# VOLspeed Ebike Tuning

## for Bosch Performance Line CX

## with rim magnet V2

# Operating instructions

as original operating instructions in English language

# 1 General information

- Be sure to take the time to read these operating instructions carefully **before** starting to install the tuning module.
- Keep these operating instructions in a safe place, yet within easy reach, so that you always have access to the important and safety-relevant information for use, even after installation.
- Make these operating instructions available for reading to any other person who may ride your tuned e-bike.
- Ensure that every person who is allowed to ride your tuned e-bike has read and understood these operating instructions before any use.
- Instruct the user in the safe use of the tuned e-bike with the aid of these operating instructions before leaving your tuned e-bike to other persons.
- Be sure to pass this manual on to the future owner if you ever want to sell the tuning module or your tuned e-bike.

## 1.1 Safety instructions

The warnings used in these instructions draw your attention to possible dangers. You endanger yourself and others if you do not follow these instructions. Serious injuries or considerable damage to property may result.
Warning notices are available in the following categories:

⚠ WARNING
Warns you of hazards that could result in fatal or serious injury to persons if you do not follow these instructions.

⚠ CAUTION
Warns you of hazards that may result in minor, usually reversible injury to persons if you do not follow these instructions.

ATTENTION
Warns you of situations that can lead to property damage and malfunctions during use if you do not follow these instructions.

IMPORTANT
Identifies safety-relevant descriptions and instruction parts.

# 2 Requirements for safe use

## 2.1 Intended use

The tuning module shifts the cut-off threshold of the motor support of your e-bike. Thus, with the installation of the tuning module, speeds of up to 45km/h (28mph) can be achieved with electric motor support.

Intended use also includes compliance with all of the following without exception

- Restrictions on use and
- Installation requirements and the
- Obligations of the owner and the user.

## 2.2 Restrictions on use

The following restrictions of use are associated with the installation of the tuning module in your e-bike.

### 2.2.1 Do not use in public areas

E-bikes for use on public roads or public ways with a permitted speed of > 25 km/h are subject in the EU to Regulation 168/2013/EU, the Vehicle Regulation. Further approval requirements in non-European countries may apply. The purchase of the Tuning Module does not entail any approval for operation in public areas. Therefore, participation in public road traffic and driving on public roads is prohibited after installation of the tuning module.

IMPORTANT **Prevent misuse and abuse**

- Only use your tuned e-bike on private, secured property or race tracks.
- Never ride on public paths or areas that you have not previously been able to securely block off against entry by other persons.
- Also prevent another person from using your tuned e-bike in public traffic or on public roads.
- Always lock your tuned e-bike when you park it. This will prevent misuse and abuse, even by other people.

### 2.2.2 Restricting the circle of users

Reaching higher speeds can lead to the permissible group of users determined by the e-bike manufacturer having to be further restricted.

Such a restriction must be determined by the owner of the tuned e-bike on his own responsibility, taking into account the physical and mental fitness of the persons to whom the tuned e-bike is made available for use.

IMPORTANT **Prevent misuse and abuse**

- Clearly define the permission for use before each transfer to other persons.
- Also clearly define the terrain to be covered.
- Always lock your tuned e-bike when you park it. This will prevent misuse and abuse by other people.

### 2.2.3 Observe shortened maintenance and inspection intervals

Due to the higher speeds with electric motor assistance, higher loads and forces will act on all vehicle parts.
Reaching higher speeds increases wear on all vehicle parts, especially the brake system and all parts of the drive system, even with suitable strength and design of the vehicle.

**IMPORTANT** **Define shortened maintenance and inspection intervals**

Shortened inspection and maintenance cycles must be determined by the owner of the tuned e-bike on his own responsibility, taking into account the conditions of use.

- Before each use of your tuned e-bike, perform a comprehensive inspection of the vehicle.
- It is imperative that you check the condition and function of the
  - brakes and their functional components,
  - vehicle frame,
  - steering system and its functional components,
  - drive system and its functional components as well as
  - saddle and its functional components.
- In addition, observe all inspections not mentioned here that are prescribed by the manufacturer of your e-bike before each use. This list does not replace the original operating instructions of the e-bike manufacturer.
- Establish further inspection and maintenance cycles according to the manufacturer's instructions for your e-bike.
- Shorten them according to your operating conditions.
- If necessary, coordinate this with your specialist company, which will carry out the inspection and maintenance work.

This ensures that the shortened inspection and maintenance intervals are adhered to.

## 2.3 Know and comply with installation requirements

For safe use of the tuning module in your e-bike, your e-bike must also meet some requirements.

### 2.3.1 Requirements for the strength and construction of the e-bike

Strength and construction requirements are regulated by EN 15194 and EN ISO 4210-2 and must be confirmed as applied by the manufacturer of your e-bike.

**⚠ WARNING** **Prevent increased accident risks due to insufficient strength**

Due to the higher speeds with electric motor assistance, higher loads and forces will act on all vehicle parts. Increased accident risks due to part breakage and part failure can only be largely ruled out with e-bikes that are demonstrably designed and built in accordance with both product standards.

- Check the EC declaration of conformity of the manufacturer of your e-bike.

- Only install the tuning module in your e-bike if the manufacturer of your e-bike states the two product standards EN 15194 and EN ISO 4210-2 as applied in its EC declaration of conformity.
- Only if both standards are mentioned as applied, it can be assumed that the requirements for strength and design are fulfilled.
- Never use the tuning module in vehicles for which you cannot clearly establish these requirements and prove them by means of the EC declaration of conformity from the e-bike manufacturer.

IMPORTANT **Racing e-bikes, city e-bikes or trekking e-bikes are usually not equipable**

Racing e-bikes, city e-bikes or trekking e-bikes often do not meet the requirements for strength and construction, as lower requirements apply to these types of e-bikes. Furthermore, it cannot be assumed that these e-bikes are actually only used on private, secured properties or race tracks.

### 2.3.2 Check and confirm drive system and display requirements

The tuning module is adapted to specific drive systems and display types.

