

TQ-HPR50 System

Service Manual

Technology
in Quality





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Important notice

- ▶ The service manual is geared towards professional and training bicycle mechanics.
- ▶ Be sure to also read the included operating instructions of the various products.
- ▶ Do not make any modifications to the products that are not described in the manual or that go beyond the contained information.
- ▶ You will find all service manuals and user manuals, along with the current versions, in the TQ dealer portal: www.tq-group.com/en/e-bike-portal/
- ▶ Please also observe the rules of the country, state or region in which you operating.

For safety reasons, read this service manuals thoroughly and follow the instructions for proper use.

Hazard Classification

DANGER

This signal word designates a hazard with a **high** degree of risk, which, if not averted, will result in death or severe injury.

WARNING

This signal word designates a hazard with a **moderate** degree of risk, which, if not averted, will result in death or severe injury.

CAUTION

This signal word designates a hazard with a **low** degree of risk, which, if not averted, could result in minor or moderate injury.

NOTICE

A notice, as set out by this manual, is important information about the product or the respective section of the manual requiring special attention.

Ensuring safety

DANGER

Be sure to follow these instructions when performing installation and service work:

- ▶ Make absolutely sure that the system is switched off or the Battery and Range Extender is unplugged before performing any work on the system or e-bike.
- ▶ Unintentional activation of the electric drive system can result in injury.
- ▶ Never ship a defective Battery or Range Extender. A defective Battery or Range Extender may neither be charged nor used.

⚠ DANGER

Also inform the users about the following:

Handling of the batteries and chargers

- ▶ Do not open the battery housing or charger housing under any circumstances, and never attempt to dismantle them.
- ▶ Do not undertake any attempts to repair a damaged battery housing under any circumstances.
- ▶ Never break or perforate the battery
- ▶ Protect the battery against fire, severe heat, along with prolonged direct exposure to sunlight.
- ▶ Never immerse the battery in water.
- ▶ In case of improper use, fluid may leak out of the battery. Avoid any contact with the fluid. In case you come into contact with the fluid, wash it off with water. Also seek the attention of a physician if your eyes come into contact with the fluid. Fluid leaking out of the battery may lead to irritation or burns.
- ▶ In order to prevent damage to the battery, never subject the battery to mechanical impact.
- ▶ Keep the battery away from metal objects, as a danger of short-circuiting exists. Do not allow nails, screws or other small, sharp and/or metallic objects come into contact with the battery (charging port / discharge socket).
- ▶ Only use the designated TQ charger for charging the battery.
- ▶ Protect the charger from moisture. Otherwise, there is the risk of electric shock.
- ▶ Only operate the charger in dry rooms.
- ▶ Keep the charger clean. Soiling could lead to an electric shock.
- ▶ Never operate the charger on an easily combustible surface (e.g. paper, textiles etc.) or in a combustible environment. There is a fire risk due to the warming of the charger during charging.

⚠ WARNING

Strictly follow the instructions in the manuals when installing HPR products.

It is recommended to use only original TQ parts.

Wear approved eye protection when performing maintenance procedures, such as replacing components, for example.

You will also find additional product information in the user manuals of the individual TQ components.

Also inform the users about the following:

- ▶ When cycling, do not become distracted from the information indicated on the display, instead focus exclusively on the traffic. Otherwise, there is the risk of accident.
- ▶ Make sure before starting out that all screws and wheels are securely fastened.
- ▶ The assistance by the drive system depends on the one hand on the selected assistance level and on the other hand on the force that the rider is exerting on the pedals. The greater the force exerted on the pedals, the higher the level of motor assistance. The drive assistance stops when you stop pedaling.
- ▶ Only use the original TQ charger to charge the battery and ranger extender.
- ▶ The drive unit may heat up during operation, depending on the load and other additional influencing factors, causing the surface of the drive unit, along with adjacent components (motor covers) to become hot. Do not come into contact with the drive unit with your hands or legs during or after a ride. Otherwise, there is the risk of burns.

⚠ CAUTION

Also inform the users about the following:

- ▶ Please observe the notices in the user manuals and in the operating instructions of the bike.
- ▶ Prior to each charging cycle, check to ensure that the charger, cables and plugs are not damaged.
- ▶ Do not operate the charger if cables or plugs are damaged. Otherwise, there is the risk of electric shock.
- ▶ The charger may be used by children 8 years and older and by persons with restricted physical, sensory or mental abilities or lacking experience and knowledge if they are supervised or have been instructed in the safe use of the equipment and the resulting dangers. Children are not allowed to play with the equipment. Cleaning and user maintenance are not allowed to be carried out by children without supervision.
- ▶ Do not make any modification to the system, as this may lead to malfunctions and will also void the warranty.
- ▶ Also observe the charging, operating and storage temperatures of the battery.

Charging temperature range: 0 °C to 40 °C / 32 °F to 104 °F

Operating temperature: -5 °C to 40 °C / 23 °F to 104 °F

Storage temperature: 0 °C to 40 °C / 32 °F to 104 °F

Recommended storage temperature: 10 °C to 20 °C / 50 °F to 68 °F

NOTICE

Also inform the users about the following:

- ▶ Place blind plugs on all unused connections.
- ▶ Never clean the e-bike with a high-pressure washer, as this can result in malfunctions, defects or corrosion of the components.
- ▶ Do not stand the bike upside down. This could possibly damage the remote or the shift levers.
- ▶ The transport of lithium batteries is subject to country-specific laws and regulations. Please become informed about the respective regional rules, and follow them during transport.
- ▶ Do not remove the battery from the e-bike during the charging cycle.
- ▶ Never cycle with the e-bike when the charger is connected.
- ▶ Close the charge port cover if the charging cycle is completed or no service dongle is connected.
- ▶ Only use the designated TQ charger for charging the batteries.
- ▶ Use only an original HPR battery to supply the drive system with power.
- ▶ Clean the battery only with a soft, damp cloth.

