

dÄHLer Competition Line BMW

N63 engine M50i

523 HP / 530 HP

Install Guide



EXPERIENCE THE POWER OF dÄHLer

While it is possible to install an engine tune on your own, it is highly recommended that you use a professional. dÄHLer will not be responsible for poor installation practices.

We recommend having the assembly carried out by a workshop.

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Scope of delivery

- dÄHLer Performance Module with app function and special mapping
- dÄHLer Wiring Harness (12V) for N63, S63, S68 engine
- Adapter plug (bypass) for workshop appointments
- Install Guide

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Read carefully before installation

The dÄHLer Performance Module is specifically programmed for the BMW N63 engine. Due to production variations and current BMW software status, the expected results of the dÄHLer Performance Module can turn out differently (higher or lower results). Also, the increased performance always depends on the maintenance condition and mileage of the vehicle as well as other aftermarket modifications done to the car.

Other very important aspects are:

Outside temperature and humidity (better results when dry and cool), altitude, quality of the gas you pump (we recommend 98 octane or higher in Europe, Canada, Australia, and countries that use ROZ values. In the USA pump 93 octane.

If you are not able to get this gas quality in your country, ensure to go for the highest available octane rating there is. Lower octane ratings than mentioned above result in less nominal power output.

After market modifications like open air filters, or exhaust systems with no more resonators (straight pipes all the way) can result in less power! The dÄHLer performance module can be installed and used in conjunction with catless downpipes. Our computer automatically adapts the values.

We recommend to use closed or partly closed air filter systems for the best results.

If the power caused by the dÄHLer mapping is too high (in very rare cases) for your N63 stock engine shown by: Not pulling smoothly in higher gears (4-5-6-7-8), disturbed engine run when full throttle in the max torque range, car stops accelerating in higher gears at a certain RPM, CEL (check engine light), engine does not rev higher than 3,000 RPM, fault codes -> boost pressure too high, etc.

You need to reduce the power by changing the mapping of the dÄHLer Performance module by using the Tuning Controls App. (App is optional and not mandatory for the power output).

Before changing the mapping contact dÄHLer Competition Line (Germany) or dÄHLer USA.

It is also possible to do remote updates for the dÄHLer Performance Module via the app.

On one of the silver stickers under the bar code you will find the serial number next to the hashtag # (The hashtag is not required, however). You may write down before the install.



General instructions for mechanic

Read this installation guide carefully before starting the installation so that you will be able to use all the technical advantages of the systems and do not start with the installation before you have read and understood the instructions.

If you comply with the advices given below you will avoid an early termination of the product guarantee and you will be enjoying your product for years to come.

- ✓ Roll down window to make sure to have access to the car. Open trunk to reach battery.
- ✓ Never install the system while the ignition is on. Pull the ignition key. Read fault codes before the install.
- ✓ After switching off the ignition, wait for 15 minutes until all electric devices are turned off.
- ✓ Now disconnect the battery (don't close the trunk after doing so).
- ✓ Install the performance module in a dry area in the engine or adequate compartment. Humidity and wetness contain minerals which cause corrosion to the electronic circuits.
- ✓ Fix the harness with zip ties and protect it from humidity and direct heat sources.
- ✓ Before every engine wash, remove the entire tuning system.
- ✓ Do not fix tuning systems to engine parts that could heat up.
- ✓ Never fix the module directly or close to the engine (engine block). High temperatures can reduce the lifespan of electronic devices and can deform or melt specific plastics materials.
- ✓ Take care that the harness does not touch the parts in motion or sharp metal parts to avoid friction.
- ✓ Do not make any changes to the harness (do not cut extend or shorten it).
- ✓ In case of the malfunctioning of the system due to any non-compliance with the instructions during the installation of the performance module, the product guarantee will be terminated.
- ✓ After installation always use a high octane fuel (98 ROZ or higher - US Models 93 or higher)
- ✓ After connecting the wiring harness to all sensors, connect the main plug to the dÄHLer engine performance module and stow the module well protected against shock.
- ✓ Double-check all connections and secure the wiring harness with cable straps and refit all covers and bars.
- ✓ Reconnect battery, start engine, read fault codes (delete), test drive the car, read fault codes again

①



Note the following hints!

