



PORSCHE



PIWIS Tester III (PT3)

Service Training

This brochure does not replace the Porsche repair manuals.

Dimensions and tolerances can be found in the documents in the PIWIS information system.

Table of Contents

1	Introduction	1
1.1	Definition and purpose	1
1.2	Objective	2
2	New features and improvements in the PT3	2
2.1	Technical data – PT3	2
2.2	Software	3
2.3	Hardware	3
2.4	Explanation of the start screen	4
3	Items supplied	4
3.1	Package 1 - Tester (white case)	4
3.2	Package 2 - Measuring equipment (black case)	5
3.3	Package 3 - Starter kit	6
3.4	Docking station	6
4	Getting Started/First Steps	7
4.1	Tester imprint	8
4.2	Certificate handling	9
4.3	PT3 registration	10
5	Functions and use of the taskbar	11
5.1	Help function	12
5.2	Language selection and status displays	12

Key to symbols



Diagnosis



Note



Adjustment



Programming



Technical Manual



Safety

Confidential!

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6	Functions of the “Diagnostics” bar	13
6.1	Vehicle diagnostics	13
6.2	Immobiliser and component protection	16
6.3	Scan Tool	17
7	Functions of the Applications bar	18
7.1	Wiring diagrams	18
7.2	Measuring system	18
7.3	Oscilloscope	24
7.4	Pre-programmed measuring programs	29
7.5	Digital multimeter (DMM)	31
7.6	Diode test	33
7.7	PPN browser	41
8	Functions of the “Tools” bar	41
8.1	Logging	42
8.2	Update	44
8.3	Data administration	45
8.4	Remote access (Remote Support)	48
9	Functions of the “System” bar	49
9.1	VCI configuration	50
9.2	Network configuration	55
9.3	PIDT configuration (diagnostic software settings)	57
9.4	Printer configuration	58
9.5	Imprint and certificates	58
9.6	Date and time	59
9.7	System status	59
9.8	System test	61
9.9	Version information	62
9.10	Import/export	64
9.11	PPN PIWIS Tester registration status	64

10 Equipment trolley (PIWIS Tester trolley)	65
11 Enhanced diagnostic functions	66
11.1 Message about open campaigns	66
11.2 Additional information on the fault symptom	70
11.3 Guided Fault Finding in PT3 (New GFF)	79

Key to symbols



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1 Introduction

This brochure describes the general functions of PIWIS Tester III (PT3). It does not replace the operating instructions, function descriptions and terms of use in PT3 and the PIWIS information system.

The brochure is divided into a general section, the Windows 8 tester interface and the specific diagnostic applications with the respective functions. The general section describes how to configure the basic tester settings and the specific section describes the functions of the diagnostic applications and measuring system.



Front view of PIWIS Tester

9_01_16

1.1 Definition and purpose

This brochure serves as a training document for the PIWIS instructor-led training course on the PT3. Diagnosis of specific systems is covered in depth in each of the respective training courses.

1.2 Objective

1.2.1 Reasons for the introduction of PIWIS Tester III

- Ever increasing vehicle complexity and the number of system features.
- The revised diagnostic software is the sole property of Porsche and is protected by copyright law, which results in a certain level of dependence when procuring the corresponding hardware.
- The Microsoft Windows XP operating system is no longer up-to-date and no support or updates will be provided for from 2016 at the latest. This means that the tester would no longer be protected against external attacks.
- Increased safety requirements for the systems in the vehicle (e.g. engine immobiliser and enhanced component protection) and the software in the tester.
- Complete integration of PIWIS/PQIS.
- Increased service performance in the dealer organisation in terms of providing solutions to problems, diagnostics and creating documents in the workplace.

2 New features and improvements in the PT3

2.1 Technical data – PT3

	PT2	PT3
CPU	Intel Core Duo	Intel Core i5 SMD
Main memory	2 GB RAM	8 GB RAM
Screen	13.3-inch XGA touchscreen	14-inch XGA multi-touch screen
Resolution	1,024 x 758 px	1,920 x 1,080 px
Hard drive	120 GB HDD	512 GB SSD
Battery	Lithium-ion 10.65 V 8.55 Ah	Lithium-ion 11 V 4.4 Ah
Dimensions	302 x 69.5 x 292 mm	345 x 39 x 272 mm
Weight	3.8 kg	2.1 kg
Interfaces	3 x USB port 2.0 1 x VGA 1 x LAN WLAN 2.4 GHz	3 x USB port 3.0 1 x "Fischer" USB for diag. 1x HDMI, 1x VGA, 1x LAN WLAN 300 Mbit/s, 5 GHz
Operating system	Microsoft Windows XP Pr.	Microsoft Windows 8.1 Pr.
Operating conditions	Temperature +5 °C - 35 °C	Temperature 0 °C - +50 °C

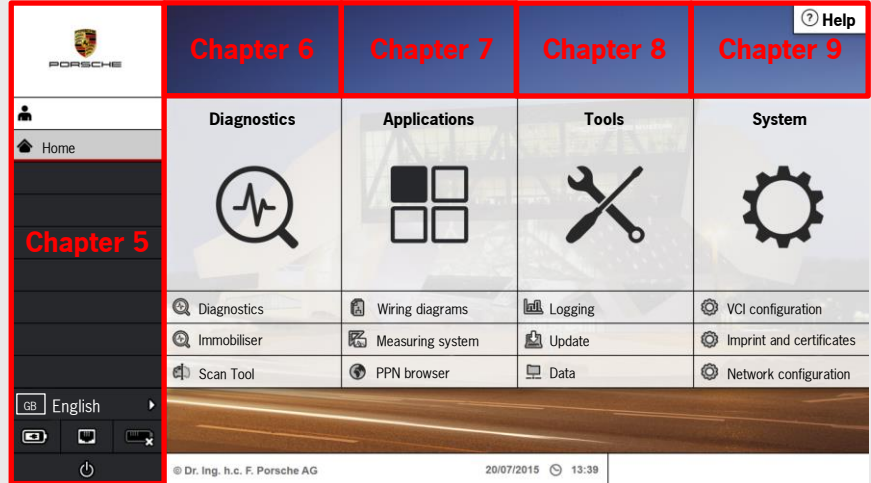
2.2 Software

- New operating system based on Windows 8.1 and improved diagnostic software. This allows greater effectiveness and efficiency in the core service process.
- Significantly revised “Guided Fault Finding” (GFF) means that repeat repairs (“Fix Right First Time”) are further reduced.
- Better provision of relevant information systems.
- (e.g. PiRS, PPN, PQIS)
- Simplification of IT administration and maintenance scope even for import/export tester settings by creating jobs once and distributing them via USB.
- Tester imprinting no longer has to be performed every 90 days.
- New user interface is more user-friendly and allows faster induction of new employees thanks to intuitive operation of the tester.
- Users no longer have to log in again after starting the system or for individual applications.
- Easier to access the network (single sign-on) for basic applications.

2.3 Hardware

- Improved tester performance thanks to SMD technology.
- Handier, ultra-slim housing.
- Significant weight reduction of approx. 70% compared with PT2 (semi-rugged).
- Low energy consumption.
- Full HD display with multi-touch function and 16:9 screen resolution.
- No DVD drive.

2.4 Explanation of the start screen



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3 Items supplied

3.1 Package 1 - Tester (white case)

- | | |
|------------------------------------|-------------------------------|
| 1 PT3 | 7 Diagnosis lead for vehicle |
| 2 Battery pack | 8 Y-shaped USB cable |
| 3 Power supply unit | 9 Diagnostic adapter plug |
| 4 Country-spec. power supply cable | 10 VCI base station |
| 5 VCI | 11 Diagnostic extension cable |
| 6 WLAN cap for VCI | |



PIWIS Tester case

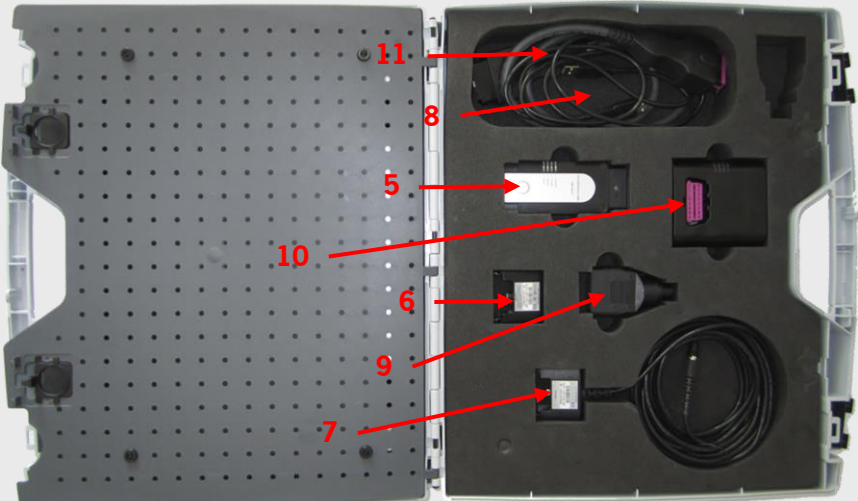
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Measuring equipment contents - lower side

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PIWIS Tester III (PT3)



Measuring equipment contents - upper side

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3.2 Package 2 - Measuring equipment (black case)



Items in the measuring equipment case

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- 1 Digital 4-channel test box
- 2 Clamp-on ammeter, 1 mA - 100 A
- 3 Clamp-on ammeter, 25 mA - 1,800 A
- 4 4 measurement leads with AVL connectors
- 5 Power supply unit
- 6 Country-specific supply cable for power supply unit
- 7 4 x probes
- 8 4 x crocodile clips
- 9 6 x Velcro tie-wraps
- 10 USB cable









PIWIS measuring equipment case

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3.3 Package 3 - Starter kit

With the introduction of PT3, the Porsche Centre has (for a limited time period) a **unique** opportunity to procure a starter kit. The starter kit contains 2 x PT3 incl. 2 x VCI in white cases and 1 x measuring equipment in a black case.

Package 3	Package 1	Package 2
Starter kit	Tester & VCI	Meas. system
2 x tester 	1 x tester 	-
2 x VCI 	2 x VCI 	-
1 x meas. system 	-	1 x meas. system 

2 x Package 1 + 1 x Package 2 = Package 3 9_08_16

3.4 Docking station



PT3 docking station

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The docking station has been completely redesigned and adapted to suit the PT3. It has one network connection, 2 x USB 3.0, 1 VGA output port and a HDMI connection. It is supplied - packaged separately - with every tester.

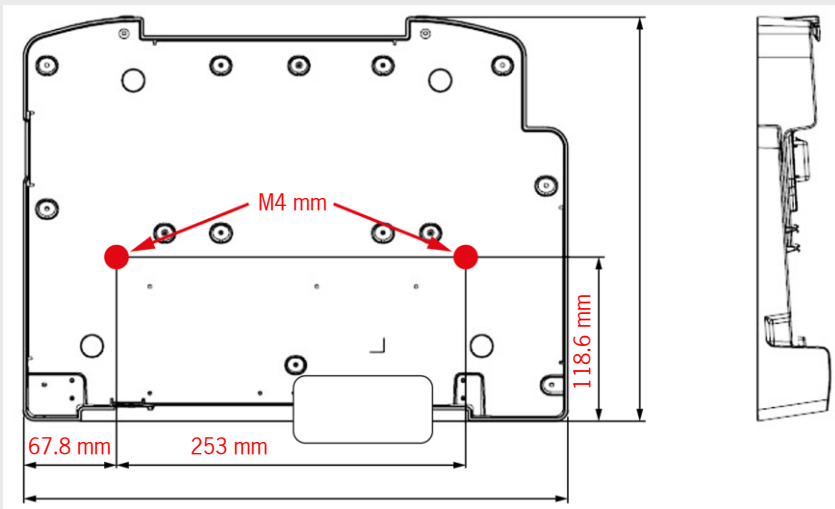
Each docking station comes with a drilling template made of paper for the upper support plate on the PIWIS Tester trolley.

For the PT3, a new assembly plate on the PIWIS trolley is required for fitting the docking station on the PIWIS trolley. This assembly plate can be ordered separately from Special Tools and can be changed on the tester trolley. The docking station can then be secured to the new plate using 2 M 4-mm screws. The thread on the docking station is a "blind hole" with a thread depth of 8 mm.

The mains connection is no longer accessible when the PT3 is docked, depending on the design, which means that power must be supplied via the docking station.

The previous information window on the tester screen prompting you to indicate whether you want to use the docking station now (by selecting either Yes or No) is no longer displayed.

The docking station contains a network card, which must be activated as required in the tester when docking the PT3. For this purpose, the user can select the network card manually or confirm a box for automatic detection of the network card.



Docking station dimensions - underside

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4 Getting Started/First Steps

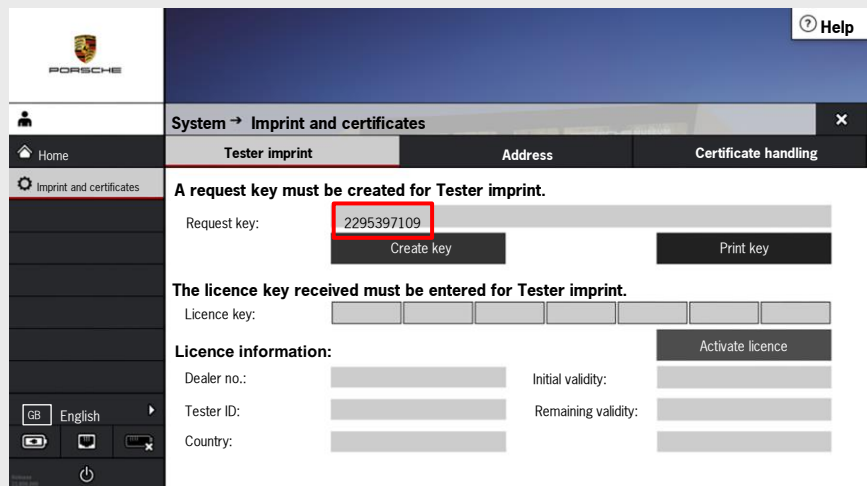
In order to permit use of the PT3 with all its functions, the tester must be enabled by entering a licence key. The following steps are necessary to do this.

The current address data (name and address of the Porsche Centre) must first be set using the "Address" tab.

A request key is created by selecting the "Tester imprint" tab and clicking the "Create key" button.

PIWIS Tester III (PT3)

This request key must then be printed on the previously configured default printer by clicking “Print key” and must be sent to the importer’s PIWIS coordinator by fax or e-mail attachment, for example. The licence key can also be requested over the phone in exceptional cases with the agreement of the importer.



System → Imprint and certificates

Home Tester imprint Address Certificate handling

Imprint and certificates

A request key must be created for Tester imprint.

Request key: 2295397109

Create key Print key

The licence key received must be entered for Tester imprint.

Licence key: [] [] [] [] [] [] []

Licence information:

Dealer no.: [] Initial validity: []

Tester ID: [] Remaining validity: []

Country: []

Activate licence

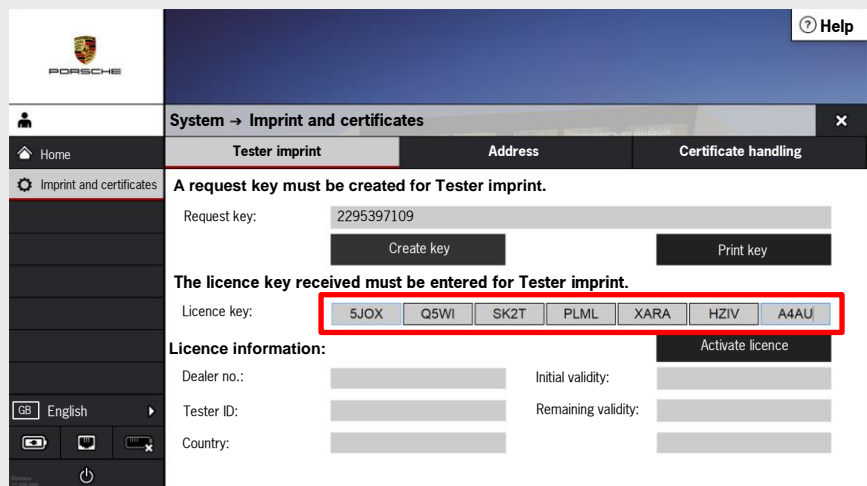
Input field for request key

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The importer’s PIWIS coordinator adds the licence key to this form and returns it to the Porsche Centre.

The licence key received in this way must now be entered in the 7 grey boxes displayed one after the other. 4 numbers/letters must be entered in each box. Only uppercase letters and numbers from 1-10 are accepted. “0” (zero) cannot be entered, and does not exist.

4.1 Tester imprint



System → Imprint and certificates

Home Tester imprint Address Certificate handling

Imprint and certificates

A request key must be created for Tester imprint.

Request key: 2295397109

Create key Print key

The licence key received must be entered for Tester imprint.

Licence key: 5JOX Q5WI SK2T PLML XARA HZIV A4AU

Licence information:

Dealer no.: [] Initial validity: []

Tester ID: [] Remaining validity: []

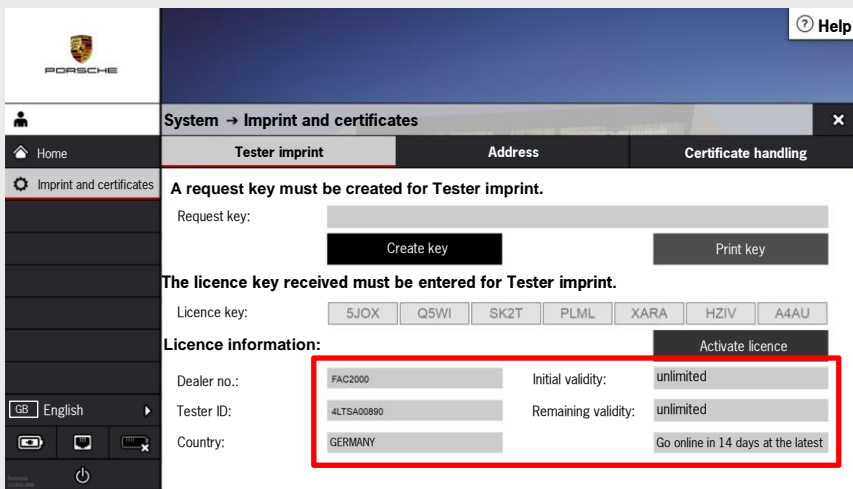
Country: []

Activate licence

Example of licence key

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Once the tester imprint (licence key input) has been performed, all functions are enabled and are immediately ready for use. After the tester has been successfully imprinted and enabled, the grey “Licence information” fields are displayed in the Tester imprint application.



Licence information display

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The tester can now be operated offline for up to 14 days before the licence expires and the tester does not allow any more diagnostic sessions. As soon as the tester is connected again to a LAN/WLAN connection with PPN access, all functions will be available again. The user no longer has to specifically request an imprint extension and enter the PPN password as before. The licence status is shown in the grey field at the bottom right.

4.2 Certificate handling

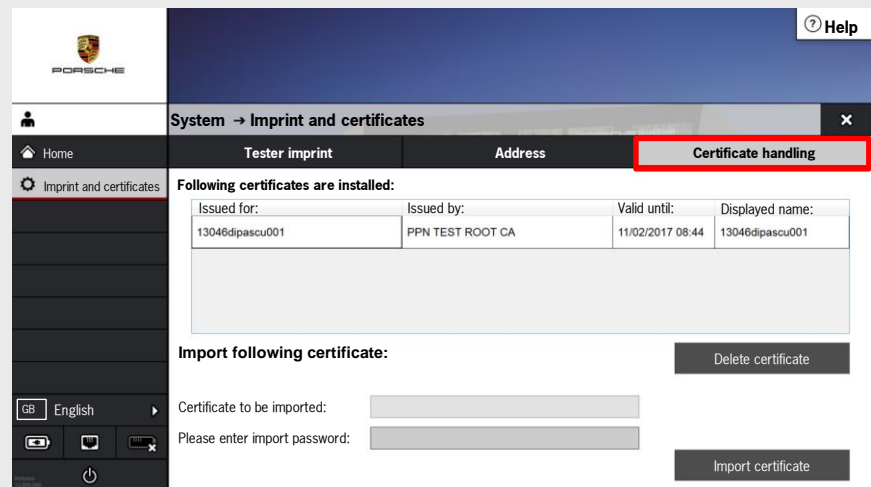
The PPN certificate can be imported by selecting the “Certificate handling” menu item, which can be found under Applications/PPN browser. The PPN certificate is needed for various PPN applications (e.g. PQIS, PIWIS information system, PiRS, etc.) and the user can enable the PPN functions using a personal user account.

The application for certificate handling opens automatically after the certificate is downloaded successfully via the PPN browser. In the open application, it is then necessary to enter and confirm the import password of the certificate. The certificate is then available on the system and is ready for use.



If the licence has already been activated, clicking the “Create key” button again deletes the previous tester imprint!

The imported certificate can also be deleted in this application. The certificate is deleted from the tester after clicking the “Delete certificate” button and confirming the security prompt. The certificate must be deleted if it has expired and has been replaced by a new certificate.



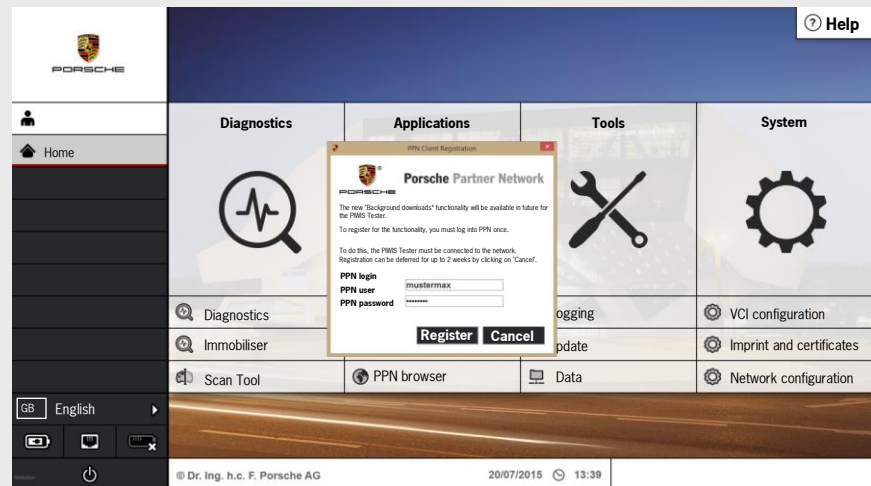
Certificate handling

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4.3 PT3 registration

A password must no longer be entered for starting the PT3. The password is no longer required for starting the main menu.

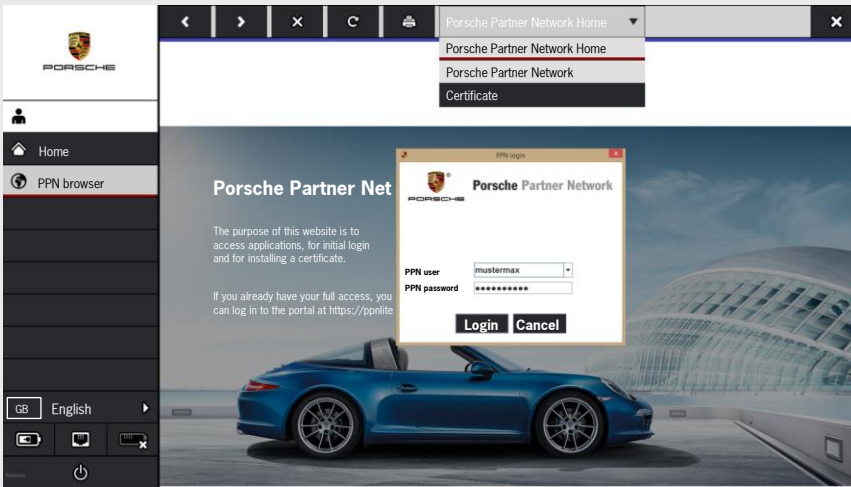
However, a network connection must be established for updating the imprint and for receiving downloads. The PPN user name and PPN password are required for this. The user name and password must only be entered once at the beginning and are not required for starting the tester at any other time.



PPN initial login window

9_15_16

For applications in the PPN, e.g. PIWIS information system, PiRS, diagnostic session, etc., a password must be entered again using the Applications/PPN browser button since every user has different access rights.



PPN user login

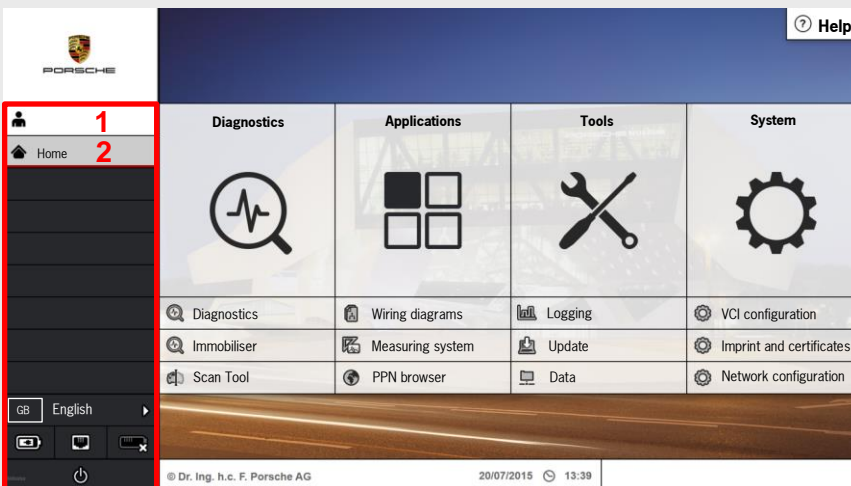
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5 Functions and use of the taskbar

The PT3 has a redesigned taskbar on the left-hand side.

The first field shows the user name for the active account. The “Home” button underneath can be pressed in order to return to the main menu from any function.

If applications are opened, e.g. Measuring system, Diagnostics, etc., these are shown under each other in the taskbar.

