

VFIZ



Installation Manual

Date: 28 May 2014.

Legal Disclaimer:

Although I made comprehensive test of each VFIZ device and believe it is well tested and safe, I assume no responsibility for damages caused by the installation nor use of the VFIZ .

I can't guarantee that the VFIZ will function flawlessly in all circumstances nor don't disturb key car functionality.

Installation should be performed by experienced user or expert and even in some countries modification to car have to be approved by appropriate authorities probably.

It is responsibility of the user to check legal status of car modification and usage of VFIZ module in usage area, and particularly don't use it on public roads in case if it is not allowed.

Be careful, don't allow other usage to distract you while driving !

Qmatis, Mariusz Proszczek

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1 About

The VFIZ is embedded research computer which allow to monitor car's health and performance parameters directly in a car via Instrument Cluster FIS, for exemple while are you on trip and don't have access to service equipment. It allows to Read and eventually clear Diagnostic Trouble Codes or trigger user configured alarms which will inform driver when some important parameters limits are exceeded.

The VFIZ fits behind Instrument Cluster and is not visible to other people. Installation is easy, there is only need to insert plugs and make adaptation of tachometer once. The VFIZ act as Telematic in car infotainment system thus VFIZ can't cooperate with factory Telematic in a car.

The VFIZ integrates seamlessly with existing car infotainment so you don't lost normal operation of Navigation system or MFSW or Bluetooth module.

The VFIZ is recalled by fast double press of left button (**MODE**) on **Multi Steering Wheel**. This is **Mode** (or **Telephone Mode** in case of Audi A4/B6) button which is next to left roller on MFSW. This button is used to recall phone set functionality normally.

If you press this button single time the button operates in standard way recall phone functionality so you don't loose factory equipment functionality.

For predefined measures there is possibility to use S.I. Unit system or U.S. Unit system, other units systems possible on request.

There is also possibility to choose user interface language at runtime, English, German, French or Polish. Other language support can be easily added after providing translation resource file.

1.1 Requirements

The VFIZ prefers color display but can work also with red FIS display. Anyway on color looks many times better due high resolution and multi-color. The VFIZ uses Multi Function Steering Wheel (MFSW) or multi-purpose dial placed near handbrake for controll.

1.2 Features

The VFIZ can be build in two different hardware revision Standard and Extended. Standard version has almost all software features, Extended version add support for external sensors, has more data memory and longer warranty period.

1.2.1 Standard version

- Displaying users chosen parameters in RDS area (over fifty different parameters, e.g. RPM, Speed, Coolant temperature, Oil temperature, Intake air temperature, most of them are listed in Appendix A)
- Display multiple user configured screens with chosen car parameters
- Display Measuring Values Blocks gathered directly from CAN bus or over OBD protocol
- Both KW1281 and KW2000/2089 supported over k-line and can-bus
- Reading, decoding and displaying Diagnostic Trouble Codes – DTC
- Clearing Diagnostic Trouble Codes – DTC
- Plot user chosen parameter over time
- Measuring different acceleration time e.g. from 0 – 100 km/h, 0 – 96 km/h, 60 – 90km/h, 0 – 200km/h, etc..
- Alarms – user configurable audible and visible alarms when configured parameter limits are exceeded
- Welcome message
- Open Ceremony – Tachometer needle sweep after ignition off
- Plug & Play install, no factory harness modification needed, only Instrument Cluster adaptation
- Seamless integration with car equipment

- User upgradable by USB cable
- Standard warranty period to 24 months

1.2.2 *Extended version*

Extended version add some additional features:

- support for connecting four additional analogue external sensors:
 - two type K thermocouples for Exhaust Gas Temperature (EGT) or Cylinder Head Temperature
 - two sensor with voltage output for Oil Pressure Sensor, Turbo Rotational Speed sensor, additional Boost sensor, etc. (there is also optional possibility to configure one input to support resistive output sensor like common Oil Pressure sensors)
- integrated relay for configurable driving external circuit to be used in future
- additional storage memory to future usage, for example for label files, more DTC descriptions, additional graphics
- faster screen updates by around 50%
- extended warranty period to 48 months

1.2.3 *Customized version*

We can also made some custom / intermediate configuration with combination of features and prices on request.