②



Switch off the ignition!

③



Wait 15 Minutes.

④



Install splash proof!

⑤



Attention when
Engine wash!

⑥



No installation
on hot engine parts!

⑦



Do not make any changes!

⑧

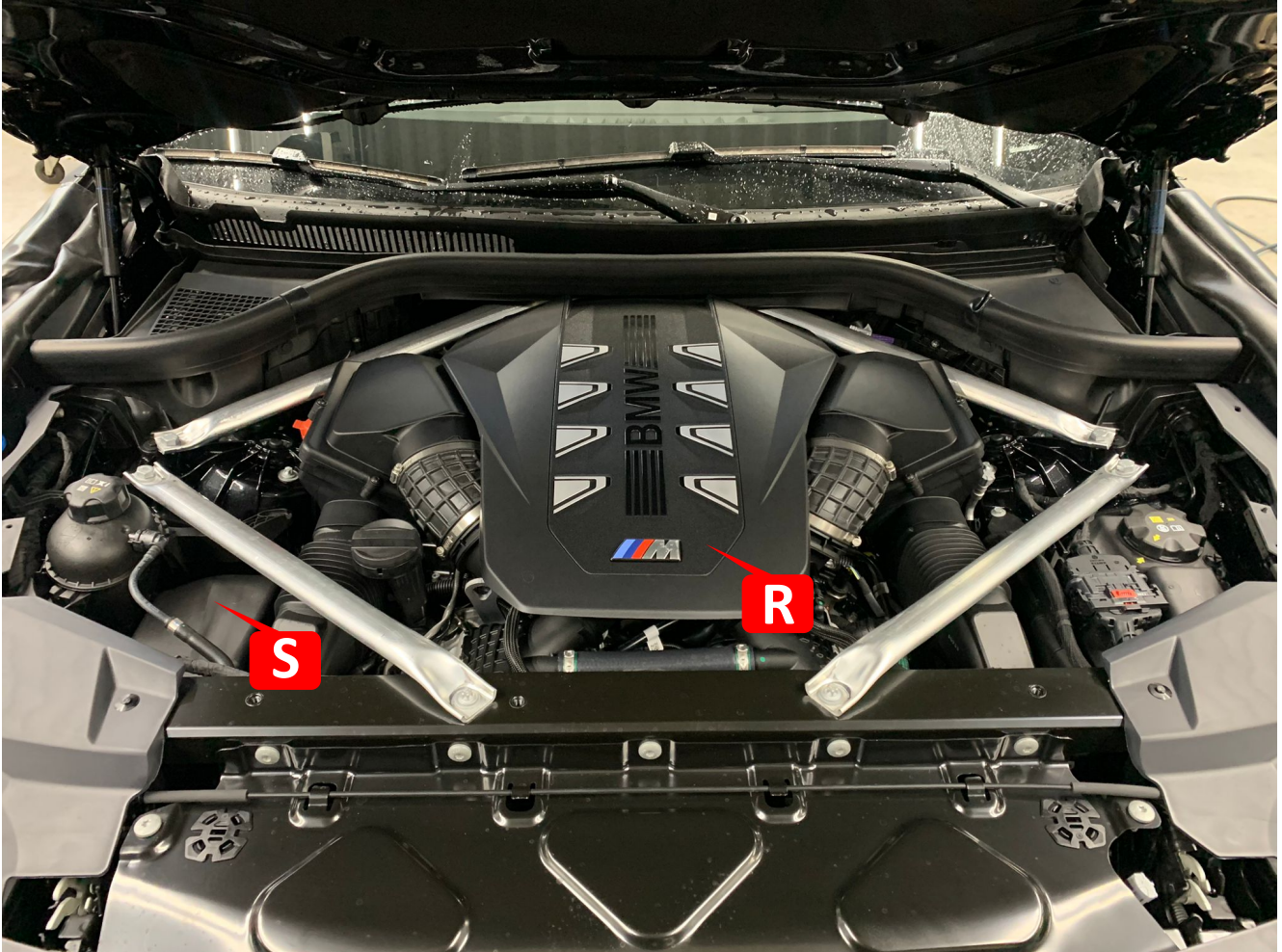


Disregard may
cause malfunction!

