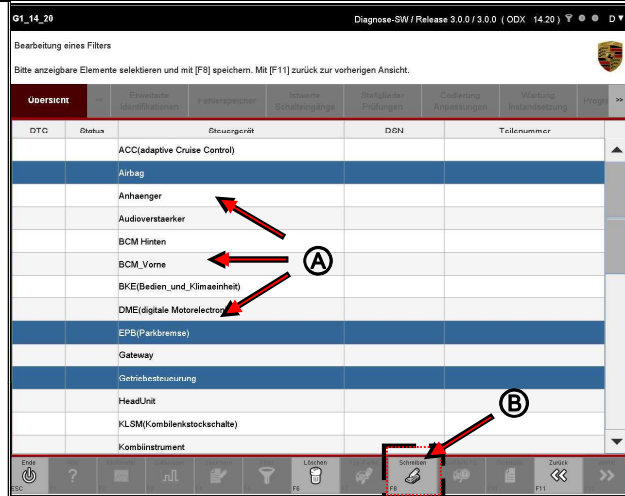
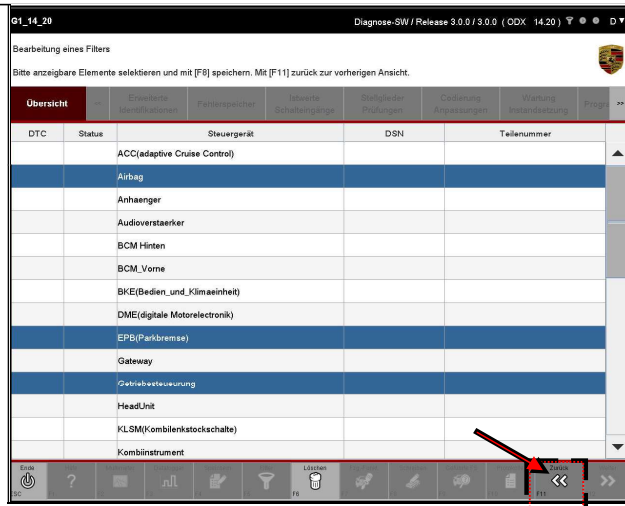


4. Change the selection (A). In the example, the control unit was Gateway deselected and the control units Parking brake, parking assistant and Transmission control were selected.

Save the changed selection by pressing the <F8> key (B).



5. Then press the <F11> key to go to the list of available filter groups to come back.



Proceed further



Function groups extended identifications, actual values / switching inputs, actuators / tests and coding / adaptation:

To get an updated view of the filtered elements, press the <F11> key in the filter group list.

Note and special case

Function group overview:

- If you have carried out a control unit search without a preselection (see chapter 8.1.2), the view is updated normally, since all control units are available for filtering.
- If you have made a preselection in the control unit list by selecting individual control units and then starting a control unit search, only the control units selected in the preselection are displayed in the control unit overview.

This means that not all control units are displayed in the control unit overview, but only a part.

If you have now created and activated a filter in the control unit overview that is to display control units that are not included in this reduced control unit overview, an empty control unit overview is displayed.

In order to display the desired control units of the filter, you must first switch to the control unit list and carry out a control unit search again to update the control unit overview.



Example:

Assumption: You want the control unit Tailgate select. The filter ?? test filter group ?? filters for the control units Airbag and Gateway.

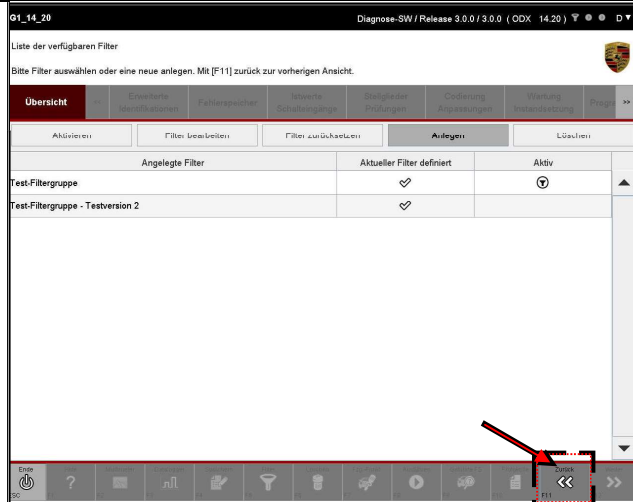
Precondition: Only the control units were previously in the control unit list Airbag, parking brake and Gateway selected and a control unit search carried out only for these. This means that the display of the control units in the control unit overview is limited to these control units.

Activating the filter: After activating the filter, only the control units and subcomponents of the control units are displayed in the reduced control unit overview Airbag and Gateway displayed. You continue to work normally with these control units.

Problem: You deactivate the filter and want to select the tailgate control unit. However, only the control units are used Airbag, parking brake and Gateway because this is the restricted control unit overview that you have previously preselected in the control unit list.

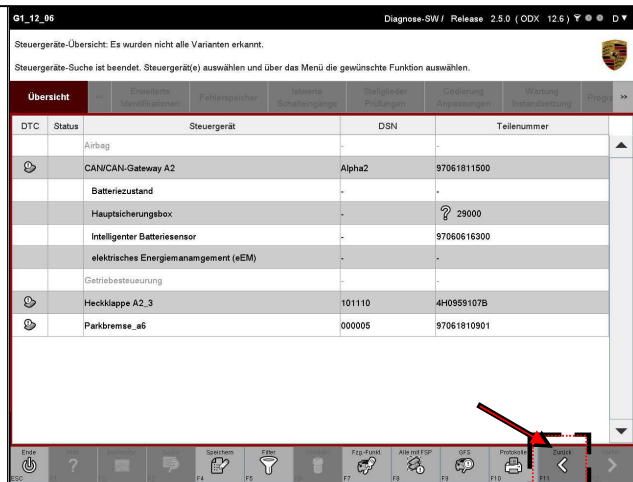
Solution: The control unit overview needs to be updated. The steps below explain how to do this.

6. To do this, first press the <F11> key in the filter group list.



7. An incomplete control unit overview is displayed.  
  
Then press the <F11> key again to return to Control units list to come.

The control unit list is updated and expanded to include the newly inserted control unit names that were previously selected in the filter.



8. With <F12> you can now carry out a control unit search with the filtered control units as usual (for a more detailed representation see chapter 8) or, if you select at least one of the control units, select one of the function groups.

8.15.8 reset filter

If you want to assign new selection properties to a filter without changing the name or deleting the filter, you can do this by resetting the filter. After resetting the filter is "empty", ie it does not contain any elements to be displayed later.

Note on filter behavior:

► There may be filter conditions for this filter, but these are defined for control units that ??

- ?? are not in the current selection of control units or ?? are not included in the currently available control unit variant.



If you still want to reset the filter conditions and thus also reset the filter conditions of the control units that are not in the selection, you must then explicitly confirm this.

All filter conditions are then reset.

► If you reset a filter, it will also be deactivated because it is empty.

Precondition:

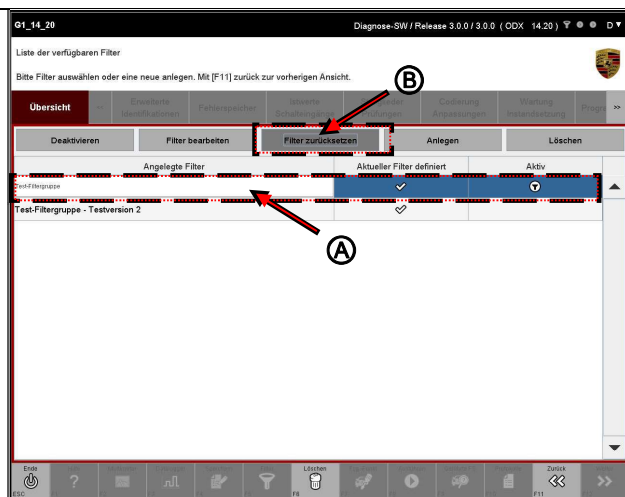
In order to be able to reset a filter, it must have been created beforehand:



► See chapter 8.15.3.

1. If not already done: Call up the filter function by pressing the <F5> key.

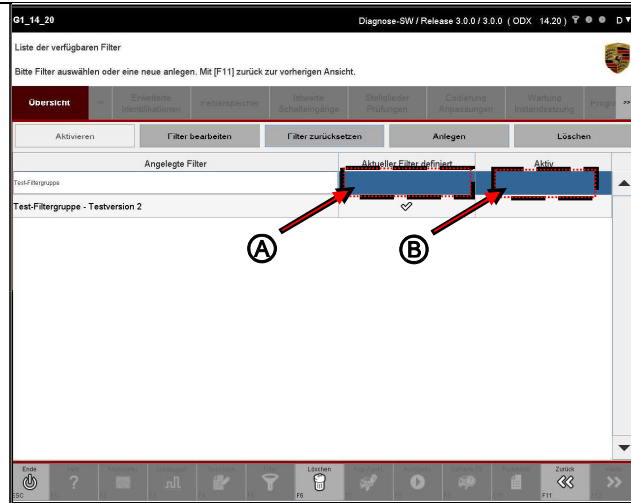
2. Highlight the desired filter whose filter properties you want to reset (A) and press the button Reset filter-Button (B).





3. The filter is no longer assigned any properties (no icon in the column Current filter defined) (A).

The filter is also deactivated (no icon in the column Active) (B).



4. You can now assign new properties to the filter as usual. See chapter 8.15.3.

### 8.15.9 Clear Filters

If you not only want to delete the filter properties (reset filter) but also delete the entire filter (filter properties including name), select the option Extinguish.



Note on deleting filter properties:

If the filter contains conditions for control units not included in the selection, you must explicitly confirm the deletion. After confirmation, the entire filter will be deleted.



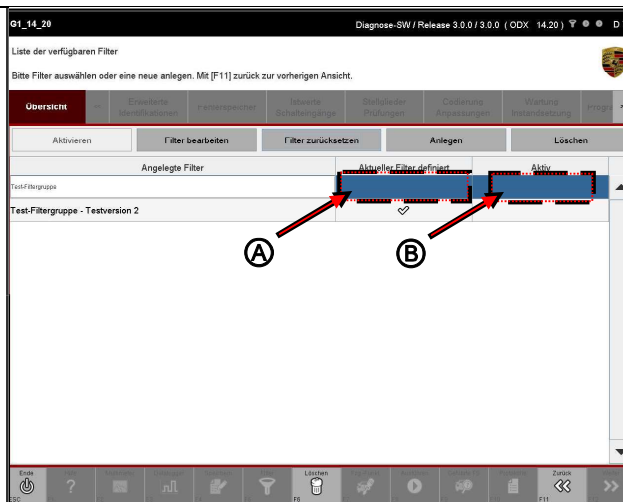
Precondition:

In order to be able to delete a filter, it must have been created beforehand:  
► See chapter 8.15.3.

