshop network over Wireless. The **"Network Setup"** tab in the "VCI Manager" software provides a number of functions used to select and configure VCM3 network connection interfaces, including wireless access and security settings.

ⓘ You must be connected to the VCM3 via USB to access the settings on the "Network Setup" tab. If you are not connected via USB, the controls on the "Network Setup" tab are disabled.

The VCM3 can be configured to connect via an access point. The following must be prepared before configuring:
• An IP address and subnet mask that can be assigned to the VCM3 (if the existing LAN does not assign IP addresses automatically)
• A wireless network access point SSID (network name)
• Network security standard WPA2 enabled
• Data encryption via TKIP or WEP (64-bit or 128-bit)
• WLAN password

The figure below shows several VCM3s that are connected to a single computer via a wireelss access point.
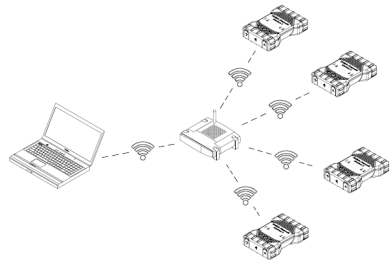
You use the following procedure to configure your VCM3 for a wirelss connection in your network environment. Contact your IT administrator before starting setup.

1. Double-click the VCI Manager Launcher icon on your desktop to start the "VCI Manager Launcher" software, then select the VCM3 by clicking the box next to that item, and press "OK" to launch the "VCI Manager" software.
2. Plug the VCM3 into an external 12 V power source.
3. Plug the USB connecting cable into the computer and VCM3 and allow VCM3 to boot completely.
4. Connect to your VCM3 in the VCI Manager software.
5. Select the "**Network Setup**" tab.
6. In the "**Wireless (802.11)**" tab, select the option "**Activate wireless interface**"
   • The "**IP address configuration**" input field beocmes active.
7. Select the option "**Automatic assignment of IP address**" if your network assigns IP addresses automatically.

ᵒⁱ If your network uses fixed IP addresses, your IT administrator will assign the IP address and subnet mask.

8. Select <**Access Point >**>.
9. Assign network name:
   − If the network uses a hidden SSID or is not within range, the network name can be enter via the option "Enter network name (SSID)" .
   − If the network is within range, the network can be selected via the option "Select from list of available networks". Press <Aktualisieren> (Update) to have the VCM3 search for available WLAN signals.
10. After the network name has been entered, continue with <Configure>.
11. Enter the security settings for the network and select <Next>.
12. Select <Yes> to configure the VCM3 again, or <No> to cancel the procedure.
13. Select the "Settings" tab and check that the VCM3 was configured correctly.

ᵒⁱ By disconnecting the USB connection, you can check whether configuration was successful.

14. Back up the settings for future changes.

5.4.3   Setting to factory default

Setting the VCM3 to Factory Default restores the Point-to-Point communication settings to the point it had when it left the factory. Any software upgrades that have been installed to VCM3 are still installed. When the reset is finished, the VCI Manager software displays the "**VCI Explorer**" tab. All wireless access point configurations will be lost.

1. Double-click the VCI Manager Launcher icon on your desktop to start the "VCI Manager Launcher" software, then select the VCM3 by clicking the box next to that item, and press "OK" to launch the "VCI Manager" software.
2. Plug the VCM3 into an external 12 V power source.
3. Plug the USB connecting cable into the computer and VCM3 and allow VCM3 to boot completely.
4. Connect to your VCM3 in the VCI Manager software.
5. Select the "**Network Setup**" tab.
6. Click <**Set Factory Default**>.
➜ VCM3 is set to Factory Default.

5.5 Connecting the diagnostic device to a vehicle

VCM3 Vehicle Communication Interface kit contains a diagnostic connection cable that connects VCM3 to the vehicle's SAE J1962 Data Link Connector (DLC).

Refer to the electrical wiring diagram for the vehicle you are testing to determine the location of the DLC on the vehicle.

1. Connect the 26-pin end of the diagnostic connection cable to the top of VCM3, then tighten the screws.
2. Connect the 16-pin end of the diagnostic connection cable to the vehicle DLC.

Powering the diagnostic device

VCM3 is powered by the vehicle's 12 or 24-volt battery.

CAUTION – Non-approved Accessories - Malfunction Possible risk of personal injury
➢ Non-Ford cables are not approved for use with this equipment, including a non-Ford USB connecting cable.

CAUTION – Cables - Overload Possible risk of personal injury
➢ Make sure that any cable connected to a high current capable power source, such as a 12-volt automotive battery, is in good condition. The VCM3 is protected by its own internal protection device. A fault in the cable itself, especially a power to ground short, is capable of creating a hazardous situation that can cause personal injury.

