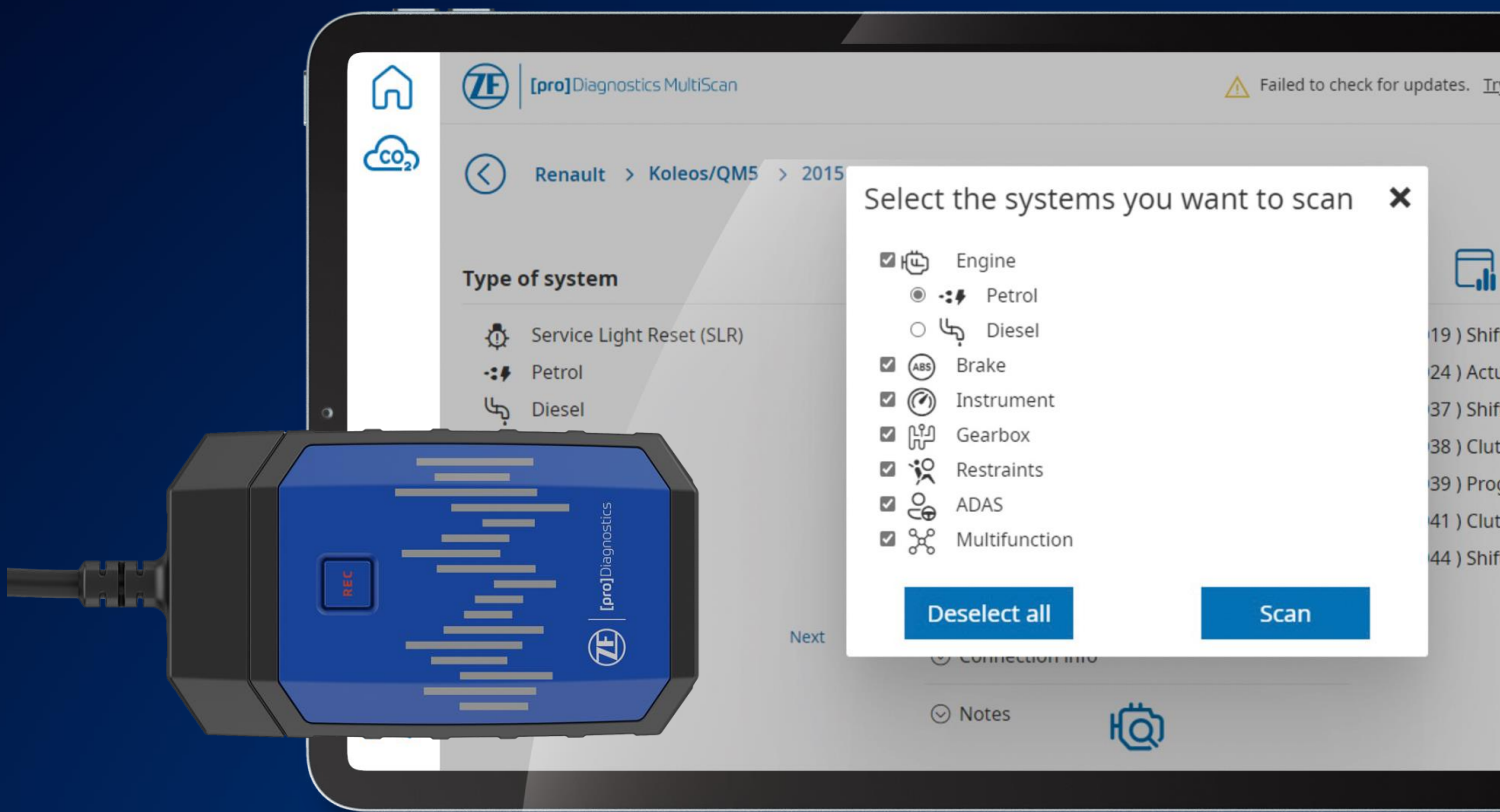


ZF MultiScan

User Manual

Year: 2025



ZF MultiScan – User Manual

Agreement

By using this product, you accept the following terms:

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The software and data are the property of the supplier and are protected against unauthorized copying by copyright laws, international contract regulations, and other applicable national legislation. The copying or sale of data, software, or any part thereof is punishable by law. In the event of any violation, the supplier reserves the right to pursue legal action and seek compensation for damages.