- Check the equipment of your e-bike.
- The tuning module only works with e-bikes that have an electric motor support of up to 25km/h ex works. Children's e-bikes with a support up to 20km/h and Speed-e-bikes with a support up to 45km/h are not supported.
- Only install the tuning module into your e-bike if you can determine that your e-bike equipment matches the drive systems and display types listed below.

| Drive System | Display Type | Control Unit |
|---|---|---|
| Bosch Performance Line CX<br>Bosch Performance Line CX Race<br>Bosch Cargo Line | Kiox 300<br>Kiox 500<br>Intuvia 100<br>Purion 400 | LED-Remote<br>Purion 200<br>System-Controller + Mini-Remote<br>Kiox400c + Mini-Remote |

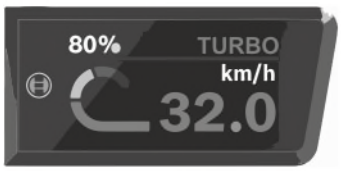
Kiox 300 / 500

Intuvia 100

Kiox 400c

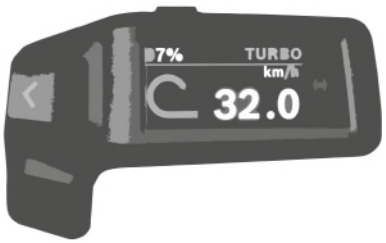
System Controller +Mini-Remote




Purion 400


LED-Remote



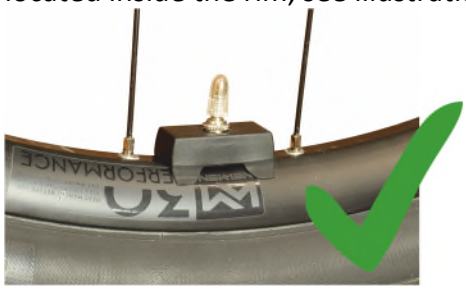

Purion 200

**Not compatible with Bosch ABS**

Bikes with the Bosch ABS system are not supported by the tuning.

**Compatible only with Bosch rim magnet**

The tuning is only compatible with bikes that are equipped with a rim magnet. Make sure that there is a magnet like this on the valve of the rear wheel. The magnet may also be located inside the rim, see illustration on the right.



**Use without display / Flow App**

To be able to use all of the tuning functions, a speed display is required. If your e-bike does not have a display, you can also use the Flow app for this purpose. However, do not use the app to carry out software updates and do not connect the app to the bike while riding.

**Software updates drive system**

Do not carry out any software updates to the drive system after installing the tuning. These could cause the tuning to malfunction. Once updates have been installed, they cannot be reversed, not even by the dealer.

### 1.1.1 Check the list of incompatible bike models

Even if all other requirements are met, there are certain bike models that do not have enough space for installation. A non-exhaustive list of these models can be found at the following link: **www.volspeed.de/downloads**

IMPORTANT **Prevent damage and malfunctions**

Use in vehicles with unsuitable drive systems and/or display types will lead to malfunctions or damage to the e-bike or the tuning module.

## 2.4 Obligation of the owner

Any user of the tuned e-bike must be instructed accordingly by the owner of the tuned e-bike on the basis of these operating instructions, as well as being informed about the special restrictions on use and increased risks due to the increased speed.

The owner of the tuned e-bike ensures that

- all requirements for safe use
- and for the intended use are complied with, and
- these operating instructions are always available to every user.

The owner of the tuned e-bike undertakes to only make the tuned e-bike available to persons who

- have read and understood these operating instructions and
- have been instructed in the safe and proper use of the tuned e-bike.

## 2.5 Obligation of each user

Every user is obliged,

- to read and observe these operating instructions in full, and
- to follow all safety and warning instructions without exception,
- to use the tuned E-bike only in technically perfect condition and in accordance with its intended purpose, in a safety-conscious and hazard-conscious manner and in compliance with these operating instructions and
- to remedy immediately any damage or malfunctions detected which could impair safety, or, if necessary, to have them remedied.

# 3 Warranty and liability

## 3.1 Warranty and liability of the tuning module manufacturer

Warranty and liability claims are excluded by the manufacturer of the tuning module in the event of direct or indirect personal injury or damage to property if they are attributable to one or more of the following causes:

- Increased wear or breakage of components of the e-bike, especially parts of the brake system and/or the drive system,
- non-observance of these operating instructions,
- improper use of the tuning module or the e-bike with integrated tuning module,
- non-observance of the operating restrictions of these operating instructions,
- use or operation with operating conditions that do not comply with these operating instructions,
- improper installation, commissioning, maintenance or repair not specified in these operating instructions,
- after unauthorised structural, hardware or software modifications to the tuning module itself or to the e-bike approved for the tuning module or its equipment.

IMPORTANT **The installation and operation of the tuning module is at your own risk.**

- The manufacturer of the tuning module does not accept any liability for damage related to the operation or installation of the tuning module.
- The technical and legal consequences mentioned may be incomplete.
- In addition to the technical and legal consequences mentioned in these operating instructions, further requirements may apply depending on the place of operation.
- Before installing the device, inform yourself about possible further technical and legal consequences and requirements that you must comply with in order to operate the tuned e-bike.

## 3.2 Warranty, guarantee and liability by the manufacturer of the e-bike

Due to the higher speeds with electric motor assistance, higher loads and forces will act on all bicycle parts.

Reaching higher speeds increases wear on all bicycle parts, especially the braking system and all parts of the drive system, even if the vehicle is of suitable strength and design.

For this reason, liability, warranty and guarantee claims against the dealer or manufacturer of the e-bike will expire or be severely limited with the use of the tuning module.

## 3.3 Property damage and personal injury - Further exclusions of liability to be considered

An e-bike can reach electric motor-assisted speeds of up to 45 km/h after the tuning module has been installed. Reaching such speeds increases the risk of a fall and resulting injury, even with

suitable strength and design of the vehicle. It also increases the risk of damaging other people or property.

**ATTENTION** **Reduce increased liability risks**

- Precisely define your operating conditions and user groups to be insured.
- Take out liability insurance appropriate to the conditions of use and the user group for the use of your tuned e-bike.

**⚠ WARNING** **Reduce increased risk of hazards**

- Always wear suitable protective clothing and a helmet while using your tuned e-bike to protect yourself from increased risk of accidents.
- Insist that every user of your tuned e-bike wears appropriate protective clothing and a helmet at all times during use.

**ATTENTION** **Reduce the risk of accidents monetarily**

- Precisely define your operating conditions and user groups to be insured.
- Take out an insurance policy for the use of your tuned e-bike that is appropriate to the conditions of use and the user group.

# 4 Functional description

The tuning module offers the following functions after installation in E-bike with Bosch drive system (25 km/h):

- Adjustable speed limit via control panel on the e-bike up to 45km/h
- Adjustable dynamic mode with reduced "wall effect"

Attention: no correct display of speed and distance travelled when tuning is activated

### Setting options

All settings are done via the control unit on the e-bike.

### Protected electronics

The electronics are cast into the housing and thus safely protected from moisture.

### Safety and protective devices

Safety and protective devices of the e-bike remain unaffected by the installation of the tuning module.