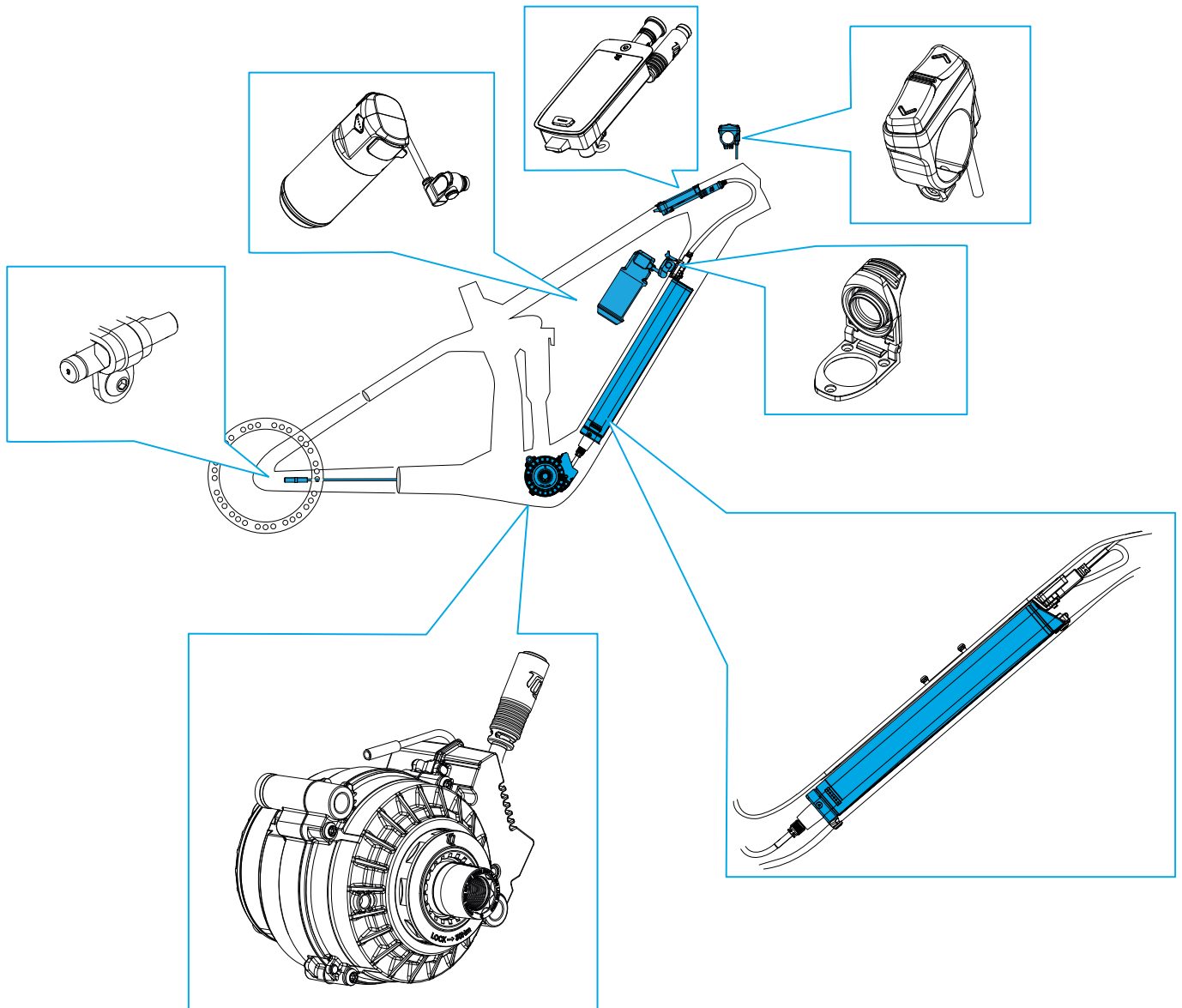
Connecting the e-bike (TQ drive system) with the PC

The TQ service dongle V01 is intended for connecting the USB port of the PC with the HPR50 drive system and is not allowed to be used for other purposes or other manufacturers. The service dongle is required for the use of the TQ Dealer Service Tool and enables communication between the PC and the e-bike. With the help of this interface, the software of the Dealer Service Tool can access all the components of the e-bike drive system.

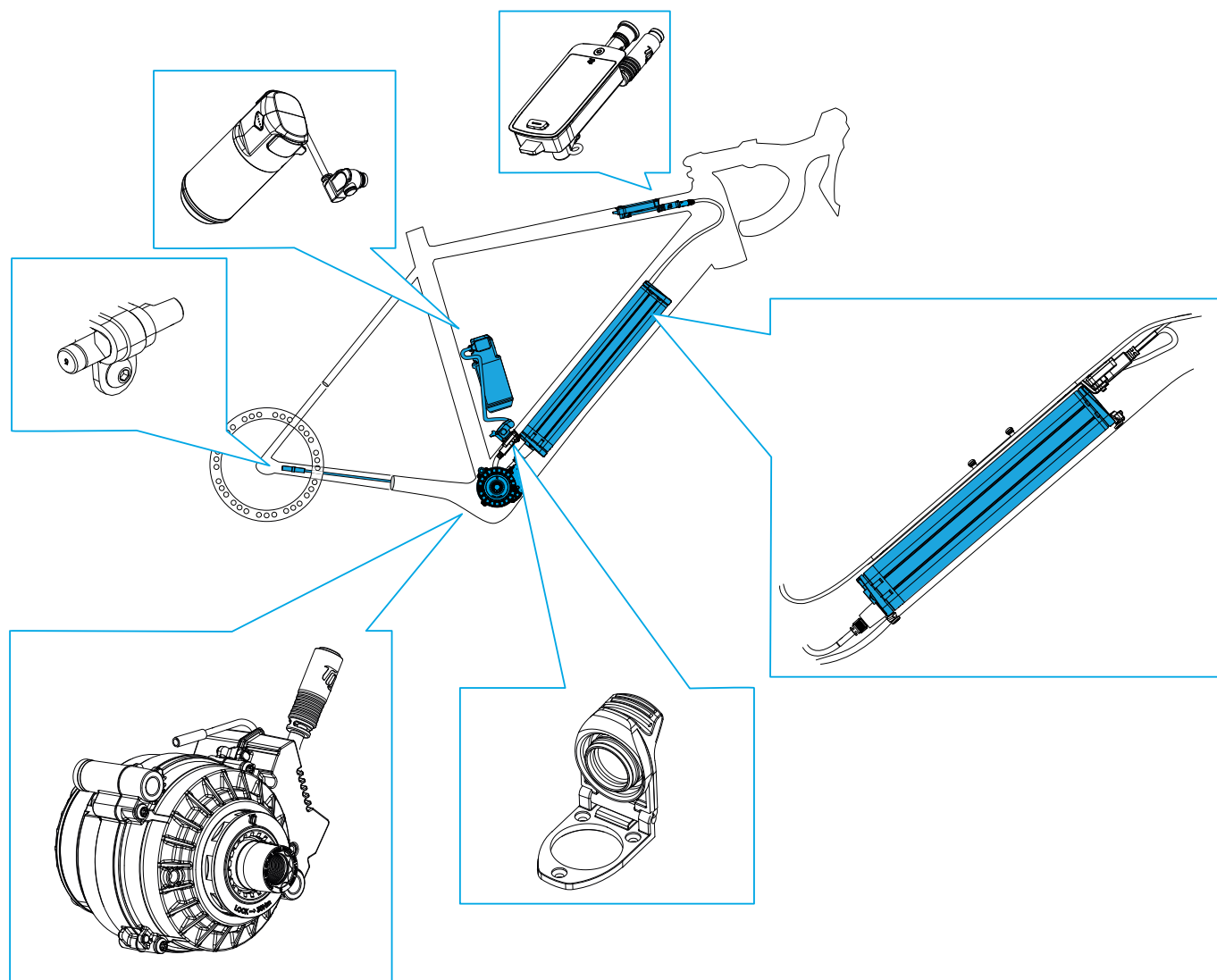
The Dealer Service Tool enables the following:

- ▶ System diagnostics of connected components
- ▶ Firmware Updates
- ▶ Service Reports
- ▶ E-bike Settings