5.6   Resetting the VCM3

1. Remove all external power from the VCM3, including USB.
2. Wait at least 30 seconds.
3. Reattach the external power to the VCM3.

6.   Troubleshooting

This section is intended to help you get back on track if the VCM3 appears to be operating abnormally. If the error is not eliminated by the indicated remedy, it is necessary to contact Service.

6.1   VCM3 error LED lights after power On

Recommendations

1. Power down the VCM3 and verify that the same problem exists when you power up again.
2. Connect the VCM3 to a computer using USB and perform the recovery procedure.

6.2   The VCM3 fails to power up

VCM3 should power up as soon as external power is applied. If VCM3 does not turn on, first check the cable connections. Try supplying power to VCM3 from two different power sources – the vehicle DLC and the USB connector.

Recommendations

➢ Check that the cables are securely attached to the VCM3 and the connector pins are clean.
  − While the diagnostic device is connected to the vehicle DLC, try powering from the USB connector.
  − While the diagnostic device is connected to USB, try powering from the vehicle DLC.

6.3 "Vehicle LED is flashing red

If the VCM3 does not detect 12 V on Pin 16 of the diagnostic connection cable, VCM3 will inform the user by automatically turning on and flashing the Vehicle LED red. This condition might be seen if VCM3 is only powered by a 5-V USB connection or if the diagnostic connection cable has accidently been displaced from the vehicle Data Link Connector and is powered from the backup capacitor. When VCM3 detects 12 V on Pin 16, the Vehicle LED will stop flashing red.

Recommendations

1. Ensure that 12 V is applied to Pin 16 of the diagnostic connection cable.
2. Ensure ground on J1962 pin 5 is good.

6.4 VCM3 speaker is beeping

If VCM3 is performing diagnostic services for the computer and does not detect 12 V on Pin 16 of the diagnostic connection cable, VCM3 will inform the user of the loss of power by beeping the speaker. VCM3 will continue to beep until the backup capacitor is drained. When VCM3 detects 12 V on Pin 16, the speaker will stop beeping.

Recommendations

➢ Ensure that 12 V is applied to Pin 16 of the diagnostic connection cable during diagnostic sessions.

6.5 VCM3 turns off immediately when disconnected from the vehicle during a diagnostic session

If VCM3 does not remain on during cranking or DLC disconnect, there may be a problem charging the internal capacitor.

The VCM3 should remain powered up for a minimum of 5 seconds if power is lost during engine cranking or after it is disconnected from power (vehicle DLC) during a diagnostic session. The VCM3 speaker will beep to notify the user that power has been lost unexpectedly during the diagnostic session.

Recommendations

1. Check for 12 V power supply at the vehicle DLC.
2. Ensure that the VCM3 has been connected to the vehicle DLC for at least 90 seconds to charge the internal capacitor.

6.6 "Checkmark" LED flashing on the VCM3

If the internal temperature of VCM3 has exceeded the maximum limit (40°C/104°F), VCM3 will automatically turn off the wireless adapter. This will be visible to the user by the Checkmark LED flashing. When the internal temperature of VCM3 lowers to an acceptable value, the wireless adapter will be re-enabled for wireless communication.

Recommendations

➢ Move VCM3 to a cooler location near the vehicle.

6.7 Wireless communication with network unsuccessful using DWA131 E1 dongle

The D-Link DWA131 E1 dongle is not intended to be used for computer wireless communication to a network. The DWA131 E1 dongle is only intended to be used with VCM3 for Point-to-Point communication or Infrastructure wireless communication.

Recommendations

1. Make sure you do not have two D-Link wireless dongles connected to the computer.
2. Make sure you are not trying to connect the computer to your dealership network using the DWA131 E1 dongle.

6.8 VCI Manager displays yellow icon over VCM3 after previous use

There may be instances when Windows does not recognize the installation of the DWA131 E1 wireless adapter. In these cases, Windows may create a new wireless profile instead of using the existing one already stored on the computer. The yellow icon displayed over your VCM3 instructs you to plug in the USB connecting cable between VCM3 and the computer.

Recommendations

➢ Unplug and then re-install your wireless adapter. Windows will attempt to recognize the wireless adapter. If successful, the yellow icon will disappear and VCM3 will be ready for wireless Point-to-Point communication.

6.9 Computer application is unable to communicate with the VCM3 over USB

The "VCI Manager" and "VCI Manager Launcher" software must be installed on the computer, and VCM3 must be powered up before it will communicate. VCM3 must be configured through USB before it will communicate using any other connection types.

Recommendations

If other applications including the VCI Manager are able to connect to VCM3 then:
➢ Check the Windows Firewall settings to see if the application is being blocked.

