



POLAR FIS ADVANCED

USER MANUAL FOR

AUDI A3/S3/RS3 8P

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1. INTRODUCTION

Thanks for purchasing Polar FIS, along this manual; you will learn all functions of your new Polar FIS box.

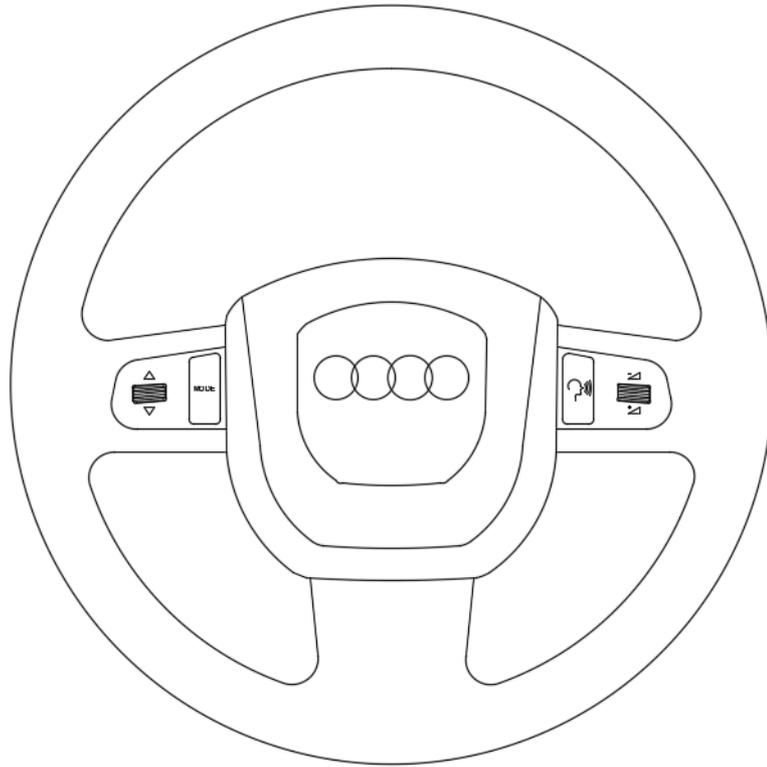
After install Polar FIS, you will see that the tw top text line son FIS screen, where radio information was shown before, now indicates the text *Km/h*:



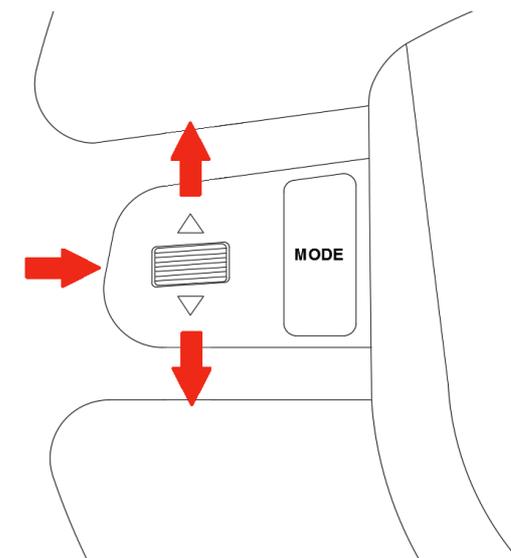
This is because Polar FIS uses these lines to show its information, however, you can visualize radio information if you want accesing your Polar FIS configuration screen and choosing RADIO as you will see ahead in this manual.

2. CONTROLS

To control your Polar FIS, you need to use your left side multifunction steering Wheel controls (Polar FIS will not work correctly in vehicles with not multifunction steering Wheel equipped).



Para move up and down in the Polar FIS screen you should turn the wheel in the left side



You can scroll in the Polar FIS configuration menú turning the Wheel up/down.

If you press the wheel you will choose the selected option. Along this manual, **OK** button will be mentioned, this refers always to press that wheel.