Mountain bike e-systems overview



Road e-systems overview



Overview of the tools used in the manual



Torque wrench



Caliper gauge



Inner bearing tool BB-UN55



Ball-bearing grease



Hex key 2.5 mm



Hex key 5 mm



Hex key 6 mm



Torx T8



Torx T10



Torx T20



Torx T25



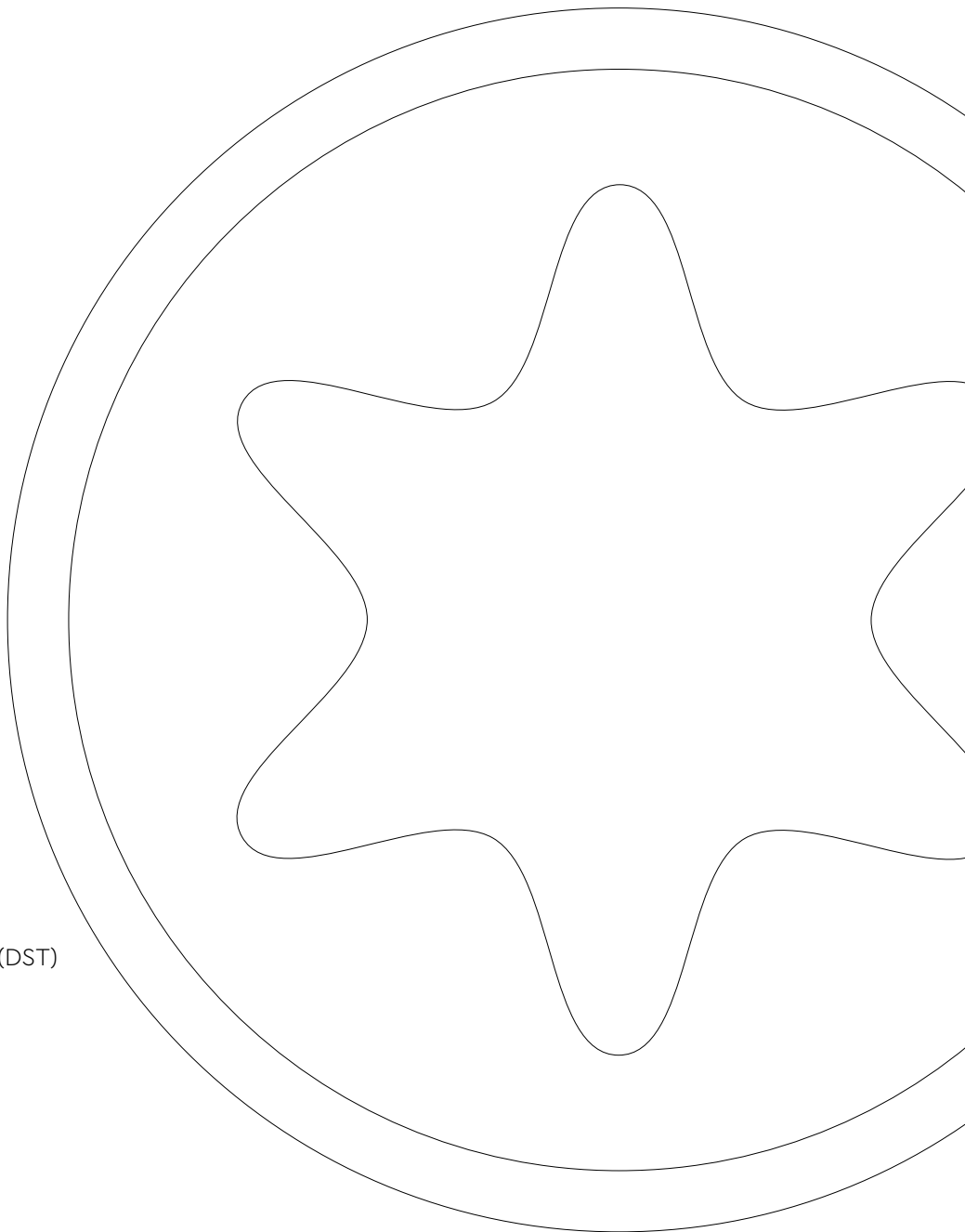
Torx T45



Torx T55






Dealer Service Tool (DST)

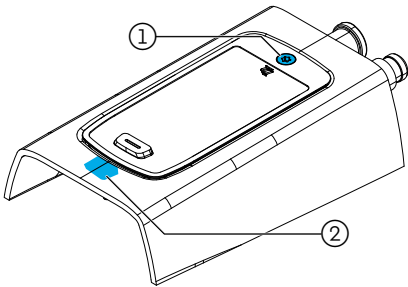
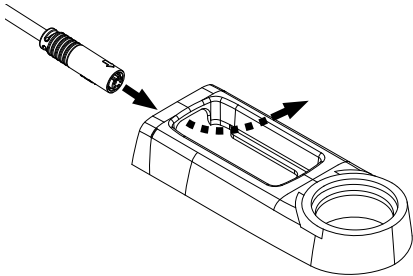

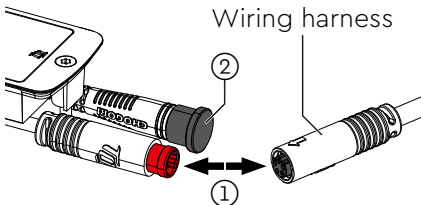

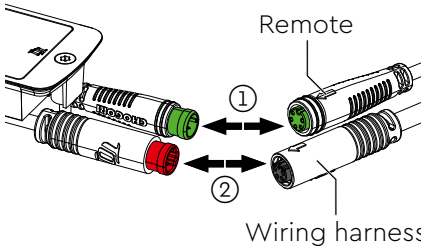

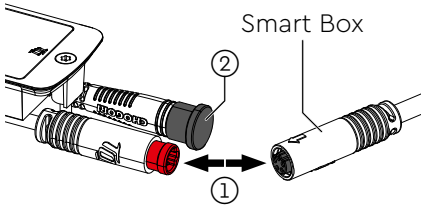



Installation of the display (V01 and V02)

Tool required

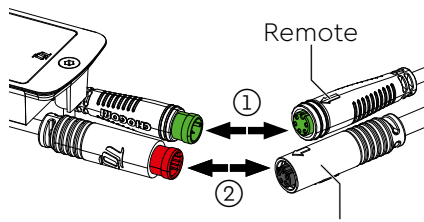
| | | |
|---|---|---------------------------|
| 4 |  | Torque wrench |
| 4 |  | Torx T10 |
| 5 |  | Dealer Service Tool (DST) |

Display installation

| | | |
|-----|---|--|
| 0 |  <p>① M3x20 screw ② Display frame</p> | |
| 1 |  <p>Feed the connecting cable for the display / Smart Box cleanly through the display enclosure in the frame.</p> |  <p>Please make sure not to kink the cables.</p> |
| 2 A |  <p>Wiring harness</p> <p>Version A: Without remote and without Smart Box</p> <p>① Make the connection between the red plug (display) and the black socket (wiring harness). ② The protective cap needs to be placed onto the second display plug.</p> |  <p>Please make sure that plug connectors are clean. The pins are not allowed to be bent.</p> |
| 2 B |  <p>Remote</p> <p>Wiring harness</p> <p>Version B: With remote and without Smart Box</p> <p>① Make the connection between the green plug (display) and the green socket (remote). ② Make the connection between the red plug (display) and the black socket (wiring harness).</p> |  <p>Please make sure that plug connectors are clean. The pins are not allowed to be bent.</p> |
| 2 C |  <p>Smart Box</p> <p>Version C: Without remote and with Smart Box</p> <p>① Make the connection between the red plug (display) and the black socket (Smart Box). ② The protective cap needs to be placed onto the second display plug.</p> |  <p>Please make sure that plug connectors are clean. The pins are not allowed to be bent.</p> |



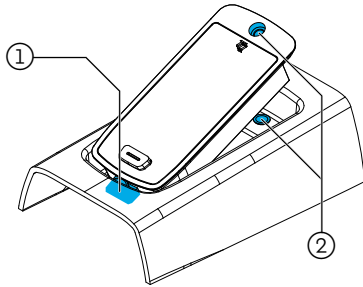
Please make sure that plug connectors are clean. The pins are not allowed to be bent.