# 5 Technical Data

| | |
|---|---|
| Housing dimensions: | 48mm x 48mm x 6mm (1.89” x 1.89” x 0.24”) |
| Cable length: | Approx. 180mm (7.1”) |
| Weight: | 0.021kg (0.74oz) |
| Power consumption: | 0.3W |
| Supply voltage: | 12VDC |

# 6 Installation

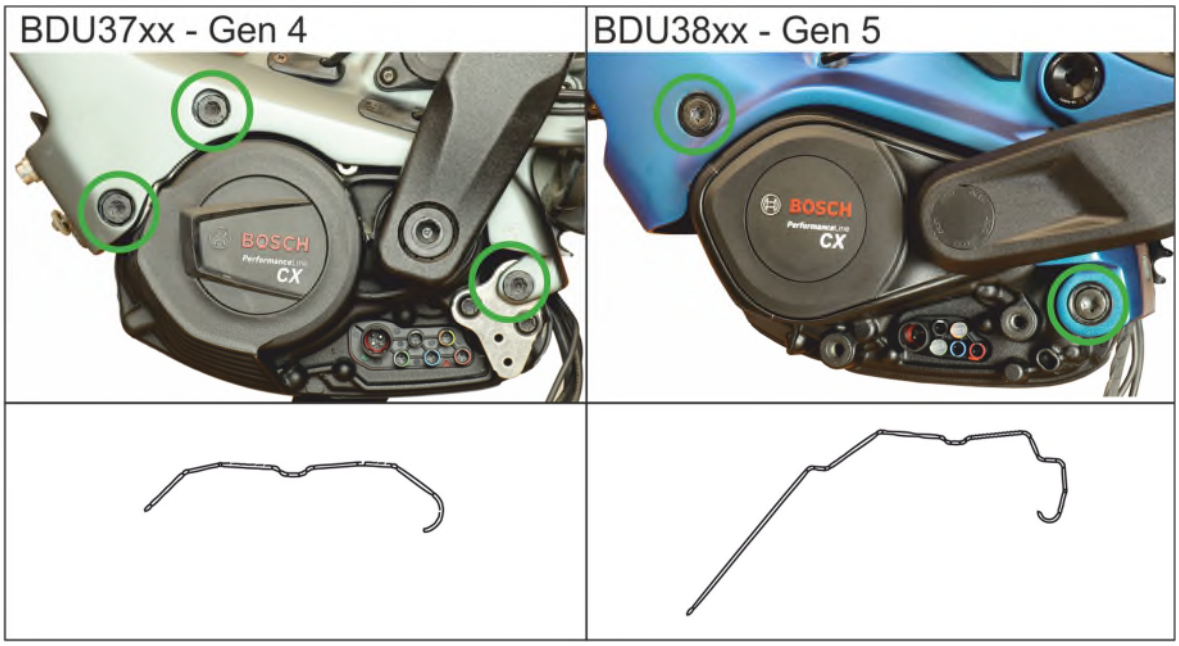
IMPORTANT **Before you start the installation**

Confirm that you have read and understood all previous chapters of these operating instructions carefully and completely before you start the installation. This is the only way to ensure that you use the tuning module exclusively for the purpose described in these instructions and as intended.

ATTENTION **Avoid damage**

Only install the tuning module yourself if you are familiar with the installation and removal of drive units in Bosch drive systems. If you are unsure or have concerns, always have the tuning module installed by a specialist workshop

The tuning module is suitable for Performance Line CX Gen 4 and Gen 5. However, the installation differs. The following figure is intended to help you determine whether you have a Gen 4 or Gen 5.




- The Gen 4 is always attached to the frame with three screws per side, the Gen 5 only with two.
- Two different mounting brackets are included for the two motor versions. The smaller bracket is for the Gen 4, the larger bracket for the Gen 5.

## 6.1 Typical installation BDU37xx – Gen 4

The installation described below and all associated instructions refer to the installation example: Cube Stereo Hybrid 140 HPC TM 750 model year 2022 with Gen 4 motor.

**BDU38xx – Gen 5**
See chapter 6.2 for an example of how the the tuning is installed with a Gen 5 motor.

### 6.1.1 Required tools

- Allen key 3mm
- Torx Plus 40 socket wrench
- Torque ratchet suitable for socket wrench Torx, at least 20Nm / 15 ft-lbs
- Side cutter
- Mounting stand
- Optional: ISIS / Octalink crank puller
- Optional: Lockring Tool Bosch CX Gen 4

**Additional tools may be required**
The motor cover may be attached with different screws depending on the e-bike model. Additional tools may be required for this.

The use of a Torx Plus 40 is recommended for the motor attachment screws. A normal Torx T40 can also be used, but there is a risk of it spinning.

### 6.1.2 Note the part number and serial number


Make a note of the

- Part number (P/N) and
- Serial number (S/N) of the tuning module

on the back of these operating instructions.