1. If not already done: Call up the filter function by pressing the <F5> key.

3. The filter is no longer assigned any properties (no icon in the column Current filter defined) (A).

The filter is also deactivated (no icon in the column Active) (B).



4. You can now assign new properties to the filter as usual. See chapter 8.15.3.

### 8.15.9 Clear Filters

If you not only want to delete the filter properties (reset filter) but also delete the entire filter (filter properties including name), select the option Extinguish.



Note on deleting filter properties:

If the filter contains conditions for control units not included in the selection, you must explicitly confirm the deletion. After confirmation, the entire filter will be deleted.

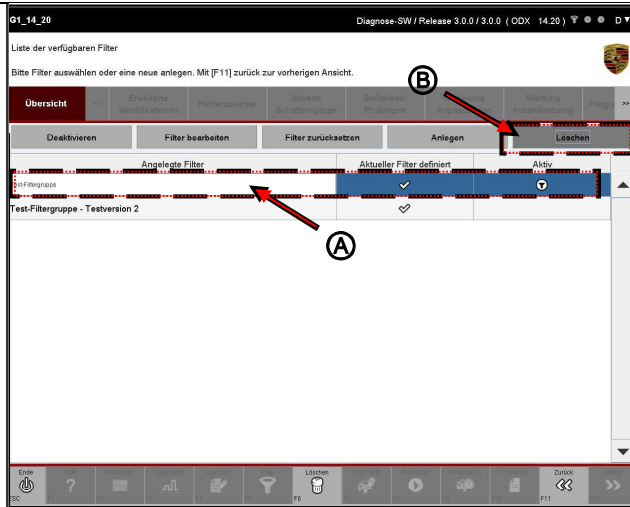


Precondition:

In order to be able to delete a filter, it must have been created beforehand:  
► See chapter 8.15.3.

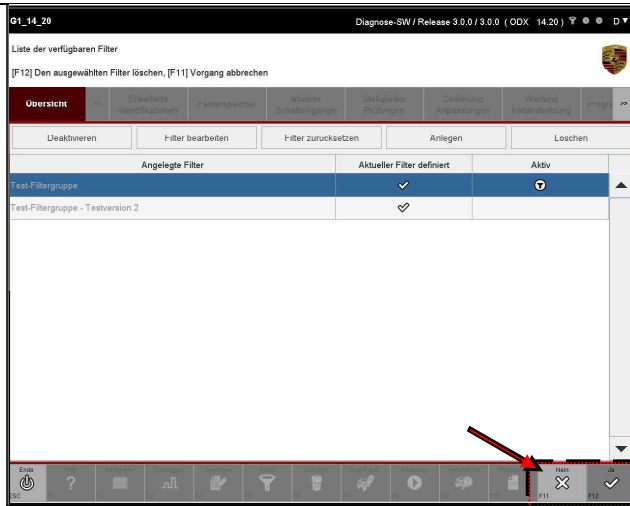
1. If not already done: Call up the filter function by pressing the <F5> key.

2. Select the filter that you want to delete (A) and press the Extinguish-Button (B).



3. You must now confirm the deletion of the filter. They have the following options:

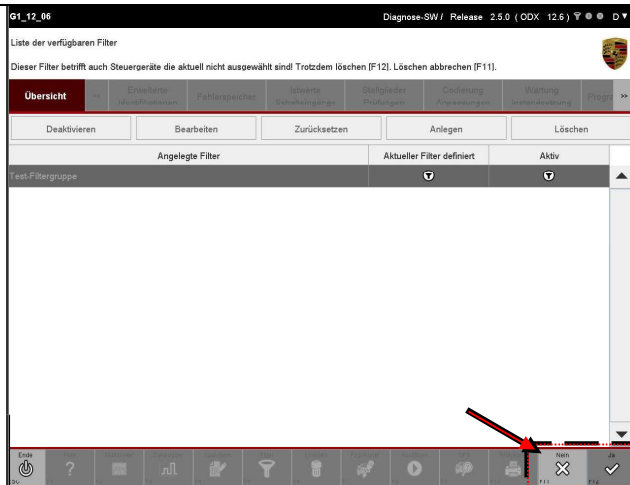
- Cancel the process with <F11>. You come back to the list of filters.
- With <F12> you confirm that you want to delete the filter.



Special treatment

4. If filter properties are defined for control units that are not in the current selection, you must explicitly confirm the deletion again. You have the following options:

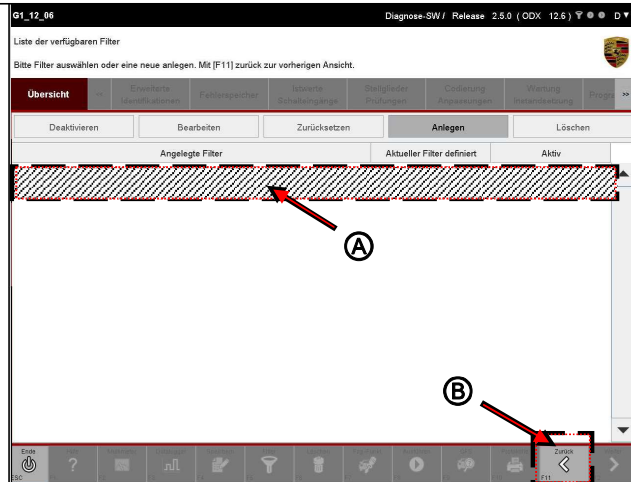
- Cancel the process with <F11>. You come back to the list of filters.
- With <F12> you confirm that you want to delete the filter.



## After deleting

5. After deletion, the filter has been deleted from the list of saved filters (A).

With <F11> you come back to the screen from which you called the filter function (B).



## 8.16 Guided troubleshooting (GFS, <F8>)

You can call up the guided troubleshooting within the diagnostic application. The guided troubleshooting is not part of the diagnostic application and is therefore not described here.

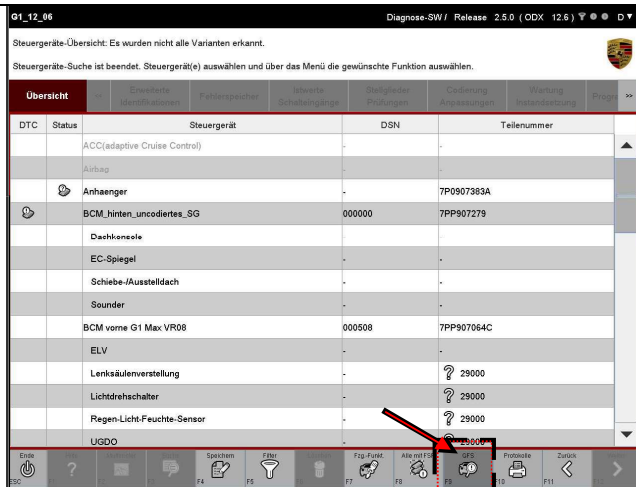
For more information on how this function works and how this function can be interacted with by the user, see the corresponding Guided Fault Finding documentation.



The guided troubleshooting can only be called from the control unit overview.

1. Press the <F8> key.

The guided troubleshooting application is then started.



2. When the function has ended, the diagnostic application comes to the fore again.

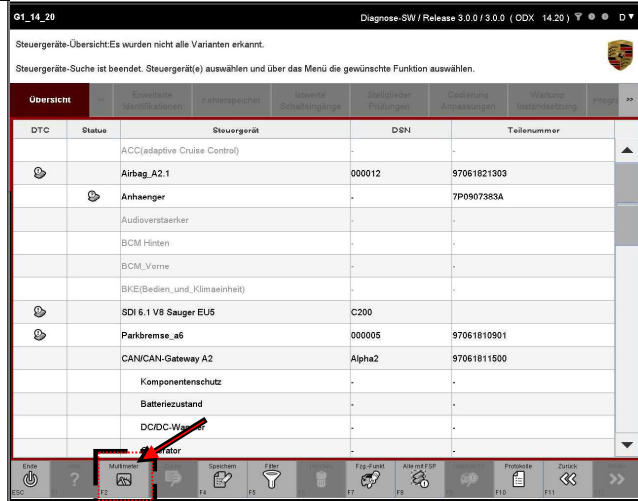
## 8.17 Measurement technology (multimeter, <F2>)

You can call up the measurement technology application within the diagnostic application. The measurement technology application is not part of the diagnostic application and is therefore not described here.

You can find more information on the mode of operation and the user interaction options for this function in the documentation for the measurement technology software.

### 1. Press the <F2> key.

The measurement technology application is started and appears in the foreground.



### 2. When the function has ended, the diagnostic application comes to the foreground again.

## 9 OBD scan tool

Do you have the diagnostic application with the transfer parameter ?? project OBD (or via a button with this functionality, if available), it is started as an OBD scan tool. Note that you cannot use the OBD scan tool in view mode.

In contrast to the diagnostic application, the OBD scan tool is not designed specifically for the vehicle manufacturer. The services used are standardized. The task of the OBD scan tool is also to display only the elements relevant to the engine and emissions.

If you need a larger range of functions, use the diagnostic application in one of the basic application modes (see Chapter 8).

The following sub-chapters describe how you call up the individual function groups of the tool and how you navigate within a screen in order to display the relevant information.