If all installed applications are unable to communicate with VCM3 then:
1. Connect VCM3 to the computer using USB, but do not connect it to the vehicle.
2. Verify that the USB connecting cables are securely attached and VCM3 has completed its power up sequence.
3. Start "VCI Manager" via the "VCI Manager Launcher" program.
4. Does VCI Manager detect the VCM3?
If "No", then:
   − Try a different USB connecting cable / port on the computer.
   − Check the Windows Firewall to see if the VCI Manager is blocked.
   − Check that the VCM3 USB connection is detected by Windows.
   − Check that the firmware version on the PC matches the firmware version on the VCM3.

6.10 Computer application is unable to communicate with VCM3 over wireless

1. Check that the wireless USB adapter is properly seated in VCM3.
2. Confirm that VCM3 can connect over USB.
3. If using point to point, confirm that the computer has a single dongle connected:
   − Connect the VCM3 to the computer using USB.
   − Confirm the communication is enabled and the IP configuration is properly set using the "VCI Manager" software.
4. If using infrastructure wireless:
Contact your IT department and check that your computer is detecting the wireless access point, and the correct security settings have been configured for VCM3.

7. Cleaning and Maintenance

The housing of the VCM3 may only be cleaned with soft workshop rags and a neutral cleaning agent. Do not use abrasive cleaning agents and coarse workshop rags.

> The VCM3 does not contain any user-serviceable parts. Do not open the VCM3; opening voids the warranty.

➢ Do not immerse the VCM3 or any of its parts or accessories in water.
➢ Even though the VCM3 and the accessories are water-resistant, they are not waterproof. Allow to dry thoroughly before storing.
➢ Avoid using harsh solvents such as petroleum based cleaning agents, Acetone, Benzene, Trichloroethylene, etc.

7.1 Restoring the system software on the VCM3 (Recovery)

As a result of a power failure or a communications error during a software update, the VCM3 software may become corrupted. In this case, it is necessary to execute a recovery:

1. Power the VCM3 by connecting the diagnostic cable to the vehicle's DLC connector.
2. Connect the VCM3 to your computer using the USB connecting cable.
3. Start "VCI Manager" via the "VCI Manager Launcher" program.
4. Select VCM3 in "**VCI Explorer**".
5. To start the recovery, press and hold the power button on the VCM3 for at least 5 seconds.
   • The VCM3 icon in the VCI Manager is identified by "Recovery".
6. Select the VCM3 in the VCI Manager.
7. Carry out recovery.

7.2 Spare and wearing parts

Kit Component	Part number
VCM3	164-R9865
Diagnostic connection cable (VCMM/VCM3 DLC cable)	164-R9837
Heavy duty USB cable	1257-1699200385
VCM WiFi adapter	257-1699200155

8. Decommissioning

➢ Disconnect the VCM3 from the voltage supply.

8.1 Temporary shutdown

For an extended period of non-use:
➢ Disconnect the VCM3 from the voltage supply.

8.2 Changing location

➢ If the VCM3 is handed over to someone else, hand over all the documentation included in the scope of delivery as well.
➢ The VCM3 must only be transported in the original or equivalent packaging.
➢ Read and follow the instructions concerning initial commissioning.
➢ Disconnect the electrical port.

8.3 Disposal

VCM3, accessories and packaging must be recycled in an environmentally friendly manner.
➢ Do not dispose of the VCM3 in general trash.

Only for EC countries:

The VCM3 is subject to the European directive 2012/19/EU (WEEE).

Dispose of used electrical and electronic devices, including cables, accessories and batteries, separately from household waste.
➢ Make use of the local return and collection systems for disposal.
➢ Proper disposal prevents environmental pollution and health hazards.

9. VCM3 Product Warranty

The VCM3 is warranted by Ford to the original consumer to be free of defects in material or workmanship under normal use for a period of two years. The warranty period of the VCM3 cables, adapters and accessories is two years. Some countries may have agreements that extend beyond these periods. Contact your regional technical support regarding extended Hardware Protection.

The warranty period is from the date of shipment to the original consumer. If a product is found to be defective during the applicable Warranty Period, the product can be returned to an authorized Ford Service Center and Ford will, at its option and without charge, repair or replace any unit that proves defective under conditions of normal use. This warranty does not cover and shall be void for defects or damages resulting from casualty, accident, transportation, misuse or abuse, neglect, alterations, service or repair by any party other than Ford or an authorized Ford Service Center, improper installation, operation or maintenance, improper connections with peripherals, or other causes not arising out of defects in materials or workmanship. This Warranty does not cover Products used as short term rental or leased equipment. Ford is not responsible for damage to or loss of any programs, data, or removable storage media, whether it occurs during warranty or other repair service. The Warranty does not cover any part that has been abused, altered, used for a purpose other than that which it was intended, or used in a manner inconsistent with instructions regarding its use, including but not limited to the following:

- Damage due to improper product operation or product modification.
- Damage due to use of non-Ford supplied cables and accessory items, or unauthorized peripheral equipment.
- Damage due to dropping or other severe impact to the product.
- Damage due to exposure to excessive temperatures.
- Damage or loss that may occur during shipping.