Program versions

We continuously strive to optimise our products for the markets and regions where they are sold and used. As part of this effort, we have automated the configuration of geographical preferences during installation. The only step required from the person installing the software is to select the appropriate country. By choosing the correct country during installation, the customer ensures that the software is optimally configured for regional conditions—both in terms of the vehicle database content and the program's functionality—so it aligns with the local vehicle population and specific market needs.

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To the greatest possible extent, all data in the program is based on information from car manufacturers. The supplier does not guarantee that data or software is correct or complete. The supplier does not accept liability for damages caused by defective software or incorrect data. In all cases liability is limited to the amount that the buyer has paid for the product at the time of purchase. This exemption from liability does not include damages caused intentionally or by gross neglect on the part of the customer.

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WEEE (Waste Electrical and Electronic Equipment)

This label shows that the product is manufactured after August 13, 2005, and therefore it shall be recycled according to WEEE (EU Directive 2002/96/EC regarding waste from Electrical and Electronic equipment). Contact your local dealer for more information.

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1. Installation of ZF [pro]Diagnostics

This Ensure that you use a desktop computer, laptop, or tablet that meets the system specifications listed below. Otherwise, the software may be incorrectly flagged as deficient even when it is not.

In the following sections, you will find details on recommended system configurations, software installation, ZF [pro]Diagnostics features, and other related topics.

1.1 System requirements

- Intel® Core i5 or better
- Windows® 10 or Windows® 11
- 4 GB RAM (depending on the OS)
- 16 GB free space on the hard drive
- Screen resolution of 1440 x 900 or higher
- Connection to the Internet
- Bluetooth (SPP)
- USB port
- Adobe Acrobat Reader 8.0 or higher
- Recommendation to turn off sleep mode
- S-mode on Windows 10S must be switched off

1.2 Software installation

1. Insert the supplied USB security dongle into the device's USB port.
2. Launch the installation package.
3. You will be displayed a standard Defender alert. Keep the alert open.
4. Right click on the installation package. Select 'Properties' at the bottom of the menu.
5. In the 'Properties' card, select the Unblock checkbox and click Apply.
6. Follow the prompts in the installation wizard.
7. Once the wizard launches, the License Activation Tool (LAT) will automatically start and connect to the Internet to retrieve the license information tied to the unique VCI serial number. The installation process will then proceed, with the dongle determining which packages are permitted for install.
 - a. Click Install.
 - b. Select your language and click OK.
 - c. Choose your product and country.
 - d. Confirm all the steps.
 - e. Confirm the end of the installation.
 - f. The software is ready to be launched on your device.

1.3 Antivirus software advice

Antivirus programs can sometimes interfere with the automatic launch of ZF [pro]Diagnostics. If the software fails to start or takes an unusually long time, temporarily disable your antivirus. After the installation is complete, you may re-enable your antivirus software.

1.4 Computer configuration

1.4.1 Bluetooth

Make sure that Bluetooth is turned on, that the VCI is powered via the vehicle's OBD-socket, and that the VCI is within 10 m of the device.

Step 1

- Open Windows Settings and select Hardware setup.
- Under Bluetooth Hardware, click Search.
- Choose the correct hardware from the list.
- Click Test and then OK to confirm.

Step 2

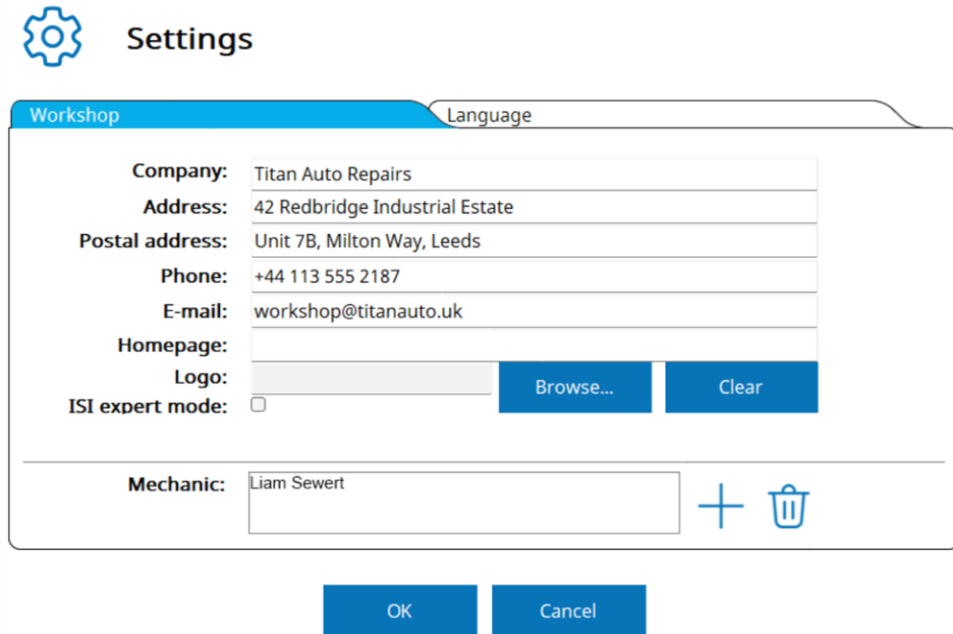
If a firmware update is required, you will be prompted to download and install it.