### 9.1 glossary

CARB	California Air Resources Board
CIN	Calibration Identification Number
CVN	Calibration Verification Number
DTC	Diagnostic Trouble Code (fault memory / event memory) Exhaust
EGR	Gas Recirculation (exhaust gas recirculation)
ISO 15031	Definition of the communication and the command set for on-board diagnosis
MID	Measurement ID / Monitoring ID
Mil	Malfunction Indication Lamp (engine control lamp)
FASHION	Diagnostic Test Mode ?? in ISO 15031-4 also as a ?? task ?? references on-
OBD	board diagnostics
PID	Parameter ID
SCN	Software calibration number
TID	test ID
VIN	Vehicle Identification Number (chassis or vehicle identification number)

## 9.2 Function groups of the OBD scan tool

The following function groups are available to you:

Functional group	description
overview	<p>The overview function group shows you the list of available systems (engine, transmission), i.e. the elements of the loaded OBD project.</p> <p>The function group corresponds to the control unit list or the control unit overview of the diagnostic application in one of the basic application modes.</p>
Onboard diagnosis overview	By selecting the Onboard Diagnostics Overview function group, basic information about the individual function groups is displayed in an overview.
Actual values	The list of available actual values supported by the system is displayed in the actual values function group.
Environmental values	The list of available and system-supported environmental values is displayed in the Environmental Values function group.
Fault memory Read	Within the function group Read error memory, all error memory entries for the selected system are read and displayed.
Test values sporadically monitored systems	Within the function group Test values of sporadically monitored systems, the list of available and supported operating conditions / actual values is displayed for the selected system.
Pending error	The list of current errors (pending errors) is displayed in the pending error function group.
Vehicle information In	the vehicle information function group, general Vehicle information from the emission-related control units is displayed.
More permanent Fault memory	The list of permanent error memory entries is displayed in the permanent error memory function group.

Table 7: Description of the function groups of the OBD scan tool



### 9.3 overview



What is happening?

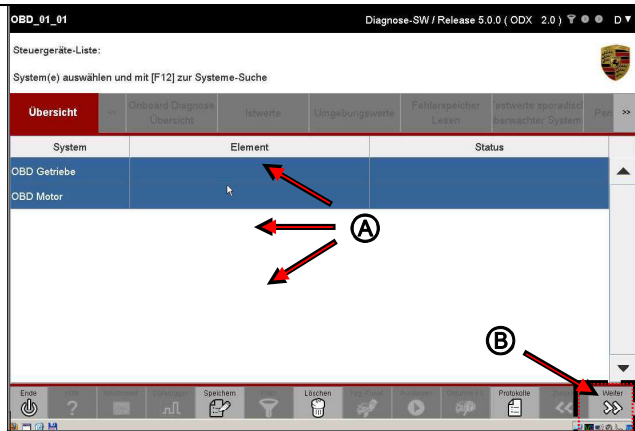
When you have started the OBD scan tool, the overview screen is displayed first. A corresponding system must be selected for the further steps, for which you can then call up further information about the function groups.

The available systems are determined from the VIT of the OBD project. Based on the control unit search of the diagnostic application, a system search is carried out after starting and after selecting a system and the result is displayed in the work area.

1. Select the desired system (A) and press the <F12> key (B).

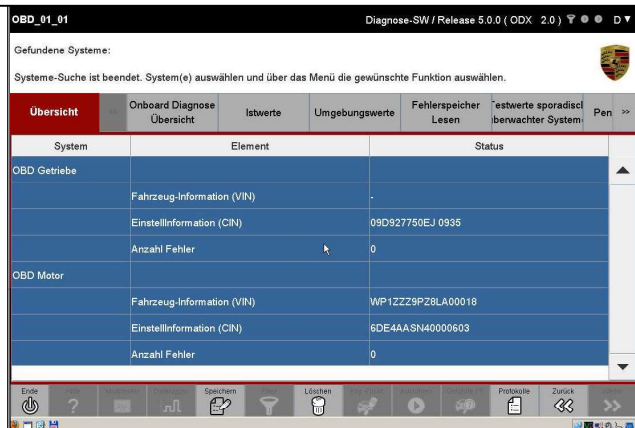
Note: Would you like a system search for all Systems, simply press the <F12> key without preselection.

A system search is then started.



2. After the system search, the elements found are displayed in the work area.

Select the required systems or elements and choose one of the function groups.



## 9.4 Onboard diagnostics overview

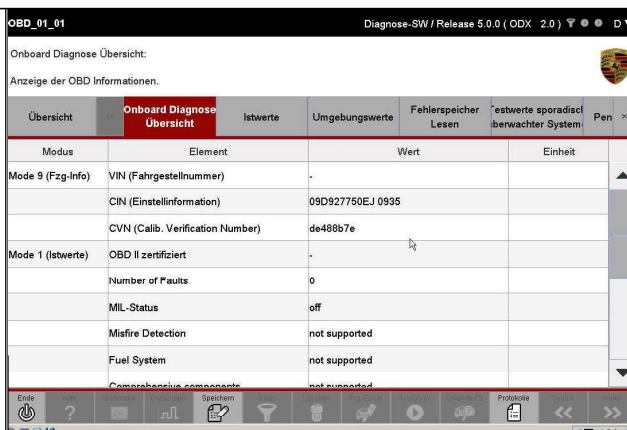
1. Select the desired systems or elements: See Chapter 9.3



2. Select the Onboard Diagnostics Overview function group.

You will be shown basic information about:

- \* Mode 9 vehicle information
- \* Mode 1 actual values
- \* Mode 3 error memory
- \* Mode A permanent Fault memory



## 9.5 Actual values



What is shown?

The current data of the exhaust-relevant systems are displayed. These are analog and digital inputs and outputs as well as system information. The displayed values are current values and not default or substitute values.

### 9.5.1 Action-specific buttons in this function group

OBd scan tool: actual values			
button	Label	Icon	description
F8	value		Pressing the <F8> key changes the display of the values to the current actual value.
F8	minimum		Pressing the <F8> key changes the display of the values to the current minimum.
F8	maximum		Pressing the <F8> key changes the display of the values to the current maximum.

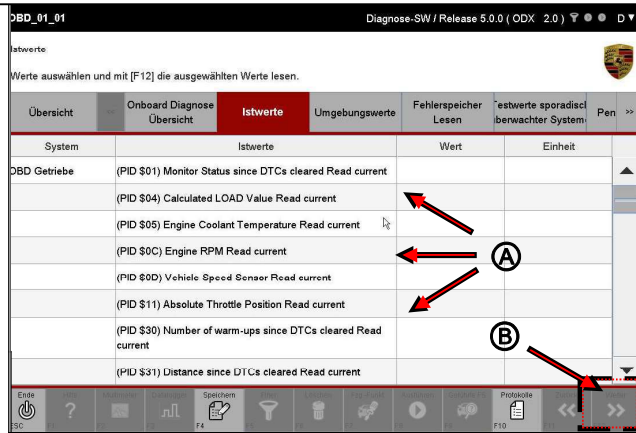
9.5.2 Display of measured values

1. Select the desired systems or elements: See Chapter 9.3

2. Select the function group Actual values.




The available actual values of the system are displayed in the overview screen.

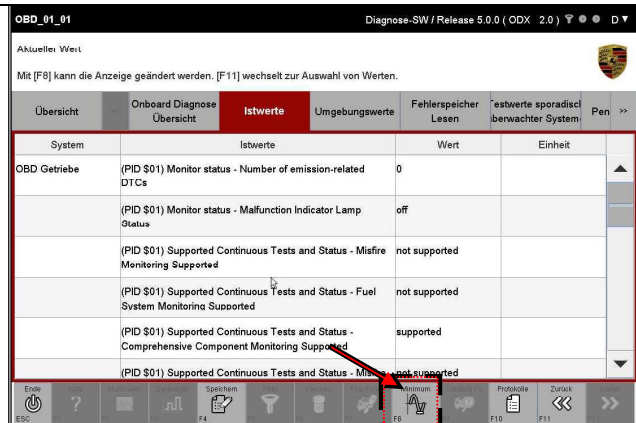
Select the desired actual values (A) and press the <F12> key (B).



3. The individual actual values are displayed with their measured values in the work screen.

With the <F8> key you can choose between the following representations of the actual value:

-  value  
 This selection shows you the actual value that is currently being read out.
-  minimum  
 This selection shows you the minimum of the values read out.
-  maximum  
 This selection shows you the maximum of the values read out.





What does ?? minimum ?? mean in this case? or ?? maximum ???

Based on the physically delivered values of the respective addressed control unit / system, the following relationship applies:

- The minimum is either the smallest lexical value (for a character string), the smallest number (for a number) or FALSE (for Boolean values). The range of validity and reference value is the duration of the measurement initiated.
- The maximum is either the largest lexical value (for a character string), the largest number (for a number) or TRUE (for Boolean values). The range of validity and reference value is the duration of the measurement initiated.
- The value is the current lexical value (for a character string), the current number (for a number) or TRUE or FALSE (for Boolean values).

## 9.6 Environmental values



What is an environmental value?

Ambient values are the elements that provide information about the circumstances that led to an entry in the error memory. They are therefore comparable to the environmental data of the diagnostic application (see Chapter 8.3.5).

### 9.6.1 Action-specific buttons in this function group

OBD scan tool: Environment data			
button	Label	Icon	description
F8	value		Pressing the <F8> key changes the display of the values to the current actual value.
F8	minimum		Pressing the <F8> key changes the display of the values to the current minimum.
F8	maximum		Pressing the <F8> key changes the display of the values to the current maximum.

### 9.6.2 Display of the environmental values

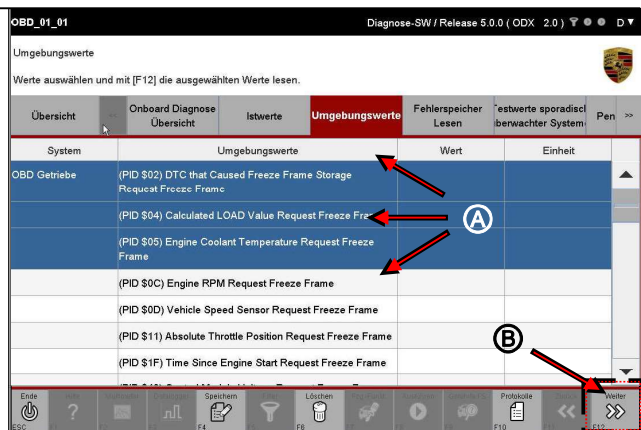
1. Select the desired systems or elements: See Chapter 9.3



2. Select the function group **Environment values**.




The available environmental values of the system are displayed in the overview screen.