3. CONFIGURATION MENU

To Access Polar FIS configuration menu, press and hold the OK button in the multifunction steering Wheel, and after a few seconds, the next screen will be displayed in FIS:



In the top of the screen is always signalized the menu name, in this example, you can read *Main menu*, this means we are in the main screen of the Polar FIS configuration menu.

The main menu screen has the next options:

- **Screen:** Use it to configure your Polar FIS.
- **Stopwatch:** Access to the stopwatch functions.
- **Comfort:** Comfort functions.
- **Diagnosis:** Access to the diagnostic coding functions.
- **Version:** Shows Hardware and Software version number as well as of your Polar FIS serial number.
- **Info:** Show the information about you vehicle Electronic Control Units.
- **Update:** Enter Polar FIS into update mode.
- **Reset:** Perform a reset of Polar FIS.
- **Switch off:** Switch off Polar FIS.
- **Fact. settings:** Restore Polar FIS settings to factory.
- **Radio:** To visualize radio information.
- **Back:** Exit from menu screen to the Polar FIS main screen.

3.1. SCREEN.

Inside this screen you can configure the options of Polar FIS, this screen consist in the next options:

- **Visualization.**
- **Buttons.**

Choose the option **Visualization** to select the parameters that you desire to show in the Polar FIS main screen, as well as to access advanced configuration or change the Polar FIS menu name.

Choose **Buttons** to switch the function of each button while FIS is displaying the Polar FIS screen.

3.1.1. SCREEN-VISUALIZATION.

In this screen, you will find the next options:

- **Parameters.**
- **Advanced.**

Choose **Parameters** to select the parameters that you desire to show in the Polar FIS main screen.

Select **Advanced** to access advanced configuration of Polar FIS.

3.1.1.1. SCREEN->VISUALIZATION->PARAMETERS

Inside this menu, you can configure each parameter displayed in each Polar FIS desktop, as well as set the number of desired desktops.

To a better understanding of it, Polar FIS has from 1 to 10 configurable desktops, each one with a configurable parameter set, once configured desktop parameters, number of desktops, and a button to switch between them, you can switch quickly from one desktop to another from the Polar FIS menu using the programmed button.

In the *parameters* screen, you will have the next options:

- *Screen 1*
- *Screen 2*
- *Screen....*
- *Screen qty.*

The number of *Screen ...* options depends on how many desktops you have configured. To configure the desired number of desktops, enter in *Screen qty.* and select the desired number of desktops.

To modify the parameter set of one desktop, select the option *Screen* followed by the number of desktop that you want to configure, in example, to modify the desktop 1, choose *Screen 1*.

2.1.1.1.1 SCREEN->VISUALIZATION->PARAMETERS->SCREEN x

Inside this menu, you can configure the desired parameters to show in the selected desktop.

Depending on the desktop configuration, you will see the next options:

- *Parameter 1.*
- *Parameter 2.*
- *Parameter qty.*

You can configure your Polar FIS to show 1 or 2 parameters per desktop:

When selected 1 parameter, parameter text is show in the top line and parameter value is shown in bottom line.

When selected 2 parameter, only parameters value will be shown, parameter 1 value is shown in top line and parameter 2 is shown in the bottom line.



1 Parameter screen



2 Parameter screen

If you want to modify the displayed parameter of one position, simply choose the selected position (*parameter 1* or *parameter 2*) and the available parameters list will be displayed to select the desired value.

IMPORTANT INFORMATION:

In some values, the parameter text starts with the ! Character, this means that this is a requested or calculated value.

Not all parameters are available for all engine ecus, to know which parameters will be available for your engine ecu, please use that document:

http://www.auto-polar.com/downloads/FIS_ADVANCEDSUPPORTED_ECUS.xls

3.1.1.2. SCREEN->VISUALIZATION->ADVANCED

From this screen, you can access to the advance characteristics of Polar FIS, the next options are available:

- **Boost options.**
- **!Boost options.**
- **Oil options.**
- **Tank capacity.**
- **Press. units.**
- **Torque adj..**
- **Lambda opt.**

Boost options: From this screen you can select the desired bus to read the boost pressure, there are 4 options available:

- **Automatic:** Polar FIS will switch the optimal bus to read it.
- **Infort x1:** Polar FIS will use the infortainment bus for read boost pressure.
- **Infort. x2:** Polar FIS will use the infortainment bus, but reading will be multiplied by 2.
- **Diagnostic:** Reading will be done from the diagnostics bus.