1.4.2 USB

When you connect ZF DCI MultiScan to your computer via USB, the drivers install automatically, and the device appears as a virtual COM port. Ensure that software installation is complete before launching the program.

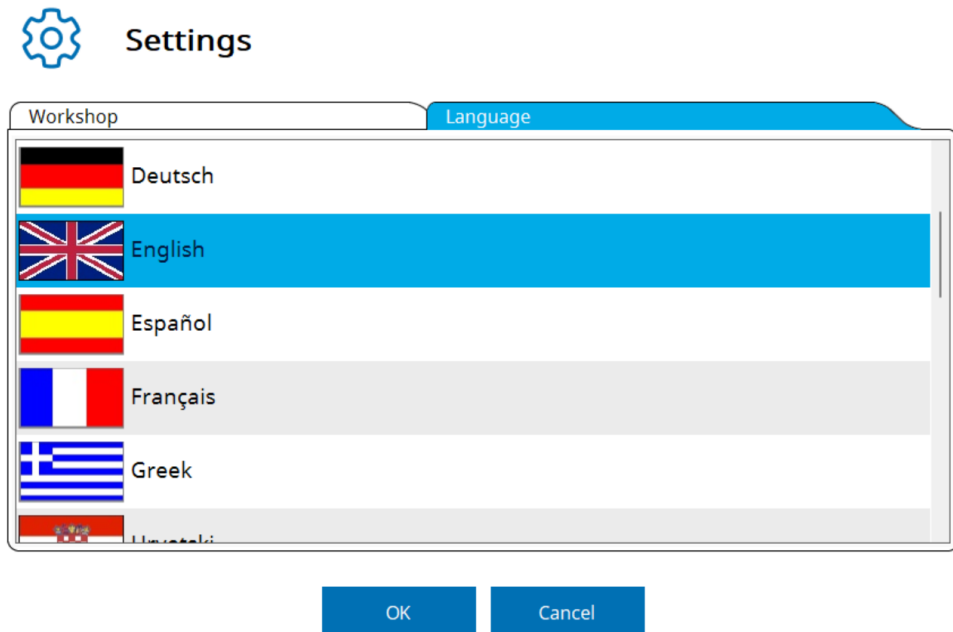
1.5 Workshop setup

Under the “Workshop” tab, enter or edit your workshop details and add mechanic profiles. This information is used when printing or saving test reports.