2
D


Version D: With remote and with smart box

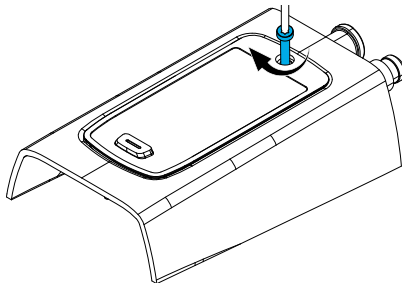
- ① Make the connection between the green plug (display) and the green socket (remote).
- ② Make the connection between the red plug (display) and the black socket (Smart Box).

3



- ① Insert the display enclosure down into the frame.
- ② The screw hole in the display needs to be above the screw hole in the frame.

4

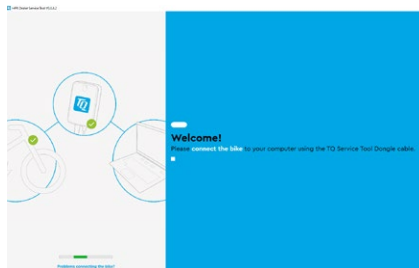


Tighten the included M3×20 display screw with a torque of 0.5 Nm.



0.5 Nm

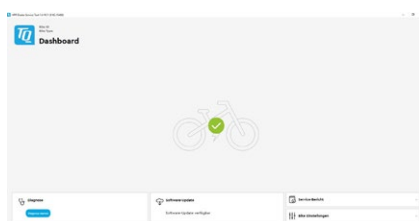
5



Launch the TQ Dealer Service Tool and connect the dongle with the PC and the bike.





6



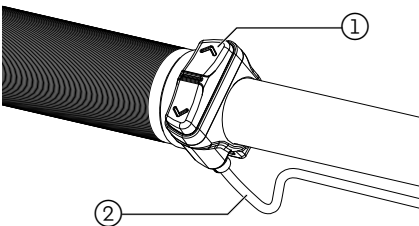
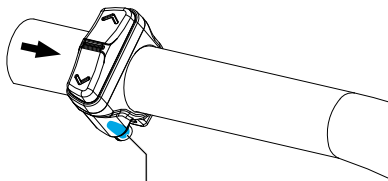

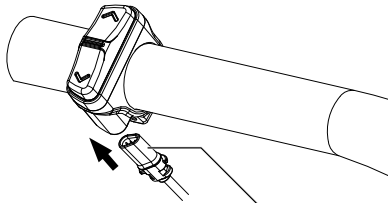

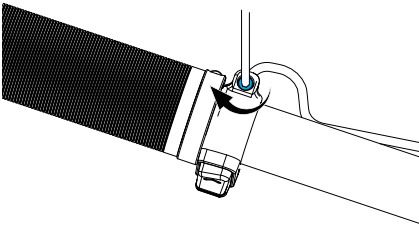




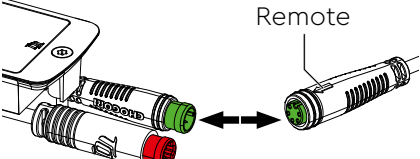

Perform available software updates in order to keep the system up to date.

Assembly of the REMOTE V02








Tool required

| | | |
|---|---|----------------|
| 3 |  Nm wrench | Torque wrench |
| 3 |  2,5 mm | Hex key 2.5 mm |

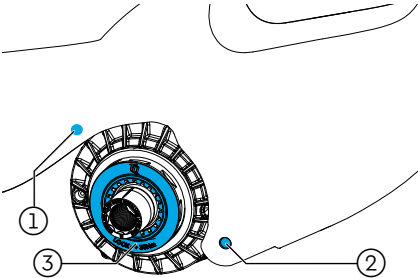
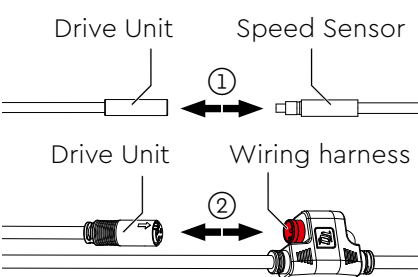

