

WEngineering

Product: Silver/BlackBox

SilverBox



BlackBox



Overview displayed signals

-  - Vehicle speed [Km/h or mph]
-  - Torque [Nm]
-  - Engine power [PS]
-  - Boost pressure [Bar or psi]
-  - engine speed [rpm]
-  - Engine oil temperature [°C or °F]
-  - Outside temperature [°C or °F]
-  - G force[m/s²]

Overview displayed signals



- WMI injection duty [%]

- Accelerator pedal [%]

- Exhaust temp [°C or °F]

- Engine water temp [°C or °F]

- WMI injection time [s]

- MAF [g/s]

- Intake temp [°C or °F]

- Gear box temp [°C °F]

Overview displayed signals

-  - Injection timing [$^{\circ}$] (Only Petrol)
-  - Lambda
-  - rail pressure [Bar]
-  -Pressure before DPF (Only Diesel)
-  -DPF difference pressure (Only Diesel)

Display operating concept

1. Screen Dash -> Boost

3. Hotkey for exhaust flap control and display of the boost pressure. The maximum deflection learns automatically while driving



2. Injection duty

1. Logo

1. Go to next screen
2. Go to injection screen
3. Quick button to control the OEM exhaust flap

Display operating concept

1. Screen Dash -> Torque

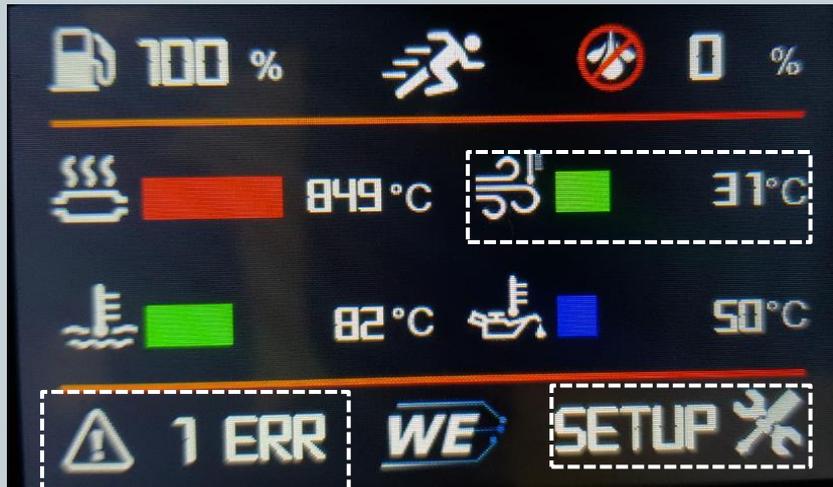
Torque. The maximum deflection learns automatically while driving



For vehicles without automatic/DCT transmission, the coolant temperature is displayed in this area. Change in setup possible.

Display operating concept

1. Screen Dash -> Temperature



3. As soon as a max. Value is exceeded, an error is entered. With a click on the button, the environment data can be viewed, e.g. how high the boost pressure, engine speed, power, etc. was.

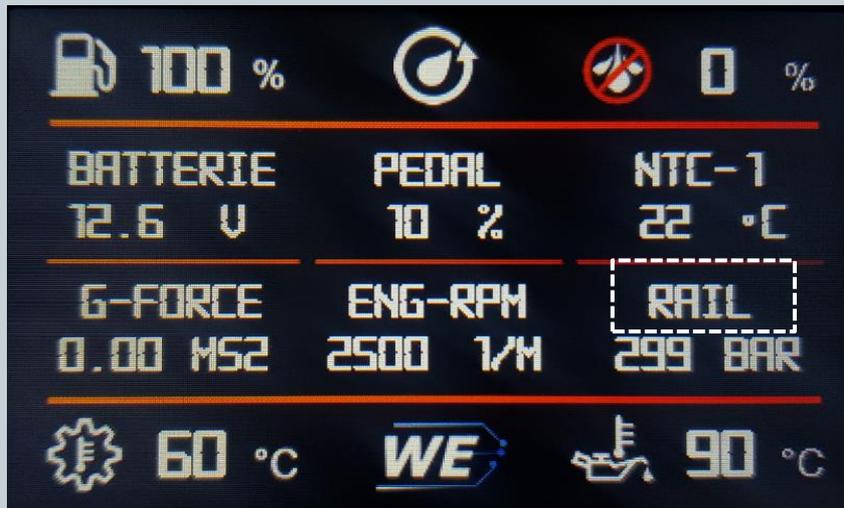
2. If the set min. Value will not reached, the bar turns "blue"
If the max. Value is exceeded, the bar changes from "green" to "red".