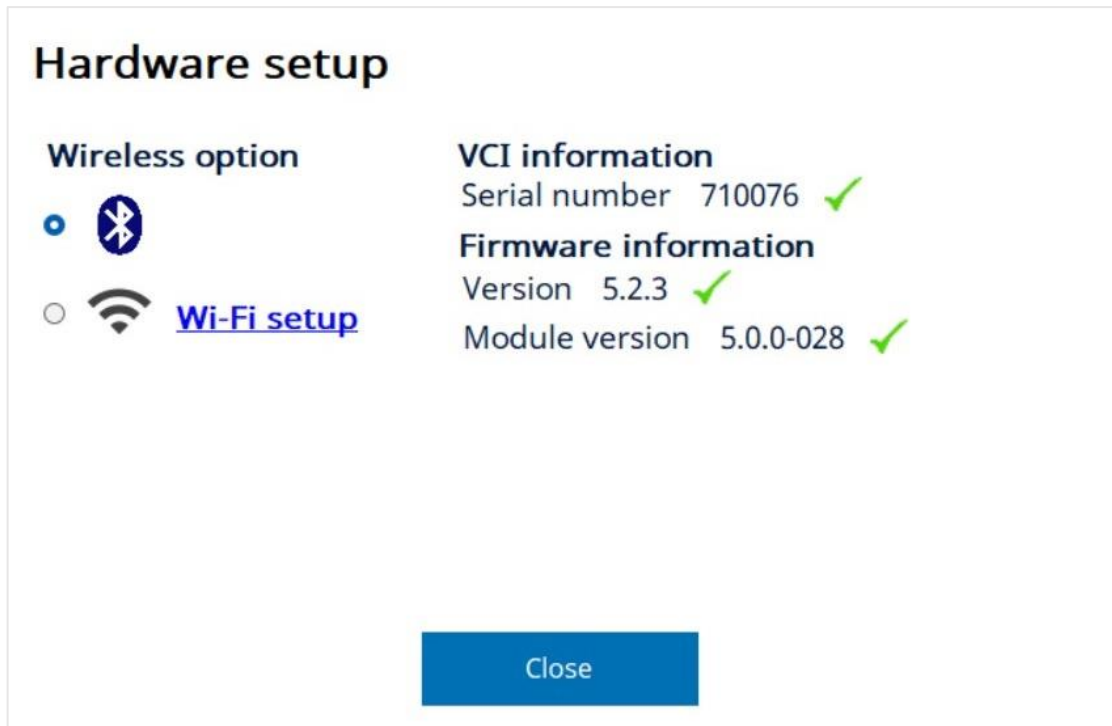
1.6 Language selection

Under the “Language” tab, select the desired display language and click OK. The program will switch languages within seconds without requiring a restart.



1.7 Hardware setup

Under the "Hardware setup" tab, you can assign a COM port to the diagnostic unit and update the unit's firmware.



Three methods are available to set the COM port: "Search," "USB/BT," and "Bluetooth."

1. Search

Selecting "Search" causes the program to automatically detect any available diagnostic unit and display its information.

2. USB/BT

In "USB/BT" mode, choose a specific COM port manually. Press "Test" to verify the connection.

3. Bluetooth

Bluetooth Direct mode scans all nearby Bluetooth devices and connects to the VCI directly.



Note: In every scenario, the diagnostic unit must be configured to the computer and supplied with power. If the software still cannot locate a unit, consult Windows Device Manager for troubleshooting steps. Contact ZF MultiScan Support for assistance if needed.

1.8 Wi-Fi setup

1. Launch the software and connect the DCI to a power source (using the 16-pin connector to the vehicle).
2. Choose the Wi-Fi option and click "Wi-Fi Setup."



3. Ensure your PC and ZF DCI MultiScan are on the same network. Obtain your network details via Windows OS settings.
4. Select an available IP address for ZF DCI MultiScan and enter your Wi-Fi credentials.
5. Connect the USB cable between the PC and ICON to configure the Wi-Fi module.
6. When configuration is finished, click "Close." Disconnect the USB cable and restart both the software and ZF DCI MultiScan by removing and re-connecting the 16-pin power connection.



Once Wi-Fi setup is complete, the Wi-Fi icon in the upper right corner will turn green.



Note: When switching between Bluetooth and Wi-Fi connections (or vice versa), restart both the application and ZF DCI MultiScan. USB takes precedence if connected.

2. Functions

2.1 Multicolour indicator

Function	Color	Comments	Sound
Power	○	Steady light when power on	
PC-Link	●	When USB is connected or Bluetooth/WIFI link is established	
Diagnose	● ●	When a diagnostics session is active Green/Blue (50%)	
Diagnose with lost PC-Link	● ● flashing	Lost PC-Link only indicating when active diagnose session	Warning sound
Low battery	Current color/ ● flashing	White, Blue, Green, Yellow	Warning sound
Flight Recorder (FR)	●	Flashes during the start of recording	Confirms at start/stop
FR Start	●	FR session started, but not logging data	Confirmation FR Start
FR Stop		Stops FR session	Confirmation FR Stop
FR logging data	● running		
FR logging data no valid respond	No valid respond from vehicle		Warning sound! No valid data
FR trigger	Push button to set marker		Confirmation FR trigger