Error descriptions	Problem solution
„The engine doesn't start.“	<ul style="list-style-type: none"> ▪ Check all connected components. ▪ Is a plug twisted connected? (If possible) ▪ Connected to the correct sensor? ▪ Plugs connected properly and secured by pin? ▪ Read fault codes.
„The engine doesn't run smoothly. The engine is bucking.“	<ul style="list-style-type: none"> ▪ Check all connected components. ▪ Connected to the correct sensor? ▪ Has the software mapping been changed? ▪ Read fault codes.
„The fail-save program runs immediately. The Malfunction Indication Light (MIL) flashes in the Instrument Cluster.“	<ul style="list-style-type: none"> ▪ Check all connected components. ▪ Are the adapter plugs in the right position? ▪ Reduce the Performance Pack by one or two levels (contact dÄHLer Competition Line for assistance). ▪ Read fault codes.
„The fail-save runs in higher RPM.“	<ul style="list-style-type: none"> ▪ Check all connected components. ▪ Are the adapter plugs in the right position? ▪ Reduce the Performance by one or two levels (contact dÄHLer Competition Line for assistance). ▪ Read fault codes
„The engine shows no extra performance.“	<ul style="list-style-type: none"> ▪ To obtain the maximum benefit, use a higher-octane fueled (98 ROZ or higher - US Models 93 or higher) ▪ Contact dÄHLer Competition Line for assistance ▪ Read fault codes
Car does not pull smoothly in higher gears (4-5-6-7-8), disturbed engine run when full throttle in the max torque range, car stops accelerating in higher gears at a certain RPM, CEL (check engine light), engine does not rev higher than 3,000 RPM, fault codes -> boost pressure too high;	<ul style="list-style-type: none"> ▪ You need to reduce the power by changing the mapping of the dÄHLer Performance module by using the dÄHLer App. ▪ Reduce the Performance by one or two levels (contact dÄHLer Competition Line for assistance).
„How can I set back the car to its original engine performance?“	<ul style="list-style-type: none"> ▪ Follow the steps below: <ol style="list-style-type: none"> 1. Turn off the ignition. 2. Wait until all electrical consumers are off. Disconnect battery 3. Remove the Performance Module of all connected components or use included adapter plug (bypass) without uninstalling the harness.
▪ Your workshop has done it all but still errors?	<ul style="list-style-type: none"> ▪ Contact the vendor / manufacturer

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Installation principle N63 engine



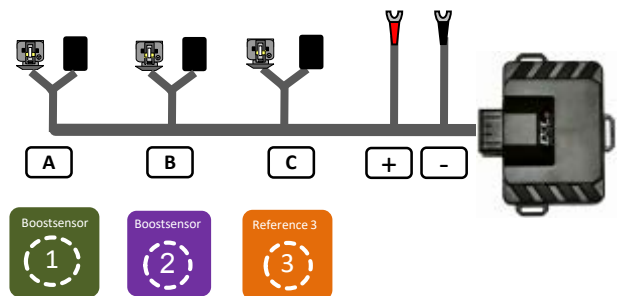
R = parts that need to be removed before installing the engine performance upgrade

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Installation principle

- A** Boost Pressure Sensor (4-pin)
- B** Boost Pressure Sensor (4-pin)
- C** Camshaft Sensor (3-pin)
- S** Stow module here
- +** 12 V power supply BMW Terminal
- Chassis ground BMW pole.

1. Connect sensors
2. Plug in the module
3. Connect ground
4. Connect power supply



Wiring harness Stickers:

Installation instructions

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Installation example



Open the engine hood and remove parts (R)