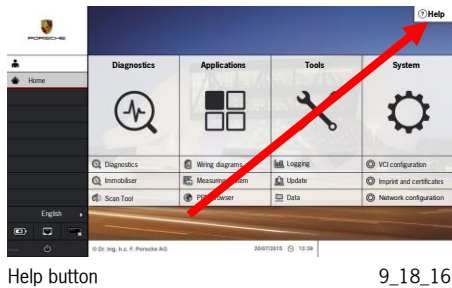


Taskbar

9_17_16

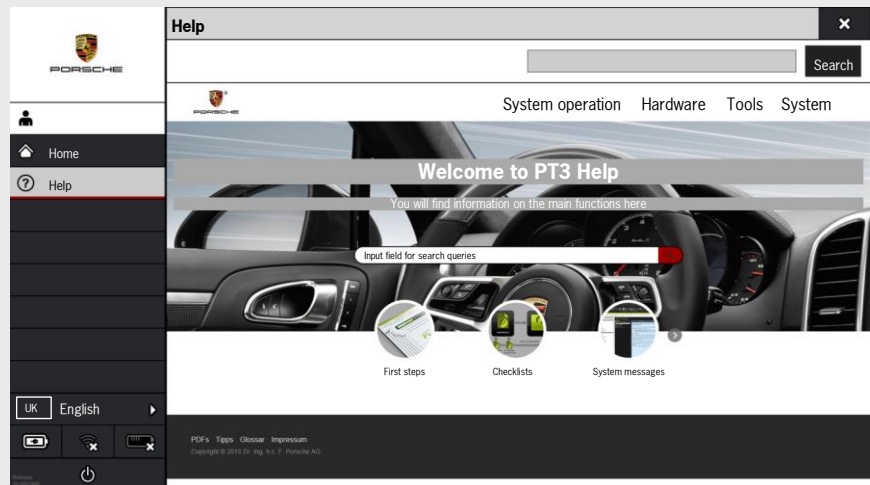
- 1 User name display
- 2 “Home” button

PIWIS Tester III (PT3)



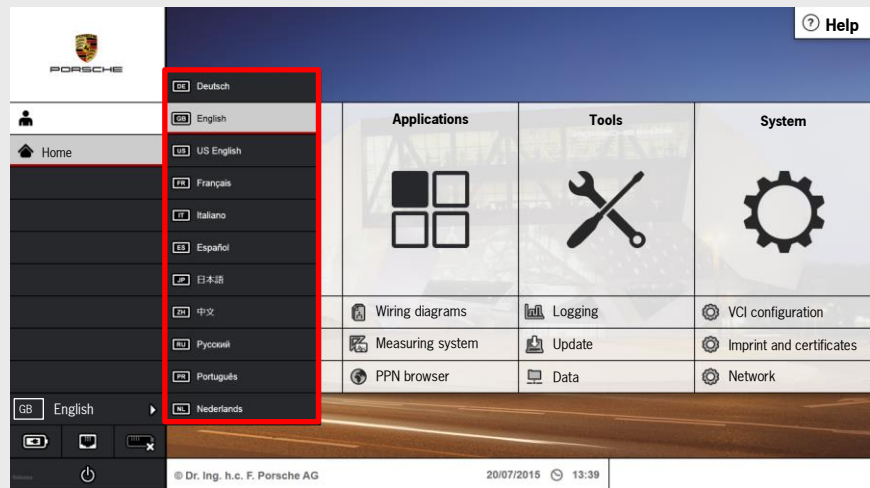
5.1 Help function

The “Help” button is located in the top right corner of the main menu. This function allows users to search for information in various sub-menus of the System operation, Hardware, Tools and System menus.

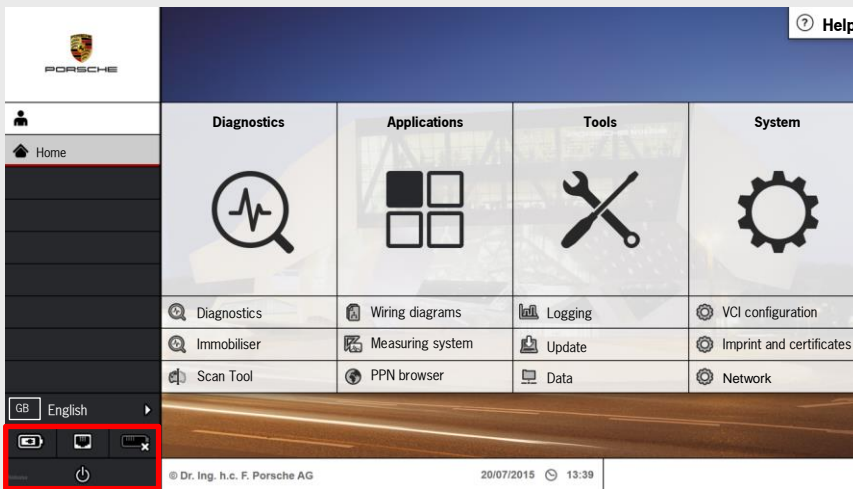


5.2 Language selection and status displays

The language selection field is located in the lower area of the taskbar. All “Porsche languages”, which can be changed in each menu, are available here. The language used in the diagnostic software, for example, is also changed simultaneously.



Status displays for the battery charge state, the network connection and the VCI connection status are shown under the language selection menu. The Off button is located underneath.



Status displays

9_21_16

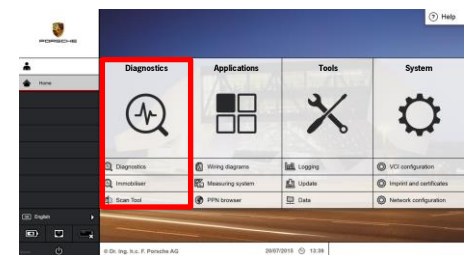
6 Functions of the “Diagnostics” bar

The Diagnostics bar contains the following topics

- Vehicle diagnostics
- Immobiliser and component protection
- Scan Tool

6.1 Vehicle diagnostics

To start a diagnostic session with the vehicle, a connection must be established between the VCI (Vehicle Communication Interface) and the vehicle. This can be done either using the supplied VCI-tester connecting cable or via WLAN. The VCI hardware adapts automatically to the PT3 via the cable. If the VCI is to be operated using WLAN, the VCI must first be configured using the supplied VCI base station and the WLAN adapter with the cable must be replaced on the VCI. The procedure for configuring the VCI with the tester is described under “System - VCI configuration”.



Diagnostics bar

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9_164_16

Vehicle Communication Interface (VCI)



WLAN adapter



VCI hardware with connecting cable

9_23_16



**USB connecting cable
with "Fischer" USB**

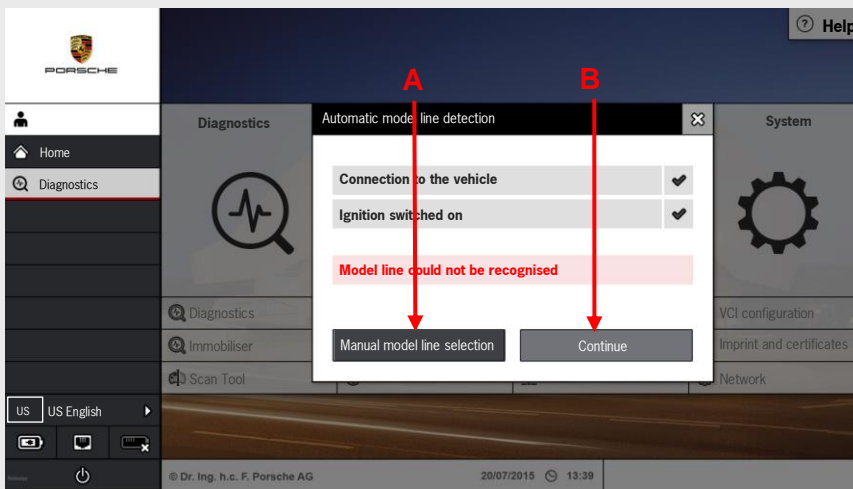
**VCI with
WLAN adapter
connected**



VCI hardware with WLAN adapter

9_24_16

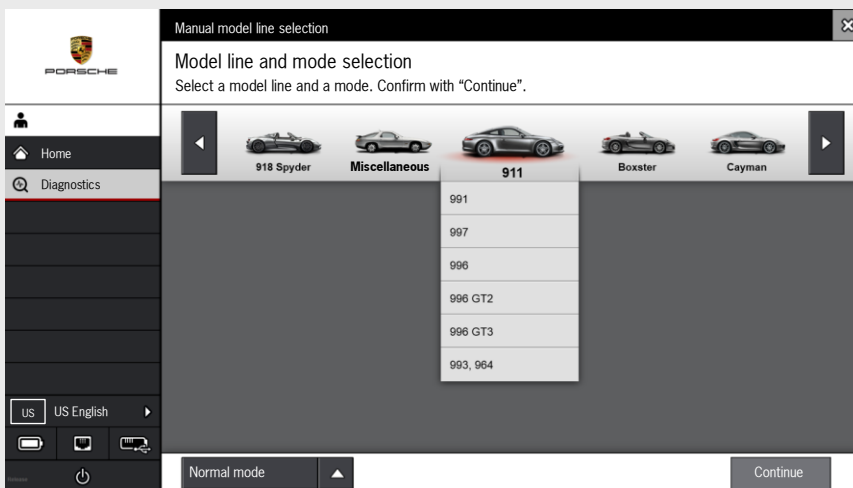
When starting the diagnostic session, a pop-up window prompts you to confirm whether you want to continue with automatic vehicle detection by pressing “Continue” (B). If you do not want to do this, the required vehicle can be selected manually (A). This option is necessary for Porsche classic vehicles, for example.



Option for manual vehicle selection

9_25_16

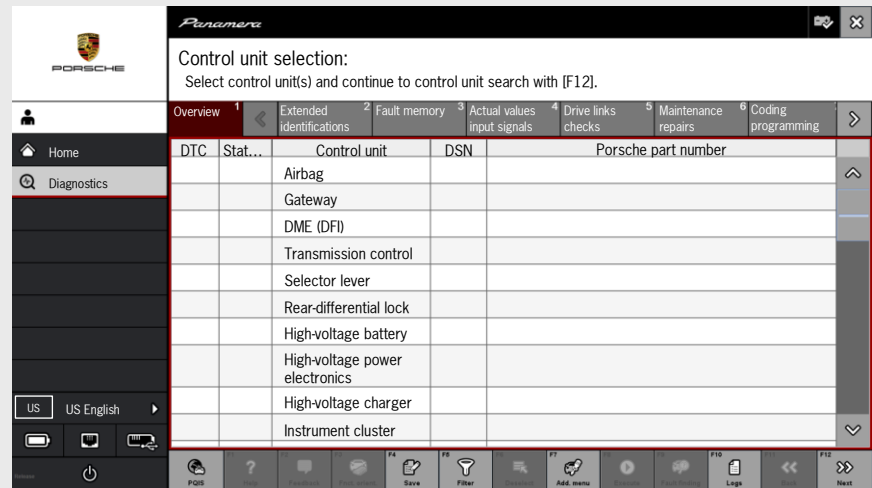
Example of starting diagnostics manually



Manual vehicle selection

9_26_16

Example of automatic diagnostics



Automatic vehicle selection

9_27_16

A new feature of the diagnostic session is the option of switching directly to PQIS, which is activated using the F1 button. This allows users to display the workshop history and use this to identify anything unusual.

6.2 Immobiliser and component protection

The “Immobiliser” button can be used to call up teaching functions for engine immobiliser 4 (Cayenne 9PA 2008-2010 Diesel). This mainly concerns the components

- Electric steering column lock
- Kessy control unit
- DME control unit
- Vehicle key

Engine immobiliser 4 only concerns the Porsche Cayenne Diesel, model year 2008-2010.

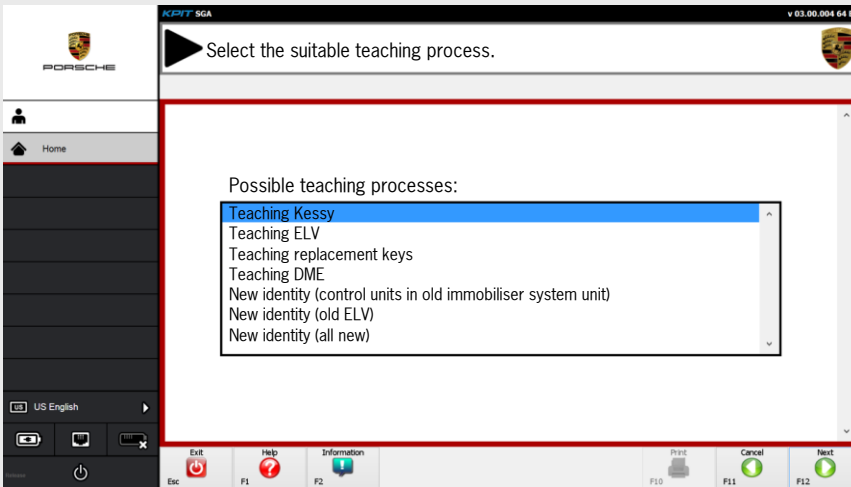
The individual components are “married” together during the teaching process so that they can only be replaced online with the required registration for security reasons.

The teaching process for newer engine immobilisers (e.g. engine immobiliser 5) is carried out directly in the diagnostic session for the control unit and is taught online.



Engine immobiliser 5 is taught from within the diagnostic application!

For component protection, the gateway control unit is the component protection master and must also be taught online together with other control units affected by component protection (e.g. PCM 4) if it needs to be replaced.

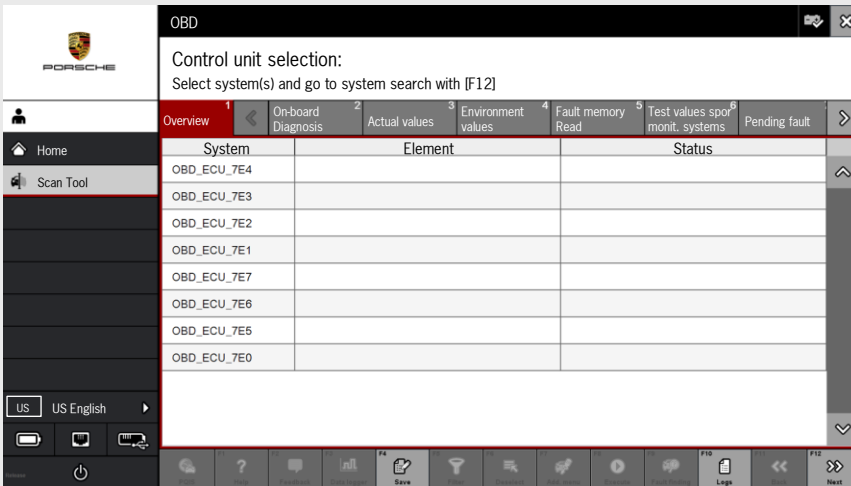


Teaching functions

9_28_16

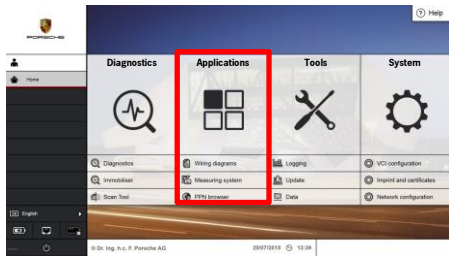
6.3 Scan Tool

The Scan Tool button can be used to read out diagnosis-relevant OBD information from the DME control unit, for example. No changes can be made to the vehicle coding/vehicle programming in this program. The “Scan Tool” program is used primarily for dealerships that are not part of the Porsche organisation and have limited access rights.



Scan Tool

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Application bar

9_30_16

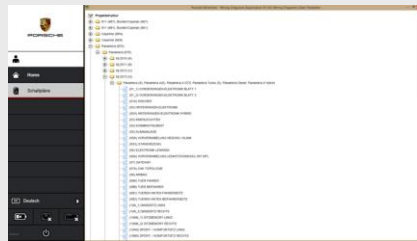
7 Functions of the “Applications” bar

The “Applications” bar is divided into

- Wiring diagrams
- Measuring system
- PPN browser

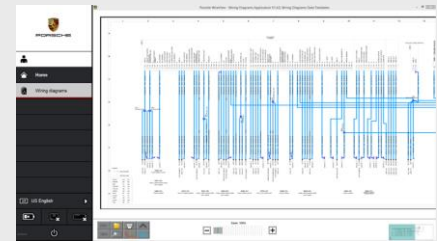
7.1 Wiring diagrams

The wiring diagrams have essentially been adopted unchanged, but their performance is enhanced thanks to the improved hardware. As a result, the diagrams are displayed faster and are considerably easier to use. There are plans to introduce a new wiring diagram viewer and this will be implemented at a later date. The wiring diagram can now be enlarged using the “two-finger method” thanks to the multi-touch screen.



Wiring diagram folder structure

9_31_16



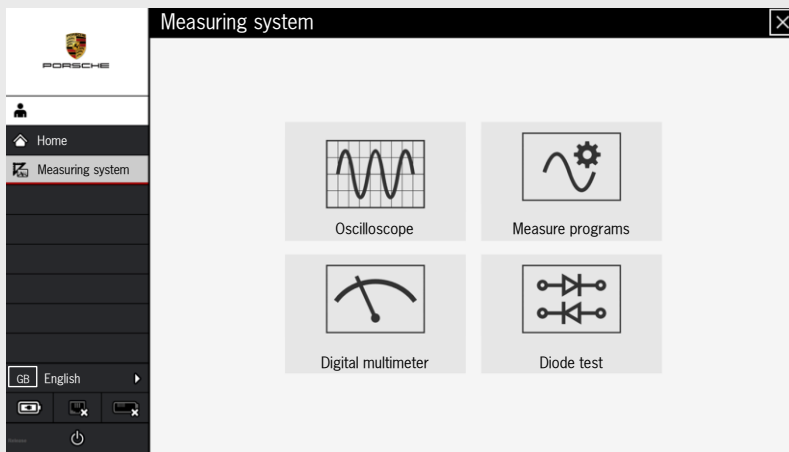
Wiring diagram

9_32_16

7.2 Measuring system

After selection of the “Measuring system” menu item, the selection screen containing the four measuring system options appears. The “Measuring system” menu contains the functions

- Oscilloscope
- Measure programs
- Digital multimeter
- Diode test



Measuring system start page

9_33_16

The software for operating the measuring system interface is integrated in PT3. The measuring system is used to determine and display electrical parameters on vehicles with a supply voltage of between 12 V and 24 V. The test box (hardware) is a mobile device and must be connected to the PT3 using a USB A/B connection. The test box also needs an external power supply via the supplied power supply unit. Once the test box is connected and the application is started, on-board diagnosis of the system is performed. The measuring device itself contains 4 separately operating test channels, which are used for current, voltage and resistance measurement and for diode and continuity tests. The 4 channels are electrically isolated, insulated and can be configured independently of each other.

In combination with the measuring system software, the measuring system interface can be operated as a multimeter or a 4-channel oscilloscope. The digital, high-resolution 4-channel memory oscilloscope is used for recording signals and is designed specifically for use in the motor vehicle industry. It has a new operator guidance feature, which makes it much easier to use the oscilloscope and guides the user reliably to the required place. It supports all Porsche vehicle types, their derivatives and all electronic components. The oscilloscope can show all types of signals and bus systems.



Test box

9_34_16

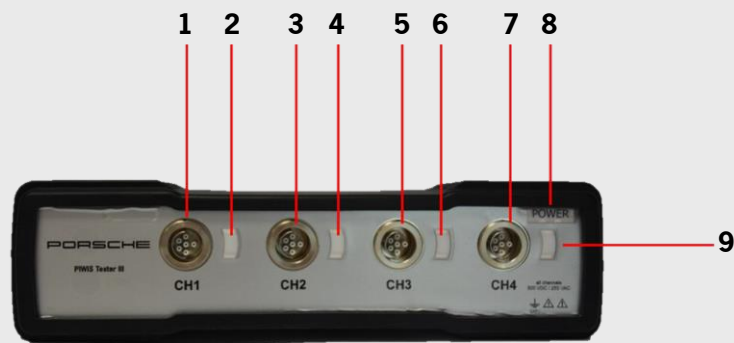
7.2.1 Features of the new measuring system

- Simple and logical operation and functionality
- Over approx. 100 pre-configurable measurements, all grouped according to different engine variants, sensors and actuators and arranged according to function priority
- Detailed help for all measurements
- Explanation of measuring adapter connections and detailed description of the measurement processes
- Meaningful display of curves and evaluation via automatic measuring range setting
- Display of reference curves for direct comparison
- Unique Recorder function for recording the measured signals
- Large memory capacity allows long-term measurements
- Guided explanation of connections for sensors and check to ensure that the correct sensor was connected to the right channel

7.2.2 Test box

Measuring equipment connections, front

- 1 Measurement input 1
- 2 LED for status of measurement input 1
- 3 Measurement input 2
- 4 LED for status of measurement input 2
- 5 Measurement input 3
- 6 LED for status of measurement input 3
- 7 Measurement input 4
- 8 LED for power status
- 9 LED for status of measurement input 4



Front connections

9_35_16

PIWIS Tester III (PT3)

Measuring equipment connections, rear



Rear connections

9_36_16



USB and power supply

9_37_16

The USB cable (a) connects the test box to the PT3. The DC voltage connector (b) is connected to the power supply unit (different country-specific versions). The DC voltage connector (b) for the test box must first be inserted and then screwed on.

- 1 SPI connection (for add-ons)
- 2 USB connection
- 3 Power supply socket



The test box is a protection class I device. It can only be connected to the mains with an earthed conductor or power supply sockets with an earthed conductor! The test box must not be used in the measurement categories II, III and IV. Likewise, it must not be used for measuring high-voltage systems, e.g. for taking measurements on hybrid vehicles!

Opening the test box will result in the loss of any warranty claims and can also involve considerable risks.

7.2.3 Clamp-on ammeters



Clamp-on ammeter < 100 A

9_38_16



Clamp-on ammeter < 1,800 A

9_39_16

The 100-amp and 1,800-amp clamp-on ammeters consist of a 7-pin male connector, the cable and the actual clamp-on ammeter. The 100-amp clamp-on ammeter with the yellow colour code is used for measuring small currents, e.g. a closed-circuit current. The measuring range is from 1 mA – 100 A. The clamp-on ammeter with the orange colour code is used for measuring large currents, e.g. starter current/charging current. The measuring range of this clamp-on ammeter is from 1 A – 1,800 A.

The clamp-on ammeters can be opened and fitted around the cable on which the current is to be measured. The result of the measurement depends on the direction. To avoid errors, a measurement cannot be taken while the clamp is open.

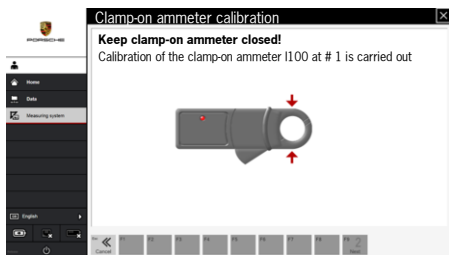
7.2.4 Clamp-on ammeter calibration

Before starting to measure the current using the clamp-on ammeter I100, it must be calibrated (zero-balanced) in order to get an exact measurement result. The reasons for this are material expansion, changes in temperature/moisture level, but in particular, residual magnetism (remanence), which falsify the measurement result.

Calibration is started and performed automatically by the operator software.

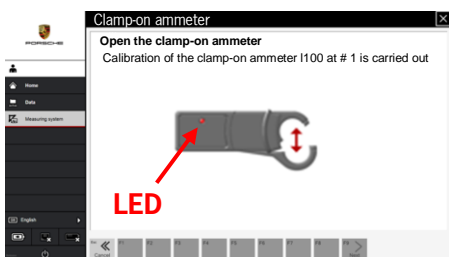
For this purpose, the clamp-on ammeter must remain closed during the first few seconds. The clamp-on ammeter must then be opened and closed again as instructed by the tester software. This is shown on the PT3 screen.

The user interface guides you through this process if a clamp-on ammeter is selected as a sensor in the digital multimeter or digital memory oscilloscope.



Closed

9_40_16



Open

9_41_16

If this calibration process is cancelled, measurements can be taken while bearing in mind that the clamp-on ammeters are not calibrated and the measurement result is therefore unacceptable. The clamp-on ammeters issue an acoustic signal (buzzing) while they are being calibrated.

Action	Status of the red clamp-on ammeter LED
Switch on	Off->flashes at a rate of 4 Hz
Automatic demagnetisation (3 seconds)	Flashes at a rate of 4 Hz
Wait for clamps to open/close	Flashes at a rate of 4 Hz
Open the clamps	Constantly On
Close the clamps	Flashes at a rate of 4 Hz
Zero-balance	Flashes at a rate of 4 Hz
Ready to start measurement	Off

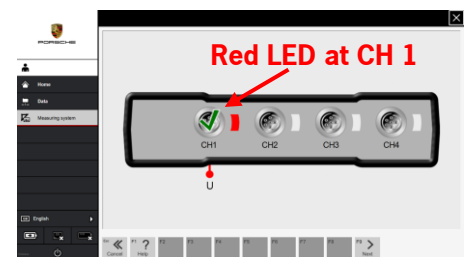
7.2.5 URD cable



URD cable

9_42_16

The URD cable consists of a 6-pin male connector, the lead and a red and a black banana connector. The measuring equipment case contains 4 of these cables. The cable is used for voltage measurement, resistance measurement and diode testing.



9_165_16

The red LED indicates that the URD cable with the red marking is inserted. The "U" underneath stands for a voltage measurement.

If a voltage measurement was preselected, for example, the URD measuring cable must be inserted in channel 1. The LED at the test socket on the test box lights up red so that the user must insert the URD cable with the red marking rather than a clamp-on ammeter.



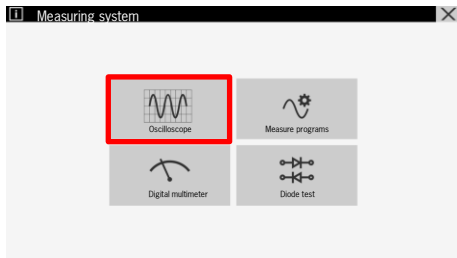
Crocodile clips

9_43_16

Test Probes

9_44_16

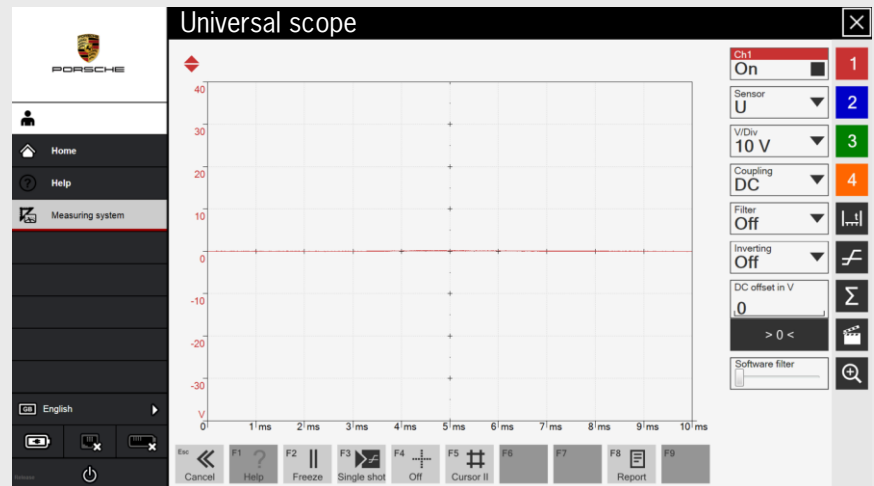
There are 4 crocodile clips and 4 probes and these can be fitted on the banana connectors on the URD cable.