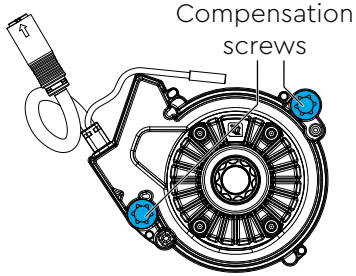




Remote assembly

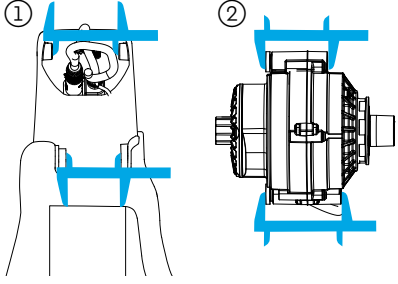



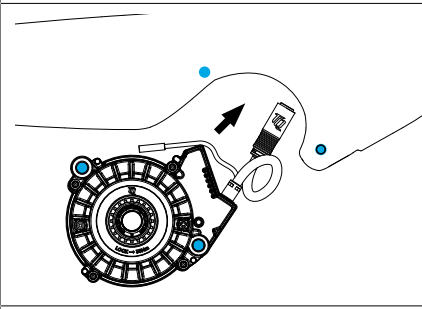

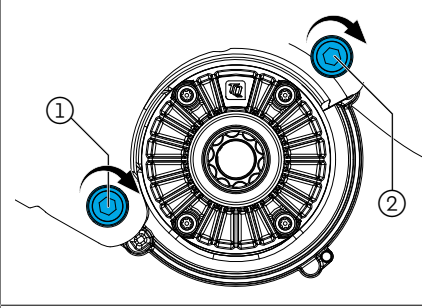




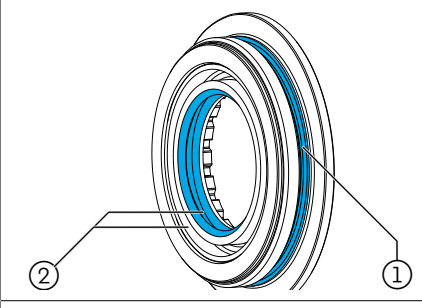


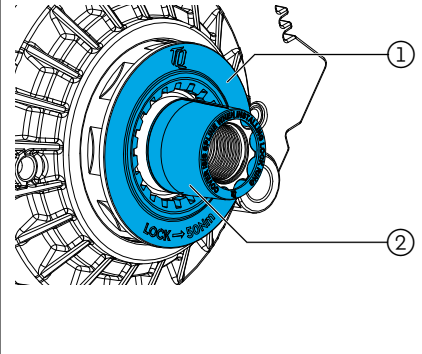




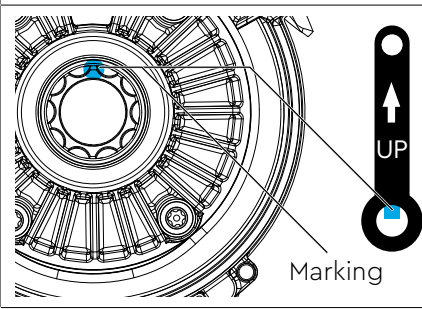

| | | | |
|---|---|---|--|
| 0 |  <p>① Remote control unit ② Remote cable</p> | | |
| 1 |  <p>Remote cable socket</p> | Plug the remote control unit into the left handlebars. |  Makes sure it is properly aligned. |
| 2 |  <p>Remote cable plug</p> | Insert the oval plug of the remote cable properly aligned and all the way into the remote control unit. Feed the cable within the handlebars in the direction of the display. |  Pay attention to the oval coding of the plug. Please make sure that the plug connectors are clean, the pins are not allowed to be bent. |
| 3 |  | Tighten the pre-assembled M3 remote screw using a torque of 1 Nm. |   2,5 mm  Nm wrench 1 Nm  Make sure the remote is in the proper position, the handlebar grip and brake must be mounted beforehand. |
| 4 |  <p>Remote</p> | Make the connection between the green socket (remote) and the green plug (display). |  Please make sure that the plug connectors are clean, the pins are not allowed to be bent. |

Installation of Drive Unit HPR50

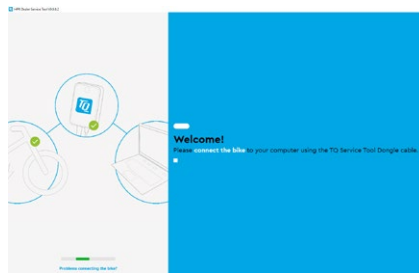
| Tool required | | |
|---------------|---|----------------------------|
| 2 |  caliper | Caliper gauge |
| 2 |  T55 | Torx T55 |
| 4 6 |  Nm wrench | Torque wrench |
| 4 |  6 mm | Hex key 6 mm |
| 5 |  grease | Multi-purpose grease |
| 6 |  BB UN55 | BB-UN55 inner bearing tool |
| 8 |  DST | Dealer Service Tool (DST) |

Motor installation

| | | | |
|---|---|--|---|
| 0 |  | <p>① Rear motor bolt 62 mm</p> <p>② Front motor bolt 73 mm or 76.5 mm (depending on manufacturer)</p> <p>③ Lockring</p> | |
| 1 |  | <p>① Insert the plug of the speed sensor into the socket of the drive unit.</p> <p>② Then connect the drive unit to the wiring harness.</p> | <p> Pay attention to the coding of the plug. Please make sure that the plug connectors are clean, the pins are not allowed to be bent.</p> |
| 2 |  | <p>Adjust the two motor compensation screws to the correct frame width at the mounting points. Maximum axial frame tolerances of ± 1 mm can be compensated.</p> | <p> </p> <p> The two screws have a left-hand thread! Incorrectly adjusted screws may cause damage to the frame or drive unit!</p> <p> Drives without compensation screws have a fixed installation dimension and may only be used for corresponding models.</p> |

| | | | |
|-----|---|---|---|
| 2 A |  | <p>① Use a caliper gauge to measure the distance between the two mounting points in the frame.</p> <p>② Then set this value on the motor compensation screws and thus adjust them to the required frame width.</p> | <p>  caliper</p> <p> The maximum motor compensation width is not allowed to exceed or fall below a maximum of ± 1 mm.</p> |
| 3 |  | <p>Insert the drive unit into the e-bike frame – matching the mounting points.</p> | <p> Make sure that no cables or plugs are crushed or kinked.</p> |
| 4 |  | <p>Tighten the motor bolts ① and ② according to the respective e-bike manufacturer with a tightening torque of 20 Nm. Use new motor bolts (using a medium-strength threadlocker if necessary)</p> | <p>  6 mm  Nm wrench</p> <p>20 Nm</p> <p> Ensure that the contact surfaces are clean.</p> |
| 5 |  | <p>Prior to assembly of the locking, grease the O ring ① and the shaft seal ② at the marked points with ball-bearing grease.</p> | <p>  grease</p> |
| 6 |  | <p>Place the chain ring (manufacturer-dependent) on the output shaft.</p> <p>Attach the locking ① with the help of an mounting tool ② and tighten it with a tightening torque of 50 Nm.</p> <p>Then remove the mounting tool ②.</p> | <p>  BB UN55  Nm wrench</p> <p>50 Nm</p> <p> Mounting without a mounting tool can lead to damage of the shaft seal and thus to motor damage, e.g. due to water ingress!</p> |
| 7 |  | <p>Mount both cranks, taking into account the index markings.</p> | <p> Incorrect installation may result in the assistance not working properly, or not working at all.</p> |

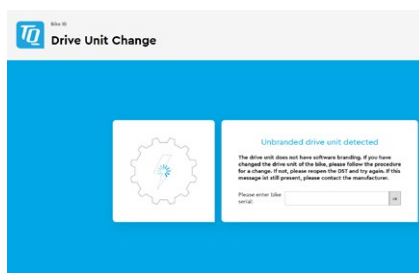
8



Launch the TQ Dealer Service Tool and connect the dongle with the PC and the bike.



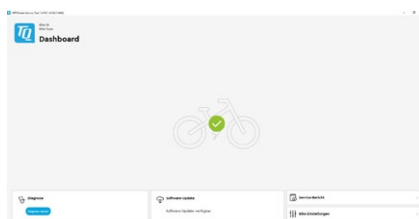
9



The Dealer Service Tool connects to the TQ database and identifies the e-system.

Confirm the bike serial number; if identification is not possible, enter the serial/frame number.

10






Perform available software updates in order to keep the system up to date.

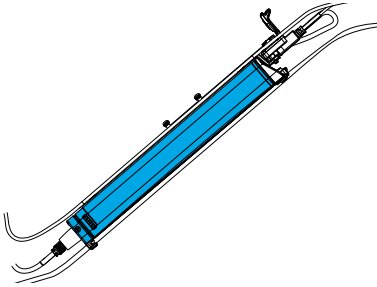
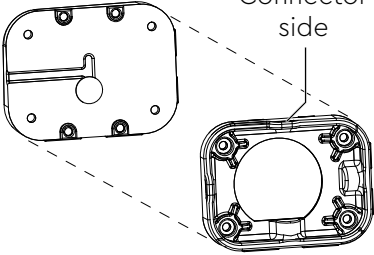

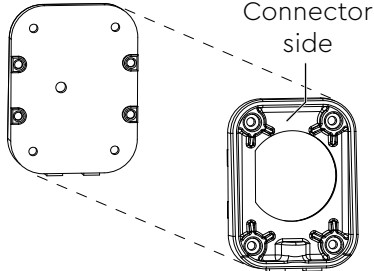
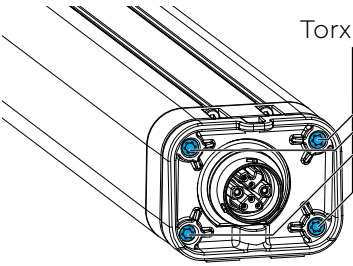