This warranty also excludes all incidental or consequential damages. Warranty on replaced parts is the balance of the warranty period, or 90 days, whichever is longer.

Ford shall have the right to request reasonable evidence of and impose reasonable requirements for submission of a warranty claim.

THIS WARRANTY IS IN LIEU OF ALL CONDITIONS OR WARRANTIES, EXPRESS, IMPLIED OR STATUTORY INCLUDING BUT NOT LIMITED TO ANY IMPLIED CONDITIONS OR WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE ON THE PART OF SELLER, ITS SUPPLIERS OR SERVICE PROVIDERS. ALL IMPLIED OR STATUTORY WARRANTIES TO THE EXTENT THAT THEY CANNOT BE EXCLUDED ARE LIMITED TO THE

EFFECTIVE PERIOD OF THE EXPRESS WARRANTY SET FORTH HEREIN. IF THE PRODUCT IS DEFECTIVE IN MATERIALS OR WORKMANSHIP, BUYER'S SOLE AND EXCLUSIVE REMEDY SHALL BE REPAIR OR REPLACEMENT AS PROVIDED ABOVE. HOWEVER IF THAT REMEDY FAILS OF ITS ESSENTIAL PURPOSE, SELLER RESERVES THE RIGHT TO REFUND THE PURCHASE PRICE OF THE PRODUCT(LESS A DEDUCTION FOR USAGE VALUE) TO THE BUYER IN EXCHANGE FOR THE RETURN OF THE PRODUCT. SELLER, ITS SUPPLIERS AND SERVICE PROVIDERS SHALL NOT BE LIABLE FOR ANY DAMAGES INCLUDING, BUT NOT LIMITED TO, DIRECT, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES, LOSS OF USE OR DATA, LOSS OF PROFITS OR INTERRUPTION OF BUSINESS, WHETHER SUCH ALLEGED DAMAGES ARE BASED IN WARRANTY, TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY, BUT EXCLUDING PERSONAL INJURY), CONTRACT, OR INDEMNITY. EXCEPT TO THE EXTENT PROHIBITED BY LAW, THIS IS THE EXCLUSIVE WRITTEN LIMITED WARRANTY OF THE ORIGINAL BUYER.

10. Glossary

Term	Description
Computer	Personal computer
DC	Direct Current
DLC	Data Link Connector
Ethernet	Connection of systems to networks by means of twisted-pair cabling in compliance with IEEE 802.3.
LAN	Local Area Network
LED	Light-Emitting Diode
USB power	Universal Serial Bus - a common standard for interfacing with a computer
VCI	Vehicle Communication Interface Abbreviation for diagnostic device
VCM3	Vehicle Communication Module 3
Vdc	Volts DC
WLAN	Wireless Local Area Network

11. Technical data

Property	Value / range
Host Interface	
Wired	High speed USB 480 Mbps Ethernet 10/100 Mbps
Wireless WiFi USB stick	802.11b/g/n
Processor System	
Microprocessor	Intel MX6 Solo
Clock Speed	800 MHz
RAM	512 MB DDR3 RAM
ROM	256 MB flash memory
Mass storage (optional)	4 GB - 128 GB Micro-SD memory card
User interface	
LEDs	4 status LEDs 3 lighted buttons
Beeper	Signal tone
Power Supply	
From the vehicle battery using the diagnostics connection cable or from the computer using a connected USB connecting cable. *Caution:* The diagnostic connector of the vehicle must be protected by a fuse with a max. rating of 6 amps / 32 volts.	7 V – 32 V, 750 mA 5 V, 0.5 A
Mechanical properties	
Size	165 x 115 x 40 mm (6.5 x 4.5 x 1.6 inch)
Weight	0.24 kg (0.53 lb)
Operating Temperature	-20 °C – +70 °C (-4 °F – 158 °F)
Operating Temperature for VCM3 Wireless Interface	0 °C – +40 °C (32°F – 104 °F)
Storage Temperature	-20 °C – +80 °C (-4 °F – 176 °F)
Humidity at 25 °C	30 % – 95 %
Maximum operating altitude	4000 m
Degree of protection with the diagnostic connection cable *not connected*	IP 30
Degree of protection with the diagnostic connection cable *connected* according to IEC 60529	IP 54, Cat. 2
Diagnostic connection cable	
J1962 (ISO 15031-3) Voltage resistance	DLC 26-pin 18 V, Cat. 0