1. „ Setup “The limit values can be configured individually here

Temperature		Error	
Oil T	50	WaterT	82
Exh T	199	BoostT	31
Power	39	Torque	110
RPM	2500	Speed	202
Boost	1.230	Rail	299
MAF	34	RESET ERR	
PREV	NEXT	BACK	

Display operating concept

1. Screen Dash -> Custom Screen



In this menu 6 values can be displayed according to your own needs.

To configure a different signal click on the text.

Display operating concept

1. Shift flash

This area flashes as soon as the maximum set speed is exceeded



Set limit rpm for each gear number

Display operating concept

1. Screen Injection (WMI)

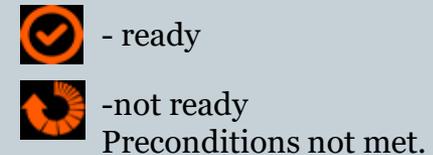
1. Displays the current injection profile. You can select a different profile by tapping the symbol. With the F / G models, the corresponding injection profile is automatically loaded with the vehicle profile.



2. WMI tank level.
Percentage display
only if a flow sensor is
available.



3. System Status

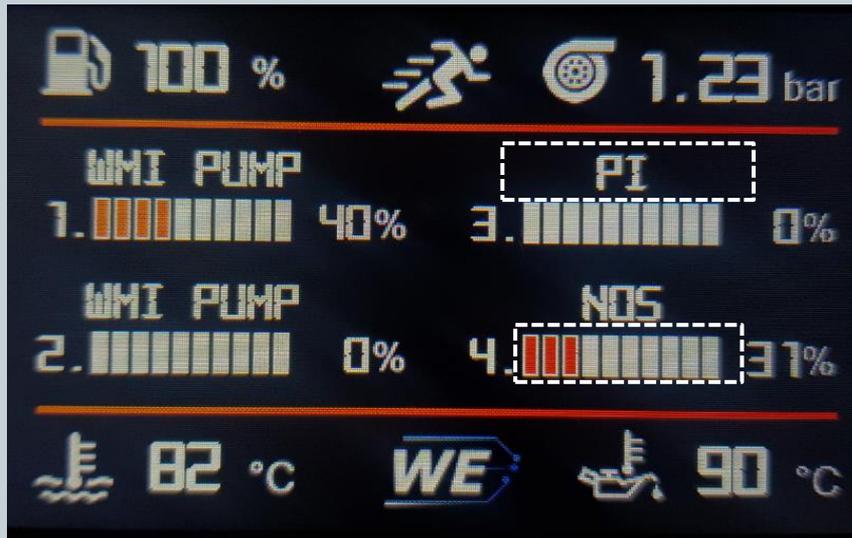


4. WMI injection duty [%] and flow rate in [cc].
In the configuration software you can set which PWM output is to be used for this.

Display operating concept

1. Screen Injection (PWM-Test)

The BlackBox control unit has 4 PWM outputs, the SilverBox 2 PWM outputs. In this menu the status of the outputs can be viewed and put into a test mode.



1. Which function was configured for the respective PWM output in the software.

Test function activation:

To activate the test function, press to the name of the respective PWM output. After confirmation, the name changes to "TEST". Deactivation is done in the same way. Each time you press the bar, the value increases by + 25%. After 4s the control will automatically set to 0%.

Display operating concept

1. Screen Injection (Digital outputs)

The BlackBox control unit has 3 digital outputs, the SilverBox 1 digital output. In this menu the status of the outputs can be viewed and switched to manual mode.