2 Installation

The VFIZ need to be connected between existing car wiring and Instruments Cluster. First you need just to pull out masking cover just under instrument cluster (see picture below). After removing masking cover there will be two screws which has to be unbolt - marked by red circles below.

Hint: It is best to cover steering casing with soft cloth to avoid scratching while pulling out Instruments.



Illustration 1: Instrument Cluster - Masking - removal.

Now it is possible just to pull out Instruments and remove factory blue and green plugs from Instruments. First you need to carefully release blocking and lift levers.

After removing them from Cluster you need to plug them into the VFIZ module.

2.1 Connecting VFIZ - rev. \geq C

Later versions of VFIZ (revisions starting from C, since Q3/2013) uses single socket in module with wiring extension harness compatible to given car model. You should insert corresponding car plugs in extension harness and second ends into Instrument Cluster.

Plug for VFIZ can be recognized by that it has splitting cable and it is marked additionally.

Don't try to insert tacho plugs into the VFIZ or VFIZ plug into Instrument Cluster !

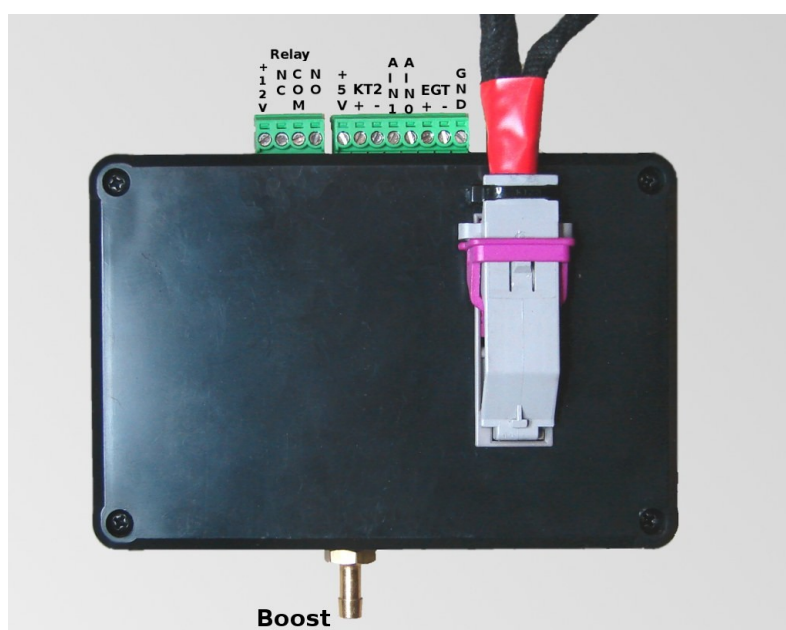


Illustration 2: The VFIZ module (rev. C and above).

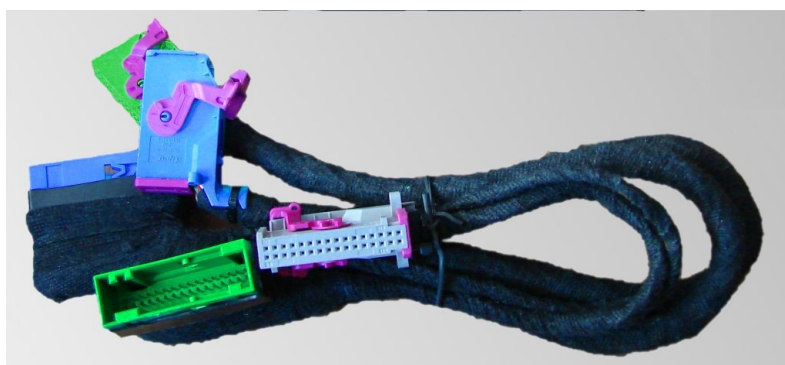


Illustration 3: VFIZ extension wiring.

2.2 Connecting VFIZ - rev. B

Later version of VFIZ (rev. B, period Q2-3/2013) uses Instruments cables build-in VFIZ enclosure, in this case plug order is straight forward.

Whole operation should be performed while ignition is off !



Illustration 4: Single sockets pair version (rev. B)

Whole operation should be performed while ignition is off !

2.3 Connection VFIZ - rev. A

If you have version with dual sockets pairs (rev. A) you need to put car harness to to left places to corresponding colours (see picture bellow). In set there are cables which are then used to connect Instruments Cluster to the right connectors on the VFIZ module.