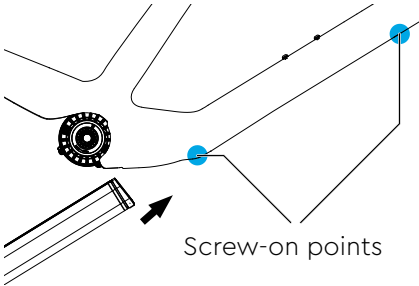

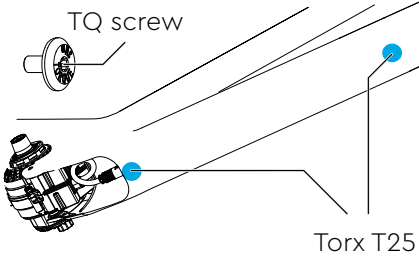



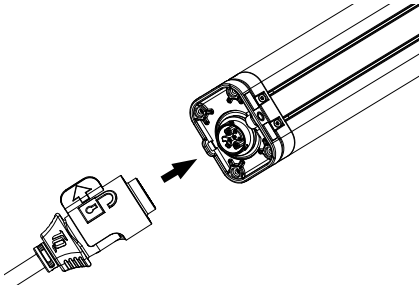


Installation of the Battery HPRV01

Tool required





| | | |
|--|---|---------------|
| 2 4 |  Nm wrench | Torque wrench |
| 2 |  T ₁₀ | Torx T10 |
| 4 |  T ₂₅ | Torx T25 |
| additional tools may be required to remove the skid plate. | | |

Battery installation

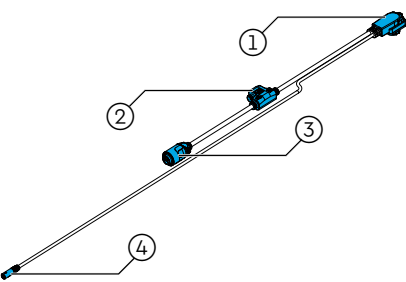
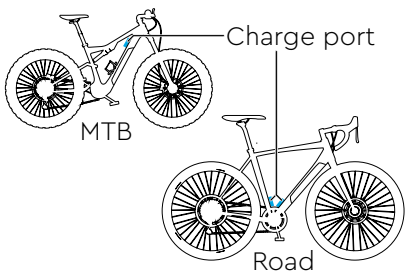
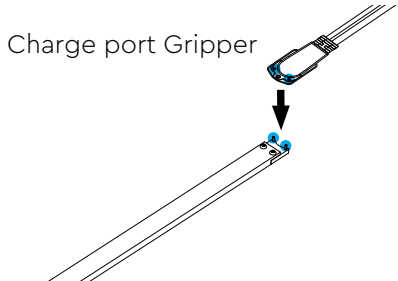

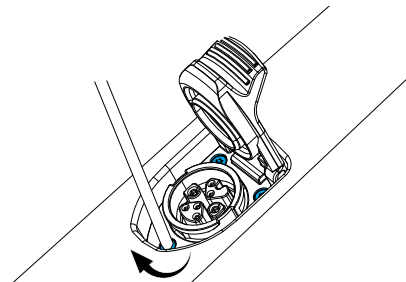




| | | | |
|--------|---|--|---|
| 0 |  | Battery installed in the frame and connected. | |
| 1 A |  | <p>Select the manufacturer-dependent battery brackets and the recommended screws:</p> <p>The figure on the left shows the horizontal layout of the brackets.</p> |  Please note the manufacturer-dependent horizontal or vertical design of the brackets. |
| 1 B |  | The figure on the left shows the vertical layout of the brackets. | |
| 2 |  | <p>Screw the two brackets to the battery with the ISO14580 M3×6 screws (with threadlockers) with a torque of 1 Nm.</p> | <div>   T₁₀  Nm wrench </div> <p>1 Nm</p>  During installation, pay attention to the connector coding. (see Fig. left) |

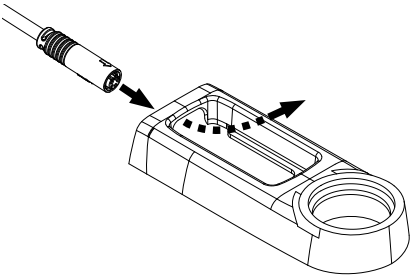

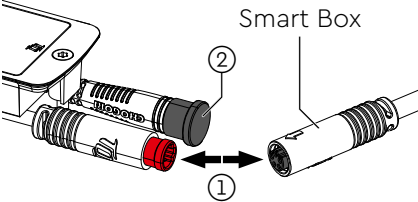

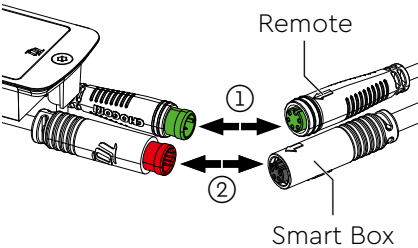

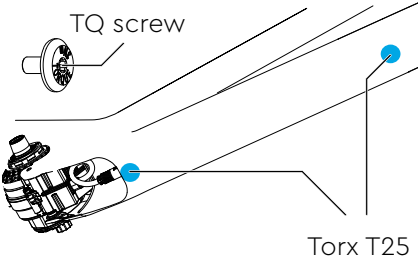



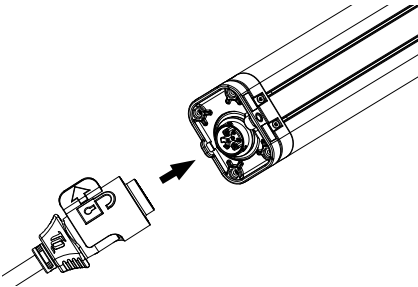

| | | | |
|---|---|--|---|
| 3 |  <p>Screw-on points</p> | <p>Carefully slide the Battery V01 into the battery compartment up to the specified screw-on points.</p> <p>The wiring harness should already be pre-mounted. See also "Installing the wiring harness" on Page 20.</p> |  <p>Be careful not to crush any cables. Please observe the manufacturer-dependent instructions for the wiring harness.</p> |
| 4 |  <p>TQ screw</p> <p>Torx T25</p> | <p>Fasten the Battery V01 to the frame with the TQ screws (M5) provided for this purpose and tighten them with a tightening torque of 3 Nm.</p> |   <p>3 Nm</p>  <p>Note other manufacturer-dependent bracket/screw solutions, where applicable.</p> |
| 5 |  | <p>Connect the battery plug from the wiring harness to the battery.</p> |  <p>Ensure that the plug is properly locked. The plug snaps into place with a clicking sound.</p> |
| 6 | | <p>Where appropriate, mount the drive unit see "Installation of Drive Unit HPR50" on Page 14 and/or the manufacturer-dependent skid plate.</p> |  <p>Observe the manufacturer's instructions for skid plate installation.</p> |

Installing the wiring harness

| Tool required | | |
|---|---|---------------|
| 3 |  Nm wrench | Torque wrench |
| 3 |  T ₈ | Torx T8 |
| X |  T ₁₀ | Torx T10 |
| 6 |  T ₂₅ | Torx T25 |
| additional manufacturer-dependent tools may be required | | |