Measuring system start screen

9_45_16

7.3 Oscilloscope

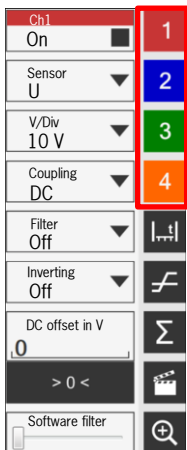


Channel settings

9_46_16

7.3.1 Channel settings

The coloured buttons from 1-4 are used to configure the respective channel. The configured channel is shown as a bar in the respective colour. Channels that are not configured are indicated by an empty box. The colour bar for the respective channel does not appear. The channel settings can be configured while a measurement is in progress. All channel settings are configured in the right area of the screen and the measurement curve can be adjusted along the X and Y axis.



Buttons

9_47_16

Sockets for the channels

The sockets can be shared among the four displayable measurement channels. There are 4 physical measurement channels available. For example: "Ch1#3 10 A" means socket 3 is switched on display channel 1, 10 A per division.

Coupling

Coupling selection:

AC (alternating current), DC (direct current) or GND (ground).

Measuring range:

Measuring range selection, e.g. 10 A/division.

Filter

Off, 100 Hz, 1 kHz, 10 kHz, 450 kHz

The symbol with the function (white cross on a green background) ends setting mode; evaluations and values determined by the cursor are displayed.

Evaluations and values determined by the cursor are displayed in the measurements preconfigured in the Oscilloscope mode.

Trigger settings

The trigger settings can be configured while a measurement is in progress. All settings are configured in the right area of the screen. The settings can be hidden by touching the "trigger symbol". The trigger time can be changed in 5% steps by touching the buttons.

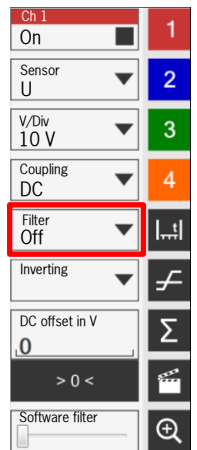
Trigger On/Off

Line Trigger line On/Off

Source Ch1 ... Ch4, unconfigured channels cannot be selected.

Side Rising/falling/both

Level e.g. 1 A



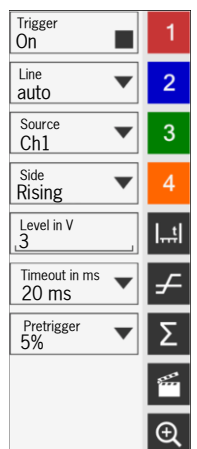
Filter

9_48_16



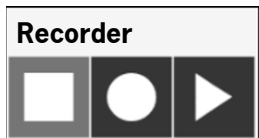
Trigger button

9_49_16



Trigger functions

9_50_16



Recorder

9_51_16

Timeout

If the selected timeout time is too short and as a result, no triggering takes place in this time frame, the measuring signal runs through:

- 0 = Auto-Run mode

Infinite = Normal mode

Pretrigger

The pretrigger is preset to 50%. As a result, the trigger time is in the centre of the screen. If lower values are selected, the signal is displayed earlier, i.e. further left on the screen. Larger values move the signal display to the right.

Time base settings

The time settings can be configured while a measurement is in progress.

All settings are configured in the right area of the screen.

The settings can be hidden by touching the cross symbol.

Page memory

Only if a measurement is stopped or "frozen" (Freeze button).

The buttons "<" and ">" can be used to scroll through the page memory.

The results are displayed on the right-hand side of the screen.

The current page is displayed

Max. number of pages that can be stored:

- 100 pages (without oversampling)
- 10 pages (100x oversampling), 4 channels

Recorder/player

Allows continuous recording of the data. The data is written continuously to a file with the adjustment values set for the recording. When playing data, the related adjustment values are displayed on the right-hand side of the screen.

Edit measured value display

The current measured value display can be “frozen”/resumed. It is possible to scroll in the page memory while the measured value display is stopped or “frozen”, see above.

Singleshot function

As soon as the trigger conditions are met, the measured data is recorded

There is no re-triggering. A trigger timeout cannot be set for “Singleshot”. Singleshot is inactive in “Roll mode” (time \geq 100 ms/div).

Cursor

Switches the amplitude cursor and/or time cursor on/off. The cursor can be positioned by “dragging” the small black boxes (at the ends of the cursor lines).

Amplitude cursor

- Used to determine the amplitude between the two cursor positions.

Time cursor

- Used to determine the time lag between the two cursor positions and the equivalent frequency.

Freeze



9_52_16

Singleshot



9_53_16

Cursor button



9_54_16

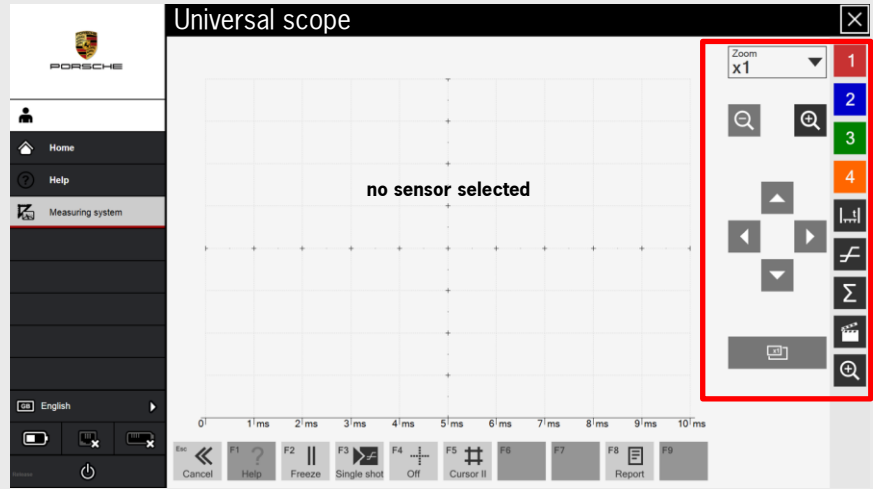
Zoom function

The Zoom button on the right-hand side is used to activate the zoom setting. The Zoom window opens.



Zoom button

9_55_16



Zoom functions

9_56_16

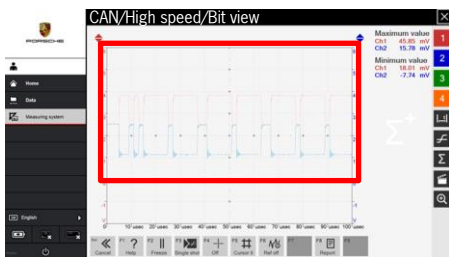
Show/hide reference curves

Reference curves can only be selected in the “Pre-programmed measuring programs” function and in the “Setups”. They can be activated using the “Ref on” button and deactivated using the “Ref off” button.



Reference button

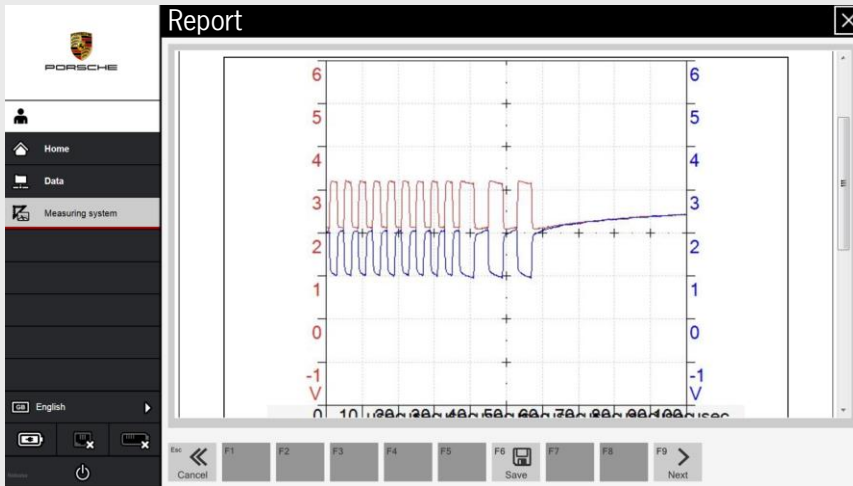
9_57_16



Reference curve

9_58_16

Result log

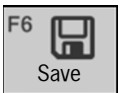


Log window

9_59_16

The “Save” function is used to store the PDF file in a predefined folder. The name of the log is made up of the measurement name, the measured values that were set and the time the log was created.

Example: CAN Comfort **Signal curve: 20150815_1415.pdf** if a regular measurement was performed on 15.08.2015 at 14:15.

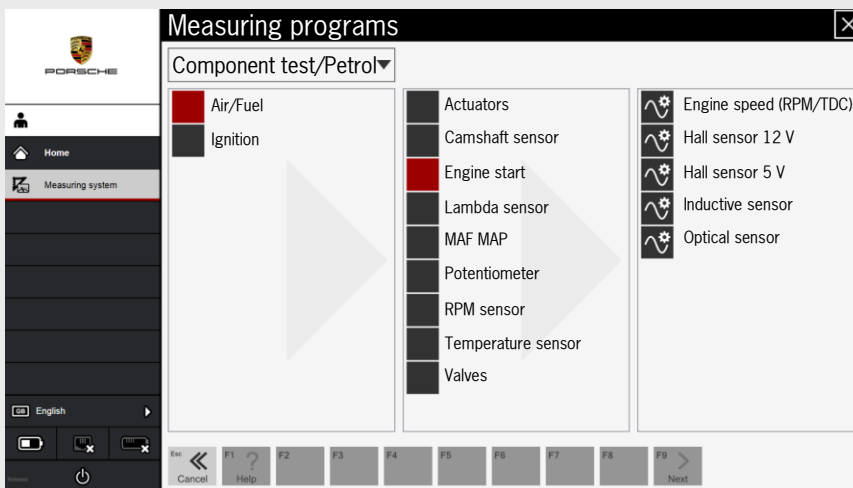


Save

9_60_16

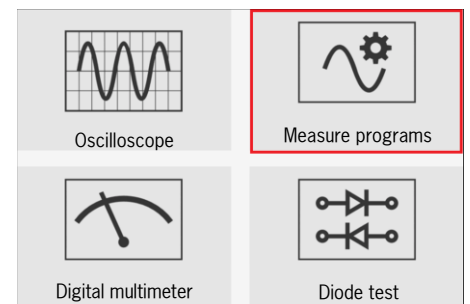
7.4 Pre-programmed measuring programs

In addition to the Oscilloscope, Diode test and Multimeter options, the “Measure programs” button is also available. This function contains approx. 100 different measuring programs. These pre-programmed measuring programs make it much easier to get the measurement result since the measuring unit no longer has to be set. Reference curves, for example, are also stored in the background and these can be displayed as required.



Examples of measuring programs

9_62_16

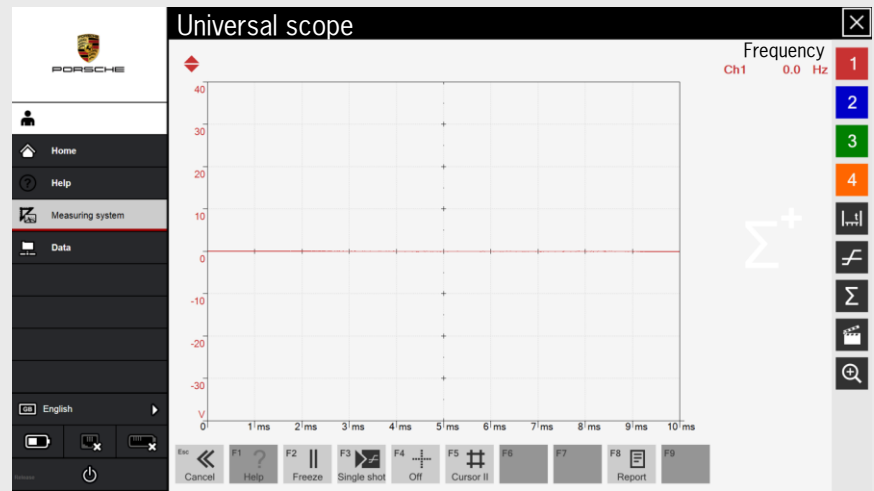


Measuring system start screen

9_61_16

7.4.1 Counter display/Frequency display

Shows the frequency, pulse/duty factor, engine speed period, and much more.

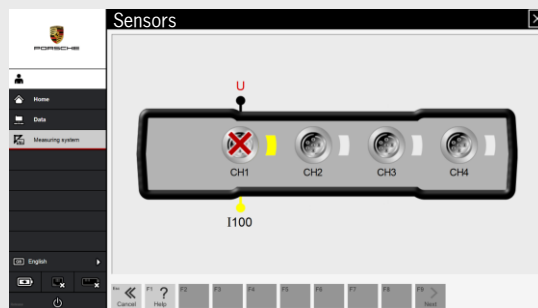


Frequency display

9_63_16

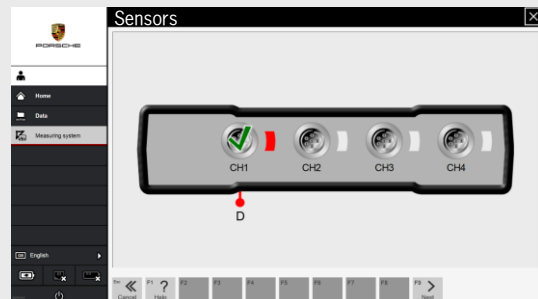
Automatic sensor detection

The PT3 with measuring system has automatic sensor detection at all sockets. If a preconfigured measurement was started or if a sensor was selected in manual mode, a message appears indicating which sensor must be connected where and which sensors are connected. When using the oscilloscope, the message disappears automatically as soon as the correct sensors are connected to the inputs. If all sensors are connected correctly, no message appears!



Sensor not detected

9_64_16

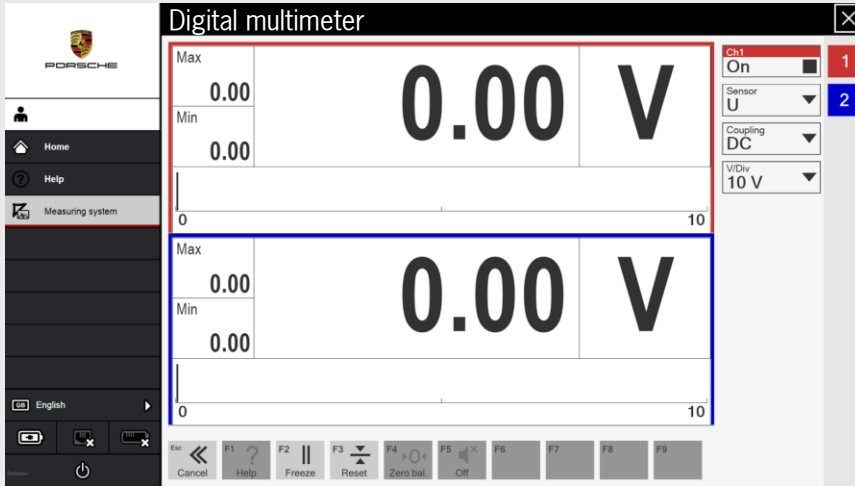


Sensor detected

9_65_16

7.5 Digital multimeter (DMM)

Voltage measurements can only be performed on channel 1 and 2, while resistance measurements and diode tests can only be performed on channel 1. Sensors can be connected to all HW channels. The corresponding sensor value (e.g. U for voltage) is shown.



Multimeter

9_67_16

Channel settings

Channel settings are configured in the right area of the screen.

Physical channel assignment

Sensor Select the relevant sensor

Coupling AC, DC or GND

Range

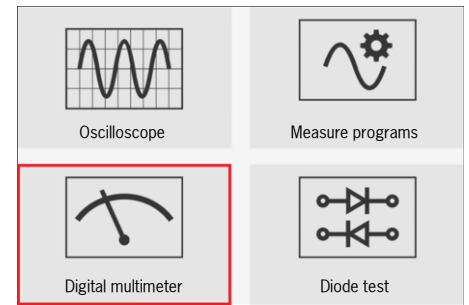
a) Manual setting

If the selected range is too small, "OVR" appears in the display (OVR = Overrange).

"Underrange" is displayed for negative values.

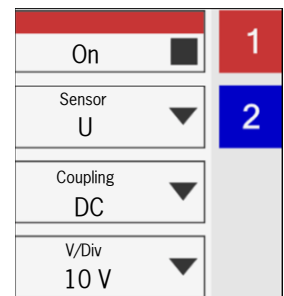
b) Autorange/Automatic range selection

When this function is activated, no further selection is required.



Measuring system start screen

9_66_16



Channel settings

9_68_16

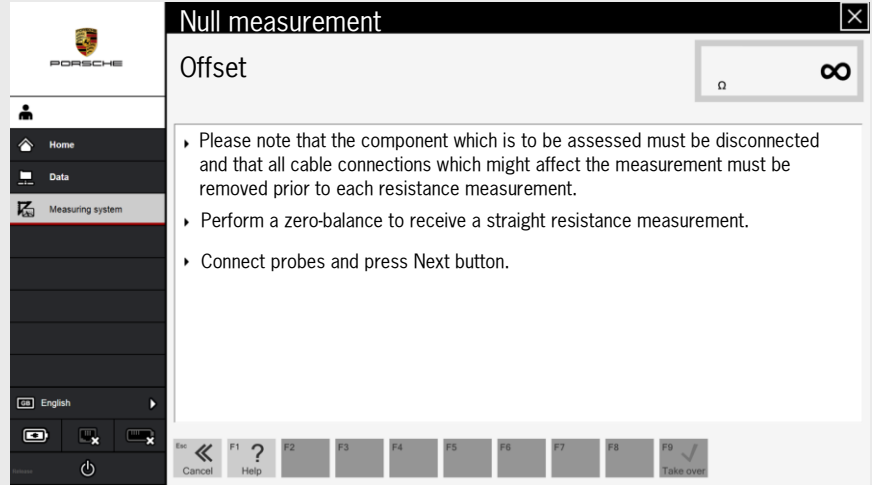


Takeover button

9_69_16

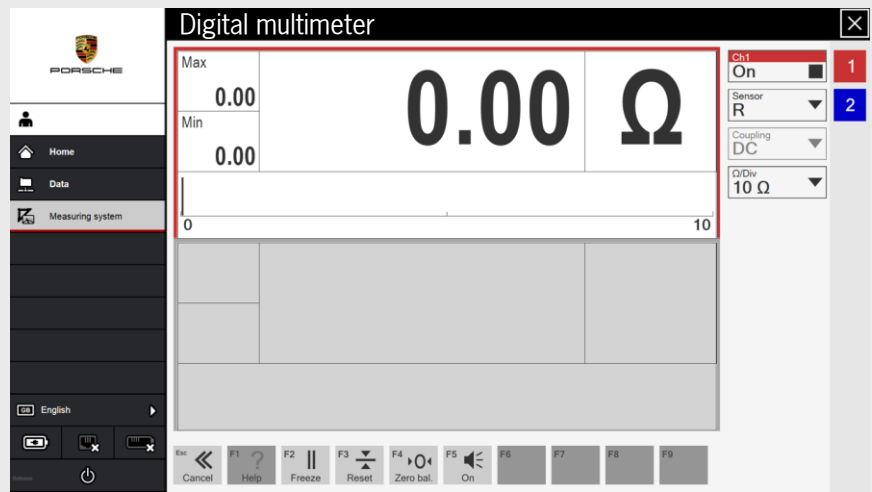
7.5.1 Resistance measurement

Resistance measurement is only performed using channel 1. Channels 2, 3 and 4 are not intended for measuring resistance. At the start of the resistance measurement, channel 1 must be connected and calibration must be performed at resistance values of $< 10 \Omega$. The probes must then be connected together before pressing the F9 “Takeover” button.



Display before calibration

9_70_16



Resistance measurement ready

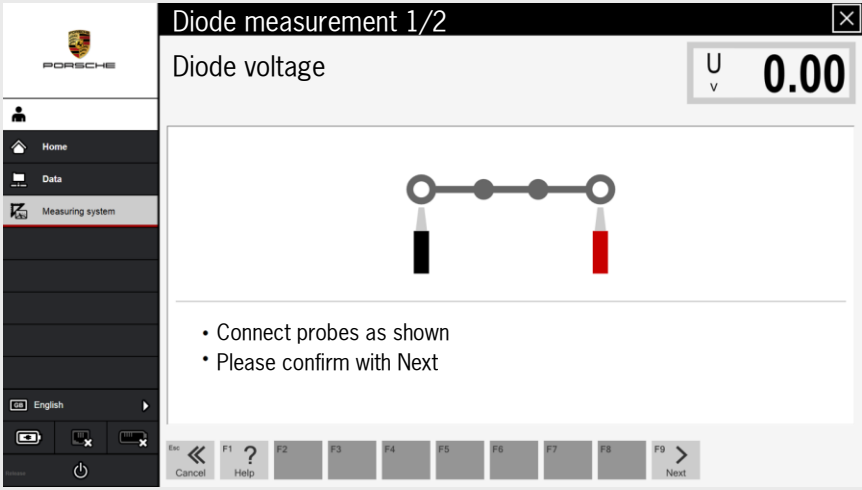
9_71_16



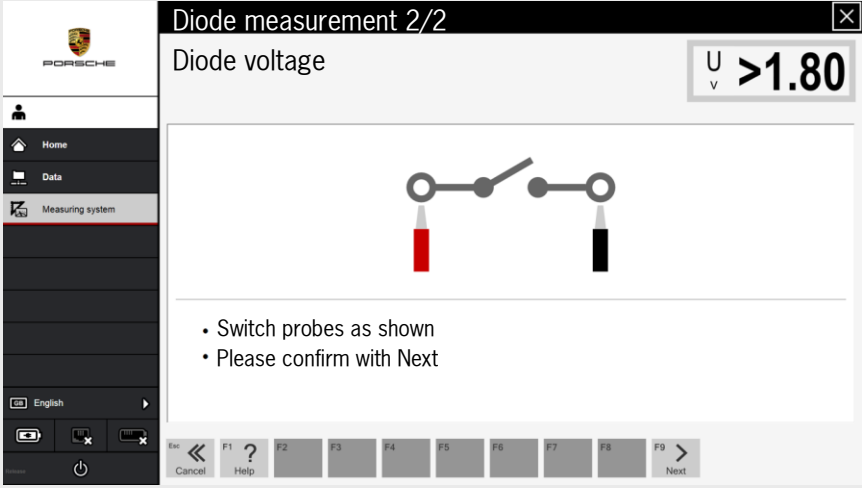
Live resistance measurements result in the automatic switch-off of the ohmmeter for safety reasons. The cause can be corrected and the measurement can be resumed by confirming the switch-off dialogue box.

7.6 Diode test

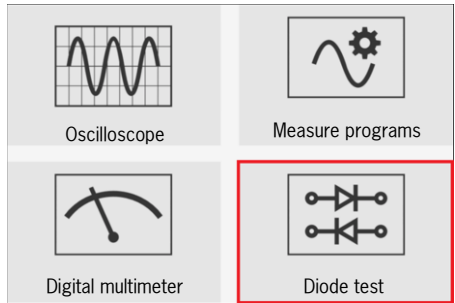
The Diode test is a separate program, which is opened from the Measuring system start screen. The diode test software detects the polarity between anode/cathode, the threshold voltage of the semiconductor and the functionality of the component.



Diode test for continuity 9_73_16



Diode test for open circuit 9_74_16



Measuring system start screen 9_72_16

PIWIS Tester III (PT3)



Care and maintenance of the test box:

Carry out a visual inspection of the test box at regular intervals. Examine all components for damage (e.g. cracks). Always replace the power supply cable if it is damaged. Never use an extension lead for the power supply. Before cleaning the test box, disconnect it from the power supply and remove all cables. Wipe the test box using a lint-free cloth. The cloth can be moistened with water or an alkali-free cleaning agent. But it must **not be wet!**

System information

The status of the PT3 measuring equipment is displayed. The result of the self-test can be saved to a USB stick or on the hard drive.

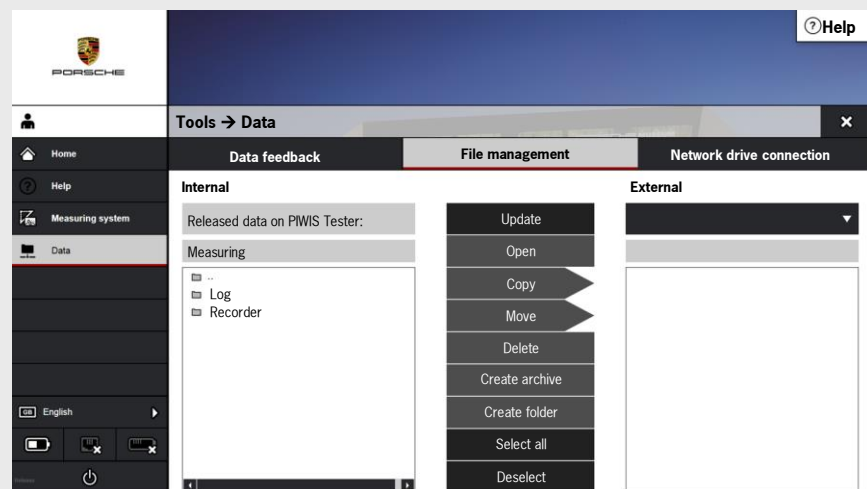
Version numbers	
Device status	Passed
Serial number	/4TZ0BT1/CN759001C90AM9/
Software version	2.4.781.0
Plugin	
Firmware version	0.19
Hardware version	0.0, 0.0
BIOS version	Default System BIOS
BIOS Firmware version	A13
BIOS serial number	4TZ0BT1
DSO SSN	013AB7D71600001D
DSO serial number	2
AUX serial number	0
IP configuration	172.18.25.252 (24:77:03:9E:50:C0) 192.168.254.1 (00:50:56:C0:00:01) 192.168.222.1 (00:50:56:C0:00:08) D0:67:F5:41:BA:CD (Intel(R) 82579L M Gigabit

System information

9_75_16

Saving measurement logs and test sequences

The files containing the saved measurement logs and test sequences are stored under Tools/File management/Files/Measuring system/Log or Recorder and can be copied to a USB stick, for example.