!Boost options: Configures the reading of the engine ecu demanded boost pressure, there are 2 options:

- **Absolute:** Reading will not be altered..
- **Relative:** Atmospheric pressure will be subtracted from the read value.

Oil options: Configures the bus from which the oil temperature will be read, there are 3 options:

- **Automatic:** Polar FIS will switch the optimal bus to read it.
- **Infort x1:** Polar FIS will use the infortainment bus for read.
- **Diagnostic:** Reading will be done from the diagnostics bus.

Tank capacity: Use it to obtain the best accuracy in the remaining fuel liters parameter. Due to the vehicle does not indicate readings of more than 52 liters, it is recommended that if your fuel tank exceed of 52 liters, you configure it.

Prior to make this adjustment, it is requested that fuel tank is full and you know the capacity of it in liters, due to this will be required in screen.

Press. units: From this screen you can choose the desired units for pressure readings from:

- **Mbar** (Millibar).
- **Bar.**
- **PSI.**

Torque adj.: Used in engine tuned vehicles in which the torque is rescaled and this results in wrong torque or power readings in Polar FIS. If you see that your vehicle does not show the maximum torque or power values indicated by your engine tuner, use that option to introduce your stock and actual (tuned) torque in order to get a more exact reading of torque and power.

Lambda opt.: Configure the mode of Lambda value, there are 3 options available:

- **Standard:** The value is represented like read from engine ecu.
- **AFR:** The value showed is the result of multiply the engine ecu reading by 14,7.

Emul. BT: Here, you can enable or disable the function of White dot FIS hands free unit compatibility. If your vehicle has a BT hands free unit for red dot FIS, you can see the **Telephone** menu in the FIS screen, but if you install a BT hands free unit for white dot FIS, this menu will not be available anymore, enabling that function, Polar FIS will make the needed conversions, to show the **Telephone** menu, with a White dot FIS unit installed.

3.1.2. SCREEN->BUTTONS.

Access to this screen to modify the buttons functions while FIS screen is displaying Polar FIS.

Once you enter in that screen, you will see the list of configurable buttons, select which you desire to configure:

- **Up button.**
- **Down button.**
- **Ok button.**

After select the desired button, a list with all available functions for this button will be displayed:

- **Off:** No function for this button.
- **Screen -:** Switch desktop -.
- **Screen +:** Switch desktop +.
- **Voice control:** Voice control.
- **Volume -:** Decrease audio volume.
- **Volume +:** Increase audio volume.
- **Track -:** Previous audio track.
- **Track +:** Next audio track.

IMPORTANT INFORMATION:

Due to there are several models and possible coding for Radio/Navigation units, it's not possible to guarantee the VOLUME, TRACK and VOICE CONTROL functions will work in all vehicles.

3.2. STOPWATCH

From this screen you will access to the available stopwatch modes.

- **Acceleration:** To measure time between 2 desired speeds.
- **Lap:** To measure lap times.

Acceleration stopwatch: This stopwatch has the next configuration options:

- **Start speed:** Introduce here the speed at which stopwatch start.
- **End speed:** Introduce here the speed at which stopwatch stops.
- **Start:** Start stopwatch.

Once you start the stopwatch, the acceleration stopwatch screen will be shown. The stopwatch does not start until the starting speed is not reached. If you want to measure from stopped vehicle, switch 0 as start speed, and the stopwatch will start once the vehicle start movement.



If after a measure you want to do another one, it is not necessary to exit from stopwatch screen, simply press the OK button until stopwatch time resets to 00.00.000

To exit from stopwatch screen, press and hold the OK button.

Lap stopwatch: In this stopwatch mode, the next screen will be displayed:

While stopwatch is on lap mode, you can see your **Actual**, **Best** and **Last** lap times sliding up/down the wheel from your multifunction steering wheel

To start the stopwatch, press the OK button, and time will start, after that, every OK button press will mean a lap. If you exit from the stopwatch screen, simply press and hold the OK button.