1. Display whether the output is controlled automatically or manually by touch.

Manual mode activation:

Press Automatic / Custom. As soon as "Custom" appears, you can set the output yourself by touch.

Display operating concept

1. Screen time measure

1. Measure

2. Time

3. Status



- Timeout



-Active
Measure



-Measurement
ok

The vehicle speed signal can be corrected in the Functions -> Setup -> Adjust menu

Display operating concept

1. Screen Graph



4 values can be configured as required in the graph. To do this, press the name of the signal. In the further menu you can set the signal and the scaling.

To trigger the recording function, the "Record" symbol must be pressed. The update of the values freezes and the status "Wait" is displayed. This means that the accelerator pedal position is waited for at least 90%. As soon as this condition is met, the status changes from "Wait" to "Rec" and the recording is started. This stops automatically after 25 seconds. The recording can then be viewed in peace. The recording can be stopped at any time by pressing the symbol again.

Display operating concept

1. Screen Maximum

In this menu, the maximum values of the individual signals are automatically recorded while driving. Reset is done with "RESET"

Press
on the area to see the
environment data.

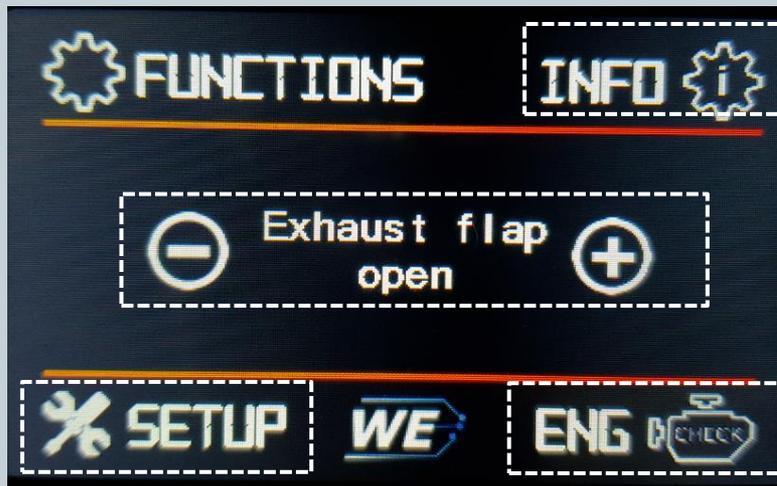
MAX VALUE DETAIL			
Power	387 <	Torque	639
RPM	4260	VSpeed	196
Boost	1.230	Rail	299
G->X	1.478	MAF	34
Oil T	100	Exh T	249
Boost T	31	Gear	6

PREV NEXT BACK



Display operating concept

1. Screen Functions



Info: Click here for the Info screen. All version information as well as the serial number can be read in this area

Control of the exhaust flap with "+" or "-". In the "Auto" status, the engine control unit takes over control

Eng Check: Reading and deleting the fault memory (DTCs)

Setup: Go to settings menu which is described on the next page.

Display operating concept

1. Screen Functions -> Engine Check (DTCs)

Count of DTCs



Error Code

Error status

-  1. Error does not currently exist, but was saved
-  2. Error was entered in this driving cycle and is present.

Read DTCs

Delete DTCs

Display setup

1. Screen Functions -> Setup General



Design available:

1. Always white
2. White by day and orange by night
3. Always orange

IMPORTANT:

To enable the diagnostic interface for the workshop or **logging data**, please set "Car Service = On" **Otherwise no communication via an external tester is possible because it will be used by Silver/Blackbox!** While the „Car Service mode = On“ then are following signals on Silver/BlackBox side not available: **Boost pressure**, lambda, ignition timing, intake temperature, exhaust temperature, rail pressure.