**This way, you always have the data at hand for any support requests.**

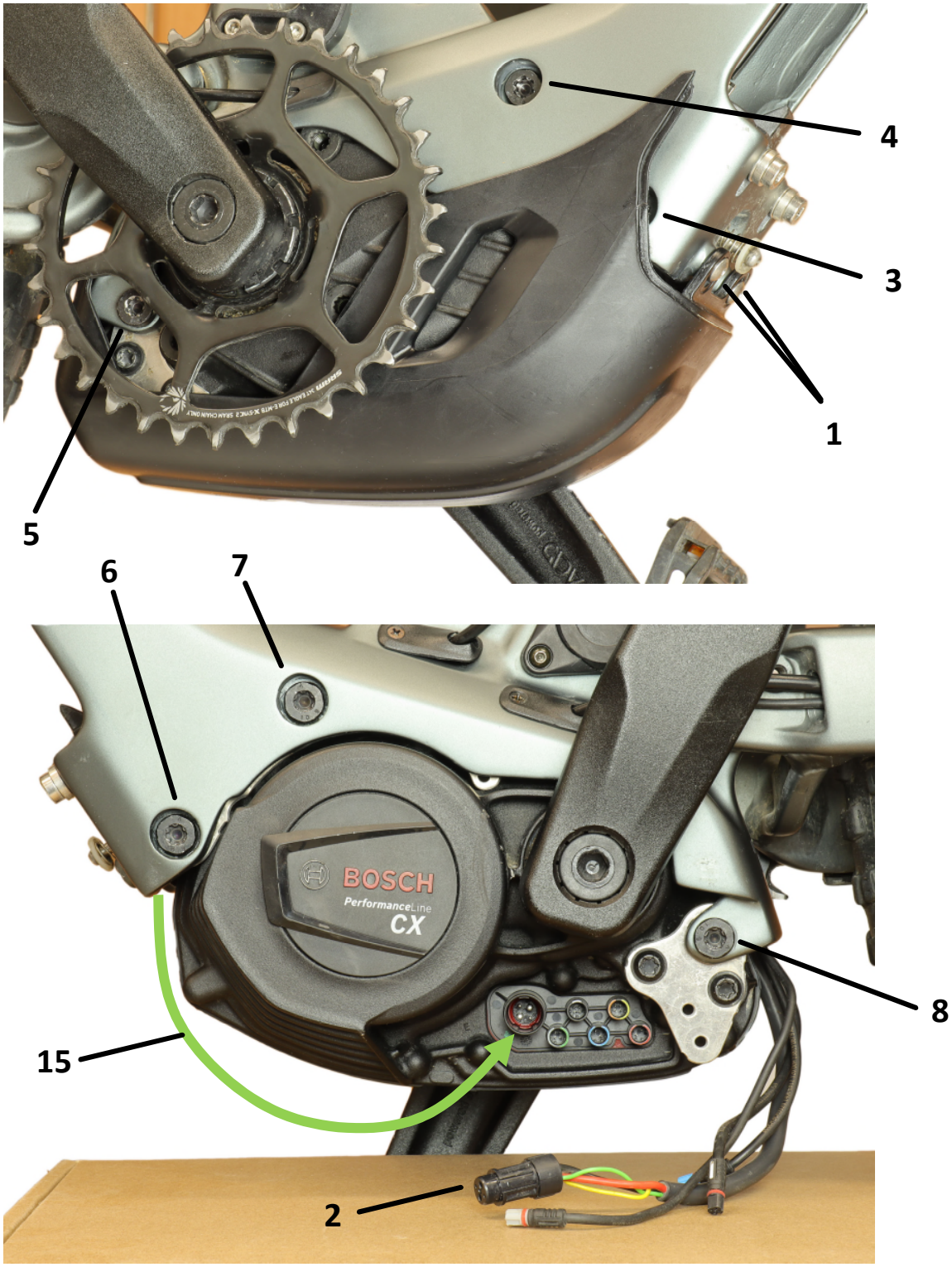
### 6.1.3 Installing the tuning module

**WARNING** **Preventing an unexpected start-up**

If the drive starts unexpectedly, hands and fingers may shear, crush or retract. Switch off the e-bike and remove the battery. This will prevent any electromotive movement.

- Attach the bike to the mounting stand and bring it to a comfortable working height for removing the motor.



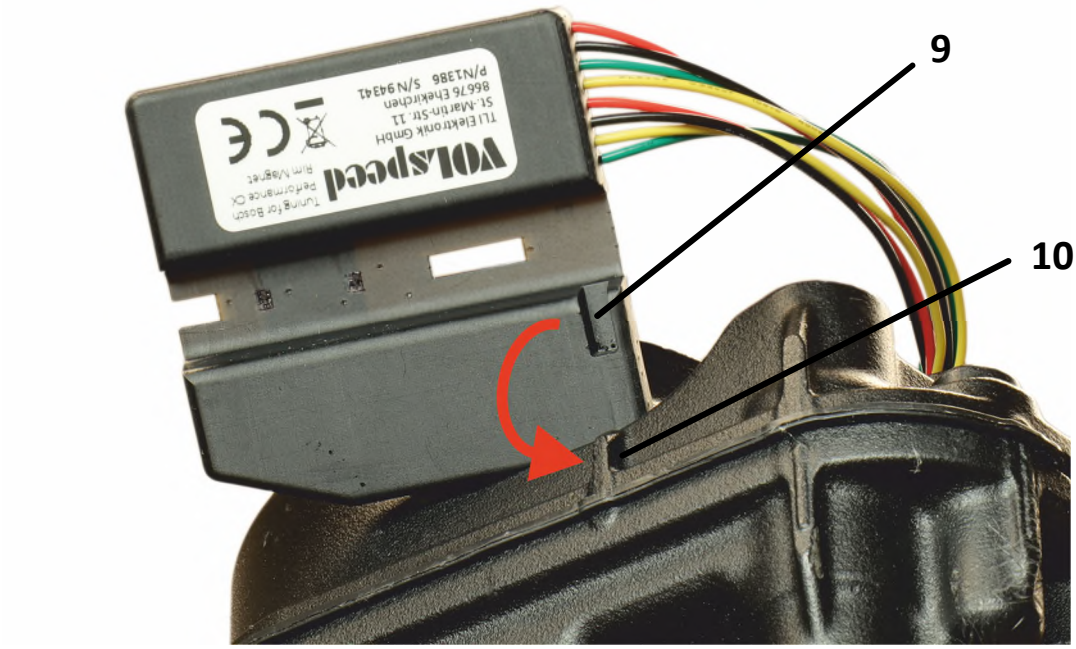

- Remove the cover from the battery and take out the battery.
- Remove the screws (1) and take off the lower motor cover.
- Disconnect all connectors from the sockets on the motor and remove all cable ties. The large connector of the battery cable (2) is locked. To unlock it, press on the side of the connector and then pull it out. The remaining connectors can be simply pulled out.

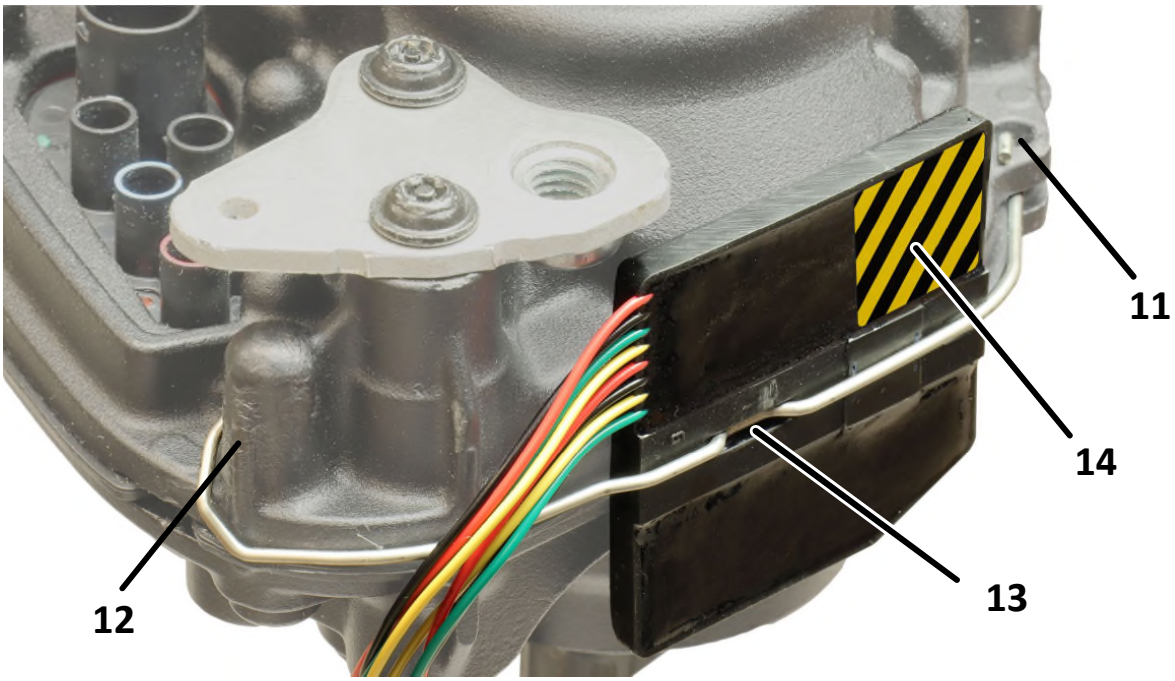
 

The number of connectors can vary depending on the bike's equipment. The connectors are coded and therefore cannot be connected incorrectly at a later stage. In addition, the connectors and sockets are colored differently to make it easier to assign them.