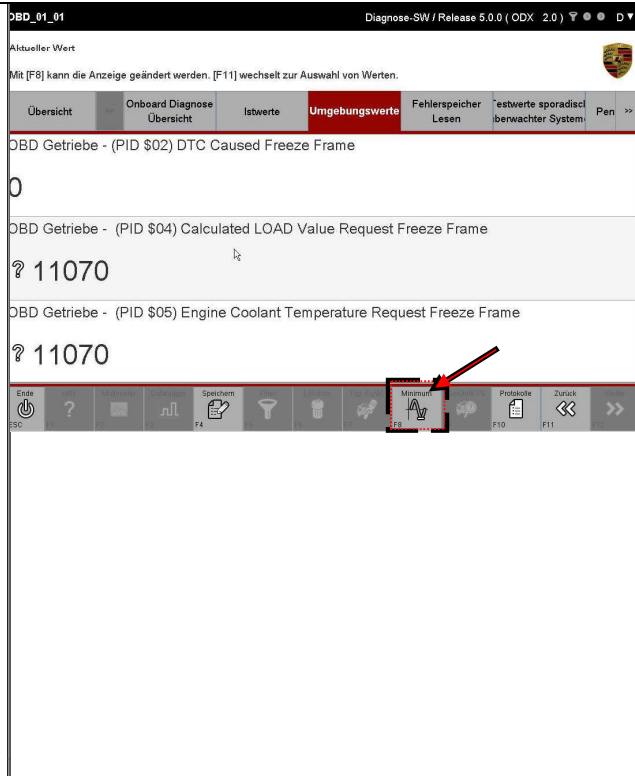
Select the required environmental values (A) and press the <F12> key (B).



3. The current ambient values are displayed on the work screen.

With the <F8> key you can choose between the following representations of the ambient value:

-  value  
 This selection shows you the currently read out value.
-  minimum  
 This selection shows you the minimum of the values read out.
-  maximum  
 This selection shows you the maximum of the values read out.



What does ?? minimum ?? mean in this case? or ?? maximum ???

Based on the physically delivered values of the respective addressed control unit / system, the following relationship applies:



- The minimum is either the smallest lexical value (for a character string), the smallest number (for a number) or FALSE (for Boolean values). The range of validity and reference value is the duration of the measurement initiated.
- The maximum is either the largest lexical value (for a character string), the largest number (for a number) or TRUE (for Boolean values). The range of validity and reference value is the duration of the measurement initiated.
- The value is the current lexical value (for a character string), the current number (for a number) or TRUE or FALSE (for Boolean values).




## 9.7 Read fault memory



Function description:

In this function group, you can see all the error memory entries of the drive or exhaust-gas-related systems that have been confirmed and thus declared as real errors. In contrast to permanent errors, these error memory entries are not stored in the non-volatile memory.

### 9.7.1 Action-specific buttons in this function group

OBD scan tool: Read fault memory			
button	Label	Icon	description
F8	FSP Extinguish		All error memories are deleted by <u>pressing</u> the <F8> key.
Decision question			
button	Label	Icon	description
F11	no		By pressing the <F11> key, you cancel an action with a query (e.g. an error memory should not be deleted as originally specified).  The <F11> key shown only occurs in combination with the <F12> key shown in the next line.
F12	Yes		By pressing the <F12> key, you confirm an action with a query (e.g. error memory should be deleted).  The <F12> key shown only occurs in combination with the <F11> key shown in the previous line.

### 9.7.2 Show fault memory

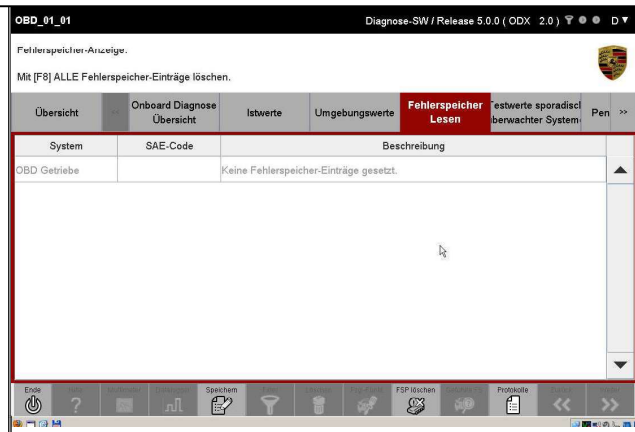
1. Select the desired systems or elements: See Chapter 9.3



2. Select the function group Read fault memory.

The system's error memory entries are displayed.

If there are no error memory entries, this will be indicated in the column description communicated by the system.



### 9.7.3 Clear fault memory

1. Have all the error memories displayed: See Chapter 9.7.2



2. Press the <F8> key.

You will be asked whether you want to delete all error memory entries. You have the following options:

?? Cancel the process with <F11>. You are returned to the list of error memory entries.

?? With <F12> you confirm that you want to delete all error memory entries.



## 9.8 Test values of sporadically monitored systems



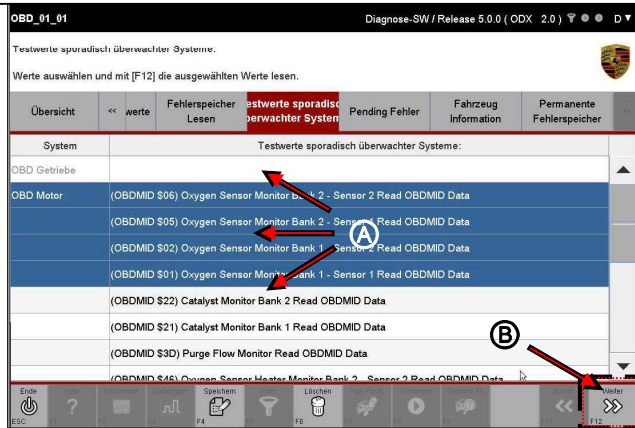
Which test values are displayed?

Within this function, values from onboard diagnostic systems are displayed, which special components / systems either monitor continuously (e.g. misfire monitoring) or read them out sporadically (e.g. catalytic converter system).

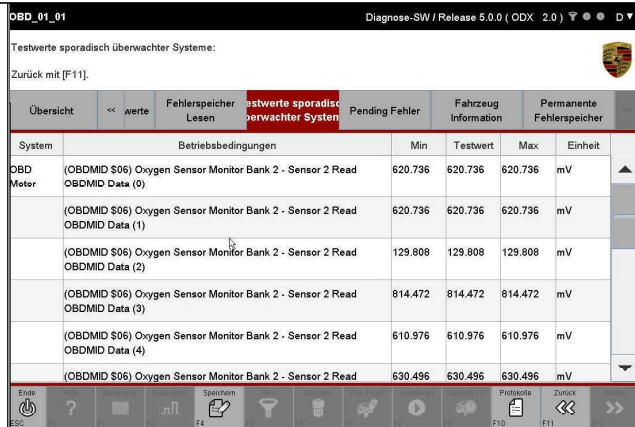
1. Select the desired systems or elements: See Chapter 9.3

2. Select the function group Test values sporadic monitored systems.

Select the elements for which you want to go further. Want to call up information (A) and press the <F12> key (B).



3. The information is displayed in the work area.



## 9.9 Pending error



What are pending errors?

Pending errors are errors that were discovered during the current or last completed driving cycle and that belong to the system of the powertrain or emissions-related systems.

The purpose of displaying this type of error is to help you locate current problems more easily after you have performed a repair, cleared diagnostic information, and then performed a single drive cycle. If a test fails during this trip, the corresponding error entry is generated and displayed.

Note:

The test result does not necessarily indicate a faulty component in the vehicle. If the error in question persists after an additional travel cycle, this error memory entry is set and you can then read it out using the Read error memory function group (see Section 9.7). Only then is it an indication that the component is defective.

### 9.9.1 Action-specific buttons in this function group

OBD scan tool: Pending error			
button	Label	Icon	description
F8	FSP Extinguish		By pressing the <F8> key, ALL error memories are deleted.
Decision question			
button	Label	Icon	description
F11	no		By pressing the <F11> key, you cancel an action with a query (e.g. an error memory should not be deleted as originally specified).  The <F11> key shown only occurs in combination with the <F12> key shown in the next line.
F12	Yes		By pressing the <F12> key, you confirm an action with a query (e.g. error memory should be deleted).  The <F12> key shown only occurs in combination with the <F11> key shown in the previous line.

9.9.2 Show pending errors

1. Select the desired systems or elements: See Chapter 9.3

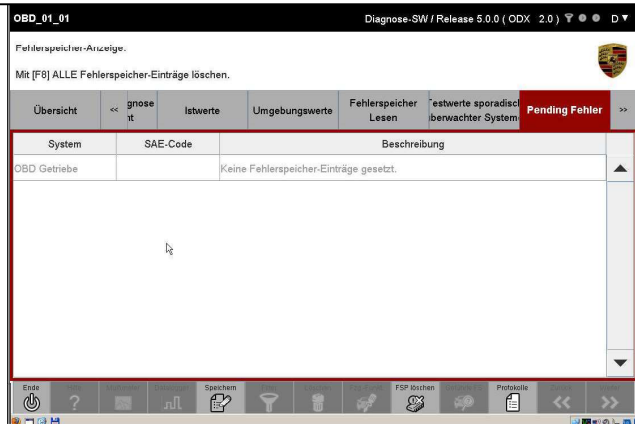


2. Select the function group

Pending errors.

The system's pending errors are displayed.

If there are no error memory entries, this will be indicated in the column description communicated by the system.



9.9.3 Clear all pending errors

1. Have all pending errors displayed: See Section

9.9.2



2. Press the <F8> key.

You will be asked whether you want to delete all pending errors. You have the following options:

?? Cancel the process with <F11>. You come back to the list of all pending errors.

?? With <F12> you confirm that you want to delete all pending errors.

## 9.10 Vehicle information



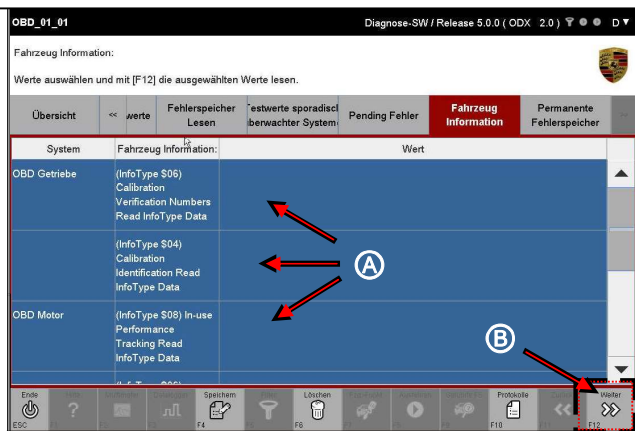
What is shown?