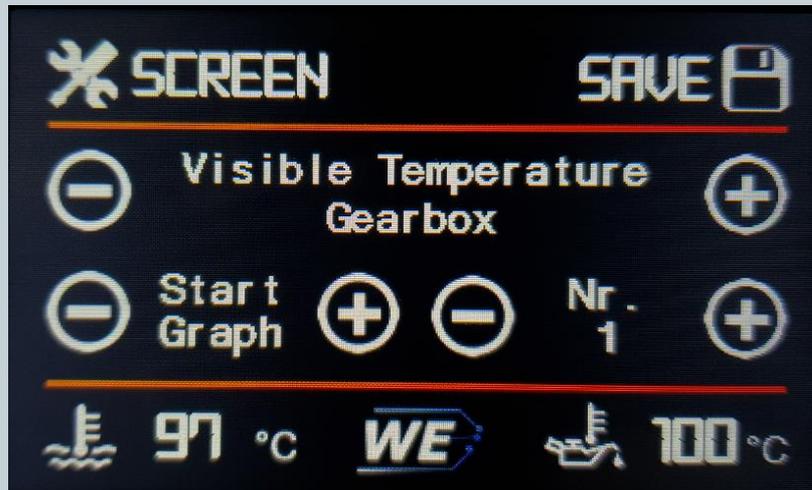
With F / G models, it is advisable to switch off the ignition after activating the Car Service and wait until the instrument cluster goes out completely, then the diagnostic interface will be released on the car side and you can start logging data via external tester.

You can optionally switch off the display via the Car Service.

Normal display operation takes place with Car Service "Off".

Display setup

1. Screen Functions -> Setup Screen



Visible Temperature:

Whether the transmission temperature or water temperature should be displayed in the dash.

Start screen:

Here you set which menu should be started automatically.

Save:

Settings only take effect after they have been saved.

Display setup

1. Screen Setup -> Adjust



In this setup menu it is possible to correct the displayed power and speed.

Adjust Power:

The correction of the displayed power is usually necessary after a map optimization. Most tuners do not adjust the torque map after an optimization, so the correct power is not shown in the display.

Adjust Speed:

The vehicle speed can also be adapted to the GPS speed. This is necessary to make a 0-100 or 100-200Km / h measurement more accurate.

A correction is made in percentages and in 0.5% steps.

E.g. displayed speed = 100Km / h, V GPS = 102Km / h. A correction of + 2% is therefore necessary.

Display setup

1. Screen Setup -> WMI



Start Profiles:

For vehicles in the Exx series, this is where you set which injection profile (ECO, Sport, Performance) is loaded at each start.

In the case of the Fxx / Gxx models, the assignment of the injection profiles to the vehicle profiles is configured here.

First select the appropriate driving profile in your vehicle and then select the desired injection profile with "+" or "-".

Nozzle Size:

What is meant is the sum of the installed nozzles and their flow rate @ 100Psi.

E.g. you have 2 nozzles of size 5 (375ml @ 100PSI) of Snow Performance = $2 \times 375\text{cc} = 750\text{cc}$

Display setup

1. Screen Setup -> Units



Speed:
km/h or mph

Pressure:
bar or PSI

Temp:
°C or °F

Control via steering wheel buttons

1. Operation of the display via steering wheel buttons (only F / G models)



1. With the help of the wiper button on the MFL, you can quickly switch between the individual screens. To do this, press the wiper slightly up or down.

Top = forward, Bottom = back

2. In order to get to a desired menu more quickly, the wiper can be pushed all the way up or down. The main menu appears. Repeat this function until the selection is in the desired position. You can access the submenu by pressing the wiper lightly or by waiting for 5 seconds.



Control via steering wheel buttons

2. Operation of the display via steering wheel buttons (only F / G models)



If an exhaust flap has been installed at the factory, this can be controlled using the "Res" button

A function can be triggered in the corresponding menu by pressing the rocker for 2 seconds.

2 sec up = read error memory

2 seconds up = reset maximum values

2 sec up = trigger a recording in the graph

2 seconds down = delete fault memory



Control via steering wheel buttons

3. Control injection profiles via steering wheel buttons (only F / G models)



This function is only available for vehicles without an exhaust flap.

Press RES for 2 seconds = change between injection profile "Eco" and "Performance"

Examples:

Current profile = Eco -> Performance

Current profile = Performance -> Eco

Current profile = NOT Eco -> Eco

Briefly pressing the RES button always switches to the next injection profile.