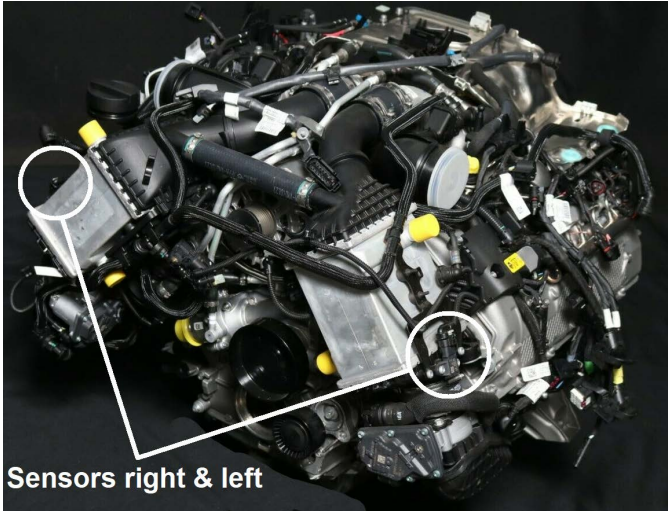
Repeat the following steps also on the other side. We just show it on one side.

Localise the boost pressure sensor at the intercoolers (there is one left and one right)

Disconnect the boost pressure sensor connector by unlocking the locking lever from the boost pressure sensor. Connect the adapter cable in between these connection.

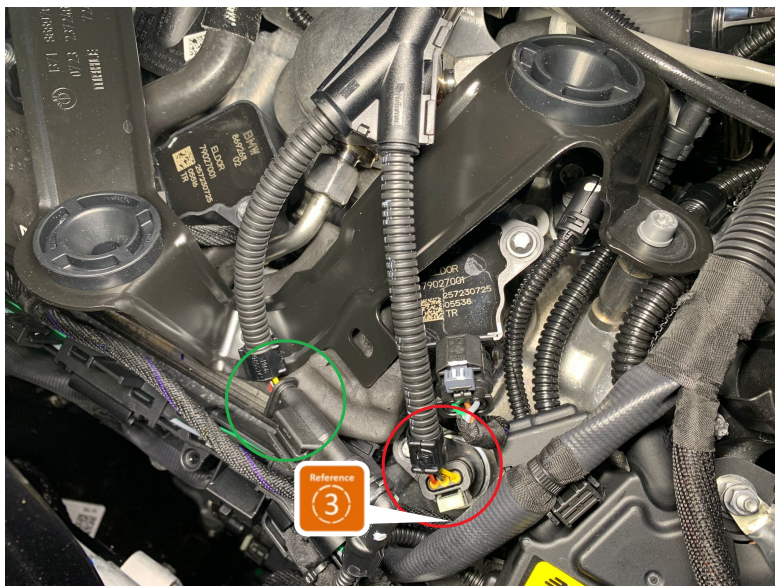
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Installation example



Localise the boost pressure sensor at the intercoolers (left and right).

Disconnect the boost pressure sensor connector by unlocking the locking lever from the boost pressure sensor. Connect the adapter cable in between these connection.



Localise the 3-pin camshaft sensor. Connect the adapter cable in between camshaft sensor and sensor plug.