Vehicle-specific data such as the vehicle identification number VIN (Vehicle Identification Number) and calibration IDs are displayed.

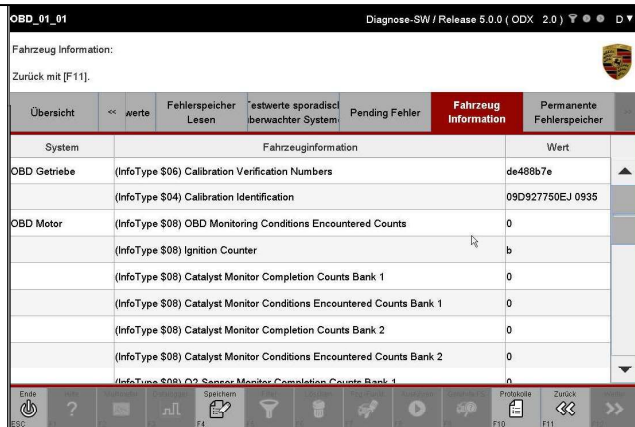
1. Select the desired systems or elements: See Chapter 9.3

2. Select the Vehicle Information function group.

Select the elements for which you want to go further  
Want to call up information (A)  
and press the <F12> key  
(B).



3. The information is displayed in the work area.



## 9.11 Permanent error memory






What is shown?

Entries that have been confirmed as errors are collected in the permanent error memory. The error entries are stored in the non-volatile memory until the monitor of the respective entry decides that the error is no longer present.

The task of the permanent fault memory is to prevent the possibility of passing a vehicle inspection simply by deleting the DTCs (fault memory entries) and then disconnecting the vehicle from the vehicle battery.

### 9.11.1 Action-specific buttons in this function group

Actual values / switching inputs / data logger			
button	Label	Icon	description
F8	FSP Extinguish		By pressing the <F8> key, ALL error memories are deleted.
Decision question			
button	Label	Icon	description
F11	no		By pressing the <F11> key, you cancel an action with a query (e.g. an error memory should not be deleted as originally specified).  The <F11> key shown only occurs in combination with the <F12> key shown in the next line.
F12	Yes		By pressing the <F12> key, you confirm an action with a query (e.g. error memory should be deleted).  The <F12> key shown only occurs in combination with the <F11> key shown in the previous line.

### 9.11.2 Show permanent error memory

1. Select the desired systems or elements: See Chapter 9.3

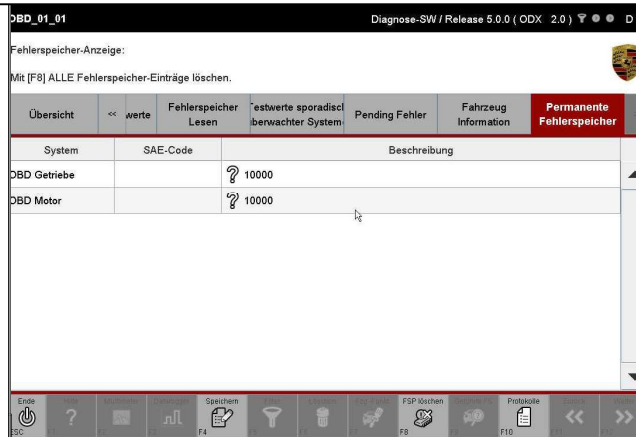


2. Select the function group

Permanent fault memory.

The entries in the system's permanent error memory are displayed.

If there are no error memory entries, this will be indicated in the column description communicated by the system.



### 9.11.3 Erase permanent fault memory

1. Have all the entries in the permanent fault memory displayed: See Chapter 9.11.2

2. Press the <F8> key.

You will be asked whether you want to delete all entries in the permanent error memory. You have the following options:  
 ?? Cancel the process with <F11>. You come back to the list of the permanent fault memory.  
 ?? With <F12> you confirm that you want to delete all entries in the permanent error memory.

# 10 special features of the interface

## 10.1 Display of groupings

In the PIDT application, diagnostic elements can be displayed both directly and in groups. If groupings have been defined in advance, the operation differs from the steps described in Chapter 8, since the corresponding element cannot be clicked on and selected directly, but the corresponding group must first be selected. The following examples illustrate the operation.

Example 1: Selection of several groups

1. Grouping level	2nd grouping level	3rd grouping level	
Group_Other>	F12 → Group_Other	Element 1	F12 → Parameter 1
Group_Installation List>	F12 → Gruppe_Body>	F12 → Element 2	F12 → Parameter 2
		Element 3	F12 → Parameter 3
		Element 4	F12 → Parameter 4
		Element 5	F12 → Parameter 5
	F12 → Group_Transmission>	Element 6	F12 → Parameter 6
		Element 7	F12 → Parameter 7

If you have selected several groups, some of which contain subgroups, the individual elements are not displayed until there are no more subgroups in the selection.

For the case shown in the example, this means: Select both Group\_Other as well as Group\_Installation List, becomes in the 2nd grouping level Group\_Other not resolved because in Group\_Installation List further subgroups (Gruppe\_Body and Group\_transmission) are included.

Select all groups of the 2nd grouping level (i.e. Gruppe\_Sonstiges, Gruppe\_Body and Group\_transmission) and press <F12>, then all elements are displayed. Since there are no more groupings, the content of Group\_Other displayed.

After selecting and pressing <F12>, the parameters are then displayed.

## Example 2: The group ALL

1. Grouping level	2nd grouping level	3rd grouping level	
ALL>	F12 →	Element 1	
		Element 2	
		Element 3	
		Element 4	
		Element 5	
		...	
Group_AB			

If there are groupings, you can select the group EVERYONE and press <F12> to display all elements of this group. In general, these are all elements of the respective function group.

It applies to the group EVERYONE however, the following restrictions:

- The content of the group EVERYONE is generated generically for the respective operating mode. The behavior in the respective operating modes can therefore differ for the group.
- Is the group EVERYONE and if there are other groups, the behavior shown in example 2 applies.
- Is the group EVERYONE does not exist and if there are other groups, the behavior shown in example 1 applies.



Example 3: elements that exist in several groups

1. Grouping level	2nd grouping level	3rd grouping level	
Group_Other>	F12 → Group_Other>	F12 → Element 1	F12 → Parameter 1
Group_Installation List>	F12 → Gruppe_Body>	F12 → Element 2	F12 → Parameter 2
		Element 3	F12 → Parameter 3
		Element 4	F12 → Parameter 4
		Element 5	F12 → Parameter 5
		F12 → Group_Transmission>	F12 → Element 6
			F12 → Element 7
Group_AB>	F12 → Group_AB>	F12 → Element 1	F12 → Parameter 1
		Element 4	F12 → Parameter 4
		Element 7	F12 → Parameter 8

By copying elements to individual groups, it can happen that elements in the 3rd grouping level - or lower, depending on the grouping level - are displayed several times (see Gruppe\_AB).

If all of these elements are selected, all parameters are displayed multiple times in the next screen.

## 10.2 Points of view

### 10.2.1 What types are there?



Requirement for the representation of the functional view:

For the representation of the functional view, a corresponding PTTD attribution must be available and this must be installed accordingly. In the attribution, compilations of function-oriented groups (to explain the term function-oriented group: see below) so that they can be displayed within the diagnostic application. Either no corresponding PTTD attribution is installed or there are none in this attribution. Function-oriented groups defined, the associated button for calling this view is grayed out and cannot be selected or no groups are displayed in the work area.

If the relevant requirements are met, you have the option of switching between two types of display:

- Representation using the normal control unit view. The data are grouped here according to their control unit affiliation and assigned to them. Subcomponents are shown indented under the respective control unit (see also description in Chapter 8.1). A grouped display of control units is also possible if a corresponding attribution was specified by the PTTD (see chapter 10.1).
- Representation by means of function-oriented groups. In function-oriented groups diagnostic services from control units are combined to form a virtual control unit.<sup>1</sup> The representation over function-oriented groups is called the functional view. You can then use the virtual control units to carry out a diagnosis as usual.

### 10.2.2 Control unit view

This is the normal view that is selected when the diagnostic application is started. The representation and the operating behavior can be found in the illustrations and explanations in Chapter 8.

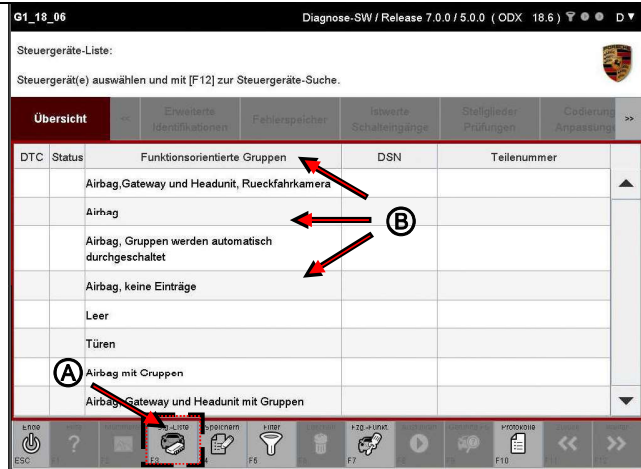
---

<sup>1</sup> Example: Elements of the control devices BCM\_front and BCM\_back are in a function-oriented group ?? Interior lighting ?? summarized.

10.2.3 Functional view

1. You call the functional view in the control unit list  
Press the <F3> key on (A).

The usual display in the form of the control unit list is then exchanged for a list of the Function-oriented groups (B).



10.2.3.1 Representation

- List of function-oriented groups<sup>1</sup>: The names of the function-oriented groups (e.g. ?? Interior lighting ??) are listed in the work area.
- Overview of the function-oriented groups<sup>2</sup> and individual function groups on the menu bar: The name of the function-oriented group (e.g. ?? Interior lighting ??) is displayed in the title line. The designation is positioned to the right of the project name, separated by a ?? - ??.

10.2.3.2 Selection / operation

1. Selection of a whole group: You have the option of in the List of function-oriented groups oneFunction-oriented group to select. If you have confirmed the \_\_\_ selection with <F12>, a search is started in which the control units belonging to this grouping are activated.

The result of this search will be in the Overview of the function-oriented groups (corresponds to the normal control unit overview). The representation takes place according to the point ?? Representation ?? (see above) described way. If one of the control devices of the function-oriented group cannot be addressed after the search, this control device is then grayed out and cannot be selected, all others are marked.