Data folder

9_76_16

7.6.1 Technical data

Parameter	Specifications
Measurement resolution	14-bit DSO operation 16-bit DMM operation with oversampling
Bandwidth	10 MHz (-3 dB)
Maximum sampling rate	40 Msps per channel, no multiplexing
Channels	4 independent channels
Electrical insulation	1.2 kV DC channel to channel, 800 V DC channel to housing. No common ground
Measurement input	Differential, 4 MΩ input impedance, 25 pF
Maximum quantisation error	0.15 mV
Maximum input voltage	250 V AC, ± 500 V DC (+20% overvoltage)
DSO scale factor in V/div.	2 mV, 5 mV, 10 mV, 20 mV, 50 mV, 100 mV, 200 mV, 500 mV, 1 V, 2 V, 5 V, 10 V, 20 V, 50 V, 100 V, 200 V
DSO scale factor in V/div.	5 mV, 10 mV, 20 mV, 50 mV, 100 mV, 200 mV, 500 mV, 1 V, 2 V, 5 V
DSO scale factor in time/div.	50 ns, 100 ns, 200 ns, 500 ns, 1 us, 2 us, 5 us, 10 us, 20 us, 50 us, 100 us, 200 us, 500 us, 1 ms, 2 ms, 5 ms, 10 ms, 20 ms, 50 ms, 100 ms, 200 ms, 500 ms, 1 s, 2 s, 5 s, 10 s, 20 s, 50 s, 1 min, 2 min, 5 min, 10 min, 20 min, 50 min, 1 h, 2 h, 5 h
Test box read-out period	1 s (display refresh rate)
Programmable hardware filter	Off, 450 kHz, 10 kHz, 1 kHz, 100 Hz
Coupling types	GND, AC, DC
Downsampling algorithm	Min/Max, Average, Standard, channel source 1, 2, 3, 4
Trigger	0.1 Hz to 100 kHz Channel source 1, 2, 3, 4

Counter function	0.1 Hz to 100 kHz, channel source 1, 2, 3, 4
Probe identification, channel	Resistance identification
Probe supply voltage, channel	<ul style="list-style-type: none"> +5 V/+12 V switchable -12 V Max. power 2.4 W current monitoring for device monitoring
Channel automatic offset zero-position	Integrated offset drift, compensation algorithm
Channel on-board diagnosis	Integrated high-precision voltage references for self-diagnosis of the device at connector level
Channel protection	ESD 8 kV overvoltage to 800 V DC continuous

Accuracy of the digital storage oscilloscope (DSO) and multimeter (DMM)

DC voltage range

	Range	Typical DSO range (from measured value)	Typical DMM range (from measured value)
DC range	±500 V	±1% ±2 V	±0.50% ±300 mV
	±200 V	±1% ±1 V	±0.50% ±150 mV
	±100 V	±1% ±500 mV	±0.50% ±75 mV
	±50 V	±1% ±250 mV	±0.50% ±40 mV
	±20 V	±1% ±125 mV	±0.50% ±15 mV
	±10 V	±1% ±75 mV	±0.50% ±10 mV
	±5 V	±1% ±40 mV	±0.50% ±5 mV
	±2 V	±1% ±20 mV	±0.50% ±2.5 mV
	±1 V	±1% ±10 mV	±0.50% ±2.5 mV
	±0.5 V	±1% ±10 mV	±0.50% ±2.5 mV

AC voltage range

	Range	Typical DSO range (from measured value)	Typical DMM range (from measured value)
AC range	500 V	±1% ±2.5 V	±2% ±300 mV
	250 V	±1% ±2 V	±2% ±150 mV
	100 V	±1% ±1 V	±2% ±80 mV
	50 V	±1% ±500 mV	±2% ±30 mV
	20 V	±1% ±220 mV	±2% ±25 mV
	10 V	±1% ±125 mV	±2% ±10 mV
	5 V	±1% ±75 mV	±2% ±6 mV
	2 V	±1% ±32 mV	±2% ±5 mV
	1 V	±1% ±20 mV	±2% ±5 mV

Ohmmeter and diode tester specification

Parameter	Specification
Resistance measurement	0.1 Ω to 15 MΩ constant current from 0.1μA to 20 mA Max. generated voltage = 3 V Continuous test (SW) R ≤ 15 Ω (short-circuited) R > 15 Ω (open)
Diode test	0 V to 2 V with constant current 1 mA 2 V to 3 V with < 1 mA
On-board diagnosis	Integrated
Protection	ESD 8 kV overvoltage from external source up to 50 V

Ohmmeter accuracy

	Range	Typical DSO range (from measured value)	Typical DMM range (from measured value)
Ohmmeter (channel 1)	0 – 75 Ω	±1% ±0.4 Ω	±1% ±0.4 Ω
	0 – 150 Ω	±0.4% ±1 Ω	±0.4% ±1 Ω
	0 – 1.5 kΩ	±0.4% ±8 Ω	±0.4% ±8 Ω
	0 – 15 kΩ	±0.4% ±50 Ω	±0.4% ±50 Ω
	0 – 150 kΩ	±0.4% ±1 kΩ	±0.4% ±1 kΩ
	0 – 1.5 MΩ	±1.0% ±10 kΩ	±1.0% ±10 kΩ
	0 – 15 MΩ	±2.0% ±40 kΩ	±2.0% ±40 kΩ

SPI channel specification

Parameter	Specification
Transfer format	SPI, 4 bidirectional wire connection
SPI clock speed	1 MHz max.
Probe identification	Resistance identification
Connection type	12-pin robust connector, shielded push/pull
Power supply	5 V, max. 200 mA

Power supply

Parameter	Specification
Input voltage	8 - 19 V DC nominal
Max. power consumption	30 W max.
Power supply sources	External AC/DC adapter, 100 V - 240 V AC, 50/60 Hz 19 V DC, 3.95 A max.

Physical and environmental properties

Parameter	Specification
Dimensions	3,200 x 65 x 2,800
Housing	Rubber-coated magnesium housing without fan
Weight	1 kg
Operating temperature range	0 °C to +50 °C
Humidity	30% to 95%
Operating height	max. 3,048 m above sea level.
Storage temperature	-20 °C to +60 °C

Probes and adapter

Parameter	Specification	
Univ. voltage probe (optional)	Test voltage	1 KV
	Connection	4-mm banana connector
AC/DC 100 A clamp-on ammeter	Current range	100 A DC or AC peak
	Overload capacity	500 A DC (1 min)
	Resolution	±1 mA
AC/DC 1,800 A clamp-on ammeter	Current range	1,800 A
	Overload capacity	2,000 A (< 10 ms)
	Resolution	±100 mA

AC/DC 100 A clamp-on ammeter specification

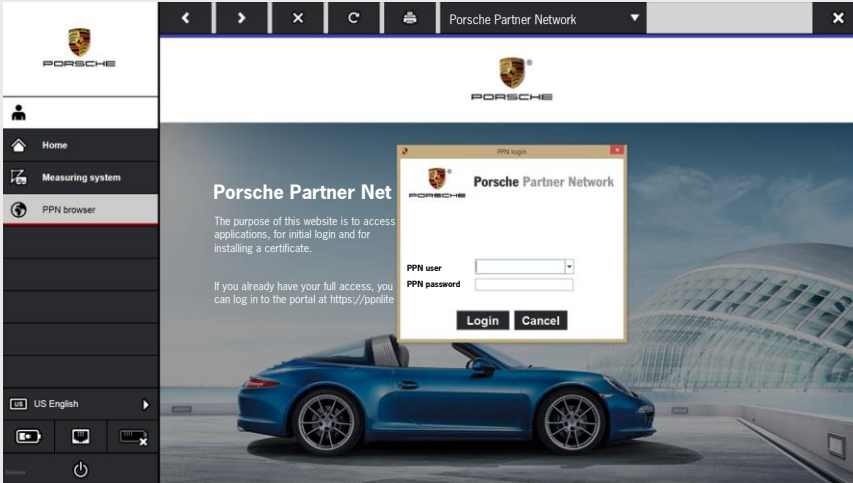
Parameter	Specification
Current range	100 A
Overload capacity without damage	500 A (for 1 minute)
Output sensitivity	50 mV/A (relative to 0 V)
Accuracy (@ +23 °C, I < 10 A)	±1% of measured value ±2 mA
Accuracy (@ +23 °C, I > 10 A)	±1% of measured value
Resolution	± 1 mA
Error due to earth's magnetic field	±0.5 mV (±10 mA) max.
Position sensitivity of the conductor (6-mm diameter conductor)	±0.2% of measured value (relative to centre point measurement)
Load impedance	> 10 kW and ≤ 100 pF
Frequency range	DC up to 20 kHz (- 0.5 dB)
Phase error (I > 10 A @ 20 kHz)	< 3° (15 Hz to 20 kHz)
Temperature coefficient	± 0.02% of measured value/°C
Remanence (0 A → 100 A → 0 A)	12 mA max.
RMS noise @ 100 Hz filter	< 4 mA
Power consumption	35 mA + 1 mA/A measured (160 mA max.)
Relative zero point correction	Automatic degauss function for 3 seconds after switch-on (triggered by terminal)
Operating temperature range	0 to +60 °C
Storage temperature range	-20 to +85 °C
Operating humidity	15% to 85% (non-condensing)

AC/DC 1,800 A clamp-on ammeter specification

Parameter	Specification
Current range	1,800 AC
Overload capacity	2,000 A
Overload capacity without damage	3,000 A < 10 ms
Output sensitivity	2,778 mV/A (relative to 0 V)
DC accuracy (0 – 1,000 A)	±0.8% of measured value ±0.5 A
DC accuracy (1,000 – 1,500 A)	±1.8% of measured value ±0.5 A
Total accuracy (1,500 – 1,800 A)	±5.0% of measured value
Position sensitivity of conductor (0 – 1,000 A)	±1.7% of measured value
Zero point shift (at +25 °C)	±10 mV max.
Zero point drift (0 °C to +50 °C)	±100 mA/°C
Load impedance	> 10 kW
External field suppression ratio (at 1,800 A DC)	50:1
Temperature coefficient	±0.1% of measured value/°C
Remanence (IP ± 1,800 A → 0 A)	600 mA max., 250 mA typical
Power consumption	25 mA
Operating voltage (see section 7.3.1 "Power supply")	300 V AC RMS or DC
Maximum cable size	32-mm diameter
Relative zero point correction	External zero point correction
Operating temperature range	-10 to +55 °C

7.7 PPN browser

The “PPN browser” button allows users to access the Porsche AG Porsche Partner Network after entering the PPN user name and password once. Various single sign-on applications, e.g. PIWIS information system, Porsche Academy, PiRS, PPN Portal 2.0, PRMS, etc. can be opened and used, depending on the user’s access rights. The PPN certificate is valid for 2 years as before.



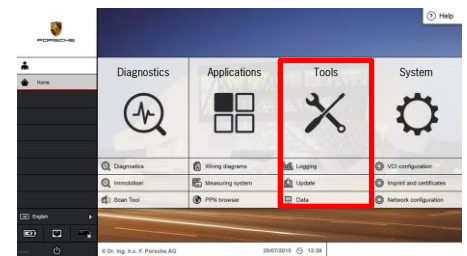
PPN login window

9_77_16

8 Functions of the “Tools” bar

The “Tools” bar contains the following options

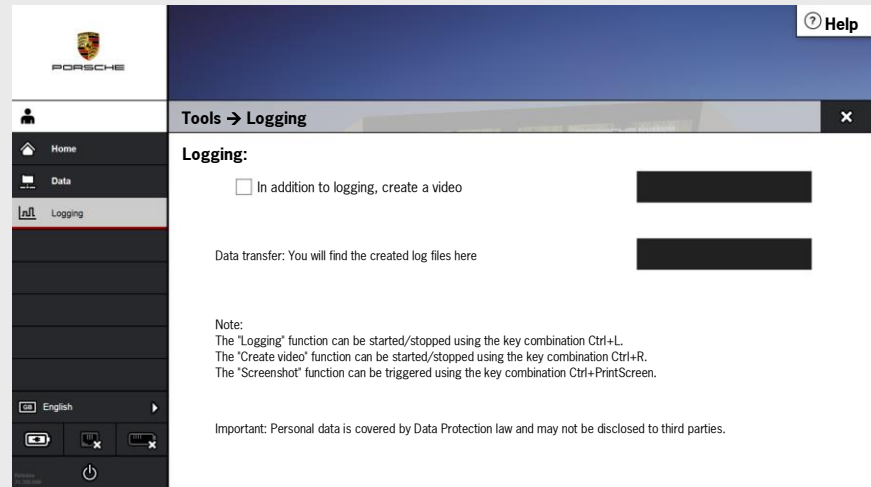
- Logging
- Update
- Data administration



9_78_16

8.1 Logging

The “Logging” option allows direct entry into the logging function, which can be started by selecting “Start log”. The button changes from “Start log” to “End log” during logging. The “Log files to transfer” field is activated.



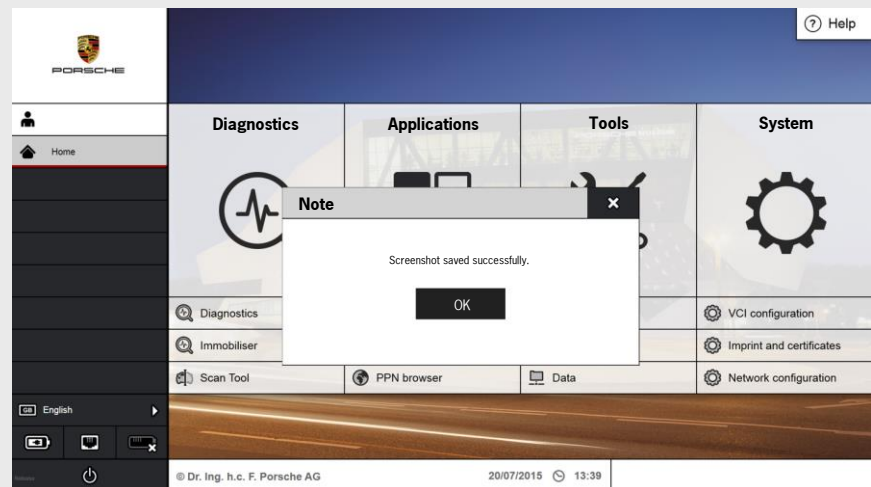
9_79_16

8.1.1 Creating screenshots

Screenshots are created in the same way as before using the “Ctrl” + “PrtSC” buttons. The message “Screenshot saved successfully, OK” appears in the centre of the screen.



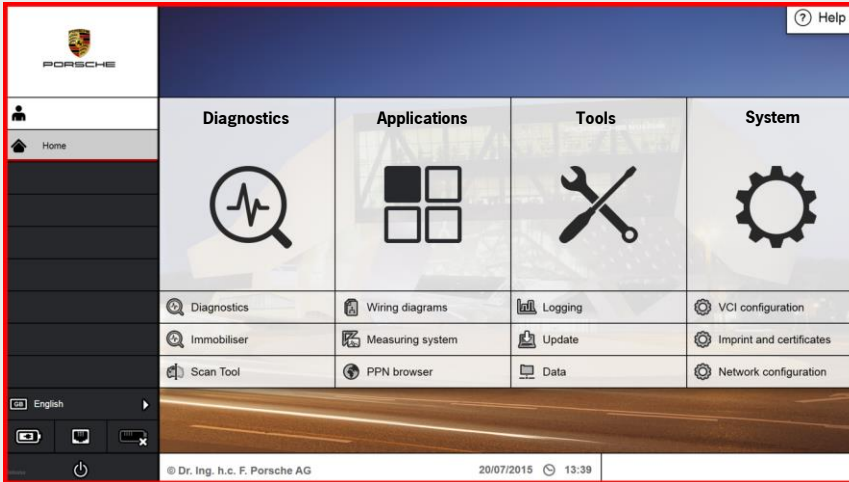
It is still not possible to transfer files from a network drive or USB stick to the tester!



9_80_16

8.1.2 Creating video files

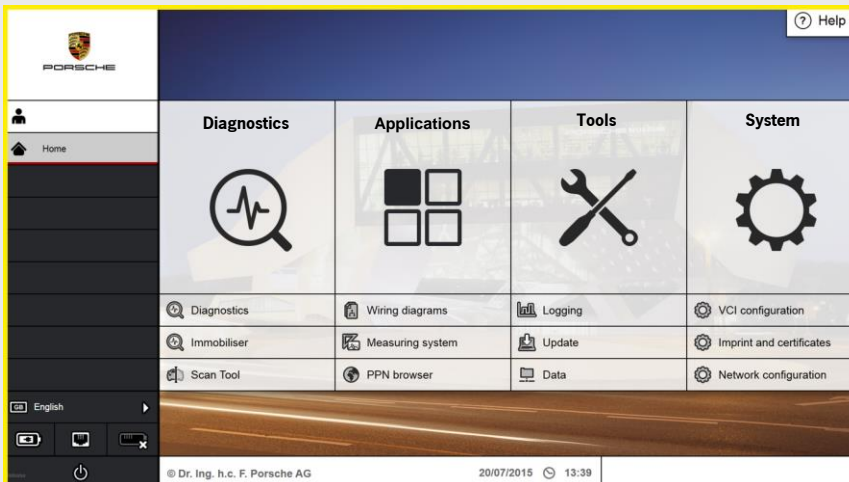
Videos can be started and ended again in the same way as before using “Ctrl” + “R”.
A red box appears around the screen during video recording.



9_81_16

8.1.3 Creating log files

The function for creating log files can be started and ended again using “Ctrl” + “L”.
A yellow box appears around the screen while log files are being created.



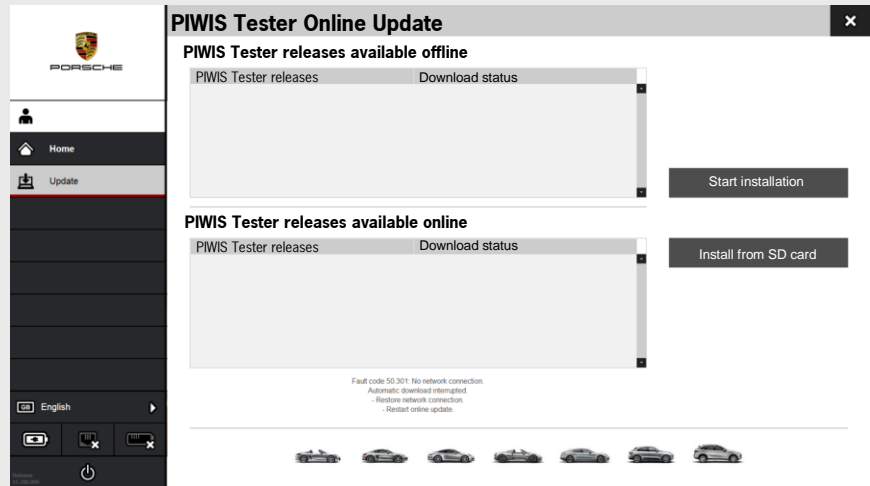
9_82_16

PIWIS Tester III (PT3)



It is not possible to install an older release using the SD card update process if a more recent release is already installed on the PT3. If a full update was performed, a new software version (firmware) will only be transferred to the VCI the first time diagnosis is started on the vehicle.

8.2 Update



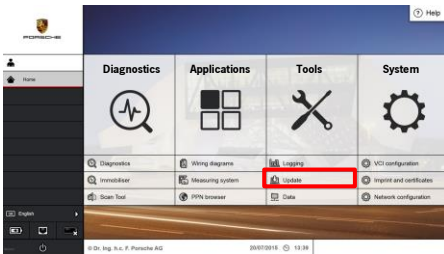
9_83_16

8.2.1 Online update

The online update contains delta versions of the relevant applications on the tester. The update process runs in the background until all online update releases have been installed. A LAN connection or a stable WLAN connection is required for this. An update is performed by selecting the “Tools”/“Updates” menu.

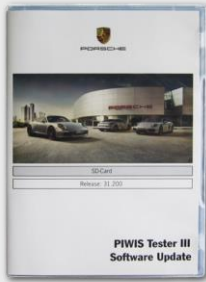
8.2.2 SD card update

To perform a full update, the relevant SD card must be inserted into the right-hand side of the tester and the update must then be confirmed. Full updates are only distributed on an SD card, which replaces the previous DVDs. The full updates in the form of an SD card are sent quarterly and the costs incurred are covered by the licence agreement.



9_84_16

All diagnostic applications are installed when an SD card update is performed. The features included in the diagnostic applications are displayed prior to installation.



9_85_16

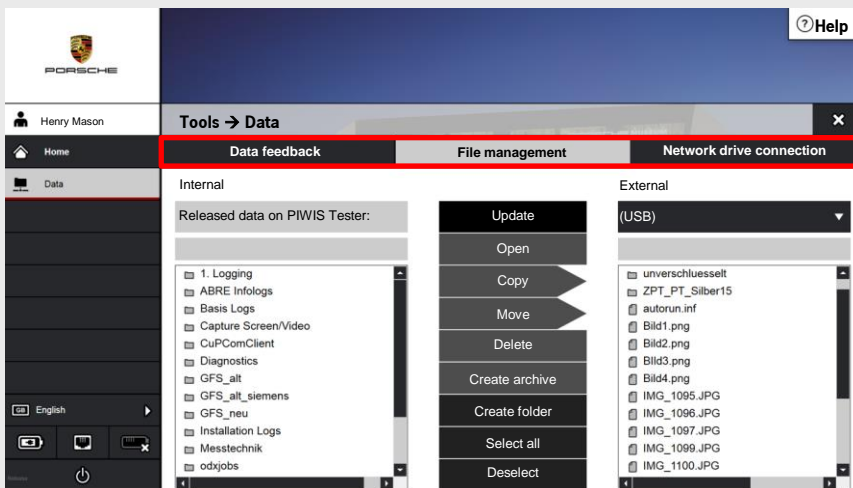


9_86_16

8.3 Data administration

Data administration is divided into the following 3 topics

- File management
- Data feedback
- Network connection

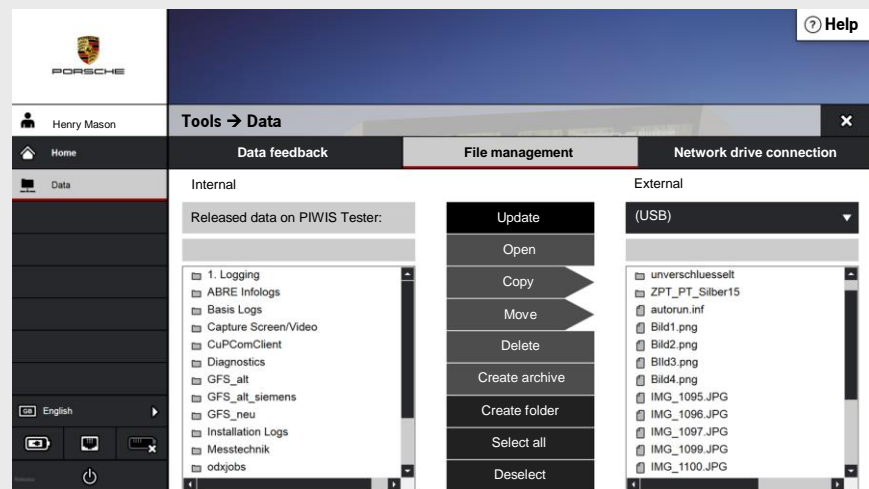


9_87_16

8.3.1 File management

The saved screenshot and video files can be found in the “Capture Screen/Video” folders under “Tools”/“Data”/“File management” and the log files can be found under “1. Logging”. These files can be copied and moved to a USB stick or an external hard drive in the same way as before. The destination folders also contain files for

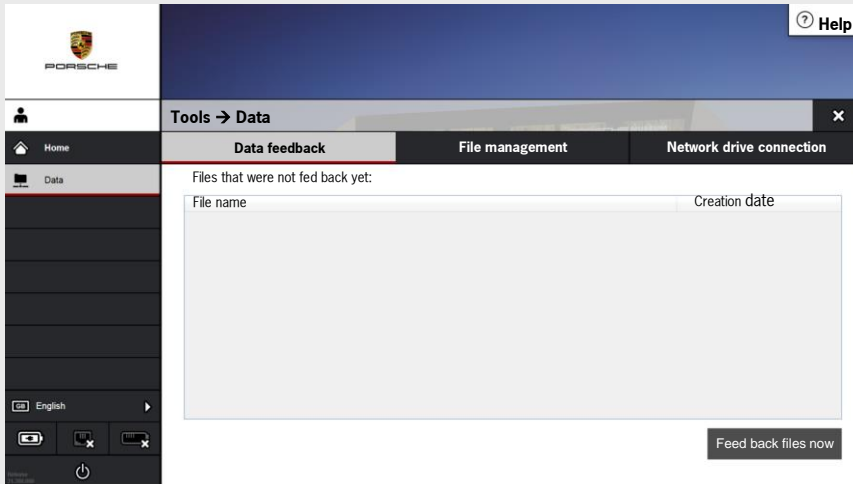
- Loggings
- Screens/videos
- Measuring system logs (data logger/measured value logs)
- PIDT logs
- Guided Fault Finding
- PDF prints
- Installation logs
- SGA files



9_88_16

8.3.2 Data feedback

Vehicle analysis log (VAL) files can be returned using the “Data feedback” function. The file name is displayed on the left side, while the file creation date is shown on the right.



9_89_16

If an order was created in the Porsche Partner Network (PPN) and data transfer was started, the vehicle analysis log (VAL) is allocated to the vehicle order with the corresponding chassis number. The VAL then appears in the vehicle order under “Job management”. A job with a VAL is indicated by “P” or the paper clip symbol. The VAL files are transferred in compressed form and can be opened in several languages.

Vehicle analysis log

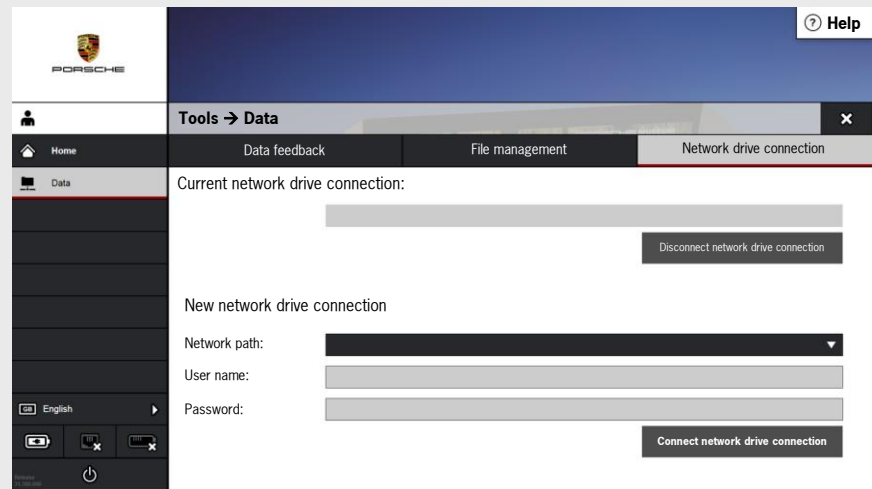
Vehicle data		Tester	
Date created:	11.07.2015 13:51:42	Dealer number:	1160010
Vehicle identification number:	WVGZZ2962C9347026	Tester ID:	1083.840924
Model line:	911 (997)	Tester version:	14.1.8
Order type:		PT3D version:	15.410.000
Mileage:	51286 km	Model line PDX:	3.3
Operating hours counter:	864.2543611111123	VCI:	HSX Interface
Transmission:		PCU API version:	n.a.
Engine type:		Operating system:	Windows XP
Country:		JAVA:	1.6.0_21
Language:	English	User mode:	V
Vehicle electrical system voltage:	13.72 V		

Overview table							
Control unit	Part number	Serial number	DIN	Software	Hardware	Fault codes	
1st condition	9976121104	00 00 01 DB RL	01 03	01 72	01 15		0015
PCSC module external	9976122189		01 00	0211712			
Convertible top	9976111103	00 00 00 83 71	01 02	00 17	00 0D		C102
Convertible hardware	9976121202	00 00 01 1C 89	01 01	00 00	00 00		
DOE DOE	9976106705	07021010111	01 02	01 10	01 01		0014, 0017
DRIVER'S DOOR	9976118106	10 01 13 E6	01 01	11 00	00 03		C174, 8008
FRONT	9976118101	00 00 02 0D 3F	01 02	00 00	01 01		
HATCHBACK	9976107004	21 21 21 00 0B	01 02	00 06	01 01		0003
Instrument cluster	9976113005	4841	01 00	21 00	01 00		028
PAK ASSISTANT	9976118101	00 00 00 02 41	01 03	01 00	01 00		000
PAS	9976117117	00 00 02 AC 28	01 04	00 49	01 01		0004
PASS	9976114501	41 11 04 27 81	02 00	00 40	01 02		C174, 8008
PASSENGER'S DOOR	9976118106	10 01 13 E6	01 01	11 00	00 03		
PCM	9976117013	BE6674C513462	05 00	0111375A	020D0910		
PCSC	9976127060	00000012	01 00	01 02	01 01		C1810, U0401
PCSC	9976121909	00 00 41 49	01 04	00 00	01 00		
PCM	9976113939	02 12 3A 20 47	04 01	00 40	020950002		
PCM	9976119113	11 00 00 10 72 45	01 01	00 00	01 01		
REAR	9976126008	00 00	01 00	00 04	00 08		
SEAT MEMORY	9976105707	00 01 00 22 85	01 00		02 40		
STEERING LOCK SWITCH	9976104511	10 28 11 11 00	01 01	00 42	00 06		
STOPWATCH	9976110126	176100	01 02	00395A00	05 01		

9_90_16

8.3.3 Network drive connection

The network drive connection status is displayed on the right tab.