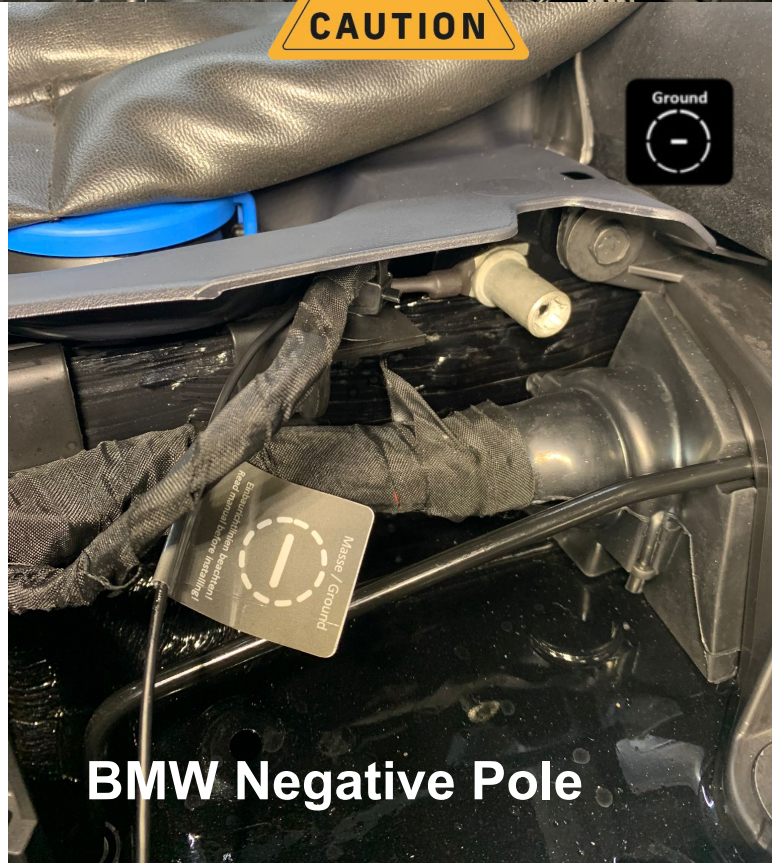


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Installation Steps and Power Connection



BMW 12V Positive Pole



BMW Negative Pole

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Installation Steps and Power Connection**Connect chassis ground. Use BMW stock pole only**

Loosen the pole and lift it slightly. Slide the clamp of the black cable with the gray Masse / Ground sticker under the pole and tighten the pole again.

Position of the stock negative pole may vary depending on BMW type. But its appearance is always the same.

Hint:

We recommend to use a voltmeter to make sure having a proper ground connection.

**Connect 12V+ power supply
Use BMW stock 12V pole only
(see red + sign cap)**

Lift red plastic cap.

Disconnect the 12V pin and lift it slightly. Slide the clamp of the red cable with the red plus/positive sticker under the 12V pole and tighten it again.

Put red plastic cap back on.



In that area is only 12V+ power supply available. Stay away with the chassis ground cable. A connection made incorrectly of the power supplies can cause major damage to the vehicle.



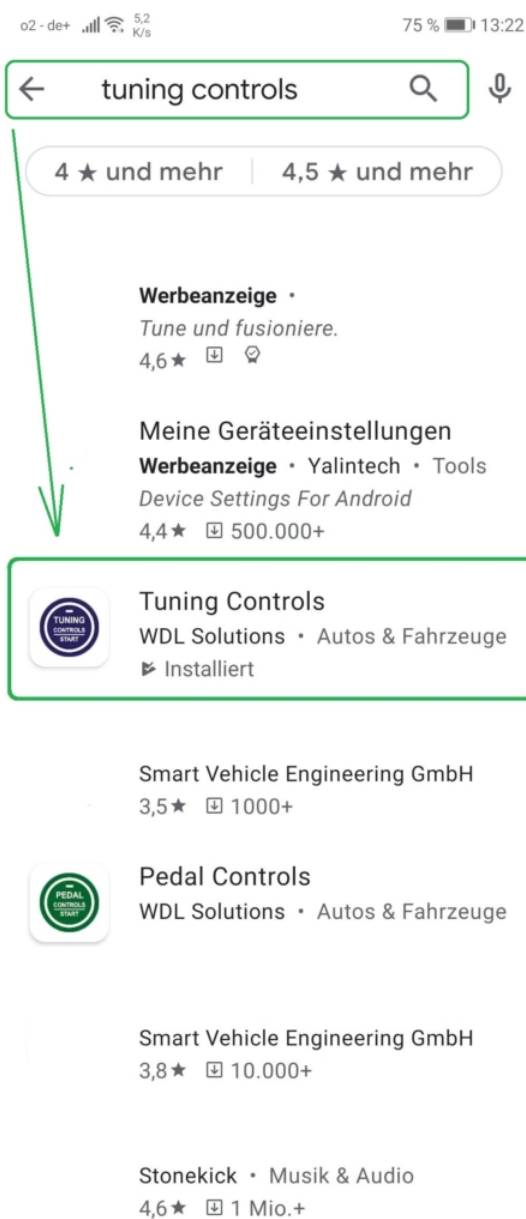
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How to get the Tuning Mobile App?

Notice: We work in partnership with WDL Solutions. The Mobile App is available free of charge in the Google Play Store as well as in Apple's App Store. Search for Tuning Controls (see photos).

The App is an extra feature and 90% compatible with most common cell phones.

Our engine tune comes default with max power output according to the values shown our website and delivers max power after the install. Having the App is optional and not mandatory for the power output. In case your cell phone's software version is not compatible with the WDL Solutions App we accept no warranty claim (returning the engine tune).