As usual, you also have the option of creating a function group in the

<sup>1</sup> Similar to the control unit list

<sup>2</sup> Similar to the control unit overview

The menu bar (e.g. extended identifications). For the function-oriented group Both the associated control units themselves and the respective services for the associated control units are then displayed in the function group of the menu bar (see also item ?? Representation ?? above). Don't have any function-oriented group is selected, you cannot select a function group in the menu bar.

2. Selection of a control unit of a function-oriented group: In Overview of the function-oriented groups you have the option of selecting individual control units from a function-oriented group.

Then the following action (e.g. calling up the function group error memory in the menu bar or selecting an action within the active function group) is only carried out for this control unit.

The representation takes place according to the point ?? Representation ?? (see above) described way.

If you would like to call up another control device or another function-oriented group, first go to Overview of the function-oriented groups back and make a new selection or selection. The return from other function groups to the overview is analogous to the control unit view.

## 10.3 Behavior of the menu bar

The menu bar can be deactivated, depending on the action that has just been carried out, in order to prevent unintentional switching to another function group.

Example: The menu bar is deactivated when writing a code. It is only activated again when the coding process has been completed.

## 10.4 Search for diagnostic items

You have the option of searching the ODX data of the ECUs for services or parameters. The <F3> key is available for this in the control unit overview after selecting at least one control unit.

In the vehicle-wide search screen, you have the option of entering a search term. The search is then carried out for the control units in the selection.

This chapter describes how to call up the vehicle-wide search and search for diagnostic elements.



Note on calling up the vehicle-wide search: You can use the function Vehicle-wide search only call from the control unit overview, not from the control unit list or from other function groups or work screens of other functions. You must have at least one control unit in the selection.

Note on the search area:  
The search area comprises a number of functional groups.

You can search for services and parameters within the following function groups:

- Extended identifications
- Actual values / switching inputs
- Actuators / tests
- Codings (these only in the coding type Manual coding without MCR)



You cannot search for individual ODX elements within the Maintenance / Repair search area, but you can search for the functions displayed in the checklist:

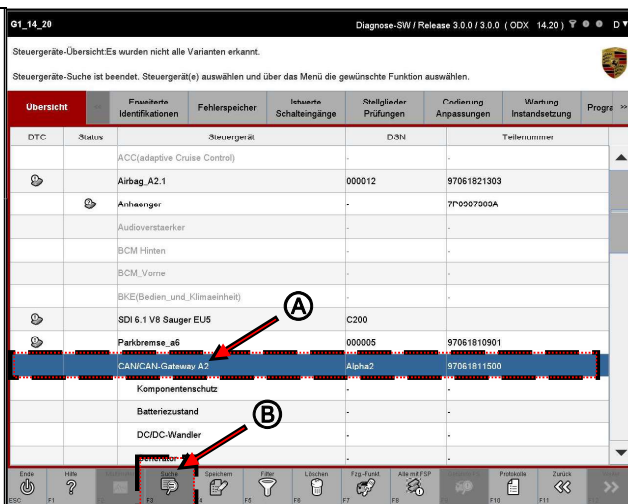
You can no Search for elements of the following functional groups and functions:

- Fault memory
- programming
- Log services
- Vehicle-wide functions (<F7>)

1. Display the list of installed control units or go to the control unit overview:

► See chapter 8.1.

2. Select the desired control devices in whose ODX You want to carry out the search (A) and press the <F3> key (B).



Note on entering the search term:

You can use the following wildcards when entering search terms:

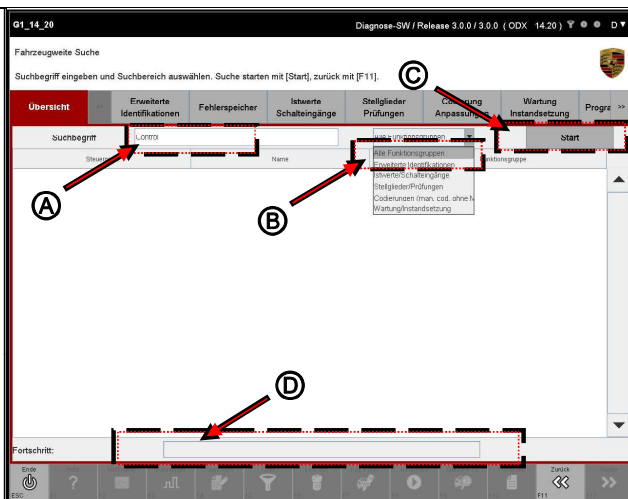


- \*: The asterisk is a placeholder for any number of characters.
- ?: The question mark is a placeholder for a single character.

3. The vehicle-wide search screen appears.

Enter a search term (A), select the desired search area (B) and press the Begin-Button (C).

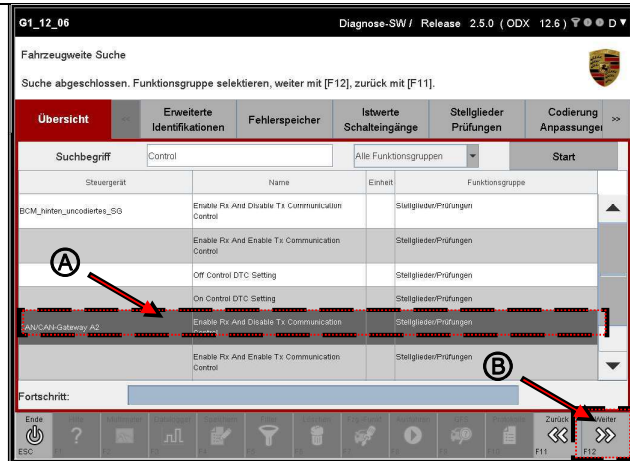
The progress of the search is indicated by a progress bar (D).





Note on the selectability of entries in the result list: You can only select one element.

4. Select the required entry (A) and press the <F12> key (B).



Note on the display in the respective function group:

The following display behavior applies depending on the function group in which the element found appears.

- **Extended identifications:** It will be the Work screen the function group called. All elements of the control units in the selection are displayed in the work screen. The elements selected in the vehicle-wide search are already marked.

You can run diagnostic services directly within the work screen.



- All other function groups that can be searched using the vehicle-wide search. It will be the Overview screen of the respective function group. All elements of the control units in the selection are displayed in the overview screen. The elements selected in the vehicle-wide search are preselected, ie marked. With <F12> (Next) you can switch to the work screen of the function group with the preselected elements and run diagnostic services there.





Note on the behavior with existing groupings in the then selected function group:

After selecting one or more elements of a function group and confirming with <F12>, the screen of the first grouping level is displayed. The groupings that contain the elements selected in the vehicle-wide search are already marked (for the display of groupings, see also Chapter 10.1).



Note on further action options in the called function group:

By selecting one of the function group buttons in the menu bar, you have the option of switching to another function group. In the function group that is then called, ?? regardless of the elements selected in the vehicle-wide search - the elements belonging to the control units selected in the control unit overview are displayed.

## 10.5 Change column order

### 10.5.1 Easy sorting

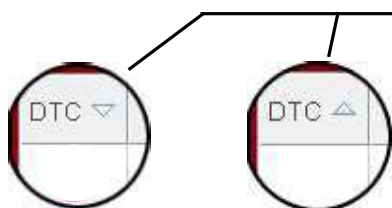


You can change the sorting direction of the displayed data. As you are used to from Office programs, you can do this by clicking on the respective table header.

The column sorting is described below as an example within the control unit overview.

#### 1. Sorting according to control units with a fault memory entry.

To do this, press the column header until the arrow points in the desired search direction.



DTC	Status	Steuergerät	DSN	Teilenummer
		BCM_hinten_uncodiertes_SG	000000	7PP907279
		CAN/CAN Gateway A2	Alpha2	97061811600
		Heckklappe A2_3	101110	4H0909107B
		Kombiinstrumentmodul_A2_4	000033	7PP953568A
		PDC_10_Kanal_A2_2	301001	97061818300
		Parkbremse_a6	000005	97061810901
		Luffederung G1 mit PASM_a2.1	000004	97061810500
		HUK	000004	97061810300
		Zusatzinstrument_A2.1	000006	97064130100
		ACC(adaptive Cruise Control)	-	-
		Airbag	-	-
		Anhaenger	-	7P0907383A
		BCM_hinten_uncodiertes_SG - Dachkonsole	-	-
		BCM_hinten_uncodiertes_SG - EC-Spiegel	-	-

### 10.5.2 Cancel sorting



If you would like to cancel the sorting, simply press the column header until the arrow indicating the sorting direction disappears again. The display of the elements in the work area is then again unsorted.

10.5.3 Nested sorting



You have the option of combining two sorting directions. Proceed as follows:

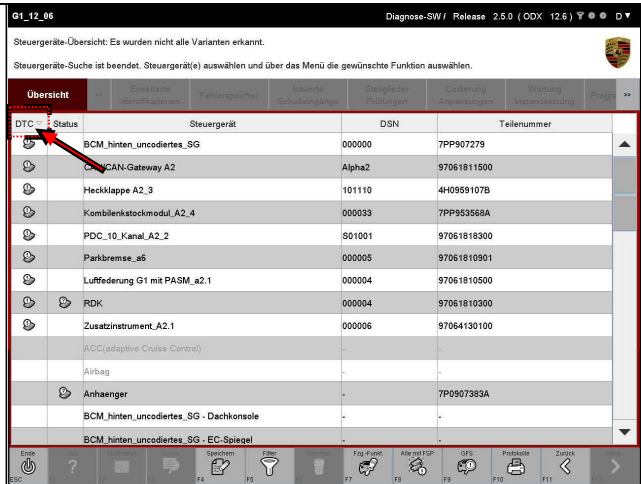
- First carry out a presorting within a column. The number of elements displayed in this column is then sorted as usual according to this first sorting criterion (see the examples above).
- Then sort by a second characteristic by clicking in the second column header. The sorting then takes place within the already presorted area.

Example: Control units with fault memory entries are to be sorted by part number

1. First sort according to control units that have a fault memory entry.

To do this, click in the column header of the column DTC.