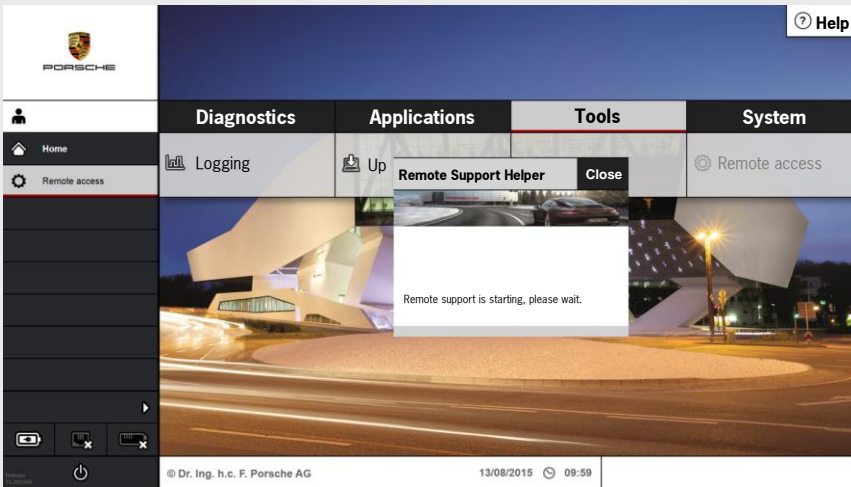


9_91_16

8.4 Remote access (Remote Support)

The “Remote access” function is available as before under “Tools” on the PT3. The “Remote access” (Remote Support) function allows the importer/dealer support team, in particular, to access a PT3 and operate the tester remotely from another location. In order to do this, both parties - the importer’s PC (used to provide support) and the dealer’s PT3 (used to get support) - must be connected to an active Internet connection (LAN/WLAN). Pressing the “Remote access” application button on the PT3 used to get support starts a “Support Helper” there and generates an ID (Your ID) and a password. The ID and password are provided to the support team over the phone and the connection can be established as soon as these are entered.

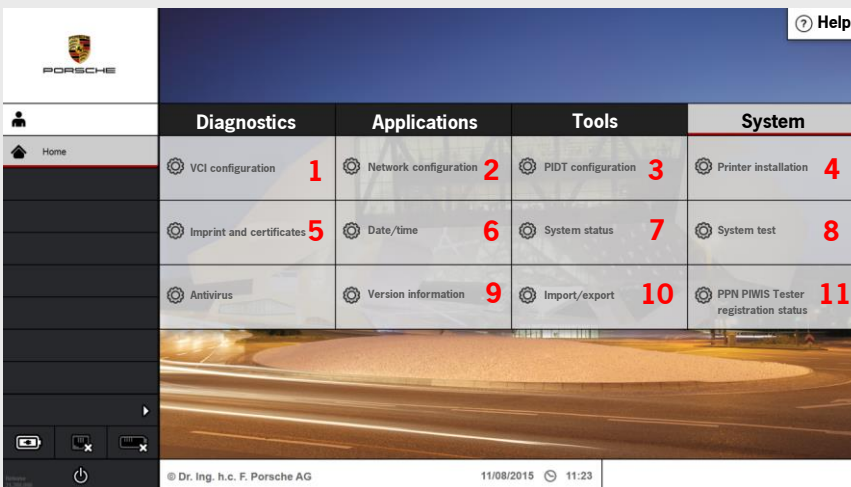
Remote Support is basically used to provide support for the dealer organisation and thus ensures effective market support for dealing with complicated technical issues. However, Remote Support is always provided on the instruction of the importer.



9_92_16

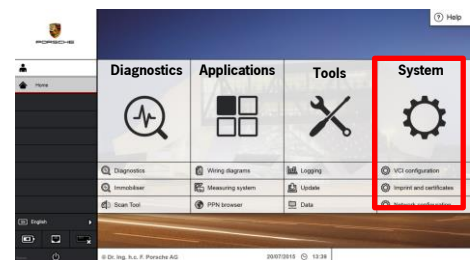
9 Functions of the “System” bar

Pressing the “System” application button opens the following screen containing further sub-functions



9_94_16

- | | |
|----------------------------|---|
| 1 VCI configuration | 7 System status |
| 2 Network configuration | 8 System test |
| 3 PIDT configuration | 9 Version information |
| 4 Printer installation | 10 Import/export |
| 5 Imprint and certificates | 11 PPN PIWIS Tester registration status |
| 6 Date and time | |



9_93_16

PIWIS Tester III (PT3)



9_95_16



9_96_16

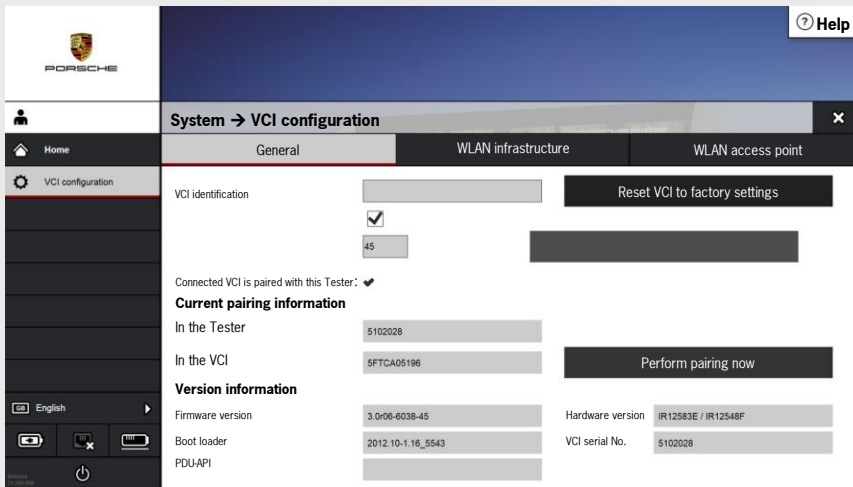
9.1 VCI configuration

The VCI (Vehicle Communication Interface) hardware is now a compact, slim component. The diagnostic connector is connected permanently to the electronics. There is no longer a lead between the connector and hardware. The connection parameters to the VCI can be set via the configuration software. The VCI is always connected to the vehicle during a diagnostic session (even if the tester is connected via WLAN). The VCI itself always needs an external power supply (either the vehicle or VCI docking station) because it does not have its own battery. At the very beginning, the PT3 and VCI must be configured together (pairing). This involves writing the serial number of the VCI into the tester and writing the serial number of the tester into the VCI. One PT3 can only be paired with one VCI.

9.1.1 Pairing

To perform pairing correctly, the PT3 and VCI must be connected using the Y-shaped USB cable supplied in the white case. Then open the “General” tab under “VCI configuration”. After a waiting time of 90 – 120 seconds with the devices connected, the “Perform pairing now” button on the tester interface turns black and can be activated. When “pairing” is finished, the serial numbers of the VCI and PT3 are exchanged and stored. To confirm the “pairing”, a green confirmation tick appears on the PT3 screen and the LEDs on the VCI turn green and light up continuously. The warning buzzer in the VCI comes on automatically and is preset to a time of 45 minutes. The warning buzzer and activation time can be changed or deactivated.

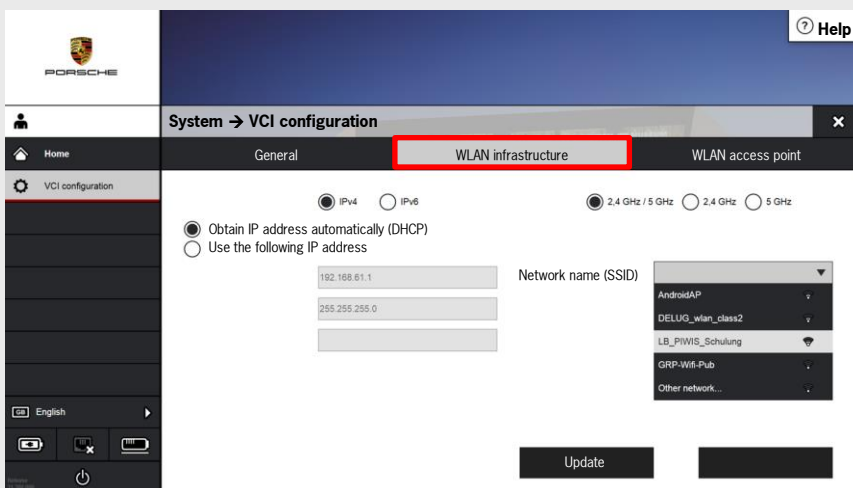
The warning buzzer in the VCI activates an acoustic signal as soon as the activation time that was set has expired and no communication takes place between the PT3 and VCI. This can be useful if a VCI was inadvertently left in the diagnostic socket on the vehicle. The warning buzzer can only be triggered when the VCI is inserted in the diagnostic socket.



9_97_16

9.1.2 WLAN infrastructure

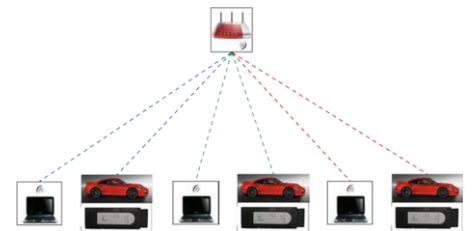
The “WLAN infrastructure” function under System/VCI configuration opens and can be used to configure the WLAN connection over the in-house network. Also here, the PT3 must be connected to the VCI docking station (VCI inserted in the VCI docking station) using the Y-shaped USB cable. After selecting the network name (SSID) and entering the network security key, the WLAN connection to the home network is established by pressing the “Adopt in VCI” button.



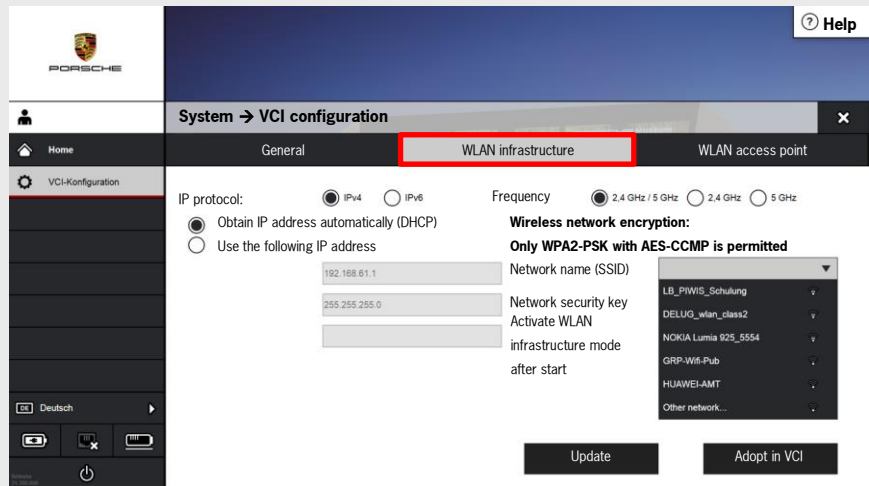
9_99_16



Porsche recommends that you set the VCI warning buzzer to 5 minutes on the PT3. Longer time settings could mean that a triggered signal could go unnoticed and drain the vehicle battery or the vehicle (with VCI connected) could be handed over to the customer.



9_98_16



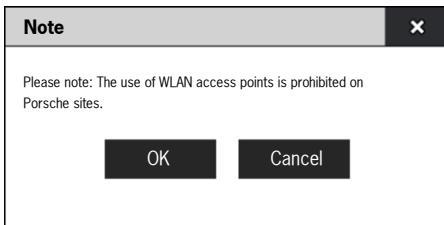
9_100_16

9.1.3 WLAN access point

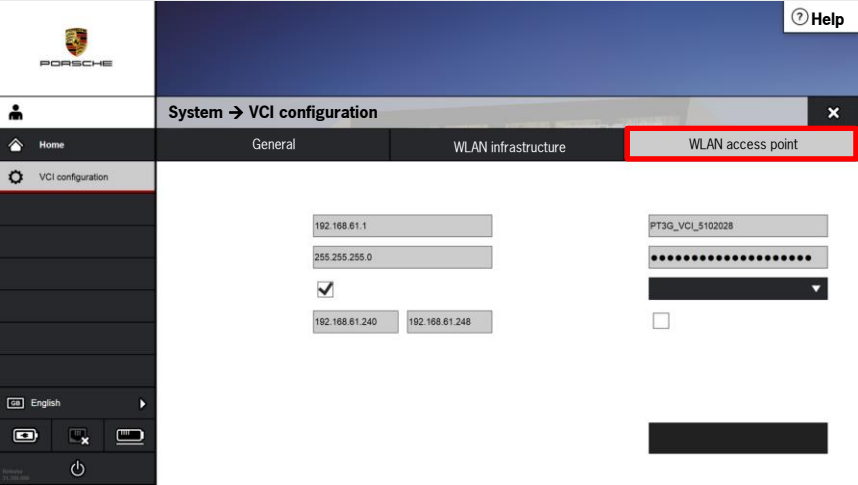
In addition to the WLAN infrastructure, a further WLAN connection can be preset between the PT3 and the VCI. This WLAN connection is called “WLAN access point”. Communication then takes place not over the WLAN home network, but directly between the PT3 and the VCI. The function can be activated by selecting “System/WLAN configuration/WLAN access point”. When the “Adopt in VCI” button is confirmed, a warning appears in the centre of the screen

“Please note that the use of WLAN access points is prohibited on Porsche sites!”

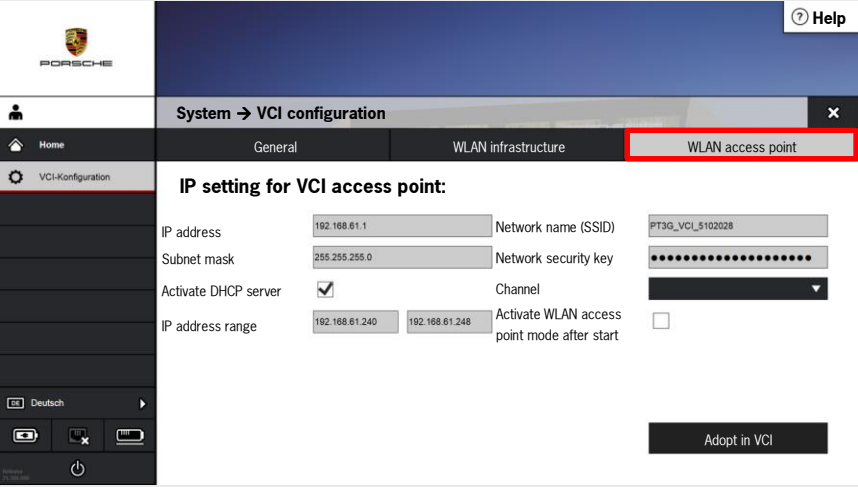
The reason for this is to prevent “external attacks” on the Porsche network structure. The ‘WLAN access point’ connection can be used outside of Porsche sites. For example, for reading out actual values during a test drive.



9_101_16



9_103_16



9_104_16

9.1.4 Overview of VCI LED codes

Designation	Status	Function
Power LED green	Off	No power supply
	On	VCI is switched on
	Flashing	Malfunction
Conn LED blue	Off	No network connection
	On	Connected to the network
	Flashing (1 Hz)	Connection test, WLAN scan, connecting to the network
	Flashing freely	Communication with the PIWIS Tester
Mode LED orange	Off	WLAN access point mode activated
	On	WLAN infrastructure mode activated
Info LED red	Off	DoIP deactivated
	On	DoIP activated
	Flashing (1 Hz)	DoIP activated. Waiting for "DoIP possible"

9.2 Network configuration

PIWIS Tester III can go online via LAN (cable connection) or WLAN (wireless connection). The “Network configuration” option must be called up for this. The necessary settings are then made and saved. It is recommended to either get the data relating to the configuration from the PC Support team/IT manager or better to have PC Support configure the network connection directly. The required network cards for both LAN and WLAN are already integrated in PT3 as hardware. LAN always has priority when PT3 is connected to the network via LAN (cable).



The PT3 is intended for wireless operation with WLAN. A WLAN access point that supports WPA2 encryption must be available for this. For security reasons, WPA2 is the only encryption method used. Once this condition is met, the interface with the vehicle (VCI) can also be supported wirelessly on the vehicle.

System → Network configuration

Active network adapter: LAN

Network connection
 IP address: 169.254.112.24
 DNS name: 192.168.2.1
 Subnet mask: 255.255.0.0
 Default gateway:

LAN connection status
 PPN connection status
 IPv4

Proxy settings
 Name:
 IP address:
 Port:

Standard gateway/PPN ping

Update

Status display 9_105_16

System → Network configuration

Select connection: LAN

Obtain IP address automatically (DHCP)
 Use the following IP address

IP address: 169.254.112.24
 Subnet mask: 255.255.0.0
 Default gateway:

Obtain DNS server address automatically
 Use the following DNS server address

Preferred DNS server: 192.168.2.1
 Alternate DNS server:

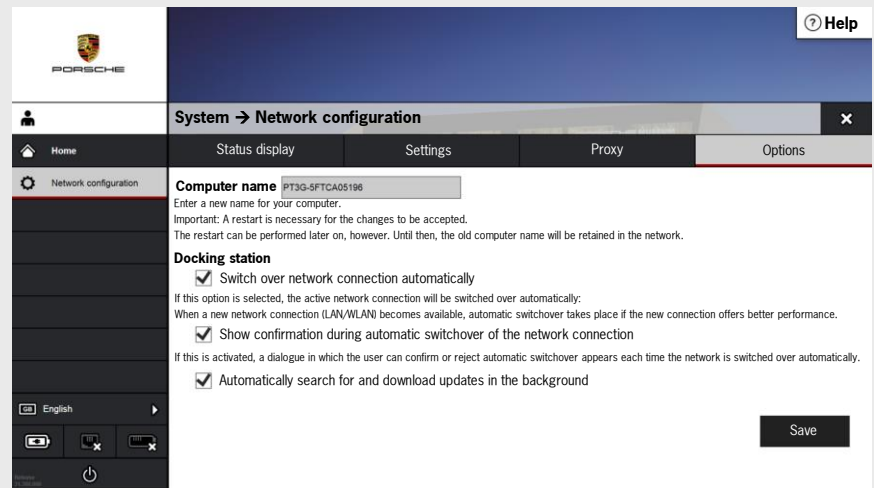
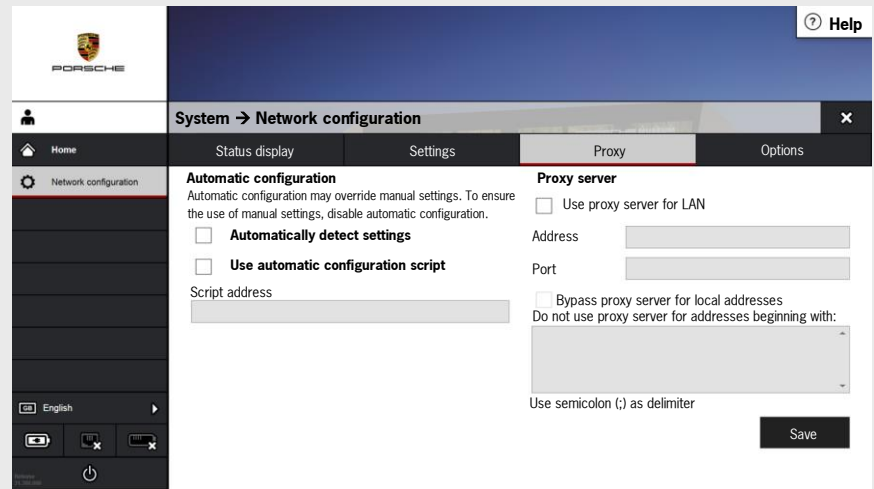
IPv4 IPv6

WINS
 Preferred WINS server:
 Alternate WINS server:

Update Save

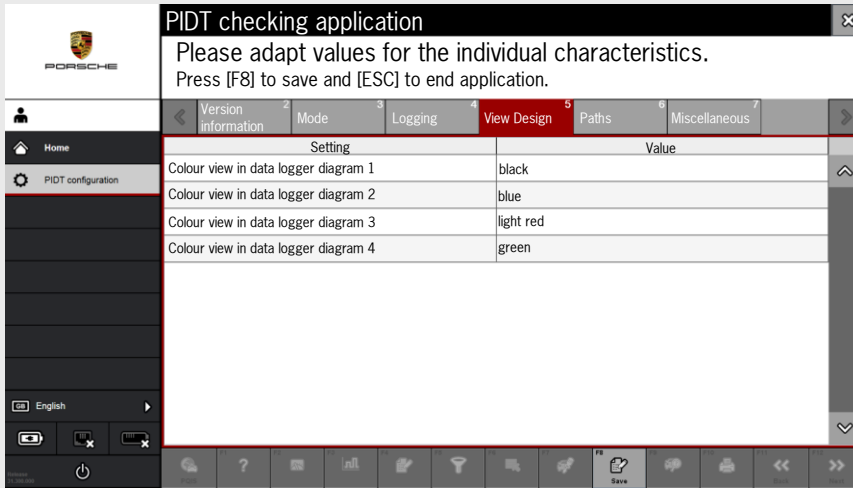
9_106_16

For making changes to the proxy setting, address and port, a manual or automatic preselection can be set using “Proxy” settings. This proxy data can be saved here. In addition, the “Options” field can be used to customise the settings, e.g. switch over the network connection automatically and prevent automatic download for online updates for 1 day.



9.3 PIDT configuration (diagnostic software settings)

Diagnostic software settings can be changed and information can be called up under PIDT configuration. Basically, it is possible to switch between display mode, standard mode, simulation mode and the display of units. In addition, various colour view options for the data logger can be selected.

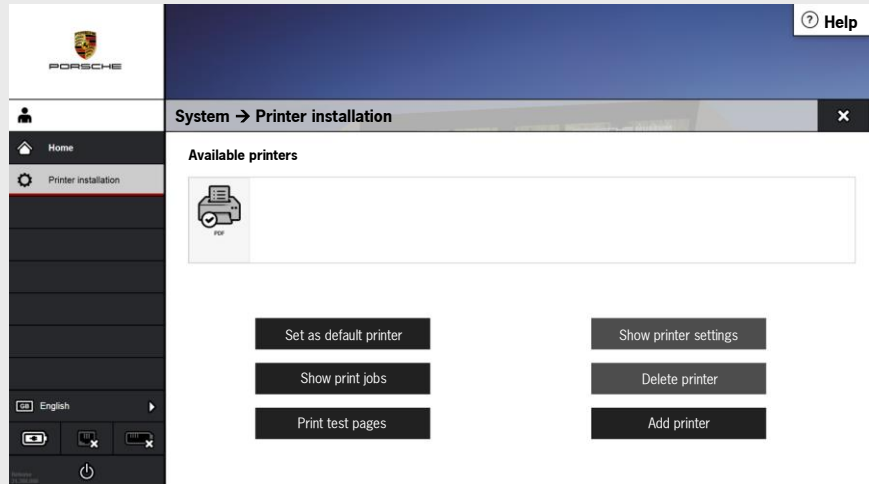


9_109_16

9.4 Printer configuration

The settings for the printers installed on the tester are configured in an application. After selecting a printer here, it is possible to

- set this printer as the default printer
- print a test page
- display its print jobs
- display its settings
- delete this printer
- add a printer



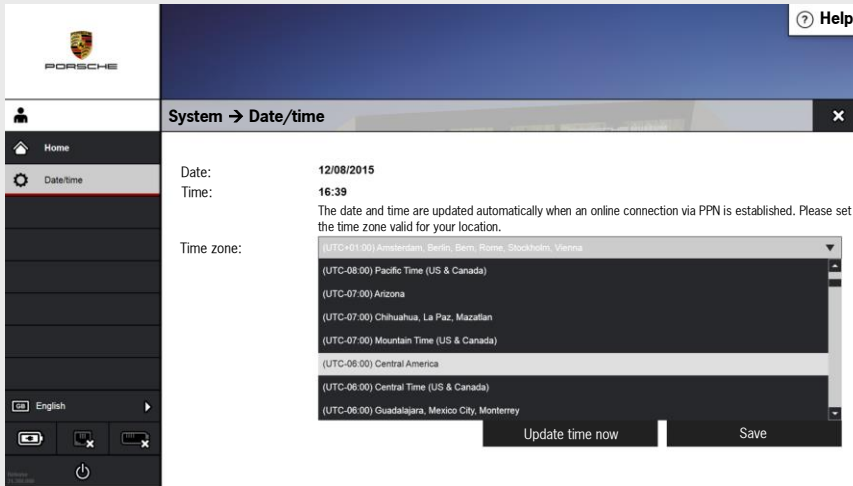
9_110_16

9.5 Imprint and certificates

The topics Tester imprint and Certificate handling are described in chapter 4 “Getting Started/First Steps”.

9.6 Date and time

The date and time are set and updated automatically when the tester is connected online. Only the time zone for the current location of the tester must be selected. It is also possible to customise summer/winter time conversion and the relevant notification.