Whole operation should be performed while ignition is off !

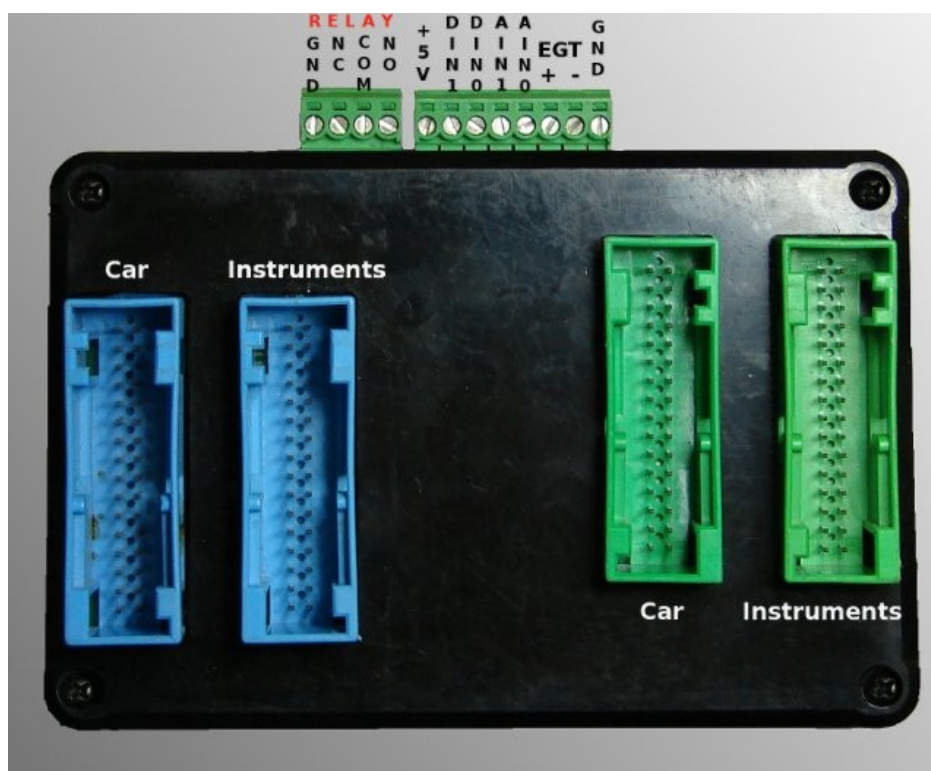


Illustration 5: Dual sockets pairs version (rev. A).

Whole operation should be performed while ignition is off !

2.4 Installation Hints

Hint: There is provided standard mini-USB cable to allow to perform firmware upgrades. It is recommended to plug one end in the VFIZ permanently (and best protect it with duct tape so will not release accidentally) while second end hide in some bottom hole of console (e.g. just above legs).

Hint2: The VFIZ modules can be fitted on left side just above light switch and bellow Instruments or on right side next to Instruments.

Hint3: It is best to cover module with some kind of thin, soft foam to protect again accidental noises during drive.

Hint4: If you cover VFIZ computer with some foam or alike, don't cover small hole over USB connector, there is sounder output, it is not so loud, if you cover it will quieter.

2.5 Navigation Panel wiring

If you need to install Navi Panel, his wiring should done according to table:

Navigation Panel pin	Tachometer plug, pin
1	Blue, 8
2	Blue, 5
3	Blue, 6
4	Green, 17
5	Not Connected
6	Blue, 12
7	Blue, 28
8	Blue, 25
9	Terminal 15 / e.g. Fuse No 5
10	Ground/Earth
11	Blue, 7

2.6 Adaptation of instrument cluster

After making connection there can be need to do Adaptation change of Instrument Cluster, because there is need to have Telematic support enabled. This is achieved by adding 8 to Adaptation channel 62 in instruments cluster. To do this open connection to Instruments using diagnostic cable or device, then Go to Adaptation channel 62 and add 8 to value which is displayed there **if there is less then 8, or more then 15 but less then 24.**

Example: if there was 7 we enter new value 15 (= 7+8) if there was 23 should be changed to 31 (= 23+8). If there was 8 or 9, 10, 11, 12, 13, 14, 15 or value bigger then 23 we don't have to enter new value because Telematic support is already enabled.

3 Notes