3.3. COMFORT.

Inside this screen, you can configure the comfort options of Polar FIS, depending on your vehicle configuration, the next functions will be available:

- **Mirrors:** Configure the automatic mirror dipping function when parking.
- **Blinkers:** Configure the number of blinks for comfort turn signals.
- **Windows:** Configure all Windows related functions.

3.3.1. COMFORT->MIRRORS

Access this screen to configure the automatic mirror dipping function. Inside this screen, you will find the next options:

- **Mode:** Configure the mode of functioning.
- **Position adjust:** Configure the mirror *Driving* and *Parking* position.
- **Offset:** Positioning fine adjustment.
- **Offset mult.:** Positioning vast adjustment.

Mode: Inside this screen, you can configure the mode of mirror dipping feature, there are 3 possible configurations:

- **Off:** Deactivated.
- **Manual:** Enabled only when mirror switch is in R position.
- **Auto:** Available only when manoeuvre is signaled with the passenger side blinker, independently of the mirror switch position.

In *Manual* mode, it is required the mirrors switch in R position, in that case, when you engage the reverse gear, passenger mirror will go down to *Parking* position, and when reverse gear is disengaged, mirror will go up to the *Driving* position

Automatic mode, is similar to *Manual* mode, but, to enable it is required to signalize the manoeuvre of parking with the passenger side blinker, once you signalize with the blinker, the passenger mirror will go down to *Parking* position when reverse gear is engaged, and goes up to driving position when reverse gear is disengaged. This will be done automatically until the vehicle doesn't exceed 20 Km/h speeds, if you drive above that speed, Polar FIS will understand that the Parking manoeuvre is finished and you are on the road, and for the next Parking manoeuvre, you must signalize the manoeuvre with the blinker again.

NOTE: If you have installed Polar FIS in your vehicle, it will be not possible to configure the *Mode* until you do not configure the mirror *Driving* and *Parking* positions.

Position adjust.: From this option, you can configure the *Driving* and *Parking* mirror positions. To do it, enter in this screen and follow the next steps requested on screen.

- Select the R position in the mirror switch.
- Place the passenger mirror into *Driving* position (this is the mirror position that you use to drive).
- Place the passenger mirror into the *Parking* position (this is the desired position when you go to park your vehicle).
- Switch desired *Mode*: The previously described modes.

Offset: Due to vehicles that has no Factory fitted the automatic mirror dipping feature does not have encoder to indicate the mirror position, Polar FIS use time base to positioning the mirror. Unfortunately this is not the best mode for positioning, so this means that in some vehicles after an up and down mirror cycle it does not return to its original position

If you note that after some up and down mirror cycles mirror goes more and more lower, you must switch a positive offset value.

If you note that the mirror goes more and more higher, the offset value must be negative.

Unfortunately, there is not an exact value for all vehicles, so the best way is try to modify offset value one by one and test with some up and down cycles until you find the correct adjustment.

Offset mult.: In the rare case that you have reached the offset maximum value and the mirror still does not reach the original position, this value must be modified. This value is a multiplier for the offset value, which means, that in example if you have set the *Offset* value to 5, and *Offset mult.* Value to 1, the final offset value will be $5 \times 1 = 5$. If you change *Offset mult.* to 2, the final offset value will be $5 \times 2 = 10$.

IMPORTANT INFORMATION:

There is a minimum ecu numbers that are not compatible with the mirror dipping feature which can result in:

- Automatic mode would not work if R position is not selected in the mirror switch.
- Full malfunctioning of mirror dipping feature.

3.3.2. COMFORT->TURN SIGNALS.

From this screen you can select the number of blinks for the Comfort turn signals, the available configuration values are:

- **3 Blinks.**
- **4 Blinks.**
- **5 Blinks.**
- **6 Blinks.**
- **7 Blinks.**
- **8 Blinks.**
- **9 Blinks.**
- **10 Blinks.**

IMPORTANT INFORMATION:

When more than 3 blinks are selected, Polar FIS disable the comfort turn signals option in the Bordnetz ecu and start to manage the blinks by itself.