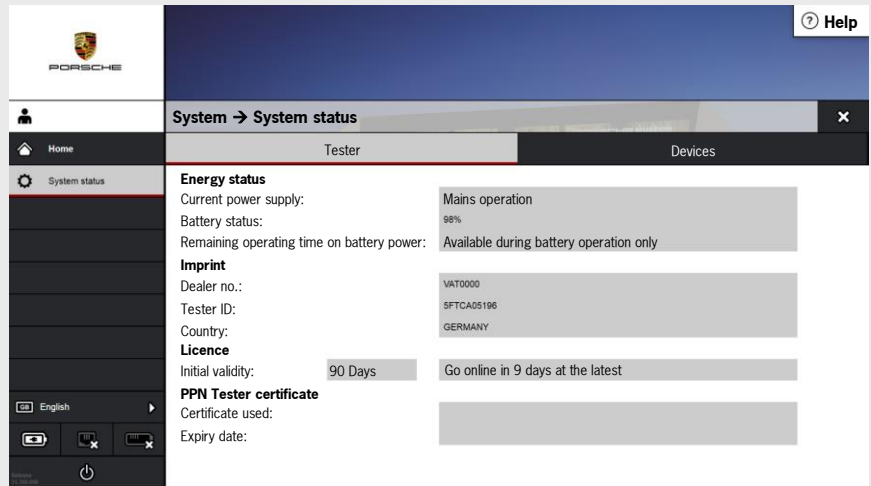


9_111_16

9.7 System status

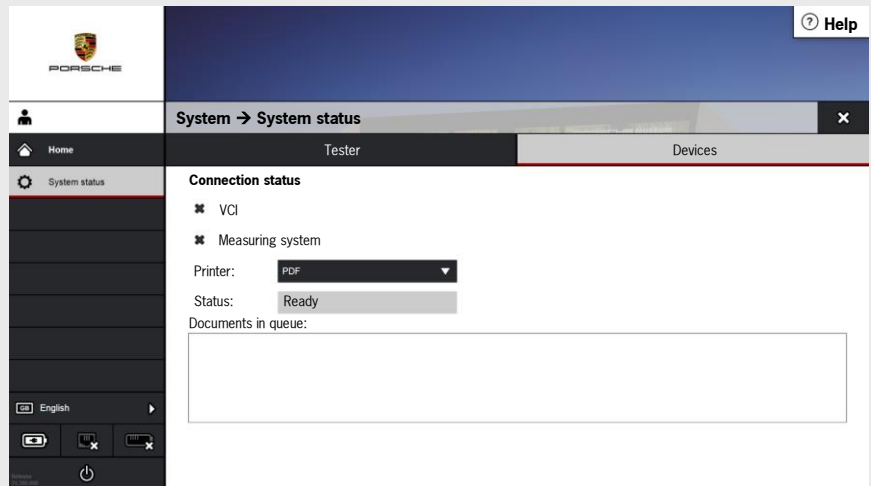
All the important system data is summarised here. This means that all the important information can be viewed from one application. The system data in the tester is divided into two tabs "Tester" and "Devices" in order to guarantee the clarity of the displayed information. The data that is relevant for the tester, such as energy status, imprint, licence and PPN tester certificate, is summarised on the "Tester" tab. The relevant data, such as LAN/WLAN connection status, the connection status of the devices connected to the tester, e.g. VCI, measuring equipment, printer, is summarised for the network environment set on the tester. The current status is displayed here in each case by symbols (green tick or red X). The ready status of the configured default printer and the print jobs in the queue are also displayed. It is also possible to load the system data manually by pressing the "Update" button. The information is of particular interest with respect to the accessibility of network connections. Updating is performed automatically with the set interval cycle time for the update interval.

9.7.1 “Tester” system status display



9_112_16

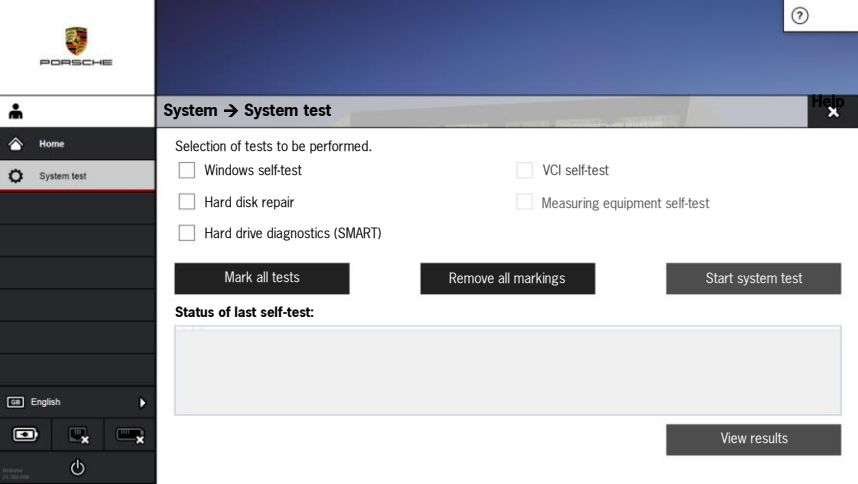
9.7.2 “Devices” system status display



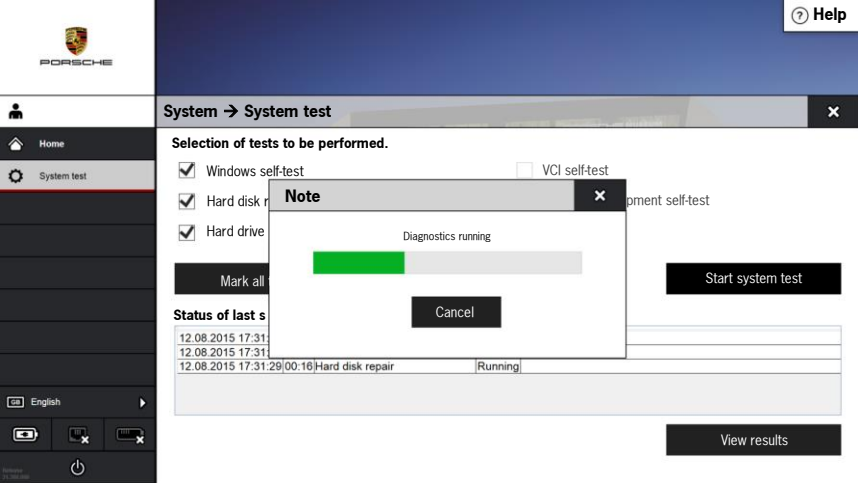
9_113_16

9.8 System test

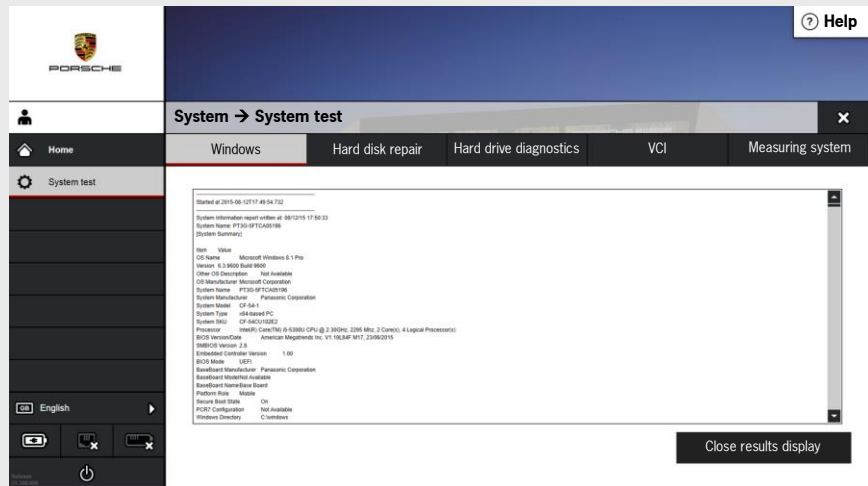
This application allows users to check the PT3 hardware by confirming a selection of available tests and then starting the system test. When the tests are finished, the results can be displayed so that a faulty hard drive, for example, is detected.



9_114_16



9_115_16



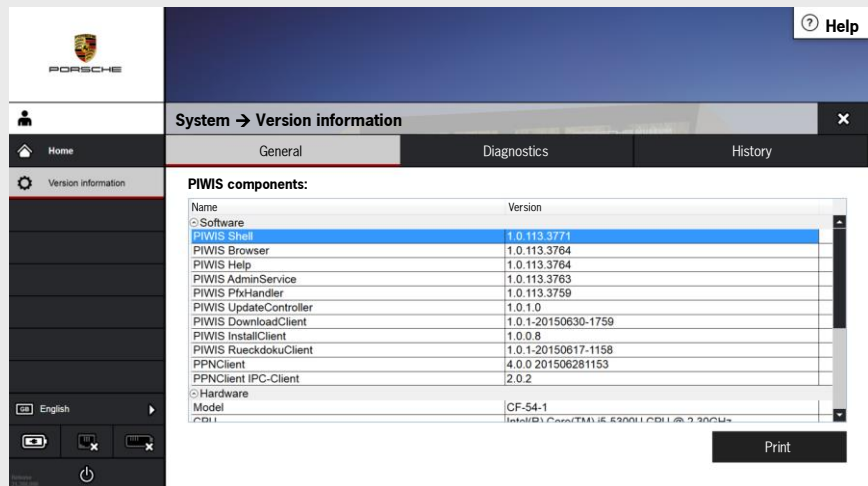
9_116_16

9.9 Version information

The “Version information” display is divided into 3 tabs, allowing faster navigation between the individual version information areas:

“General”, “Diagnostics” and “History”

The “General” tab contains the version information for the PIWIS components. This information is further divided into hardware and software. The “Diagnostics” information shows the versions of the various model lines (diagnostic software components), including “Guided Fault Finding”, for example, for the individual software and device versions. The third tab - “History” - shows the update histories and the version-based history. All installed software versions, releases, delta updates and recovery procedures are listed here sorted chronologically according to date.



9_118_16

The screenshot shows the 'System -> Version information' window with the 'Diagnostics' tab selected. The 'Diagnostic software components' table lists various software modules and their versions.

Name	Version
General	
Release Version	31.300.000
Engine Immobilizer	???
Automatic vehicle detection	1.4.0
Guided Fault Finding (GFF)	
GFF-Client	2.7.1
GFF-Publication	2.7.0
IAS	8.3.4
Database	8.3.4
Guided Fault Finding - legacy	
GFF-Application	???
GFF-Content	???
Technical Documentation	???
Wiring Diagram	???

Version information diagnostics and history 9_119_16

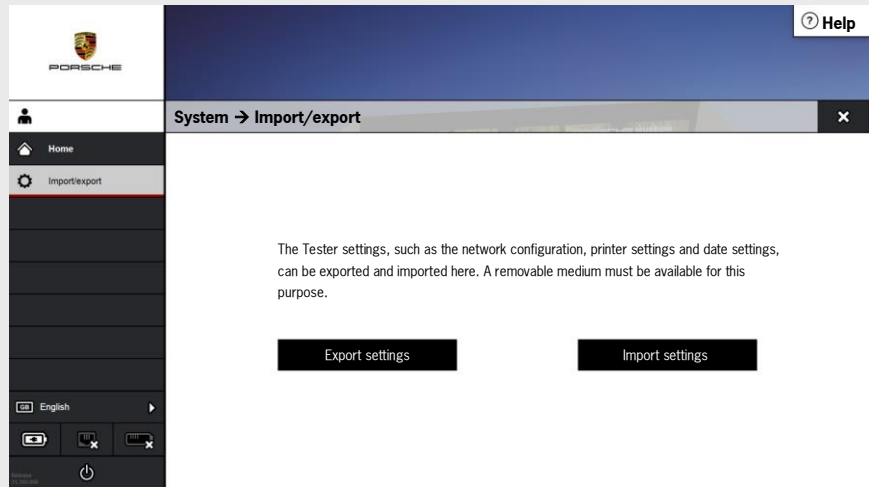
The screenshot shows the 'System -> Version information' window with the 'History' tab selected. The 'Update history' table shows a single update record.

Date/time	Basic version	Update version	Source	Setup ty	Status	Description
06/08/2015 16:06	31.300	31.300.000	Medium	Full	Success	

9_120_16

9.10 Import/export

The tester settings, e.g. network configuration, printer settings, date settings, etc. can be exported and imported in this function. Exporting settings involves transferring the data in a zip file to a USB stick, for example.



9_121_16

9.11 PPN PIWIS Tester registration status

The PPN user settings are displayed and can be changed as required in the PPN PIWIS Tester registration status function.

10 Equipment trolley (PIWIS Tester trolley)

The equipment trolley (VAS 6950), which was used previously for the PT2G, can still be used. However, the top support plate on the equipment trolley must be replaced so that the new PT3 docking station can be fitted. Users can order a new retrofit kit developed for this purpose when the PT3 is launched. This contains two new plates, which can be fitted on the existing equipment trolley. The height of the new plates can be adjusted to various positions as required and the plates can then be fitted.



Example of fitting the plates contained in the retrofit kit

9_122_16

The equipment trolley (VAS 6556A) will be available at the same time as the market launch of the PT3. This will replace the previous trolley. The new equipment trolley has even more functions. It has additional storage options, a lockable sliding door and a cable boom, for example.



9_124_16



9_123_16



When a specific vehicle type is selected, the message about open campaigns remains displayed until any software update of the PT3 is performed causing this message to disappear. This means that there is no automatic access to the PIWIS information system, but users must ascertain for themselves when selecting a vehicle that there are no more open campaigns for this vehicle.

11 Enhanced diagnostic functions

11.1 Message about open campaigns

At the start of the diagnostic session, the complete screen displays a message reporting that there may be open campaigns (workshop and recall campaigns) for the selected vehicle. The Home button must therefore be used here to switch to the start screen. The PIWIS information system can be started from there using the PPN access. The up-to-date check for the vehicle can then take place via the vehicle identification function using the vehicle identification number.

11.1.1 Control unit selection

After the vehicle has been selected and the theoretically installed systems displayed, the user can decide whether a full control unit search should take place or whether only individual systems (e.g. installed in a network) should be selected.

If all systems installed in the vehicle are to be selected, the search can be started directly using the F12 button. If only specific systems are to be selected, the appropriate pre-selection must be made at this point. The search for the selected systems is then also started using the F12 button.

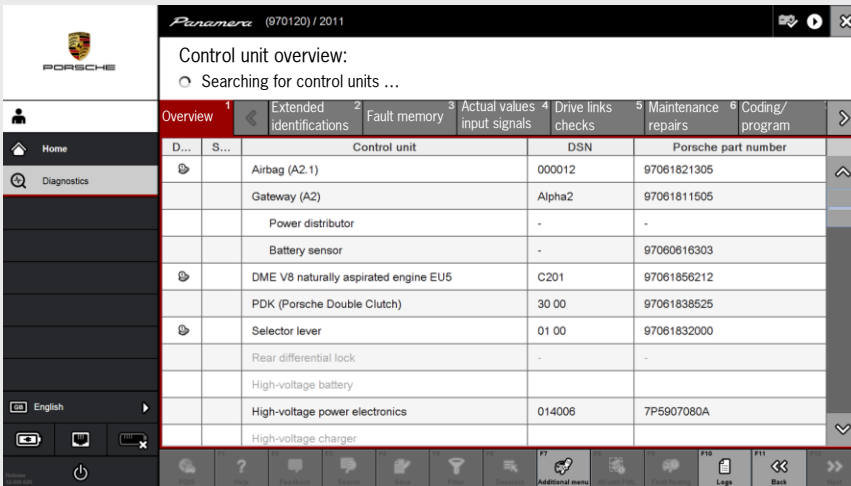
Since it is absolutely necessary in the case of work covered under warranty or when opening a PQIS job to have created a vehicle analysis log, the user must now consciously decide whether or not to create one. The F12 button is used if a vehicle analysis log is to be created. The F11 button is pressed if the user consciously decides not to create a log.

Once the search has been started, it takes some time to complete depending on the type of search and the number of diagnosable control units installed. The full contents of the display can be viewed by scrolling down using the scroll bar on the right.

If there is an icon displayed in the DTC (Diagnostic Trouble Code) column, this indicates that there is a fault stored in the control unit's memory.

11.1.2 Function groups in the menu bar

Once the control unit search is finished, the function groups in the menu bar can be used to directly call up data from the control unit. We will explain the individual function groups in the menu bar in greater detail using the screenshot below. To this end, a fault has been deliberately stored in the DME control unit. The existence of the fault is evident from the icon in the DTC column, however there is no indication of the fault status yet. The example shows a DME control unit for a Panamera V8 naturally aspirated engine with EU5, the software number C201 and the part number 97061856212. See centre of screen.



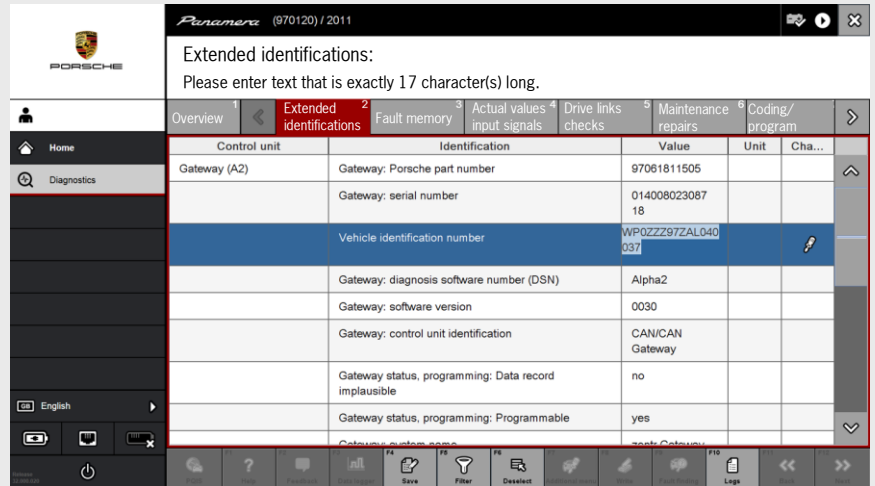
9_125_16



The Help button (question mark ?) can be activated if an appropriate application is active. When the Help button is activated, context-sensitive Help for the individual functions is shown on the display until the Help button is deactivated again.

11.1.3 Extended identifications

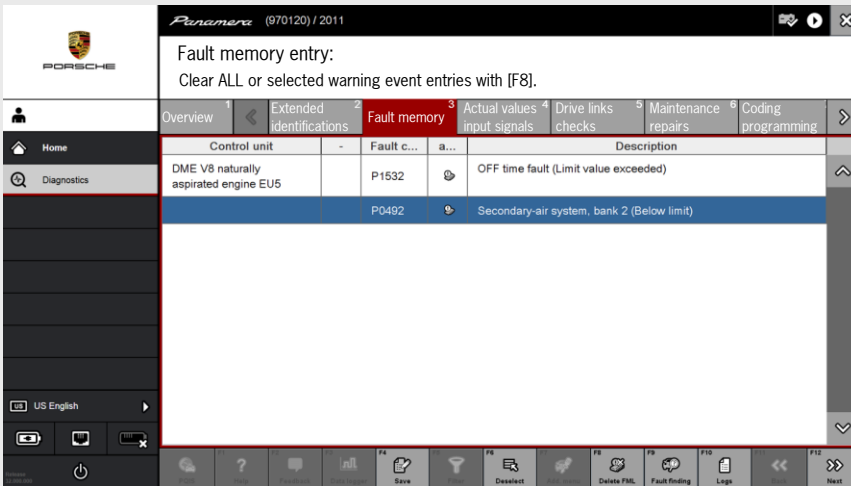
The “Extended identifications” function group includes data that goes beyond the part number or software number of the control units. The current program version of the control unit is displayed, for example, as well as the date of last programming or coding if a control unit was re-coded or re-programmed. Lines with a “screwdriver icon” indicate that this line can be edited. In the example highlighted in blue, the vehicle identification number can be changed as required in “Extended identifications”.



9_126_16

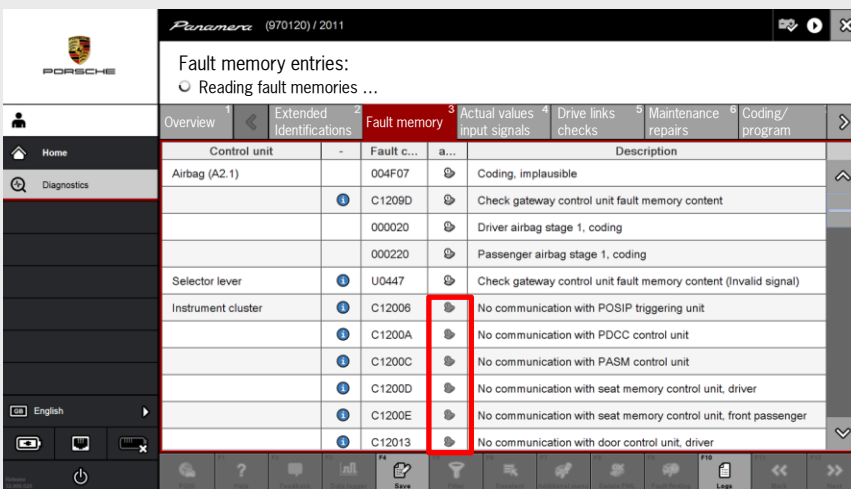
11.1.4 Fault memory

The example below shows a fault stored in the DME control unit of a Panamera. This is a fault that was simulated by disconnecting the connector on the secondary-air pump. In addition to the control unit and map version in the “Control unit” column (DME V8 naturally aspirated engine EU5) and the fault code (P0492), the presence of a fault is displayed in the “active” column using a corresponding icon (see column).



9_127_16

The screenshot below shows a series of fault memory entries in various control units. These are faults that are present and faults that are not currently present. Faults that are not present are displayed differently, i.e. fuzzy grey. See red marking



9_128_16



It is **not** possible to clear the fault memory in the DME control unit when the engine is running. This must only be done when the ignition is on and the engine is not running.

11.2 Additional information on the fault symptom

If the corresponding fault memory entry has been activated by the user (shaded blue), additional information (environmental conditions) about the fault symptom can be called up by pressing the F12 button.

Note here too that an immense amount of information can be displayed, the significance of which may only be clear to technical hotline staff. The full set of information can be viewed using the scroll bar at the right edge of the screen. If the F4 button (Save) is pressed on this tester screen, the tester automatically creates a working log. The log can be saved as follows:

Select Logs – F10, Working log, Save

Control unit	Fault c...	a...	Description
A/C compressor	U111300		Function restriction due to A/C
			DTC-DFCC: D11300
			12_Fault status - Last test cycle: passive
			no
			11_Fault status - Current test cycle: 11_Fault status - Current test cycle
			13_Fault display in the instrument cluster: off
			Frequency counter: 3
			Fault deletion counter: 61
			Mileage: 2022 km
			Year: 2010

9_129_16

11.2.1 Actual values/input signals

The “Actual values/input signals” menu item can be used to display current control unit data on the PT3. This can be helpful if a complaint from a customer cannot be confirmed using a fault memory entry or if a fault memory entry is stored in engine speed, load or temperature ranges that seem implausible.

So-called actual values are values that are present in the control unit as sensor signals and are converted into the corresponding value (that is displayed) by the control unit’s computer and are available to the respective maps.

Input signals, on the other hand, are signals from actuators (switches, potentiometers, switching valves, etc.) that are activated by the control unit’s driver and can change their status. This change in status results in a signal change that is output to the tester by the control unit and can be interpreted accordingly. Control units give the option of displaying a large number of actual values. PT3 carries out pre-filtering in these cases. For the DME control units, for example, groups are created for different subjects such as general or load detection. The PT3 also includes an option for generating user-specific filters.



Pressing the F4 button again will overwrite a working log that has not been saved!

Current actual values/input signals
Switch displays by pressing [F8]. Switch to actual values/input signals selection by pressing [F11]

Control unit	T...	Name	Value	Unit
Headlights (Right headlight)		Supply voltage (terminal 15)	12.0	V
		Supply voltage (terminal 56b)	0.1	V
		Supply voltage (vehicle level sensors)	5.0	V
		Steering angle (CAN)	0.0	°
		Operating duration	2674	hours
		Variox Full AFS (stepper motor detected)	yes	
		Control unit in emergency mode	no	
		HBA stepper motor position	-0.8	
		Full AFS stepper motor position	Country roads, left-hand traffic	
	Dynamic cornering light steeroer motor position	0.0		

9_130_16

11.2.2 Data logger

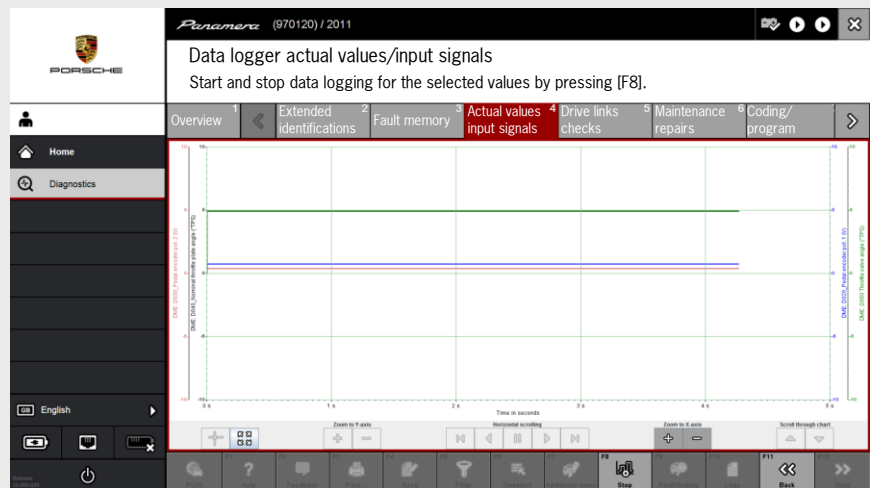
The actual values selected by the user can also be displayed and logged as an analogue line. This is helpful if sporadic faults occur during dynamic operation. Several signals can be recorded at once and then shown on the PT3 display. The corresponding graph is stored as a measurement log in the log folder (F10 button) and can be printed out on a printer when the F4 button is pressed.

11.2.3 Procedure for displaying the data logger

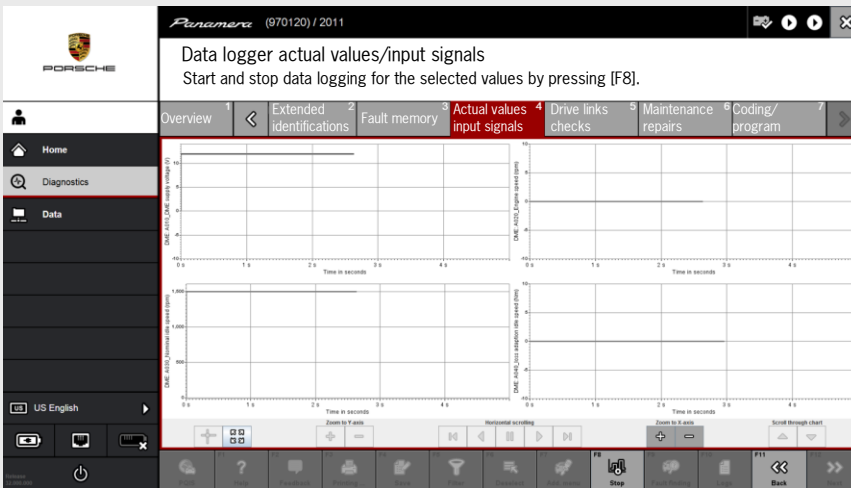
First the relevant actual values must be selected and then activated using the F12 button. To display the relevant actual values in the data logger function, the values displayed on PT3 must then be activated on the screen. When the user presses the F3 button, a prompt first appears asking about the format in which the data is to be displayed. The user must indicate whether all graphical lines are to be displayed in one or more graphs.