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How to register and connect the dÄHLer tuning module?

An e-mail address and the six-digit serial number of the dÄHLer tuning module are required for this.

You will find the serial number on the reverse of the tuning module (you may write it down before you start the installation).

On the silver sticker with the bar code you will find the serial number next to the hashtag # (The hashtag is not required, however to register).

After registration with the app do the following steps on the next page to connect the module with your cell: (The prerequisite for this is that the module has been completely installed and running)





Connecting the Tuning Controls app

Your dÄHLer tuning system features a modern smartphone interface that allows to control the central functions of your dÄHLer tuning system via your smartphone. To pair your performance module with your smartphone, please follow the steps below.

Apple iPhone

- Download the „Tuning Controls“ app for free via the Apple iTunes store on your smartphone.
- Turn on ignition to start your Tuning Controls module. You will see blinking LEDs.
- Deactivate the keypad lock by pressing and holding the **buttons (2 humps)** for a minimum of 5 seconds. Now your performance module is in pairing mode.
- Open the Tuning Controls App and follow the instructions inside. Your smartphone will now connect to your dÄHLer performance module. In case you are asked for a **PIN code**, please enter **000000**

Android

- Download the „Tuning Controls“ app for free via the Google Play store on your smartphone.
- Turn on ignition to start your dÄHLer performance module. You will see blinking LEDs.
- Deactivate the keypad lock by pressing and holding the **buttons (2 humps)** for a minimum of 5 seconds. Your dÄHLer performance module now is in pairing mode.
- Open Bluetooth settings inside the Android's settings menu.
- The dÄHLer performance module is visible in pairing mode. Pair the device.
In case you are asked for a **PIN code**, please enter **000000** . For questions to pair a Bluetooth device with your Android phone, please consult your smartphone manufacturer.

Compatibility

The TuningControls App is compatible with all Apple iPhones (later than 4S) with iOS 10 or later as well as smartphones with Google Android 7.1.1 or higher with Bluetooth LE. We recommend to use the latest operating system version (Android 7 or higher) to prevent limited compatibility with Bluetooth LE standards. For further information please read instructions inside the app or in the app stores carefully. Features might vary depending on your smartphone's and vehicle's capabilities.

Your dÄHLer performance module is equipped with one of the strongest certified Bluetooth LE radio modules to achieve the best possible connection quality. Prevent massive metallic components like main engine block or turbos to be located between module and the car's interior to improve reception. Strong Bluetooth radio emitter in your surrounding might temporarily affect the radio connection and remote functions of the app, however, they will not compromise the functionality of your tuning system.

Legal notice

Usage of smartphones while driving is not allowed in many countries. Please comply to national legislation applicable to you. For usage we recommend to have a fixed smartphone mount in which the phone is placed before driving and instruments are preset.



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App features

The dÄHLer Tuning Module is on RACE map by default (maximum power).

Wirelessly connect the dÄHLer engine tuning performance module to your Bluetooth 4.0 compatible iOS and Android device via the free Tuning Controls Mobile app.

This option allows you to change 3 different performance maps:

RACE – delivery status and performance information on our website (default)