Wiring harness installation

| | | | |
|---|---|---|---|
| 0 |  | <p>Interfaces of the wiring harness as seen on the "Road" version:</p> <p>① Charge port ② Splitter ③ Battery connection ④ Display connector</p> | |
| 1 |  | <p>Select the appropriate wiring harness:</p> <p>CAB01 MTB (position of charge port above the battery).</p> <p>CAB02 Road (position of charge port below the battery).</p> | |
| 2 |  | <p>Use of the "charge port gripper" mounting tool:</p> <p>To guide the charge port at the MTB to the desired position, the charge port can be picked up via the two lugs and thus guided more easily to the appropriate position.</p> | <div></div> <p>The charge port gripper is available separately in the TQ online store.</p> |
| 3 |  | <p>Position the charge port in the correct position in the frame using the charge port gripper (MTB) or by hand (Road).</p> <p>Then screw it on with the three M2.5×8 screws provided with a tightening torque of 0.8 Nm.</p> | <div><div></div><div> T₈ Nm wrench</div></div> <p>0.8 Nm</p> <div></div> <p>Pay attention to the manufacturer-dependent coding of the charging plug! This can be checked with the charging plug of the TQ charger prior to mounting.</p> |

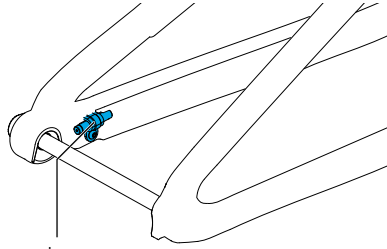
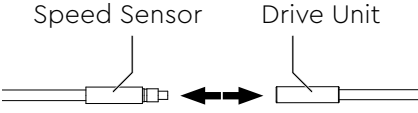

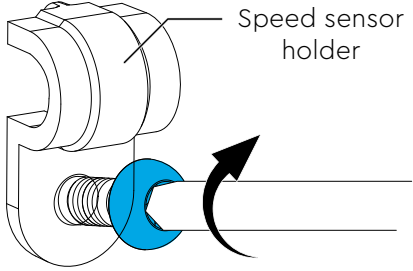



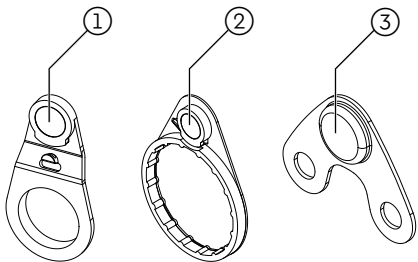



| | | | | |
|-----|---|---|--|--|
| 4 |  | Feed the connecting cable for the display / Smart Box cleanly through the display enclosure in the frame. |  | Please make sure not to kink the cables. |
| 5 A |  | Version A: Without remote and with Smart Box ① Make the connection between the red plug (display) and the black socket (Smart Box). ② The protective cap needs to be placed onto the second display plug. |  | Please make sure that plug connectors are clean. The pins are not allowed to be bent. |
| 5 B |  | Version B: With remote and with Smart Box ① Make the connection between the green plug (display) and the green socket (remote). ② Make the connection between the red plug (display) and the black socket (Smart Box). |  | Please make sure that plug connectors are clean. The pins are not allowed to be bent. |
| 6 |  | Fasten the Battery V01 to the frame with the TQ screws (M5) provided for this purpose and tighten them with a tightening torque of 3 Nm. |   | 3 Nm  Note other manufacturer-dependent bracket/screw solutions, where applicable. |
| 7 |  | Connect the battery plug from the wiring harness to the battery. |  | Ensure that the plug is properly locked. The plug snaps into place with a clicking sound. |
| 8 | | Where appropriate, mount the drive unit (manufacturer-dependent) see "Installation of Drive Unit HPR50" on Page 14. Then connect the drive unit to the wiring harness. | | |

Installation of the speed sensor

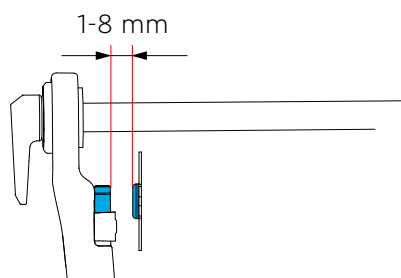
Tool required

| | | |
|---|---|---|
| 2 |  | Torque wrench |
| 2 |  | Torx T20 |
| 3 |  | Torx T25 for 6-hole magnet where applicable |
| additional manufacturer-dependent tools may be required | | |

Mounting the speed sensor

| | | | |
|---|---|---|--|
| 0 |  | Speed sensor installed and connected to drive unit. | |
| 1 |  | Feed the plug-connection cable of the speed sensor through the frame and then connect it to the drive unit connection socket. |  Be careful not to crush any cables. |
| 2 |  | Now screw the speed sensor to the frame using the holder provided with a tightening torque of 0.8 Nm. Where appropriate, observe other manufacturer solutions for mounting the sensor. |    0.8 Nm |
| 3 |  | Depending on the brake disc, select the appropriate magnet and attach it to the brake disc. ① Center lock A (no tool) ② Center lock B (no tool) ③ 6-hole |    The tool may differ depending on the manufacturer, please observe the torque specified by the manufacturer. |



4



Check the air gap between the speed sensor and magnet. This must be 1-8 mm.

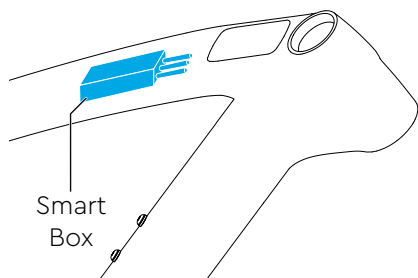
Installation of the Smart Box

Tool required

| | | | |
|---|---|-----|---------------------------|
| 8 |  | T10 | Torx T10 |
| 9 |  | DST | Dealer Service Tool (DST) |

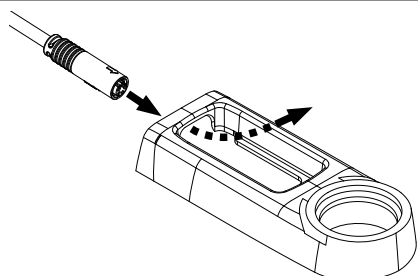
Installation of the Smart Box

0



Smart Box installed and connected between the display and the wiring harness.

1

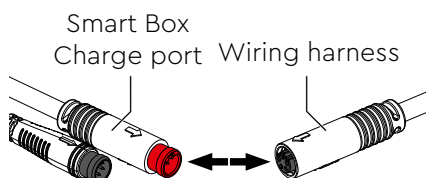


Feed the connecting cable for the display / Smart Box cleanly through the display enclosure in the frame.



Please make sure not to kink the cables.

2

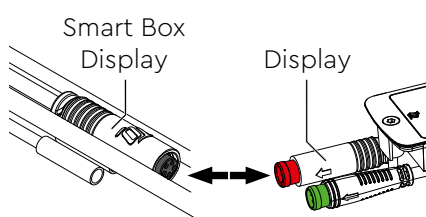


Connect the charge port cable at the Smart Box with the wiring harness.



Please make sure that plug connectors are clean. The pins are not allowed to be bent.