Low voltage warning for low battery		USB: 5.5V Bluetooth: 11.2 V at 12 V and 22.4 at 24 V	
--------------------------------------------	--	---------------------------------------------------------	--

2.2 VIN Decoding

There are four methods to identify a vehicle:

1. **AutoVIN (Automatic Vehicle Identification Number)**
The quickest, fully automated method: Enable AutoVIN under Settings. The VIN is automatically read when the VCI is connected to the vehicle.
2. **VIN (Vehicle Identification Number)**
Manually enter the VIN. The software then directs you to the correct brand, model, and year-model selection.
3. **eOBD standard protocol**
Press the magnifier icon within the VIN field to read the VIN directly from the vehicle via the eOBD protocol.
4. **VRM (Vehicle Registration Mark)**
In supported regions, enter the VRM to select brand, model, and year-model.

2.3 Read and erase fault codes

Retrieve stored fault codes from the vehicle's control system. Use the "Erase fault codes" function to clear stored malfunction data from the control system's memory.

2.3.1 DTC – Read fault codes

Fault codes are logged when the OBD system detects that a control system is operating outside its valid limits. When a code is stored, the vehicle's malfunction lamp may illuminate. This lamp is generally available for systems that affect vehicle operation and safety, but not all control systems support a lamp. Other systems can still store codes without illuminating a lamp.

Fault code read-outs may vary depending on the information provided by the control system. Typically, read-outs include a code number, component description, and status (either "Permanent" or "Intermittent").

Ex.

C1016 Brake light switch, intermittent

Sometimes an additional description appears (for example, "short-circuit to ground" or "open circuit").

Ex.

C1016 Brake light switch, intermittent

- Open circuit

“Frozen data” may also be shown, indicating vehicle conditions at the time the fault occurred (e.g., engine temperature or RPM).

Ex.

C1016 Brake light switch, intermittent

- Open circuit

Vehicle speed 87 km/h

Brake pedal position On

The type and amount of information displayed depend on what the vehicle’s control system can supply.

2.3.2 DTC – Delete trouble codes

Deleting trouble codes clears stored malfunction information from the control system’s memory. In most systems, codes are erased immediately. Some systems require an additional action (for example, “Ignition off for 10 seconds” and then “Ignition on”) before clearing the memory. If such an action is needed, it will be specified in the diagnostic system’s information for that control system.

If a code returns immediately after deletion, it is likely a permanent fault. In this case, the OBD system detects the malfunction during its self-test and stores the code again.

2.4 Real time data

Displays live input and output signals, sensor values, and program information from the vehicle’s control systems.

2.5 Programming

The “Write to ECU” function, also called “coding,” allows the diagnostic system to add or update information in a control system (ECU). Common examples include injector coding, key coding, or replacing an entire control unit or actuator.

Before initiating coding, read the help instructions and adhere to the diagnostic system’s directions. Failing to follow instructions could cause control-system damage.

2.6 System Scan

Once the brand, model, and year-model are selected, a “Scan” button appears at the bottom center of the screen. This function scans the selected control systems and reads any stored fault codes. Scan results are displayed as follows:

- **Green** – The control system responds normally and has no stored fault codes.

- **Red** – The control system responds normally but has stored fault codes.
- **Orange** – The control system cannot be uniquely identified; the user must select the correct system.
- **Grey** – The control system does not respond.

To view stored fault codes, click the arrow next to each system. You can delete codes by clicking the erase icon in the lower right corner, or you can go directly to the full OBD menu.

2.6.1 Glossary

Permanent: Fault code cannot be cleared and remains present

Intermittent: Fault recurs periodically (i.e., it comes and goes)

OBD: On-Board Diagnostics

MIL: Malfunction Indicator Lamp

DTC: Diagnostic Trouble Code (same as fault code)

RTD: Real Time Data

ACT: Activation

ADJ: Adjustment

COD: Coding

ECU: Electronic Control Unit (same as control system, controller, actuator)

SAE: Society of Automotive Engineers

ISO: International Organization for Standardization

System identification

System Identification automatically detects and selects the controller type installed in the vehicle. This ensures the diagnostic session uses the correct parameters.

2.7 Save and print report

The results of a vehicle scan can be automatically added to a report. Simply click the report button at the bottom of the screen to save it on your computer or print it. You can share it with a customer to explain the issues found and repairs completed or keep it for workshop documentation. You can also print help instructions for specific diagnostic functions.