Saving the measured value log: Select Logs (F10), Save measurement log



9_131_16



9_132_16

11.2.4 Drive links/checks

The drive link test allows selected components and actuators to be activated via PT3 and their function tested. The driver of the respective control unit sends a signal to the appropriate actuator. The function can be checked either acoustically or visually when the electric circuit between the control unit and actuator is closed via the driver. The “Drive links/checks” function group can be selected in the menu bar after the control units are selected. There are major differences compared with PIWIS Tester II when it comes to activating the drive links. A value is displayed in the status bar for activating the drive links; this value can be changed using the scroll bar. 100% corresponds to the maximum value that the driver can output. In the example above, 100% corresponds to a “PWM signal” (Pulse Width Modulated), the minus sign above the driver switches to the corresponding relay and activates the component. Once the value has been set to 100%, the function is started using the F8 button. The drive link is activated when the electric circuit closes. An acoustic check can take place.

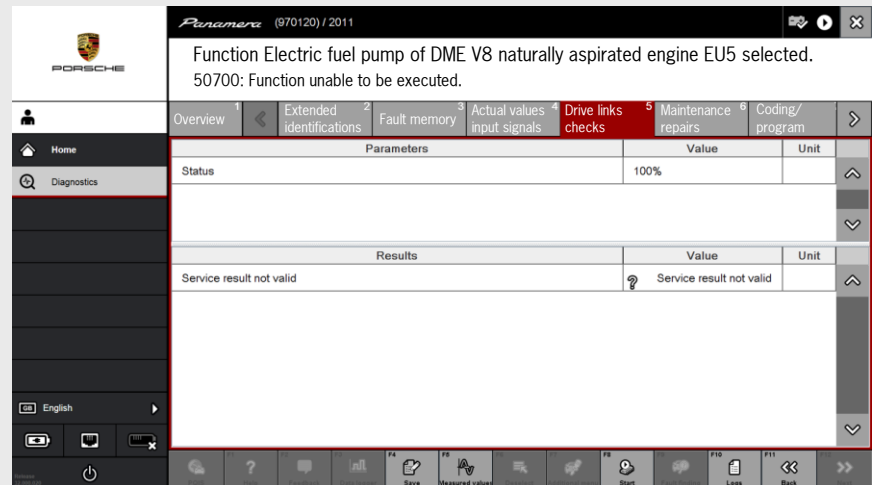
The function is terminated by setting the value 0% in the status bar and starting the function using the F8 button. The minus sign above the control unit’s driver is disabled again.



All previously configured settings are disabled following a change in potential (ignition off - ignition on).

Together with the actual drive link test, there is now also an option available for displaying relevant actual values at the same time.

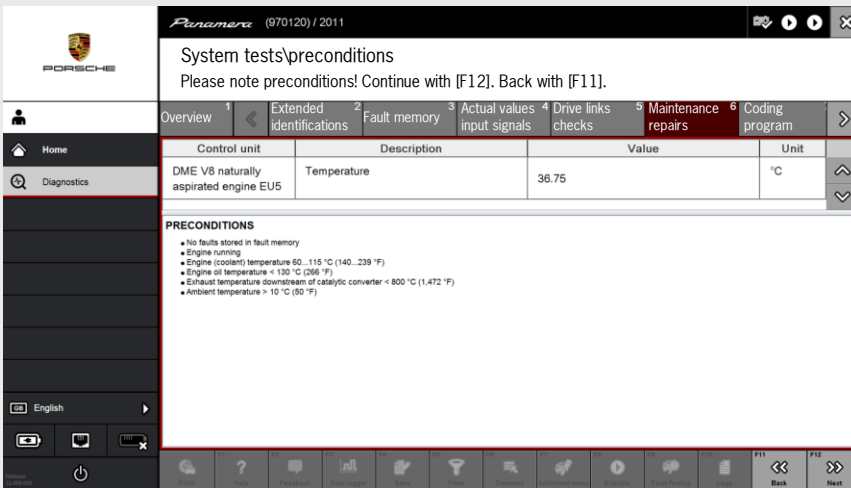
To select the actual values, the F5 button (Measured values) must be pressed after the drive link is selected. All actual values or the respective selection blocks from the actual values then appear for selection. These can be added as required, depending on how relevant they are for the drive-link diagnosis.



9_133_16

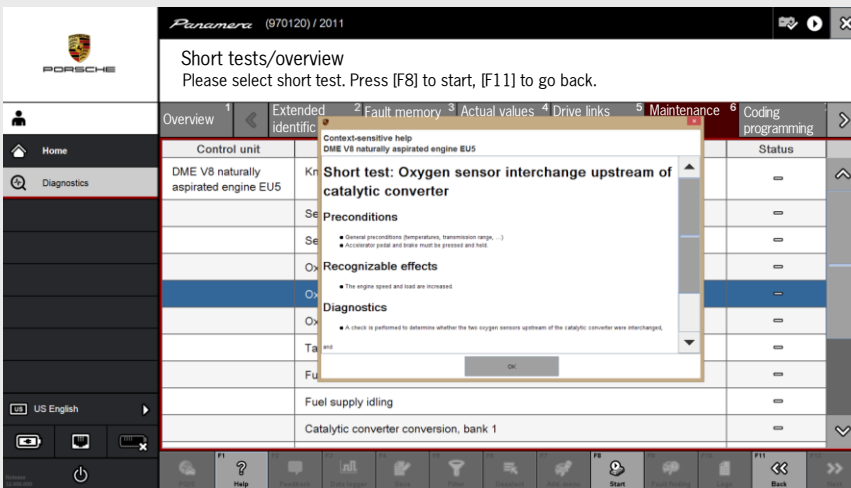
11.2.5 Maintenance/repairs

Numerous tester-guided functions can be executed in a predefined sequence under "Maintenance/repairs". The individual processes are allocated as required in the respective control units. For example, the "Replace battery" process is carried out in the gateway control unit and can be found in the gateway control unit. Or the reversing camera is initialised in the reversing camera control unit and the programming procedure can only be found there.



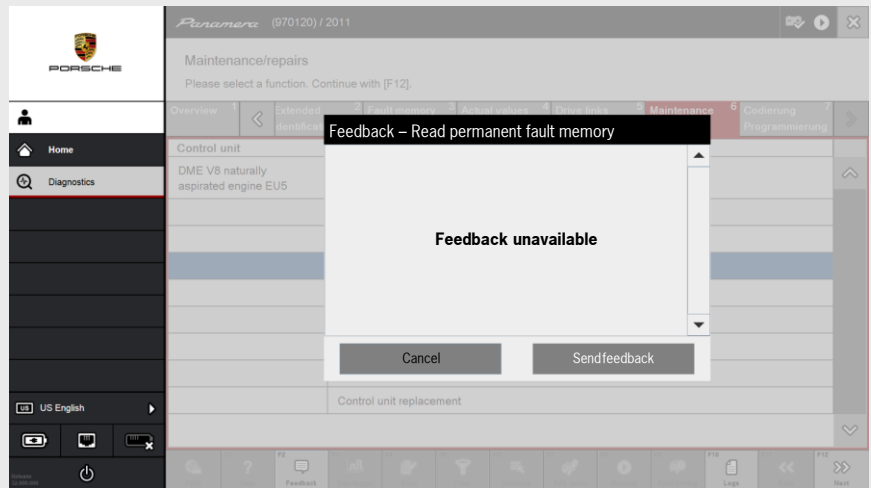
9_134_16

When carrying out the procedure, F1 (Help) can be used to display more detailed information. The system also provides support for dealing with application errors.



9_135_16

When the procedure is finished, F2 can then be used to provide feedback, which is sent directly via the PPN browser to Porsche AG. Four options are available for selection in the Feedback window.

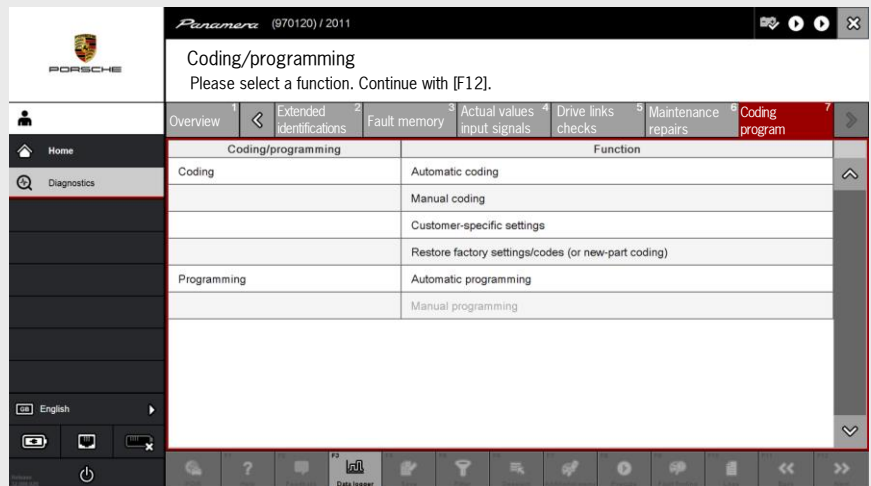


9_136_16

11.2.6 Coding/programming

The “Coding/adaptation” menu item has been merged with the “Programming” menu item in PT3. As a result, the separate “Programming” menu item no longer exists.

Once the full control unit search is finished or if a search has only been performed for selected control units, the “Coding/programming” menu item is active in the menu bar.



9_137_16

11.2.7 Customer-specific settings

The customer-specific settings basically enable the vehicle to be configured in accordance with the customer's wishes. This involves special functions available in individual systems.

The customer-specific settings of one or more (all) control units can be listed by selecting one or more control units.

Examples of customer-specific settings include

- Comfort closing of the doors/windows
- Visual/acoustic seat-belt warning
- Activating steering wheel heating in conjunction with seat heating

11.2.8 Manual/automatic coding (general)

During programming, all necessary functions such as maps, various pieces of hardware equipment, PIN assignments, etc. are written to the control unit (programmed).

This data is taken from the diagnostic software and updated during an online/DVD update.

To guarantee that only the latest data records will be saved in the control unit during programming, the software on the PT3 should always be up-to-date. During coding, system settings are configured on the respective control unit either manually (by selecting specified selection options) or via automatic coding.

A file (vehicle order) that is important and necessary for the coding and programming functions is stored in the vehicle's gateway. This file is the official vehicle configuration that is written by machine into the gateway at the end of the production line.



If all control units are selected (Ctrl+A) and the Customer-specific settings button is then pressed, the PT3 lists all available customer-specific settings for the control units.



If codes are changed or if the vehicle order is changed, the user must be aware that both coding/programming and in particular changes to the vehicle order can have extreme effects on the customer-specific behaviour of the vehicle and also on legal matters.



The "Automatic coding" menu item should basically always be used, since it is very probable (as long as the vehicle order in the gateway has not been changed) that the correct coding instructions for the vehicle were written to the corresponding control units.

Provided that this file is not changed using the "Additional menu" (F7 button) and the "Maintenance of vehicle data" function it contains, this file is the vehicle's "birth certificate".

That is why it is also possible to reset the vehicle to the original "factory setting" during coding.

Factory setting therefore means that the control units/systems access the original file stored in the gateway. However, if the original file (the vehicle order) in the gateway was changed at some point (DME or PDK control unit has a newer status than coding upon delivery from the factory), the current data (in the DME/PDK) is retained.

11.2.9 Manual coding (sequence using the DME control unit as an example)

If the "Coding/programming" option is selected in the menu bar and "Manual coding" is activated in the work area, specific settings can be configured in the respective control unit/system using PIWIS Tester III.

For this purpose, the F12 button must be pressed in the work area after the "Manual coding" menu item is activated. A copy of the vehicle order is then loaded from the gateway into the tester in the background. However, this step (manual coding, DME control unit) only displays the coding option for the respective control unit.

The preset values can be changed and then written to the control unit in question by pressing the F12 button.

Note: If automatic coding is carried out, the previous manual coding values are overwritten with the values in the vehicle order from the gateway.

11.2.10 Automatic coding

If the “Automatic coding” menu item is selected, all codes in the relevant control unit are reset to default values from the gateway file (birth certificate). Customer-specific settings are retained!

The vehicle data must be coded manually if the vehicle order in the gateway can no longer be accessed (because it is defective). The data from the PPN/PWIS information system/Vehicle information must be used for this. Detailed instructions on this can be found in the Workshop Manual. (Technical Information).

11.2.11 Restore factory settings/codes (or new-part coding)

After the “Restore factory settings/codes (or new part coding)” menu item is used, any codes and customer-specific settings are reset to the values stored in the file (birth certificate) in the gateway.

11.3 Guided Fault Finding in PT3 (New GFF)

11.3.1 Accessing Guided Fault Finding (GFF)

The “Guided Fault Finding” function in the PT3 has been totally redesigned. It now uses a fault code to provide a direct link to various information, such as measuring system, measuring equipment, wiring diagram, fuse assignments, connector views, pin assignments, installation positions, function descriptions/animations, function test instructions, diagnostic information, special tools, nominal values, Technical Information notices, Workshop Manuals and much more. The user can now use the program to work through the “Possible fault causes” displayed by “Guided Fault Finding”. The relevant information for this is always available in the test sequence. After working through a “Possible fault cause”, the system decides which further diagnostic steps are required or narrows down the “Possible fault causes”, thereby “guiding” the user to the actual cause of the fault.

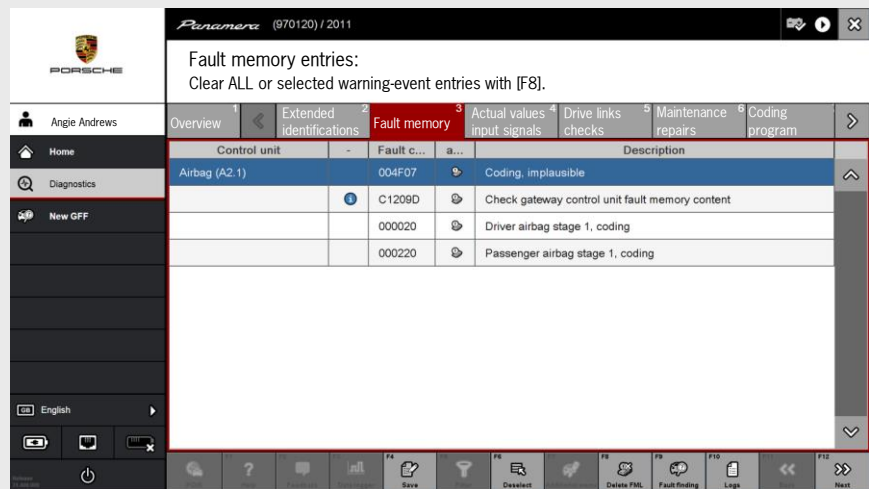


“Guided Fault Finding” can only be accessed on PT3 using the selected fault code in the diagnostic session!

“Guided Fault Finding” can be accessed by selecting a fault code during the diagnostic session (the example used here is the airbag fault 004F07 Coding implausible, highlighted in blue). Only then is the F9 (GFF) button on the control bar activated and can be selected.



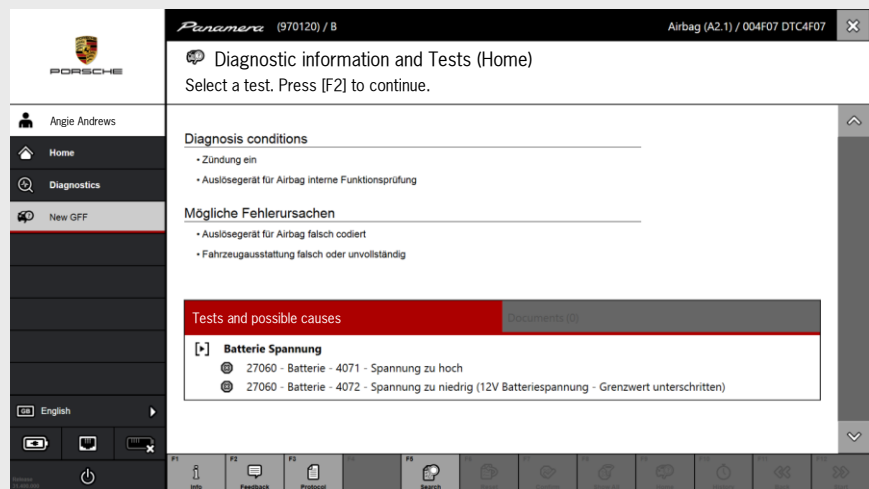
9_169_16



9_138_16

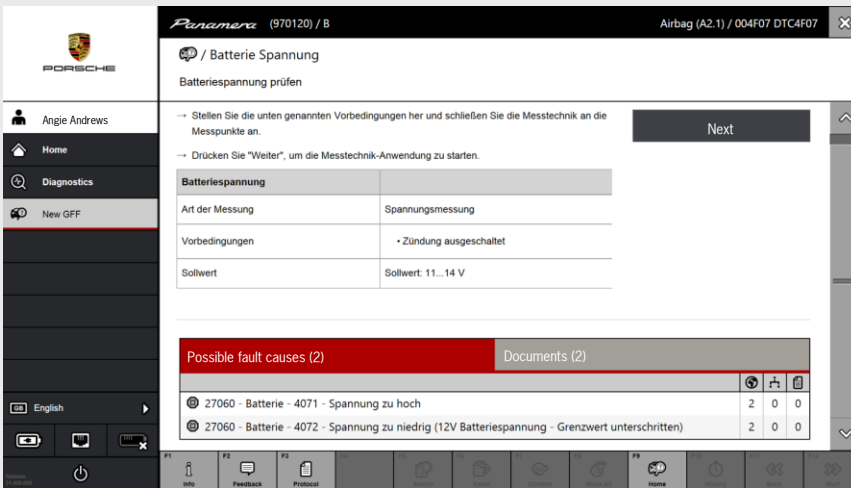
11.3.2 Selecting a fault in GFF

“Guided Fault Finding” now starts and displays the diagnostic information required for the next test as well as the “Possible fault causes” of the fault memory entry 004F07.



9_139_16

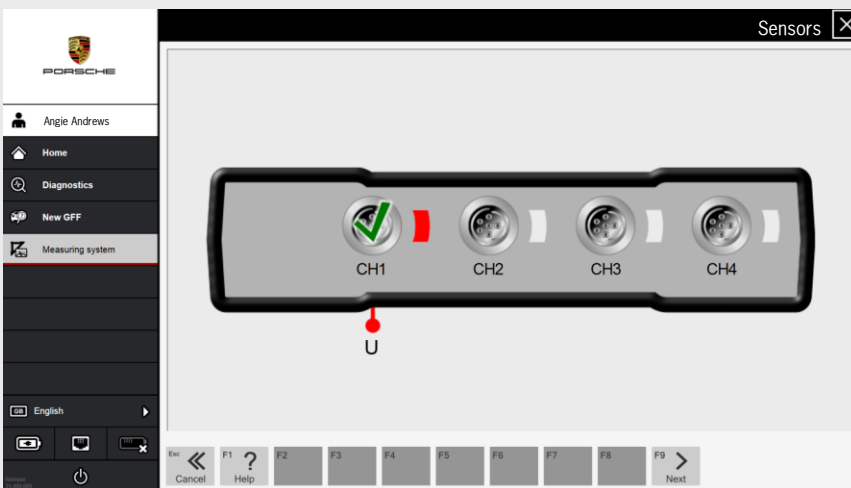
Once the test sequence underneath the red field has been selected, the system guides the user to a test sequence, e.g. voltage measurement here. The type of measurement, the preconditions and the required value are displayed.



9_140_16

11.3.3 GFF provides link to the measuring system

After pressing the black "Next" button in the test sequence, "Guided Fault Finding" opens the Measuring system function. The measuring system software also instructs the user to perform a voltage measurement using the relevant channel and the corresponding measuring cable. Once connected correctly, the user must confirm by pressing "Next" (F9) and this activates the Digital multimeter function.

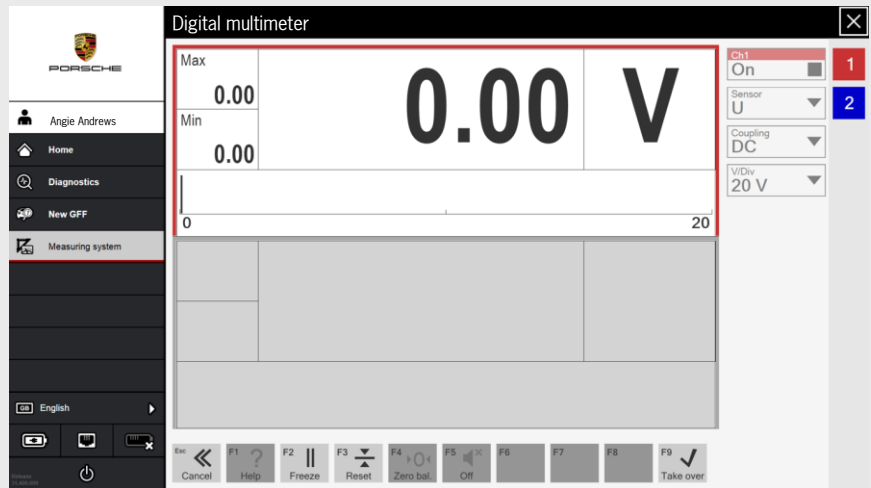


9_141_16

The actual voltage value test is performed in this digital multimeter menu and is confirmed by pressing "Takeover" (F9).



9_170_16

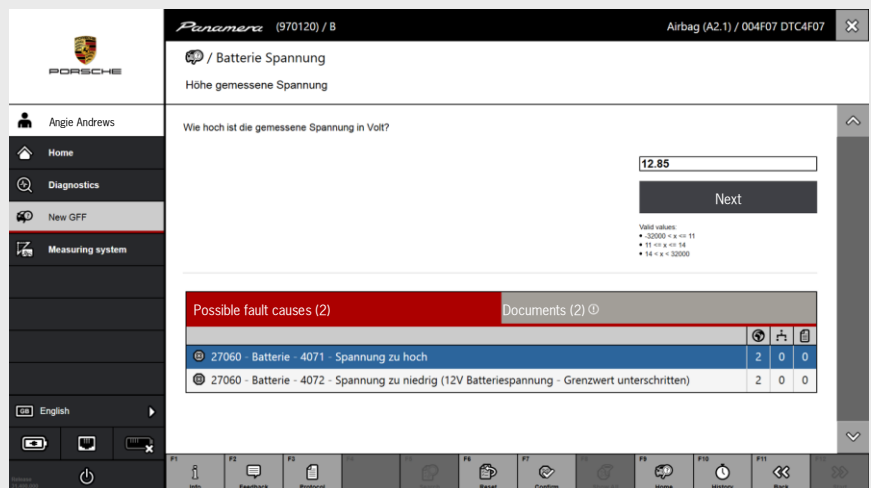


9_142_16

It is also possible that the system will open the pre-programmed measuring system during the test sequence. This shows a reference curve, which is not taken over automatically. Here, the user must confirm/reject the current actual value of the curve using the F8/F9 buttons.

11.3.4 GFF interim result and final result

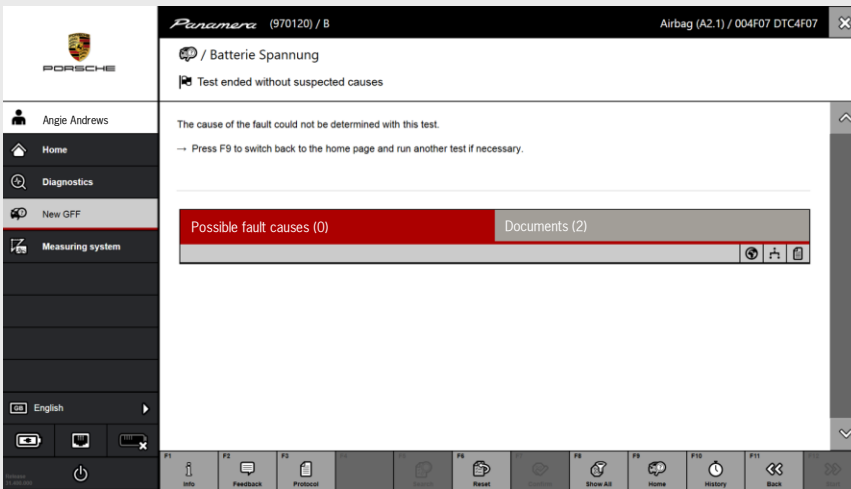
The voltage value, e.g. 12.85 V here, is taken over directly, but can also be entered manually if the measurement is performed using a hand-held multimeter - or if the correct measurement was not used. In this case, the test sequence must be resumed by pressing “Next”.



9_143_16

The voltage measurement test is now complete and since the measured voltage value corresponds to the required value, the first “Possible fault cause” for this fault code 004F07 is no longer displayed.

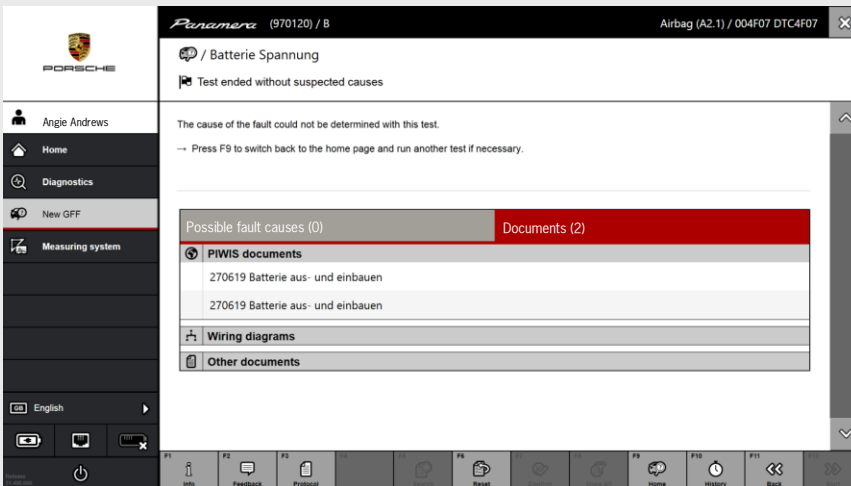
As a guide for the user, the fault code that is currently being processed is shown in the black field at the top right during the test sequence.