If you remove Polar FIS from the vehicle with more than 3 blinks configured, this will result that comfort turn signals is deactivated and you will only have one blink, so if you want to remove Polar FIS from your vehicle, we recommend to select 3 Blinks prior to remove Polar FIS.

3.3.3. COMFORT->WINDOWS.

From this screen, you can enable or disable all functions related with vehicle windows, there are two features:

- ***One touch open.***
- ***Auto. closing.***

One touch open: When you unlock your car using the remote, if hold pressed the open button, after a time, the windows will start to go down, but if you release the open button, windows will stop. Enabling this feature, windows will reach the full open position even if you release the button

Auto. closing: If you activate this featured, all Windows will be closed automatically after a period of pre-programmed time, once you closet he car with the remote. That time will be requested you to configure after enable the feature.

3.4. DIAGNOSTICS

From this screen, you can do the most common coding tasks, like with a diagnostics tool. Please note that only thing that Polar FIS do is modify the ecu coding and if function is not supported by your ecu, it will be not possible to enable the feature

The available options are:

- **Rain sensor:** Modify the automatic rain sensor sensibility percentage.
- **Lights sensor:** Modify the automatic lights sensor percentage.
- **DRL lights:** Enable or disable the Daytime Running Lights, depending on the vehicle configuration, may be up to 4 available options:
 - o **Off:** Deactivated.
 - o **Position lights:** Position lights are used.
 - o **Fog lights:** Front fog lights are used.
 - o **On w/turn sign.:** Indicate if lights can be active with turn signals active.
- **Turn lights:** enable or disable the cornering lights, depending on vehicle configuration, may be up to 3 options;
 - o **Off:** Deactivated.
 - o **Fog lights:** Front fog lights are used.
 - o **Off w/reverse:** Indicate if lights can be active while reverse gear is engaged.
- **American DRL.:** Activate and deactivate American Daytime Running Lights and modify its brightness.
- **2nd Fog light:** Activate or deactivate second rear fog light if car has it equipped.
- **Warning lights:** activate or deactivate the warning lights in case of hard braking:
 - o **Off:** Deactivated.
 - o **Brake:** Active using rear braking lights.
 - o **Turn signals:** Active using turn signal lights.
- **Rain closing:** Activate or deactivate the automatic rain closing feature
 - o **Off:** Deactivated.
 - o **Single:** Feature is active, but must be confirmed from the FIS configuration menu in each ignition switch on.
 - o **Permanent:** Feature permanently activated.
- **10Kmh closing:** Activate or deactivate the automatic door closing when vehicle reach 20 Km/h of speed:
 - o **Auto-Lock:** When vehicle reach 20 Km/h door locks will be automatically closed.
 - o **Auto-Unlock:** When vehicle key is removed from the key fob, door lock will be automatically opened.
- **One touch closing:** Activate or deactivate the automatic window closing with the remote.
- **RNS510 menu:** Activate or deactivate the RNS-510 navigation unit hidden menu.

IMPORTANT INFORMATION.:

The features described on this section are not available on all ecus, it depend on the vehicle ecu versions.

3.5. VERSION.

From this screen you can see of data about your Polar FIS (Serial number, hardware and software version) sliding the wheel from your multifunction steering wheel.



To exit to main menu, simply press any key.

3.6. INFO.

In this screen, you can see information about car ecus:

- **Engine ECU:** Shows the information about the Engine ecu.
- **Bordnetz ECU:** Shows the information about the Bordnetz ecu.
- **Comfort ECU:** Shows the information about the Comfort ecu.
- **Gateway ECU:** Shows the information about the Gateway ecu.
- **Debug:** Internal box debug information only useless in case of technical assistance needed.



3.7. UPDATE.

Use that option to update your Polar FIS firmware, prior to choose **update**, connect Polar FIS to your computer using a USB cable and then select **Update** from the Polar FIS configuration menu, you will observe that Polar FIS menu will disappear from FIS screen, do not worry, this is normal.