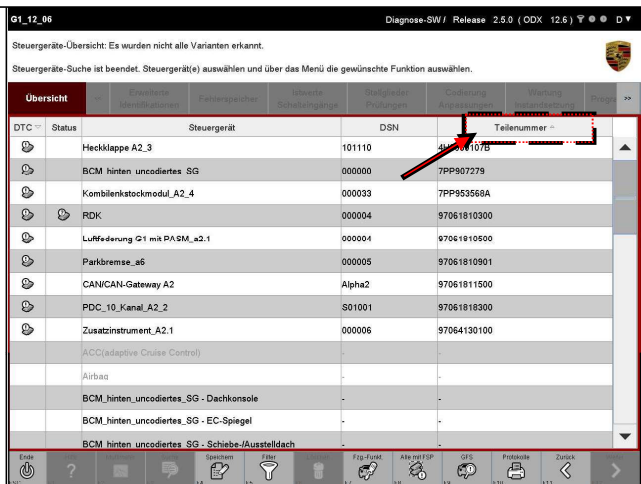
The sorting direction according to the first characteristic is indicated by a large triangle.



2. Then sort by part number.

To do this, click in the column header of the column Part number.

The sorting direction according to the second characteristic is indicated by a small triangle.



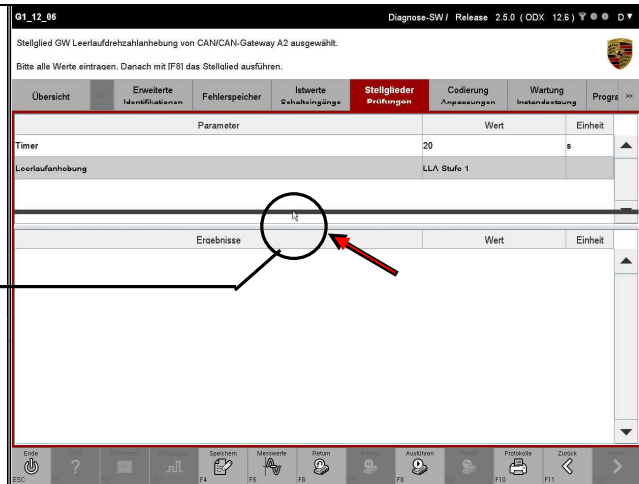
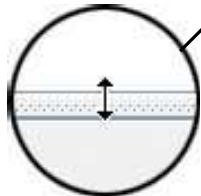
## 10.6 Move the dividing line



With two-part screens, you have the option of moving the dividing line between two areas of the work area. This is described below using the actuators / tests function group.

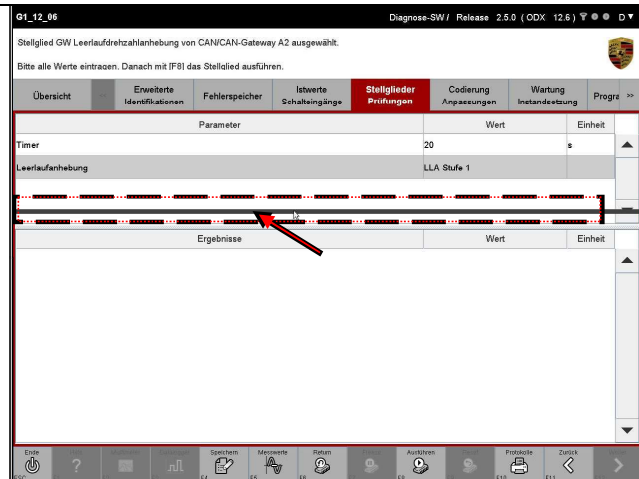
1. Move the mouse pointer over the dividing line, press the primary mouse button and keep it pressed.

If you are working on a touchscreen, touch the touchscreen at the point of the dividing line.

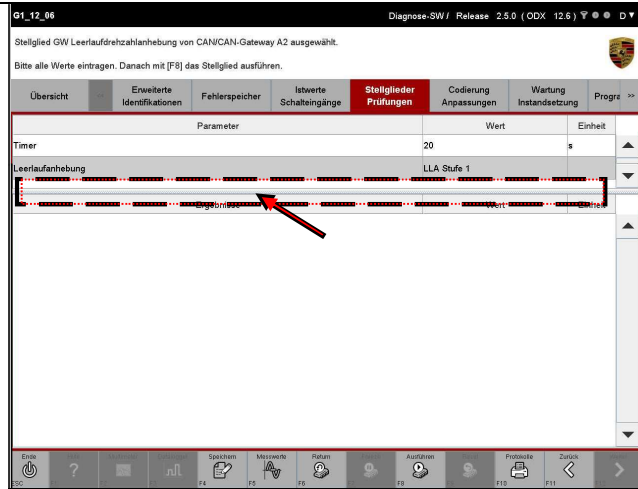


2. Then drag the dividing line in the desired direction.

Keep the primary mouse button pressed or keep your finger on the touchscreen while dragging.



3. Release the primary mouse button at the desired location or lift your finger off the touchscreen.



## 10.7 Change column width



In notebook mode, you have the option of changing the column width for displays in the work area in column form. You can flexibly adjust the display area according to your needs.

### Limitations:

The change in column width made is saved for one screen within a session. If you have made a change and called up a new screen via a function group or by pressing the <F11> or <F12> key, the change has not been accepted in this screen. However, you have the option of defining a new column width here again.

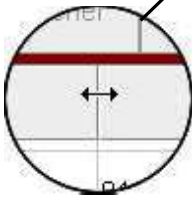
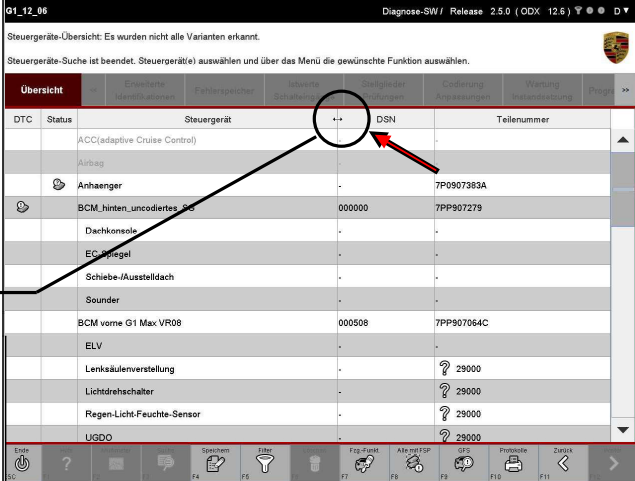


If you return to a screen in which you have already changed the column width, the display will be with the column width you have set and changed.

The column widths you have changed are not saved permanently. If you exit the diagnostic application and then call it up again, the column width changes you have made will be discarded and the column widths will be displayed with a default setting instead.

1. Move the mouse pointer over the vertical divider of the column delimitation and click the primary mouse button.

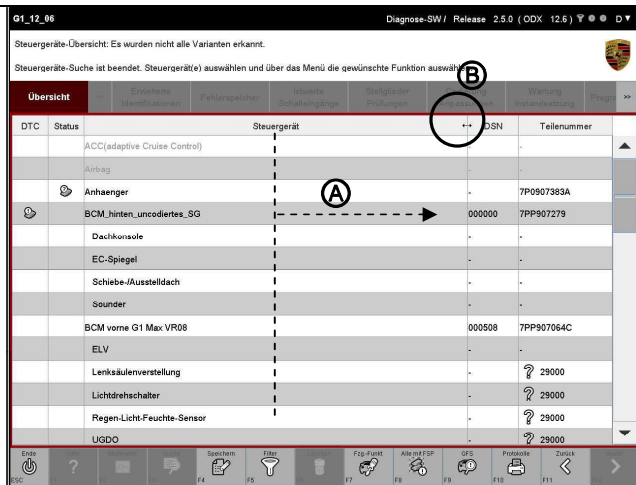
If you are working with a touchscreen, touch the at the appropriate point Touch screen.

DTC	Status	Steuergerät	DSN	Teilenummer
		ACC(adaptive Cruise Control)		
		Airbag		
		Anhaenger		7P0907383A
		BCM_hinten_Uncodiertes_85	000000	7PP907279
		Dachkonsole		
		EC-Spiegel		
		Schiebe-/Ausstelldach		
		Sounder		
		BCM vorne G1 Max VR08	000508	7PP907064C
		ELV		
		Lenksäuleneinstellung		? 29000
		Lichtdrehschalter		? 29000
		Regen-Licht-Feuchte-Sensor		? 29000
		UGDO		? 29000

2. Then drag the column separator with pressed primary mouse button to the desired position (A) and release the primary mouse button (B).

If you are working with a touchscreen, lift your finger off the touchscreen at the appropriate point.



## 10.8 Copy content to the clipboard

In notebook mode - and in all operating modes (E, P, V) - you have the option of copying the contents of the work area to the clipboard using a special mouse / key combination. You can choose between a single selection and a multiple selection.



### Selection:

With the mouse / key combination <ALT> + primary mouse button, the restriction of the single selection and the non-selectability of grayed out lines are temporarily deactivated.



### Copy and paste:

You copy the selected or marked elements to the clipboard with the key combination <CTRL> + <C>.

Paste the content copied to the clipboard into the target program (e.g. Microsoft WORD, Windows Notepad, Open Office etc.) with the key combination <CTRL> + <V>.



### Limitations:

However, frame thicknesses, shading, text formatting, selection bars and icons are not copied.

### 10.8.1 Texts

If there is only text in the source area and only this is selected, only this is copied to the target area.

### 10.8.2 Tables

Tables are copied to the clipboard as a CSV file with tab separation. Only the marked lines are copied, partial selection is not possible. It is possible to copy content across screen boundaries. The normal selection mechanism of the diagnostic application is used for the selection.



If you would like to include the contents of the clipboard in table form in another application (e.g. Microsoft WORD), you must first paste the contents into Microsoft EXCEL in order to generate the table structure. Only then can you insert the table into Word.



### 10.8.3 Icons

If there is a graphic in the source area, it will not be copied. This means that the corresponding icon cannot be inserted in the target area.

Instead, the textual equivalent stored for this graphic is also copied (e.g. for error memory priority, display of whether it is a request or a response, etc.). This ensures that important information is not lost during the copying process.