- Place a box or similar under the motor so that you can place it on it after removal.
- Remove the chain from the sprocket.
- Remove the motor mounting screws (3) to (8). Hold the motor with one hand while you completely remove the screws. It is possible that on other bike models, the screw (5) is covered by the sprocket. In this case, you also have to remove the crank and the chainring, for which you need a crank puller and a lockring tool.
- Place the motor on the work surface.




- Now place the tuning module in the correct position on the motor. The groove (9) on the back of the tuning must match the corresponding rise on the motor (10).
- Now hook the retaining clip onto the hole (11) of the motor. Place the retaining clip over the tuning module and snap it into position (12) as shown in the illustration. Make sure that the notch on the tuning module matches the shape of the bracket (13).

ATTENTION **Avoid malfunction**

It is important that the tuning is in exactly the position shown in the illustration. If the module is mounted in a different position, it will not work correctly later.

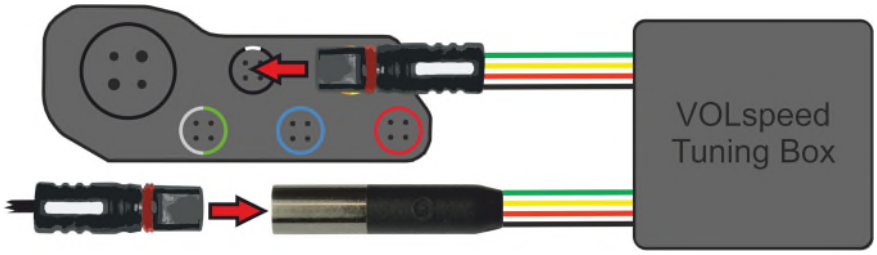
 

The battery cable (2) must not be laid in front of the yellow hatched area (14), as this would disturb the tuning function. We recommend routing the battery cable from the front, underneath the motor, where possible, as indicated by the green arrow (15).

- Put the motor back into the frame and fasten it provisionally by hand-tightening a few screws.

**ATTENTION** **Avoid damage**

Do not use force when reassembling the motor. Cables could be damaged as a result. It is possible that the motor can no longer be placed in the original position due to the tuning. In this case, you can try to route the cables in a different position. If the motor still cannot be mounted, you unfortunately cannot use the tuning on this bike.




- Connect the tuning module by plugging one connector of the tuning into the motor and the other into the connector that is black in the front.
- Now reconnect all the other connectors to the motor. Push the connectors in until you feel them click into place.
- Reinstall the chain.

### 6.1.4 Check function

- Insert the battery and turn on the e-bike.
- Now turn the pedals until the rear wheel is turning at a speed of at least 20 km/h / 12.5 mph and stop the rear wheel again after a few seconds by applying the brake.

  Then check whether you can switch on Speed Mode as described in chapter 7. If this is not possible, switch the bike off and on again and repeat the previous step.
- Turn off the e-bike and remove the battery pack.

### 6.1.5 Finish installation

- Lay the cables so that they are not pinched when the covers are fitted.
- Tighten all screws in sequence (3) to (8) with 20 Nm. The use of medium-strength threadlocker (blue, e.g. Loctite 243) is recommended.
- Reinstall the motor covers with the screws (1).
- Re-insert the battery.
- Reinstall the battery cover.

## 6.2 Typical installation BDU38xx – Gen 5

The installation described below and all associated instructions refer to the installation example:
Cube Stereo Hybrid ONE44 HPC SLX model year 2025 with Gen 5 motor

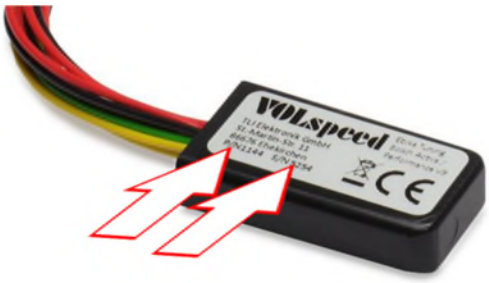
**BDU38xx – Gen 4**
See chapter 6.1 for an example of how the the tuning is installed with a Gen 4 motor.

### 6.2.1 Required tools

- Allen key 3mm
- Torx T40 socket wrench
- Torque ratchet suitable for socket wrench Torx, at least 30Nm / 22 ft-lbs
- Side cutter
- Mounting stand

**Additional tools may be required**
The motor cover may be attached with different screws depending on the e-bike model. Additional tools may be required for this.

### 6.2.2 Note the part number and serial number




Make a note of the
- Part number (P/N) and
- Serial number (S/N) of the tuning module

on the back of these operating instructions.

**This way, you always have the data at hand for any support requests.**

### 6.2.3 Installing the tuning module

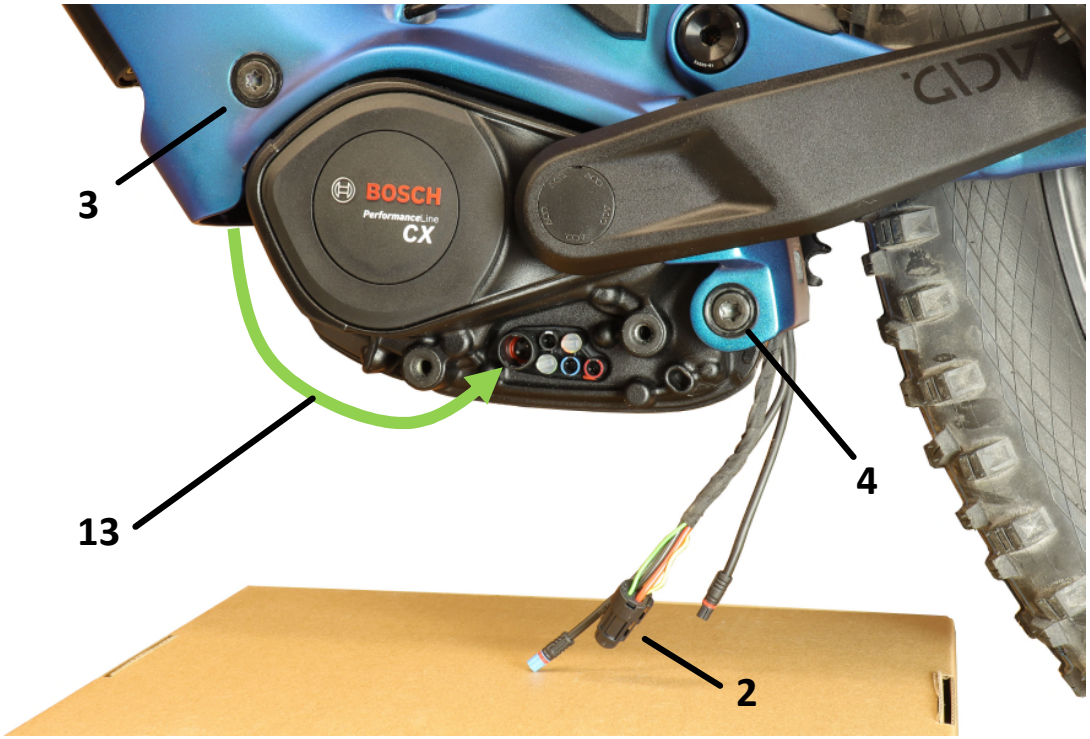
⚠ WARNING **Preventing an unexpected start-up**