Now, using Internet Explorer x86 (x64 version is not compatible), enter in the next link:

<http://www.auto-polar.com/index-load-support.htm>

In the link there are also instructions to configure Internet Explorer in the case that you experience issues updating.

Once you have finished updating the box, simply disconnecting the USB cable and Polar FIS menu will be available again in the FIS screen.

3.8. RESET.

Use that option to reset your Polar FIS in case of any issue, or if it is indicated by our technical service. Do not worry about your adjustments, due to they will be loaded again, because are stored in the Polar FIS internal memory.

3.9. SWITCH OFF.

Use that option to switch off Polar FIS and remove Polar FIS menu from FIS screen. After choose, a message requesting confirmation will be shown, choose **Yes**, and then switch off the ignition and remove the key from the key fob. At last, close the car with the remote and wait for approximately 2 minutes. After that, you can switch ignition on again and Polar FIS menu will disappear from FIS screen.

To recover Polar FIS menu, simply switch on ignition and press and hold OK button during 20 seconds, with it, Polar FIS menu will be available again.



3.10. FACTORY SETTINGS.

Use that option to restore all Polar FIS settings to Factory defaults, please note that this will reset all adjustments that you have done in you Polar FIS.

4. NOTES

Polar FIS will register itself automatically into the Gateway module, so it is not necessary to do it with any diagnostics tool.

Due to some parameters are read using diagnostics communication, please do not connect any diagnostics tool or gauge to the vehicle OBD-II port while FIS screen is displaying Polar FIS menu. In case that you want to use OBD-II port, please prior to do that exit from Polar FIS screen in example to MFD screen, if you do not do that, it will resume in communication faults in diagnostics tool as well as in Polar FIS, and a reset can be necessary, also diagnostics tool will be unable to connect to vehicle.

Due to hardware requisites, Polar FIS is placed between gateway and Infotainment bus, so if you want to remove Polar FIS from your vehicle, be sure to remove its cable as well, or it can cause battery drainages.

5. **ANNEX 1: PARAMETER LIST.**

TEXT	MEANING
Km/h	Vehicle real speed
Out. °C	Vehicle outside temperature
RPM	Engine rpms
Batt. V.	Battery voltage
Fuel Lit.	Fuel litters in fuel tank
IOil °C	Calculated engine oil temperature
Oil °C	Measured engine oil temperature
Amb. °C	Ambient (engine bay) temperature
Intake °C	Intake temperature
Coolant °C	Engine coolant temperature
Motor °C	Coolant temperature at the engine outlet
Radiat. °C	Coolant temperature at the radiator outlet
Fuel °C	Fuel temperature
!Boost mb	Requested boost pressure
Boost mb	Measured boost pressure
Atm. mb	Atmospheric pressure
Intake mb	Intake manifold pressure
!Fuel bar	Requested fuel pressure
Fuel bar	Measured fuel pressure
F. rail bar	Fuel rail pressure
Brake bar	Brake pressure
Brake b. bar	Brake booster pressure
!Load %	Calculated engine load
Load %	Measured engine load
M.A.F. 1	Mass Air Flow Bank 1
M.A.F. 2	Mass Air Flow Bank 2
Pedal 1	Accelerator pedal sensor 1
Pedal 2	Accelerator pedal sensor 2
Valve 1	Accelerator valve sensor 1
Valve 2	Accelerator valve sensor 1
Torq. nm	Engine actual torque
Power CV	Engine actual power
Oil level	Engine oil level in mm. above alarm level
M. oil lev.	Engine minimum oil level reached in mm. above alarm level
Inj. tim.	Injection timing
A. °BTDC	Ignition angle+B52
Mis.	Misfire sum in all cylinder
Mis. 1	Misfire sum cylinder 1
Mis. 2	Misfire sum cylinder 2