Icon	Textual depiction	meaning
	WARN	General warning, e.g. B. for fault memory in the control unit (warning)
	NOVI	Control unit variant was not recognized (No Variant Identification)
	REQ	Communication logging: Request
	RSP	Communication logging: Response
	ERR	Communication logging: Failure to run a service Codings and identifications: error while writing
	OK	Codings and identifications: Write OK
	CHGD	Codings and identifications: Value has been changed (Changed)
	WARN	Codings and identifications: The entered value does not correspond to the required type or value range
	DIGITAL	Actual values and switching inputs: The measured variable is a switching input

Figure 14: Textual equivalent of icons when copied to the clipboard

## 10.9 Create screenshots

In addition to copying the contents of the work area, you have the option of copying the complete image of the application (graphics, text, table structure, shading, frame, etc.) using a screenshot.



Make sure that the diagnostic application is in the foreground and is therefore running in the active window.

### version 1

1. Press the key combination <ALT> + <Print> on your keyboard.

The window image generated in this way can be integrated as an image in an application (e.g. Microsoft WORD).

### Variant 2

2. You can also use the key combination <CTRL> + <P> to save a screenshot on the hard drive. The storage directory for the created image is workspaceDirectory of the diagnostic application.

## 10.10 Multilingualism



You have the option of choosing other language packs in order to equip the software with a user interface in the language of your choice. In principle, the changeover can be carried out in two ways:

1. Via the Porsche basic system, which transfers the language version to the diagnostic application using a transfer parameter and sets it automatically when it starts.
2. During the runtime of the application: Here you can switch the language with just a few clicks via an icon in the title bar of the display window.

The following describes how to switch the language at runtime using the icon.



Please note: Time required for the changeover

Changing all texts to the desired target language can take up to 20 seconds.



Note: mix of languages in the display

In E mode, the texts to be displayed are obtained directly from the ODX data and output on the screen.

Since control units of a series are partially parameterized by VW and partially by PAG and the data is input at VW in English and at Porsche in German, the display can contain a mix of German and English texts.

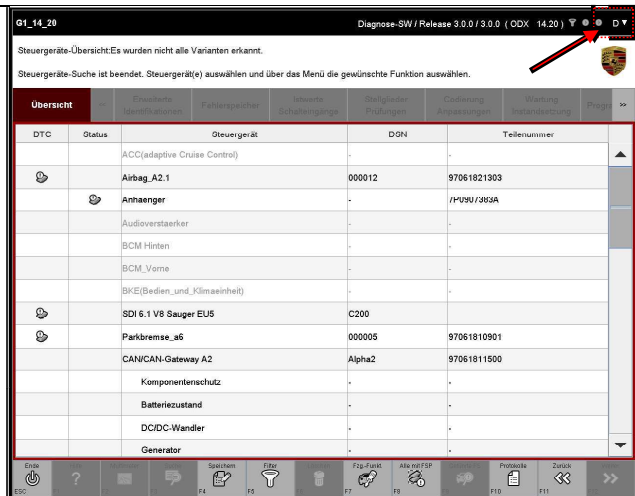
In all operating modes it can also happen that no displayable text has been defined for the selected language version. In this case, the text is automatically displayed in a "fallback language" or, if this is not defined, the developer text. If this is not defined either, a number, the text ID, is displayed.

1. Find the following icon in the top right corner of the title bar:



Click it with the primary mouse button.

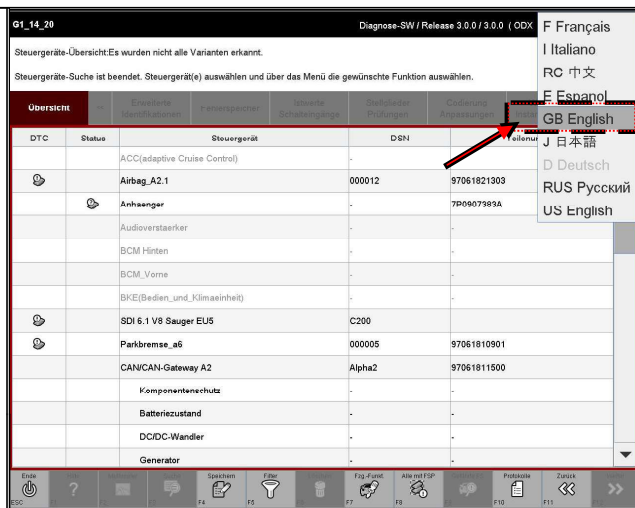
If you are using a touchscreen, touch the touchscreen at the appropriate point.



2. A drop-down menu appears in which you can set the desired language. The languages are displayed in a list.

To do this, click on the corresponding language version.

The drop-down menu disappears and the language is set.



Cancel the selection:

If you would like to exit the drop-down menu without setting a new language version, simply click in an empty area of the workspace.

## 10.11 Context sensitive help

You have the option of displaying information on elements of the work area. The <F1> (Help) key is available in the control bar for this purpose.



### Selectability:

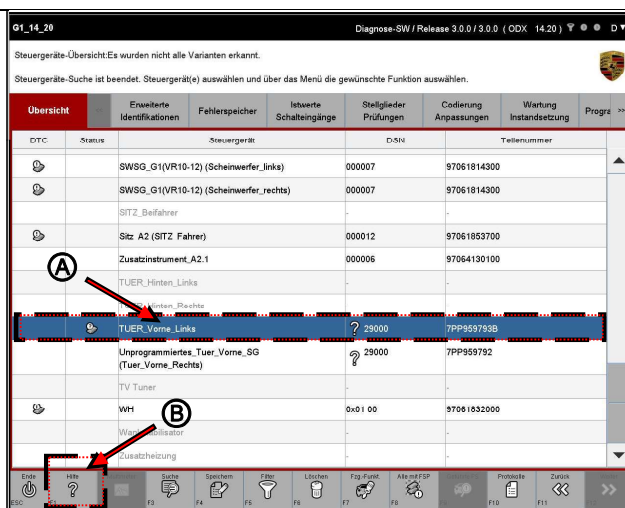
In order to be able to call up the help function, you may only have selected one element. If you have several elements in the selection, the <F1> key is not active.



### Restriction:

The help function is currently not available for all elements.

1. Select an element (A) and press the <F1> key (Help) (B).



### Note on representation:

Click on an element that starts with a ? - Icon and an error code and then press the <F1> key, a key menu appears first. This key menu has two entries:



- Help.  
Click the Help entry if you want to call up a help text for the selected control unit.
- Error message.  
Click the Error Message entry if you would like to receive a detailed error message.

If only one error code is specified in the column, you will receive a detailed error message when you click on <F1>.

If there is no error code in the column, you will receive an information text for the respective control unit when you click on <F1>.

2. It will be available to you in a pop-up window standing information is displayed.

To close the window and return to the working screen, press the OK-Button.

#### Kontextsensitive Hilfe

##### CAN/CAN-Gateway A2 - DC/DC-Wandler

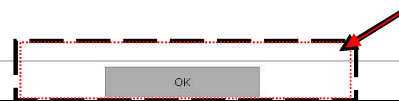
Über LIN mit Gateway verbunden, nicht G1.  
Bei anderen Baureihen in Verbindung mit Start/Stop-Mehrausstattung verbaut.

##### 12V DC/DC-Wandler für Start/Stop

G1: Ansteuerung über CAN (da Slave von BCM)  
G1H: hat kein DC/DC-Wandler, erfolgt über Leistungselektronik (CAN)  
E2/9x1: Ansteuerung über LIN  
E2H/9x1H: hat kein DC/DC-Wandler, erfolgt über Leistungselektronik (CAN)

##### Generator

G1: Ansteuerung über CAN (da Slave von Motorelektronik)  
G1H: hat kein Generator, erfolgt über Leistungselektronik (CAN)  
E2/9x1: Ansteuerung über LIN  
E2H/9x1H: hat kein Generator, erfolgt über Leistungselektronik (CAN)



## 10.12 Input Validations



Within the diagnostic application, manual entries, i.e. entries that you enter with the keyboard and that cannot be selected via drop-down menus, are checked during entry.

The check is carried out against previously stored specifications. These specifications are stored in two files:

- Global validation file in workspacePath: ??Porsche \ PIDT \ Pidt \ workspace \ input-validations.xml
- Specific validation file in the respective series directory path, e.g. B. .. \Porsche \ PIDT \ Pidt \ workspace \ vehicleplatform \ g1 \ input-validations.xml

The entries from both files are used. If there are duplicate entries, those entries in the series-specific file have priority and are used for the validation.

A validation entry has the following form:

```
<simple-input-validator>
  <input-key>          ID          </input-key>
  <validation-rule>   rule        </validation-rule>
  <message-key>       Reference to a text  </message-key>
</simple-input-validator>
```

The individual elements have the following meaning:

XML tag	meaning
<input-key>	Identification tag with which the rule can be found.
<validation-rule>	As a rule, it is determined which input is allowed. The rule is defined according to the following convention: [Character range] {0, character length}  The range of characters can include both numbers and letters. Areas are marked with ?????? marked, further areas or rule elements are simply appended to previous ones.
<message-key>	This is a reference to the text to be displayed.  The message key is the file messages.xml to be taken (path to the file: ?? \ Porsche \ PIDT \ Pidt \ workspace \ messages.xml).

The following messages are in the messages.xml already prepared:

Message key	Textual equivalent
GENERIC_VIN_HELP	The entry must begin with WP, be 17 characters long and consist only of numbers or letters.
GENERIC_TEXT_3_HELP	The entry must be a text with a length of exactly 3 characters.
GENERIC_TEXT_4_HELP	The entry must be a text with a length of exactly 4 characters.
GENERIC_TEXT_5_HELP	The entry must be a text with a length of exactly 5 characters.
GENERIC_TEXT_6_HELP	The entry must be a text with a length of exactly 6 characters.
GENERIC_TEXT_8_HELP	The input must be a text with a length of exactly 8 characters.
GENERIC_TEXT_11_HELP	The entry must be a text with a length of exactly 11 characters.
GENERIC_TEXT_16_HELP	The input must be a text with a length of exactly 16 characters.
GENERIC_NUMBER_30_HELP	The entry must be a number with a maximum length of 30 characters.
GENERIC_NUMBER_8_HELP	The entry must be a number with a length of exactly 8 characters.

Example:

```
- <simple-input-validator>
  <input-key> motor type </input-key>
  <validation-rule> [0-9A-Za-z] {0.5} </validation-rule>
  <message-key> GENERIC_TEXT_5_HELP </message-key>
</simple-input-validator>
```

If you entered incorrectly in a corresponding text field, this would generate the following German text in the information area:

?? The input must be a text with a length of exactly 5 characters. ??