If the drive starts unexpectedly, hands and fingers may shear, crush or retract. Switch off the e-bike and remove the battery. This will prevent any electromotive movement.

- Attach the bike to the mounting stand and bring it to a comfortable working height for removing the motor.


- Remove the battery cover and remove the battery.
- Remove the screw (1) and remove the lower motor cover.

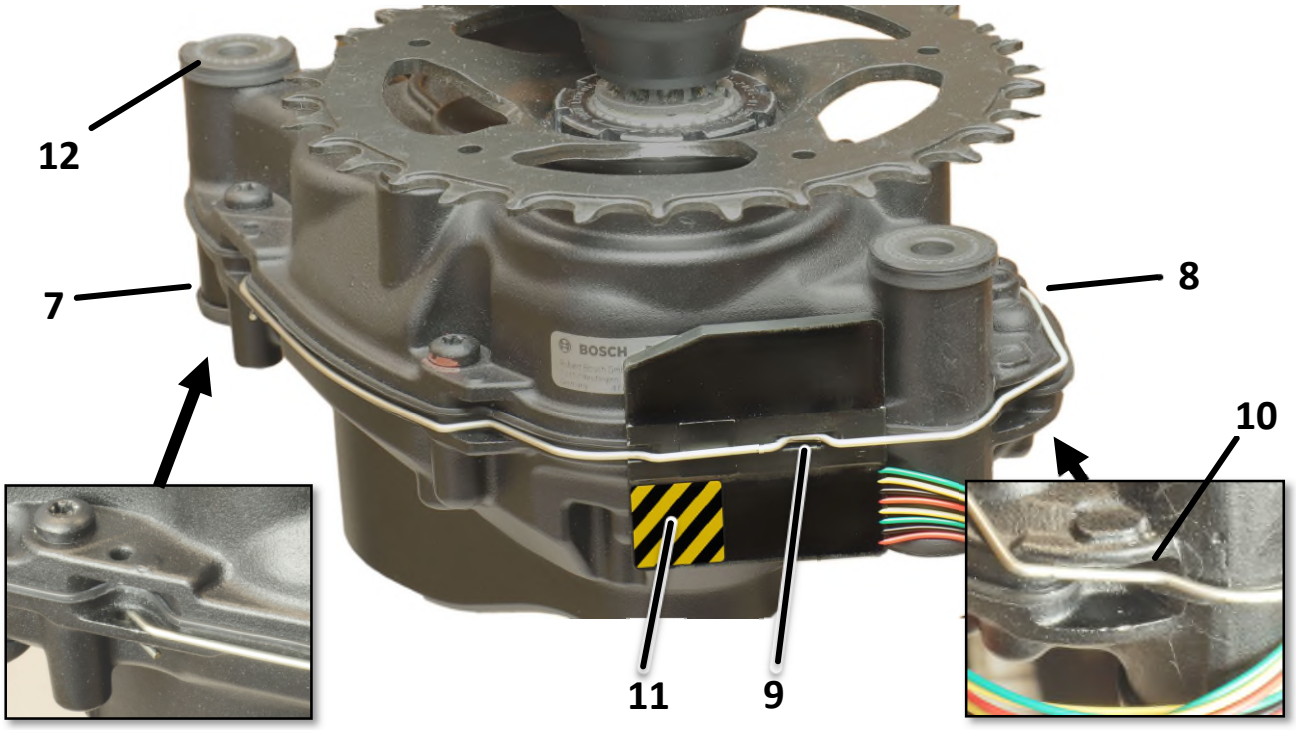



- Disconnect all connectors from the sockets on the motor and remove all cable ties. The large connector of the battery cable (2) is locked. To unlock it, press on the side of the connector and then pull it out. The remaining connectors can be simply pulled out.

  The number of connectors can vary depending on the bike's equipment. The connectors are coded and therefore cannot be connected incorrectly at a later stage. In addition, the connectors and sockets are colored differently to make it easier to assign them.

- Remove the chain from the sprocket.
- Place a box or similar under the motor so that you can place it on it after removal.
- Loosen the fixing screws of the motor (3 and 4). Press the nuts on the other side against the frame to prevent them from turning. Hold the motor firmly with one hand while you pull the screws out completely.
- Place the motor on the support surface.




- Now mount the tuning module. Hook the retaining clip onto the hole (7) of the motor. Attach the tuning module by sliding the clamp over the tuning module as shown in the illustration and latching it in at position (8). When doing so, make sure that the groove on the tuning module matches the shape of the bracket as shown in the illustration (9) and that the bracket at position (10) sits in the groove.

**ATTENTION** **Avoid malfunction**

It is important that the tuning is in exactly the position shown in the illustration. If the module is mounted in a different position, it will not work correctly later.

The battery cable (2) must not be laid in front of the yellow hatched area (11), as this would disturb the tuning function. We recommend routing the battery cable from the front, underneath the motor, where possible, as indicated by the green arrow (13).

- Put the motor back into the frame and fasten it provisionally by hand-tightening screws 3 and 4. Press the nuts on the right against the frame to prevent them from turning.

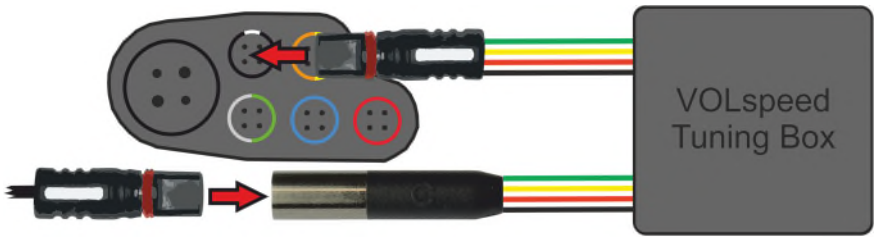
 

ATTENTION **Avoid damage**

Do not use force when reassembling the motor. Cables could be damaged as a result. It is possible that the motor can no longer be placed in the original position due to the tuning. In this case, you can try to route the cables in a different position. If the motor still cannot be mounted, you unfortunately cannot use the tuning on this bike.