2.8 Flight Recorder

The Flight Recorder feature logs information from a system while the vehicle is in motion. You can play back the recorded data in the program to review any errors that occurred during the test drive.

Create a Flight Recorder template

1. Navigate to the custom datalist under Real Time Data.
2. Select one or more parameters to enable the Flight Recorder button.

3. Download the template to the VCI.

During flight recording, you can set triggers by pressing "REC." Each trigger appears as a vertical marker in the graphs when you review the data.

Upload a Flight Recorder session

1. Click the Flight Recorder button; an information window with instructions opens.
2. Upload the session stored in the VCI.
3. In the upload window, you can open a previously saved Flight Recorder session by clicking "Open file" and selecting the file.
4. Click "Read Template" to connect to the VCI and retrieve template details. If a session is available, the "Upload session" button becomes active, allowing you to upload the data.
5. Click "Close" to cancel.

Display the Flight Recorder session

After uploading, a graph window appears:

- In "Combined view," all selected parameters display in a single graph.
- In "Split view," each parameter appears in its own graph window.
- The "Scale" field shows the actual numeric values.

You can zoom in on the graph by scrolling with the mouse wheel. To adjust the graph area, drag the divider between the graph and the parameter list.

2.9 ADAS Calibration

Advanced Driver Assistance Systems (ADAS) use cameras, sensors, and radars to operate effectively. Calibration is necessary whenever these components are replaced, the windshield is changed, or the bumper is reinstalled. Proper calibration ensures that safety features, such as lane-keeping assistance, adaptive cruise control, and emergency braking, function as intended, helping protect both drivers and passengers on the road.

2.9.1 ZF ADAS Calibration Kit

Designed in compliance with OEM standards, ZF ADAS Calibration Kit ensures precise calibrations for a wide range of vehicles. Thanks to its adjustable height, it works for everything from compact cars to light commercial vehicles. Plus, it's simple and practical - easy to set up by one person, saving you time and letting you focus on getting the job done efficiently. An installation guide is also provided to make setup even easier.

2.9.2 Connecting ZF MultiScan DCI

To begin, open the MultiScan application and connect the ZF DCI MultiScan to the vehicle's OBD port. Once connected, select the vehicle or use the AutoVIN functionality, then select the ADAS system which you want to calibrate. In our example, we will calibrate the Front Camera, so select the Camera Module

and choose the Camera Calibration function. In just a few seconds, ZF MultiScan will establish a connection with the vehicle's ECU.

2.9.3 Reviewing detailed calibration instructions

The software will then provide detailed instructions for the calibration process. These include important information like test conditions, which calibration target to use and how to mount it, how to properly align the vehicle and the calibration equipment, the measurements you'll need to take, and step-by-step guidance for completing the calibration successfully.

2.9.4 Setting up the calibration equipment

Next, you'll set up the ZF ADAS Calibration Kit. Its lightweight, mobile design makes alignment easy, and the on-screen instructions will guide you to ensure the equipment is positioned correctly for optimal calibration accuracy.

2.9.5 Running the calibration

Once everything is in place, click the Start button in the software to begin the calibration process. As you proceed, ZF MultiScan will walk you through each step, prompting you to input key values such as the wheelhouse height as part of the process. This ensures that the calibration is done correctly, reliably, and with precision.

3. Important information

Always read the user manual thoroughly before connecting, starting, or using the diagnostic equipment. This helps prevent misunderstandings and reduces the risk of improper use.

Make sure the engine is turned off and the ignition is switched off before connecting the diagnostic unit—especially when working near the engine or ignition system.

If you pass the diagnostic equipment on to someone else, be sure to also provide the safety instructions and all necessary information about its proper and intended use.

4. Customer support

If you have any further questions reach out to our regional support lines.

4.1 ZF MultiScan support lines

Country	Phone	Country	Phone
France	+33 3 66 88 10 88	Poland	+48 22 104 7777
United Kingdom	+44 204 513 8888	Spain	+49 112 31 303
Italy	+39 0294 75 7000	Switzerland	+41 2251 88888
Germany	+49 511 879 88 300	Hungary	+36 140 48 444

You can also email us at support-multiscan.aftermarket-europe@zf.com



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[pro]Diagnostics