9_144_16

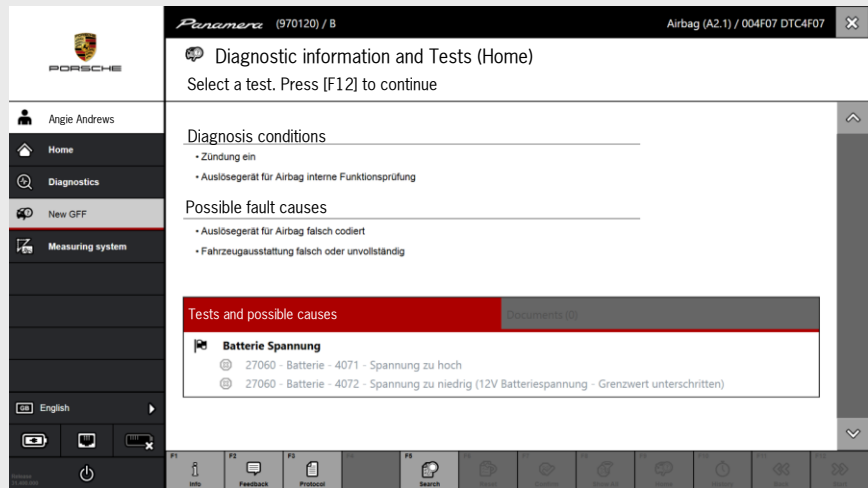
11.3.5 Additional “documents” in GFF

Additional documents are available to the user during the test sequence and can be found under the heading “Documents”. In this example, the Workshop Manual (Removing and installing battery), the relevant wiring diagram and other documents are available.



9_145_16

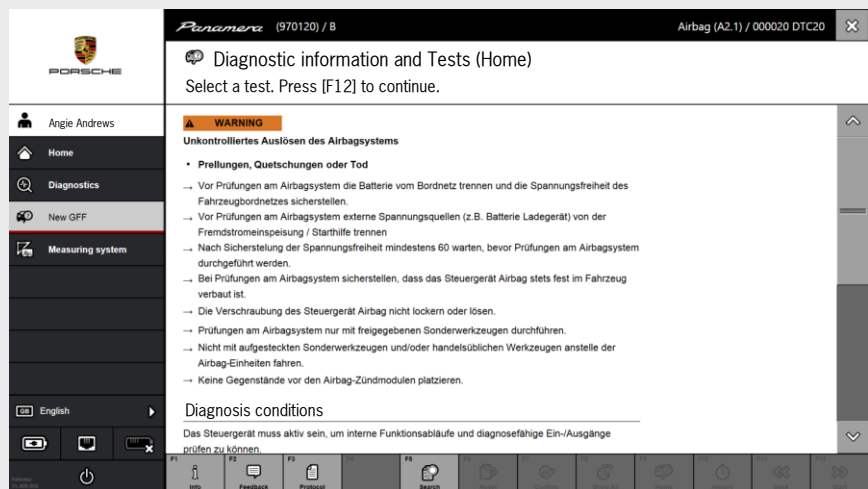
When the system has finished with the first “Possible fault cause” for the example of the airbag fault 004F07, it moves on to the second “Possible fault cause” of the fault code and the procedure starts from the beginning again.



9_146_16

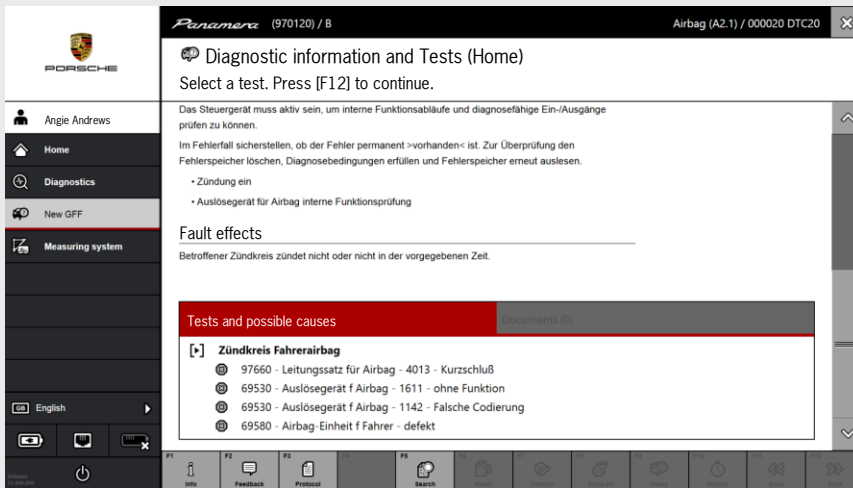
11.3.6 Selecting other fault codes

After working through the first fault (example of airbag fault 004F07), the test sequence can now be continued on another fault in the airbag control unit. (Airbag fault 000020 is used here as an example)



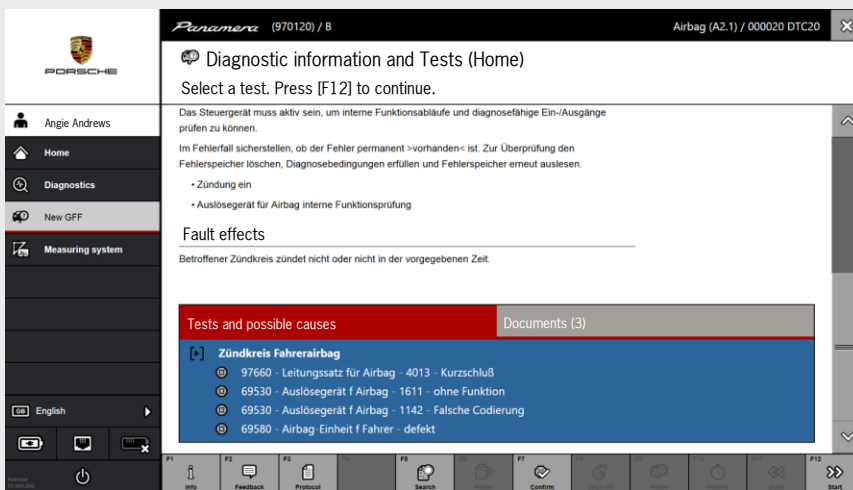
9_147_16

The fault 000020 in turn indicates new or different “Possible fault causes”, which relate to the airbag control unit and its wiring here, for example.

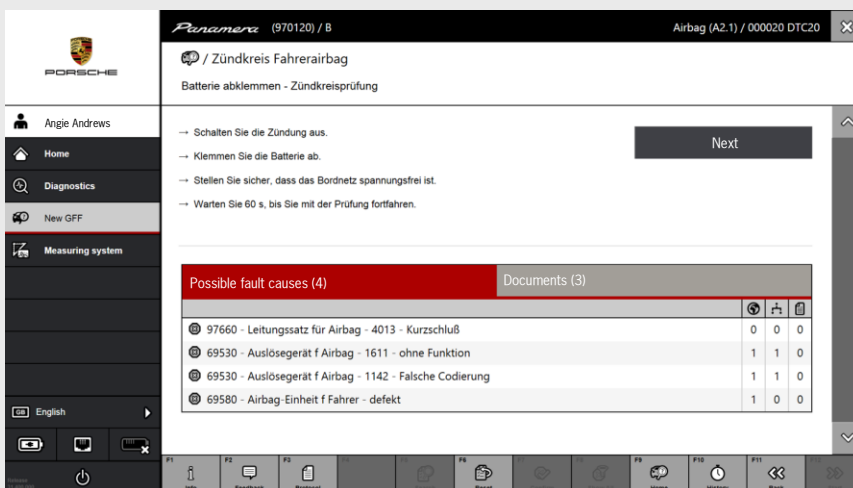


9_148_16

After selecting the new "Possible fault cause", the tester again guides the user through the system and displays the diagnostic conditions.



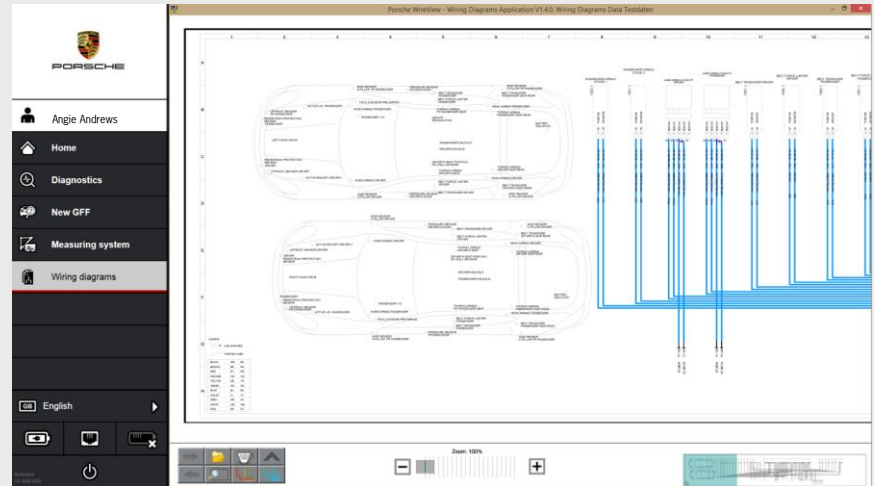
9_149_16



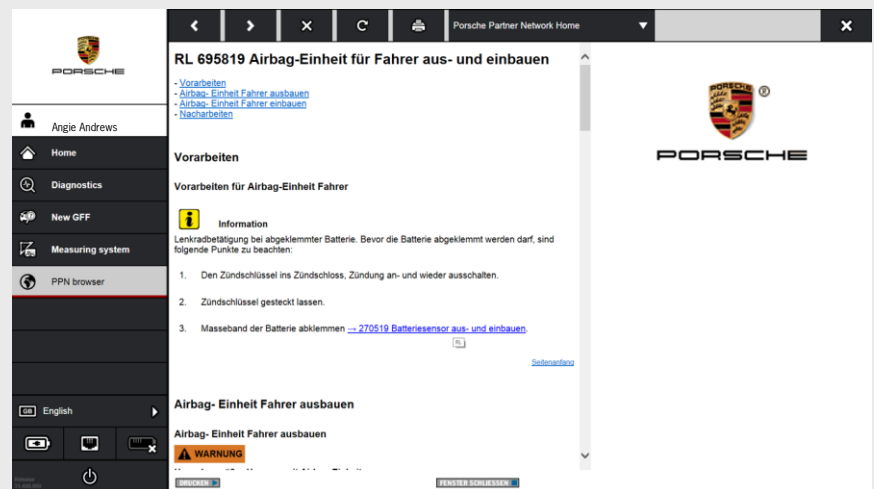
9_150_16

11.3.7 GFF provides link to the wiring diagram

For the next diagnostic sequence, the “Documents” function provides a direct link to the relevant wiring diagram, which can then be opened for diagnostic support. Now, the user no longer has to switch to a different application, but the wiring diagram, Workshop Manual, and many other documents are available in “Guided Fault Finding” itself.



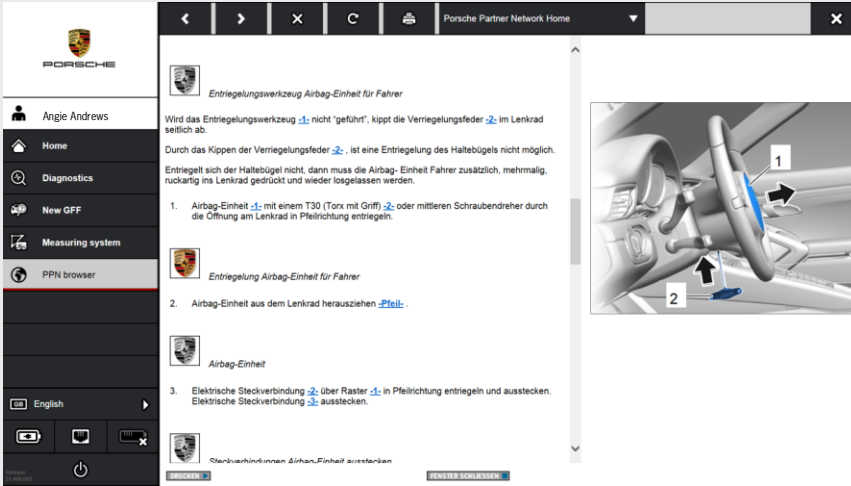
9_151_16



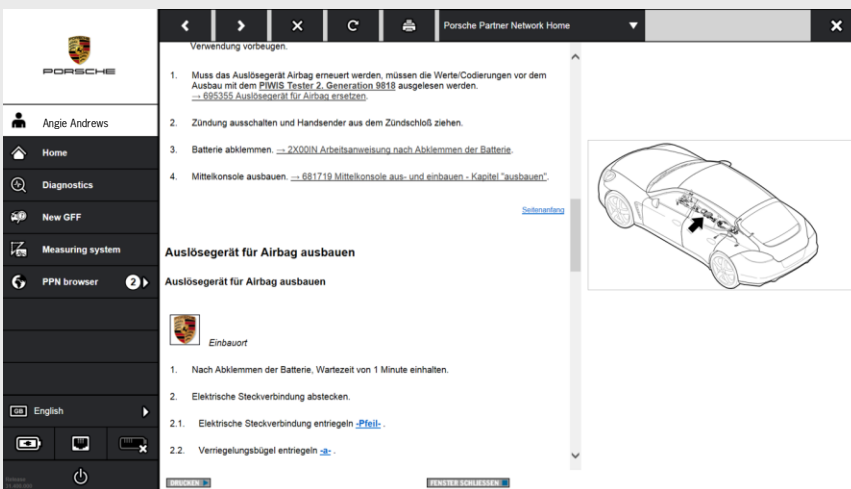
9_152_16

11.3.8 GFF provides link to the Workshop Manual

In the PPN Workshop Manual, the relevant screenshots for removing/installing the component (driver airbag module in the example here) can then be opened in the usual way. The program also indicates the tools to be used and shows the installation position (example of airbag control unit in lower screenshot).



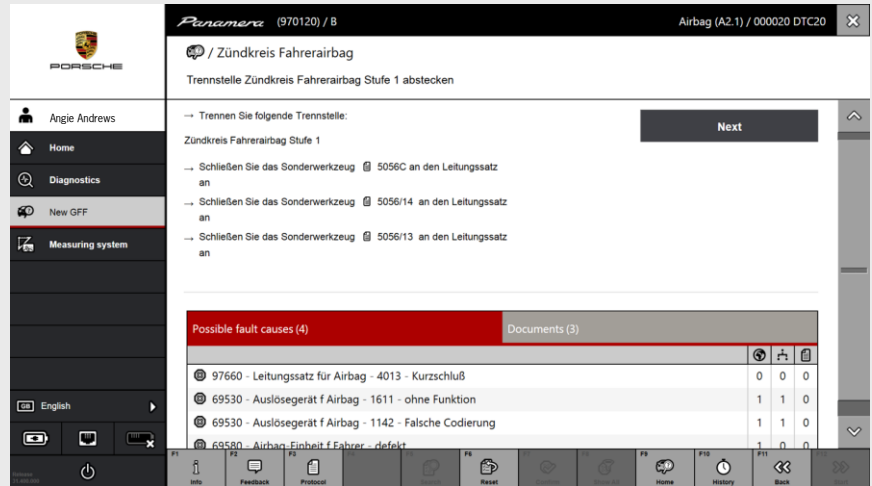
9_153_16



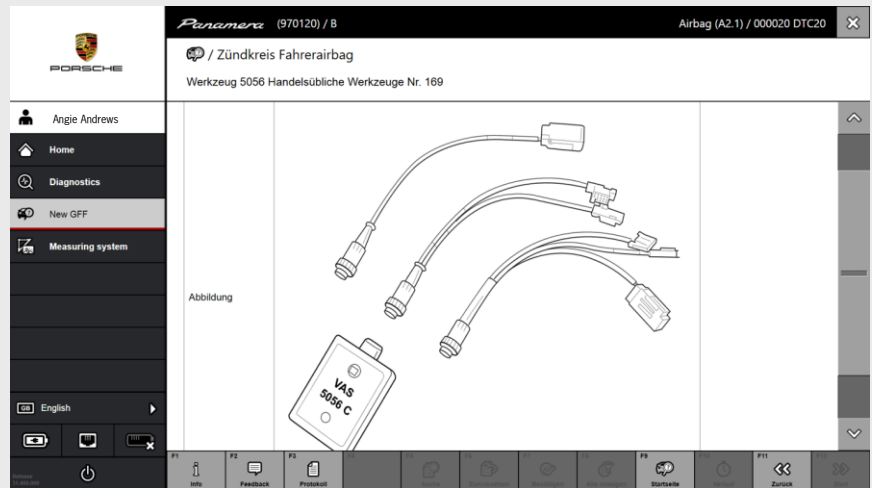
9_154_16

11.3.9 GFF provides link to special tools

The special tools required for this example are described by “Guided Fault Finding” with the part number (VAS 5056C) and are displayed.



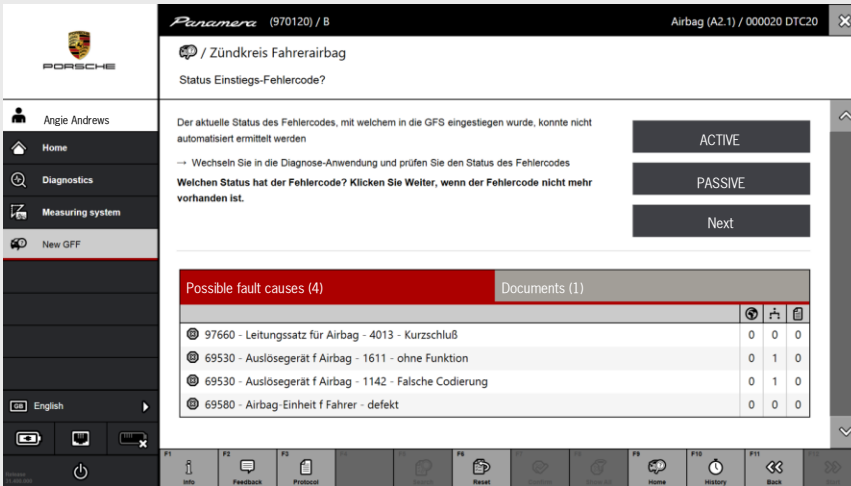
9_155_16



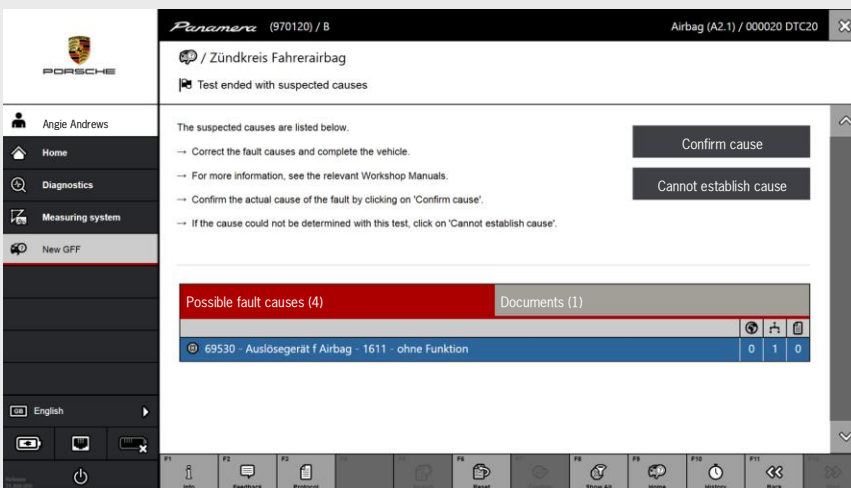
9_156_16

11.3.10 GFF - fault code status

After working through individual “Possible fault causes”, “Guided Fault Finding” prompts you to switch to the diagnostic application in order to check whether the fault codes that were entered are “active” or “inactive”. If the fault code is no longer “active” after working through the “Possible fault causes”, the “Possible fault causes” are reduced accordingly in “Guided Fault Finding”. In the example shown below, only one “Possible fault cause” is displayed, which then indicates the actual fault.



9_157_16



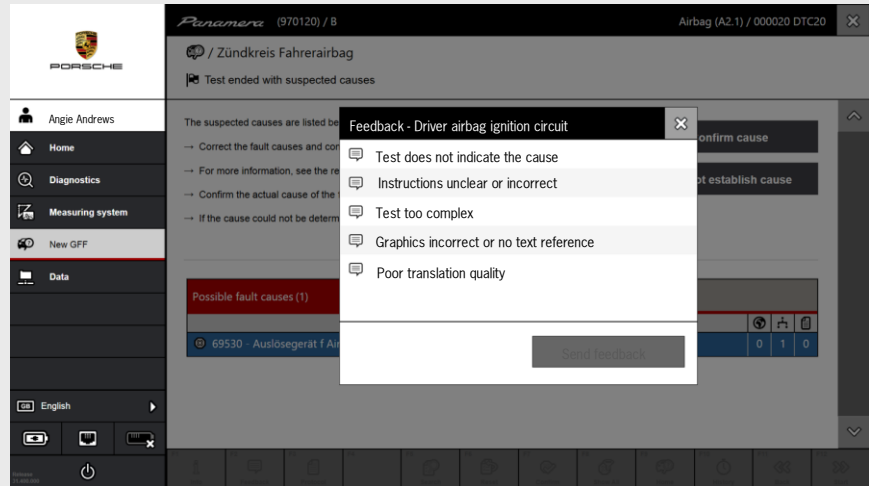
9_158_16



9_167_16

11.3.11 Feedback in GFF

During the test procedure, the user can use the “Feedback” function (F2) to select various feedback options (e.g. Test is not suitable for the procedure, Graphics incorrect, etc.) and send feedback. The comments are checked and may then be changed by Porsche AG.

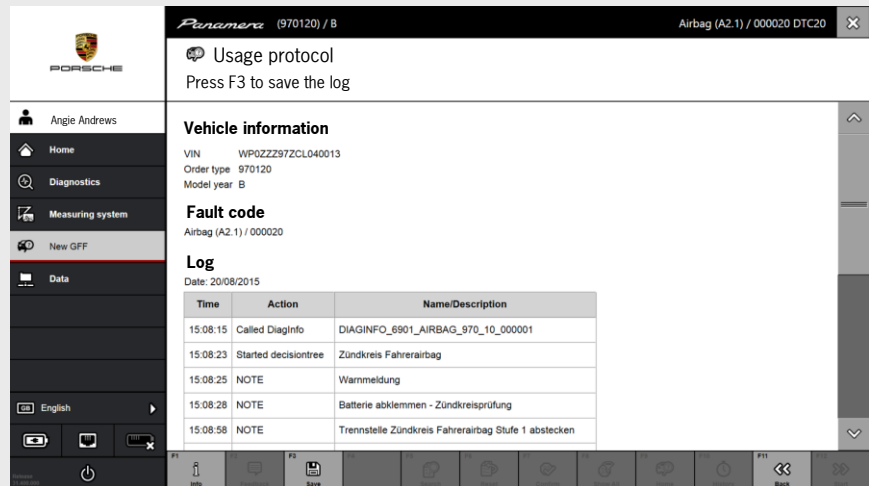


9_159_16



9_168_16

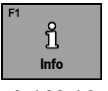
The result of the completed test procedure can be logged by pressing the F3 “Save” button. The file can be found again by selecting Tools/Data administration/File management/Logs.



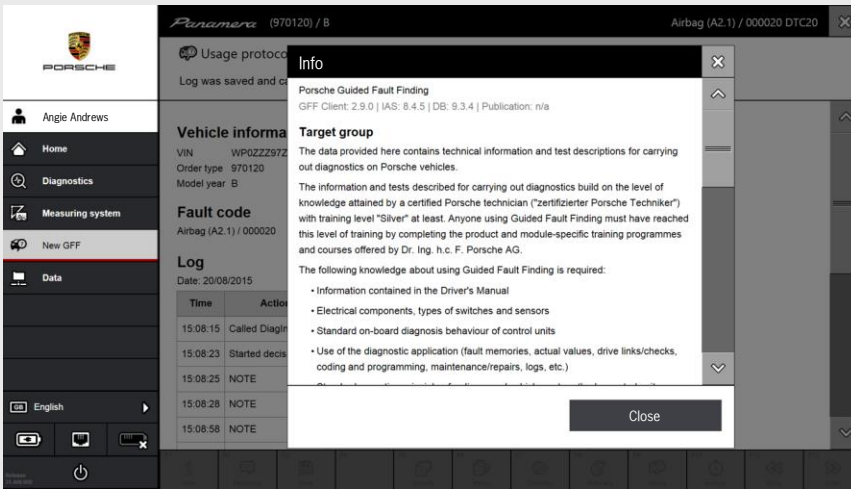
9_160_16

11.3.12 Displaying information during GFF

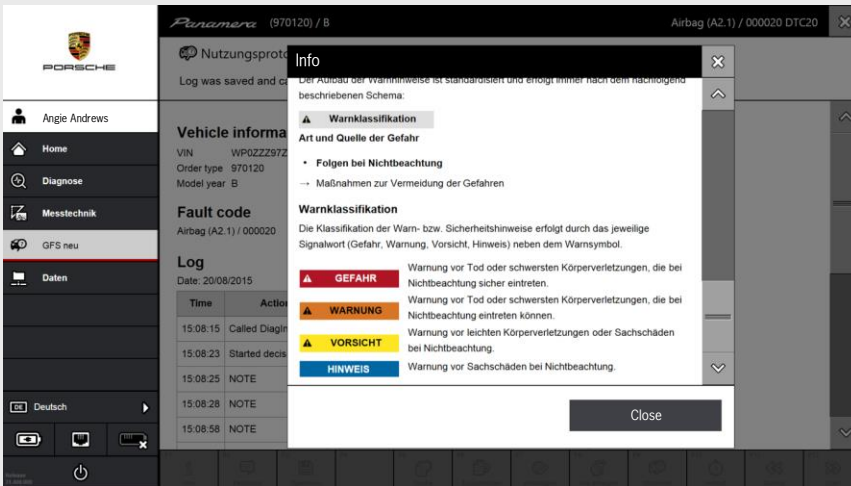
To display information about GFF, the user can call it up using F1 "Info" irrespective of where he is in the test sequence. (Example here: Safety information on performing measurements using the measuring equipment)



9_166_16






9_161_16



9_162_16

11.3.13 GFF - meaning of the icons

	Help
	Vehicle identification number
	Feedback
	Progress
	Guided Fault Finding
	Work step progress
	Save test plan
	Document history
	Confirm cause
	Save
	Find document
	Next
	Back
	Cancel

	Guided Fault Finding questionable
	Log
	Show faults causes
	Reset
	Document search
	Information
	Cancel
	PIWIS document
	Start test procedure
	Test procedure finished. Can be repeated/corrected.
	Wiring diagrams
	Possible fault cause not checked
	Pause/resume test procedure
	Possible fault cause remaining and confirmed
	Possible fault cause omitted and confirmed
	Diagnostic communication

Dr. Ing. h.c. F. Porsche
Aktiengesellschaft
Postfach 1108
D - 71611 Ludwigsburg
Department: After Sales Market Support
Editorial work: Service Training (VAM3)

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