If the motor mounting screws are of different lengths, the longer screw is mounted at position (3). In this case, an additional spacer ring is mounted at position (12). If this has come loose during removal of the motor, reattach it before mounting the motor.

- Connect the tuning module by plugging one connector of the tuning into the motor and the other into the connector that is black in the front.




- Now reconnect all the other connectors to the motor. Push the connectors in until you feel them click into place.
- Reinstall the chain.

### 6.2.4 Check function

- Insert the battery and turn on the e-bike.
- Now turn the pedals until the rear wheel is turning at a speed of at least 20 km/h / 12.5 mph and stop the rear wheel again after a few seconds by applying the brake.

  Then check whether you can switch on Speed Mode as described in chapter 7. If this is not possible, switch the bike off and on again and repeat the previous step.
- Turn off the e-bike and remove the battery pack.

### 6.2.5 Finish installation

- Lay the cables so that they are not pinched when the covers are fitted.
- Tighten the motor mounting screws (3 and 4). Torque 30 Nm. Make sure that the nuts are in the correct position, otherwise the frame could be damaged.
- Reinstall the motor covers with the screws (1).
- Re-insert the battery.
- Reinstall the battery cover.

# 7 Speed Mode

When Speed mode is activated, the speed limit for motor assistance is raised. The limit can be freely set in the range 25 to 45km/h. When the e-bike is switched off, the speed mode is automatically switched off and must therefore be reactivated when the e-bike is switched on again. Please note that when Speed mode is activated, the speed displayed is too low from about 21km/h.

**Note displays / control units**
The following illustrations show an example of the LED Remote control unit and the Kiox 300 display. For other control units, press the corresponding buttons to change the support levels. The Flow App can also be used as a display.

**Switching on / off while riding**
You can also switch the speed mode on and off while riding. However, you will then not get a display whether the speed mode has been activated or deactivated.

## 7.1 Switch on

Switch on the e-bike and, if necessary, the display and enter the following sequence quickly using the buttons for changing the assistance levels:

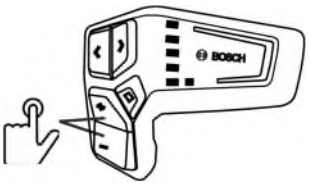
**- + - +**

**Individual activation code**
If you have an individual activation code according to the instructions in chapter 8 enter this instead.

5s


The speed limit is displayed for 5 seconds. If desired, the limit can be changed with the "Plus" and "Minus" keys. Possible values: 25 to 45km/h (15.5 to 28mph). Default value 32km/h (20.5mph). The set value is saved. The speed mode is now activated.

## 7.2 Switch off



Enter the following sequence:

**- + - +**

3s


The display shows 25km/h (15.5mph) for 3 seconds. Speed mode is now deactivated.

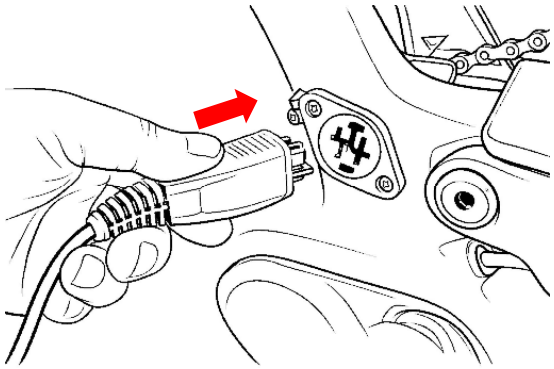
# 8 Individual activation code

With an individual activation code, the speed mode can only be activated by entering this code. This prevents unauthorised activation of the tuning. The code always consists of a self-definable sequence of one to a maximum of five button presses that must be pressed in the set sequence.

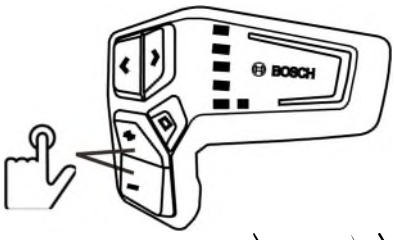
## 8.1 Preparation

**Lock-Function**
If the lock function on your bike is activated via your smartphone, please deactivate it first; you can reactivate it later once you have changed the code.

Turn off the drive system.

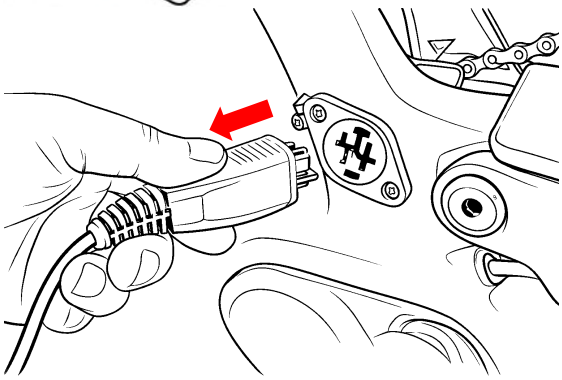


Connect the charger to the bike — the control unit will be activated automatically.



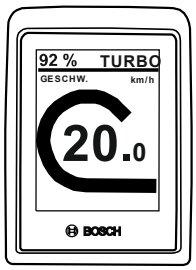

On the control unit, enter the following sequence using the assistance-level buttons:

**- - - + + +**



Unplug the charger. This will switch the drive system off again. The code entry mode will be activated the next time the bike is switched on.

## 8.2 Set code




Switch on the e-bike. The speed displayed is 20km/h (12.4mph).

- Now set your own code by pressing the desired buttons.
- After pressing the first button, the default code is deleted and the currently pressed button is adopted as the code instead. The display changes to 21km/h (13.0mph).
- With each additional keystroke, the speed is now increased by one km/h (~0.6mph) and the keystroke is added to your code.
- If more than 5 keystrokes are entered, further keystrokes are ignored.
- The code can consist of a minimum of one keystroke and a maximum of 5 keystrokes.
- You can use all the buttons on the control unit except the power button.

Input example:

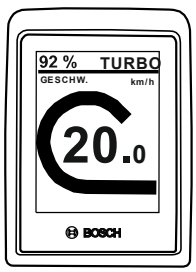
| Step | Key | Speed (kph/mph) | Note |
|---|---|---|---|
| **1** | | 20 / 12.4 | Code: - \| + \| - \| + |
| **2** | + | 21 / 13.0 | Code: + |
| **3** | < | 22 / 13.6 | Code: + \| < |
| **4** | > | 23 / 14.2 | Code: + \| < \| > |
| **5** | + | 24 / 14.9 | Code: + \| < \| > \| + |
| **6** | - | 25 / 15.5 | Code: + \| < \| > \| + \| - |
| **7** | - | 25 / 15.5 | Code: + \| < \| > \| + \| - , keystroke is ignored |

- Make a note of the set code. Then switch off the e-bike. This saves the code. If you want to adjust the code again, simply activate the code setting mode again (chapter 8.1) and enter the code again.