TEXT	MEANING
Mis. 3	Misfire sum cylinder 3
Mis. 4	Misfire sum cylinder 4
Mis. 5	Misfire sum cylinder 5
Mis. 6	Misfire sum cylinder 6
Mis. 7	Misfire sum cylinder 7
Mis. 8	Misfire sum cylinder 8
Mis. 9	Misfire sum cylinder 9
Mis. 10	Misfire sum cylinder 10
Mis. 11	Misfire sum cylinder 11
Mis. 12	Misfire sum cylinder 12
D. 1 °KW	Angle delay cylinder 1
D. 2 °KW	Angle delay cylinder 2
D. 3 °KW	Angle delay cylinder 3
D. 4 °KW	Angle delay cylinder 4
D. 5 °KW	Angle delay cylinder 5
D. 6 °KW	Angle delay cylinder 6
D. 7 °KW	Angle delay cylinder 7
D. 8 °KW	Angle delay cylinder 8
D. 9 °KW	Angle delay cylinder 9
D. 10 °KW	Angle delay cylinder 10
D. 11 °KW	Angle delay cylinder 11
D. 12 °KW	Angle delay cylinder 12
Exh. 1 °C	Exhaust gas temperature bank 1
Exh.2 °C	Exhaust gas temperature bank 2
Catal. °C	Catalyst temperature
Lambda 1	Lambda factor bank 1
Lambda 2	Lambda factor bank 2
LTFT1-3	Fuel trim bank 1
LTFT2-4	Fuel trim bank 2
!N75 %	Requested N75 valve duty cycle
N75 %	Measured N75 valve duty cycle
Inj. m/str	Injection quantity
St. °BTDC	Injection start
Dur. °KW	Injection duration
St. q. nm	Injection Start quantity
D.1 m/str	Injection quantity cylinder 1
D.2 m/str	Injection quantity cylinder 2
D.3 m/str	Injection quantity cylinder 3
D.4 m/str	Injection quantity cylinder 4
D.5 m/str	Injection quantity cylinder 5
D.6 m/str	Injection quantity cylinder 6
D.7 m/str	Injection quantity cylinder 7

TEXT	MEANING
D.8 m/str	Injection quantity cylinder 8
D.9 m/str	Injection quantity cylinder 9
D.10 m/str	Injection quantity cylinder 10
D.11 m/str	Injection quantity cylinder 11
D.12 m/str	Injection quantity cylinder 12
EGR1m/str	EGR valve duty cycle bank 1
EGR2m/str	EGR valve duty cycle bank 2
!Control %	Requested charge pressure control
Control %	Measured charge pressure control
EGT °C	Exhaust gas temperature
DPF1 °C	Diesel particle filter temperature bank 1
DPF2 °C	Diesel particle filter temperature bank 2
DPF1 Ash L.	Diesel particle filter oil ash volume bank 1
DPF2 Ash L.	Diesel particle filter oil ash volume bank 2
DPF %	Diesel particle filter filling level
Regen.	Diesel particle filter regeneration counter
DPF in °C	Diesel particle filter input temperature
DPF out °C	Diesel particle filter output temperature
Side G	Vehicle side G force
DPF Km.	Distance driven since last DPF regeneration
AdB tank	AD-BLUE Filling level
AdB used	AD-BLUE grams used
!F. rail bar	Requested fuel rail pressure
!Dur. °KW	Requested injection duration
!St. °BTDC	Requested injection start
!Lambda	Calculated lambda factor
!DPF g.	calculated DPF filling
DPF status	DPF regeneration status
DPF mb	DPF differential pressure
Lambda I 1	Lambda adaptation at idle bank 1
Lambda I 2	Lambda adaptation at idle bank 2
Lambda P 1	Lambda adaptation partial bank 1
Lambda P 2	Lambda adaptation partial bank 2
!Torq. nm	calculated engine actual torque
Torque DSG nm	DSG torque reduction
Torque red.	Torque reduction
EGT S1 °C	Exhaust gas temperature sensor 1
EGT S2 °C	Exhaust gas temperature sensor 2
EGT S3 °C	Exhaust gas temperature sensor 3
EGT S4 °C	Exhaust gas temperature sensor 4
Gen. load	Generator load
Alt. power W	Alternator power

TEXT	MEANING
HVAC nm	HVAC compressor torque
HVAC bar	HVAC compressor pressure
Long. G	Vehicle longitudinal G force