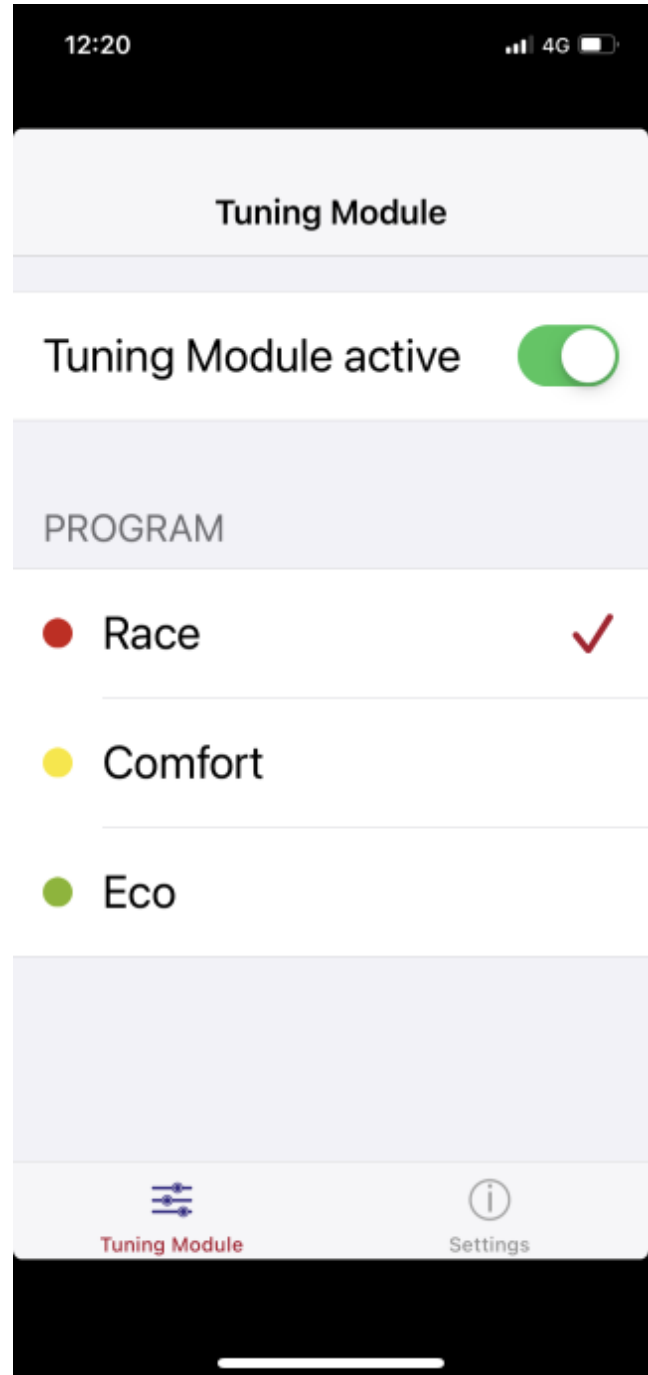
COMFORT – 10% less (all values) compared to RACE mode

ECO – 20% less (all values) compared to RACE mode

If desired the extra power can be easily switched on or off with your smartphone.

For safety reasons we recommend to pull over before switching between the different performance maps.

It is also possible to update the firmware worldwide (only if necessary).



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Space for notes

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Please add us on Instagram!

@dahler_germany

@dahler_usa

@dahler_competition_line

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Check out the last pages to see recommended products!

- **dÄHLer ATTC - Anti-Theft-Throttle-Commander with PowerPedal**
- **dÄHLer Valve Controller X with memory function**

dÄHLer **Anti-Theft-Throttle-Commander** A power pedal with extra features and app control The revolutionary dÄHLer anti-theft device

Give your BMW M car a new way of anti-theft protection and at the same time up to a 10% quicker acceleration with the all new dÄHLer Anti-Theft-Throttle-Commander - ATTC with included PowerPedal features.

The revolutionary dÄHLer anti-theft system comes with an Anti-Theft Mode, a Valet Mode, 4 PowerPedal Modes, and is a must have if you want to protect your BMW M against theft.



You can control your dÄHLer Anti-Theft Throttle Commander with Power Pedal – ATTC with your cell phone or with the in delivery included remote control.

dÄHLer Valve Controller

Developed in Switzerland and quality Made in Germany

Our Valve Controller for BMW M cars was developed in Switzerland and manufactured in Germany and is a must have if you like to control the sound of your M car.

With the device installed you can manually open and close the standard built-in exhaust flaps of your BMW M -> 100% open, at any time.

It operates at the push of a button on the in delivery included remote control or can be programmed to your mirror buttons (BMW feature 90% compatible).

Installation of the dÄHLer Valve Controller is easy and can be carried out by any mechanic with a manual skill. The device is a direct plug in to the existing (OEM) harness. You pull out the original plug and connect it to the socket. The other plug is connected to the stock actuator motors and the connection is done.

SAFETY

With our smart Control Module, one cannot close the exhaust flap permanently. This is for safety reasons as when driving at full throttle with the exhaust flaps closed, it could damage the engine in a long term.

EXTRA FEATURES

You can activate the memory function and the device always remembers the last driver's setting after an engine stop (100% OPEN or STOCK).