**Code entry mode exits automatically**

If you do not press any button for 20 seconds, the code entry mode ends automatically. The set code is nevertheless saved.

## 8.3 Delete code

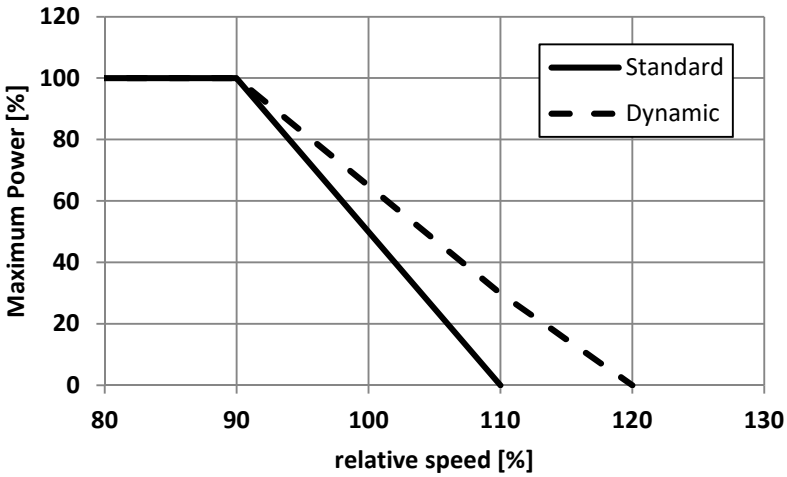



Activate code entry mode as described in chapter 8.1. Switch on the e-bike. The speed displayed is 20km/h (12.4mph). Switch the e-bike off again. This deletes the individual code.

# 9 Dynamic Mode

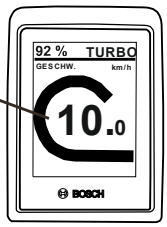
If the speed limit is exceeded, the motor power is reduced very strongly by default. A higher pedal force then initially no longer results in a higher speed, but in a lower motor support. For a more natural riding experience, the dynamic mode spreads the downshift over a wider speed range, the so-called "wall effect" is significantly reduced and it is possible to ride with much more constant pedal force.




With Speed mode activated, enter the following sequence:

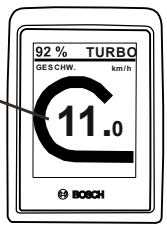
**- - + + - -**

3s




Dynamic mode off: 10 km/h (6.2mph) is displayed for 3 seconds. The set value is saved.

3s




Dynamic mode on: 11 km/h (6.8mph) is displayed for 3 seconds. The set value is saved.

**Switching on / off while riding**

You can also switch the dynamic mode on and off while driving. However, you will then not get a display whether the dynamic mode has been activated or deactivated.

# 10 Restore factory settings

The tuning module sets itself up automatically. A conversion to another e-bike or another display is also recognised automatically. Nevertheless, it is possible to reset the Tuning Module to the factory settings. This resets the following values:

- The limit is set at 32km/h.
- Dynamic mode is deactivated.
- Magnetic field settings are reset to default
- Any existing individual activation code will be deleted.

**Forgotten activation code**
If you have forgotten the set activation code and therefore can no longer activate the speed mode, you must first delete the activation code.

- To restore the factory settings, first activate the speed mode and then enter the following sequence quickly using the buttons:

  - ☐ ☐ ☐ - - (☐ : Menu key)
- The module is now reset to factory settings.
- Now turn the pedals until the rear wheel is turning at a speed of at least 20 km/h / 12.5 mph and stop the rear wheel again after a few seconds by applying the brake.

# 11 FAQ

**Why is the speed display not correct when tuning is activated?**
The tuning simulates a lower speed for the motor from about 21km/h so that the motor does not cut out. Due to a secure data communication from the motor to the display, it is unfortunately not possible to correct the display values as is possible with older Bosch drive systems.

**Is the total mileage correct even after removing the module?**
No. Due to the principle of the tuning, the motor is led to believe that the speed is too low while riding. As a result, the odometer measures a shorter distance when the tuning is used. The missing distance is not corrected by the tuning.

**The Flow app reports an available update. Can I install this without hesitation?**
In general, we do not recommend updates when using our tuning modules. It is possible that the tuning will be detected by the drive system after the update due to tamper detection or that the tuning can no longer be operated due to changes in communication. Disable automatic updates in the Flow App. We regularly publish tested software versions in our blog: blog.volspeed.de

**Why does the motor assistance suddenly cut out briefly during rapid acceleration and then return after a few seconds?**

It is possible that during installation of the tuning, the battery cable was routed in the sensor area of the tuning chip, causing interference. Ensure that the cable has not been routed in front of the yellow hatched area in the illustration on page 14 (Gen4) or page 18 (Gen5).

**Why is the speed no longer displayed after installing the tuning module, and why does error code 523001 appear after a short ride?**

Unlike tuning modules from other manufacturers, this product uses the original rim magnet. Therefore, it must remain installed. Operation without the rim magnet is not possible with this tuning.

**The tuning has no function whatsoever. When attempting to activate speed mode, the display does not show any speed and the bike only supports up to 25 km/h. What could be the cause?**

This tuning module only works on bikes that use a rim magnet for speed measurement. Bikes with an external speed sensor with a magnet on the spoke or brake disc are not supported by this tuning. Bikes with ABS are also not supported, even if they are equipped with a rim magnet.

Before using it for the first time, the tuning must be initialised once after installation. To do this, proceed as described in chapters 6.1.4 or 6.2.4.

The motor must be reinstalled in the frame together with the tuning kit in order to initialise it. If the motor is positioned outside the frame, the tuning will not work.

The tuning kit must be mounted on the motor using the bracket in the positions described in chapters 6.1.3 or 6.2.3. The module cannot be attached in any position; precise alignment with the motor is required.

**Technical support**

If you have any questions or problems, please contact us by e-mail or telephone:
TLI Elektronik GmbH
St.-Martin-Str. 11
86676 Ehekirchen
Germany
info@volspeed.de
Tel.: +49 (0) 8253 / 9279902

In addition to your request, please provide the following information:

- Article number and serial number of the unit (S/N, P/N)
- Bicycle manufacturer, type and year of manufacture
- Display type (e.g. Kiox 300)
- Control unit type (e.g. LED remote)
- Motor type (e.g. Performance Line CX)
- Software version Motor (e.g. 17.16.0)

To ensure that you always have the device data at hand, you can enter them here before installing the device:

Part number (P/N): _____

Serial number (S/N): _____

**Disposal**

Electronic devices are recyclable materials and do not belong in household waste.

At the end of its service life, dispose of the product in accordance with the applicable legal requirements.