3

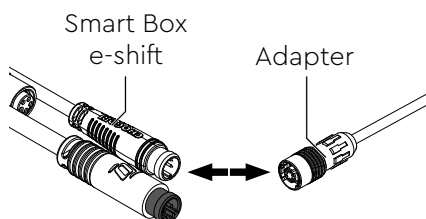


Connect the "display" cable at the Smart Box with the display connector.



Please make sure that plug connectors are clean. The pins are not allowed to be bent.

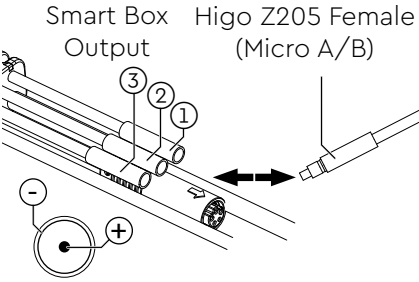

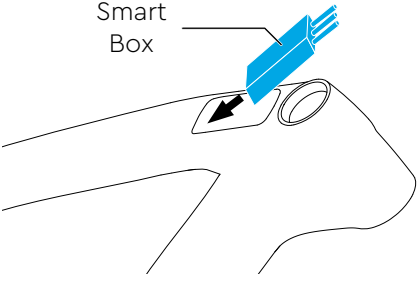

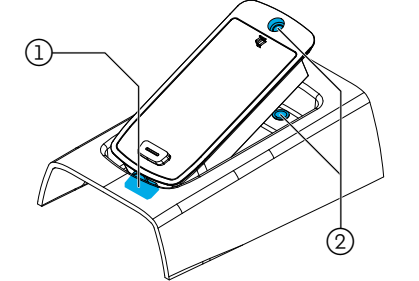
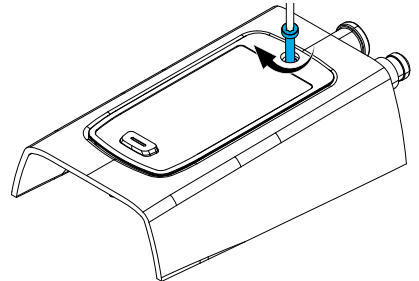



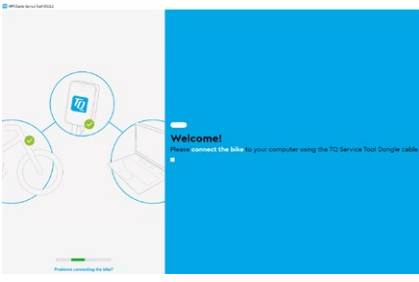


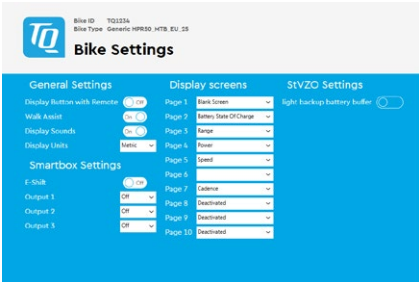

4



Optional:
Connect the "e-shift" cable at the Smart Box with the electric gear shift. To do so, use the adapter cables supplied by TQ for Shimano DI2 or SRAM AXS.



Please make sure that plug connectors are clean. The pins are not allowed to be bent.

| | | | |
|----|---|--|---|
| 5 |  | <p>For example, connect the lighting to Output 2 or Output 3 on the Smart Box via compatible Higo Z205 Micro Female connectors. Output 1 is not short-circuit proof.</p> <p>Compatible lights/Higo Micro adapters can be purchased from supernova-lights.com or lupine.de, for example.</p> |  <p>Please make sure that plug connectors are clean. The pins are not allowed to be bent.</p> <p>The maximum power for external consumers (front and rear light etc.) is not allowed to exceed 26 W at 13.2 V.</p> |
| 6 |  | <p>Insert the Smart Box into the display enclosure. To do so, first insert the cables into the display enclosure.</p> |  <p>Be careful not to crush any cables or plugs.</p> <p>If necessary, the Smart Box must be secured against rattling.</p> |
| 7 |  | <p>① Insert the display enclosure down into the frame.</p> <p>② The screw hole in the display needs to be above the screw hole in the frame.</p> | |
| 8 |  | <p>Tighten the included M3×20 display screw with a torque of 0.5 Nm.</p> |   <p>T 10</p>  <p>Nm wrench</p> <p>0.5 Nm</p> |
| 9 |  | <p>Launch the TQ Dealer Service Tool and connect the dongle with the PC and the bike.</p> |   <p>DST</p> |
| 10 |  | <p>Under the menu item "Bike Settings", the required outputs for the electronic circuitry or the lighting can now be enabled.</p> |  <p>The maximum power for external consumers (front and rear light etc.) is not allowed to exceed 26 W at 13.2 V.</p> |

Installation of the Y-splitter (AUX and AXS)

Tool required

7

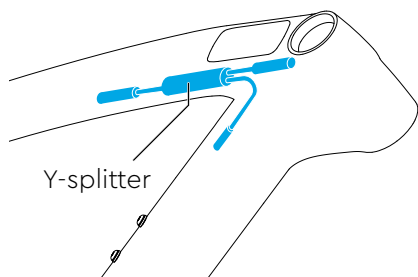


T
10

Torx T10

Installation of the Y-splitter (AUX and AXS)

0

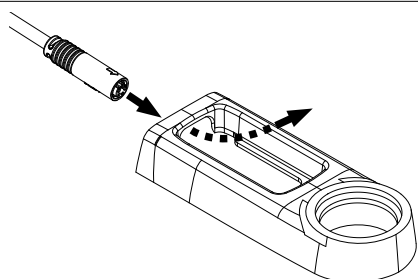


Y-splitter installed and connected between display and harness.



Be sure to select the correct Y-splitter **AUX** or **AXS**.

1

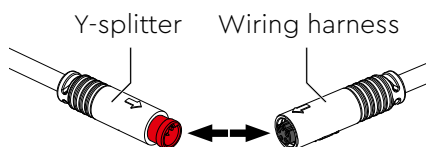


Feed the connection cable for the display / Y-splitter cleanly through the display pocket in the frame.



Please make sure not to kink the cables.

2

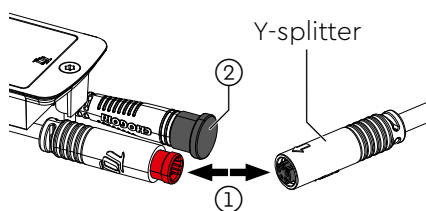


Connect the Y-splitter to the wiring harness.



Please make sure that plug connectors are clean. The pins are not allowed to be bent.

3
A



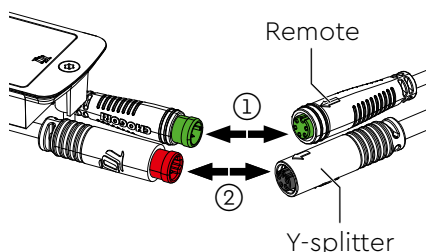
Variant A: Without remote and with Y-splitter

- ① Establish the plug connection between the red plug (display) and the black socket (Y-splitter).
- ② The protective cap must be inserted on the second display plug.



Please make sure that plug connectors are clean. The pins are not allowed to be bent.

3
B

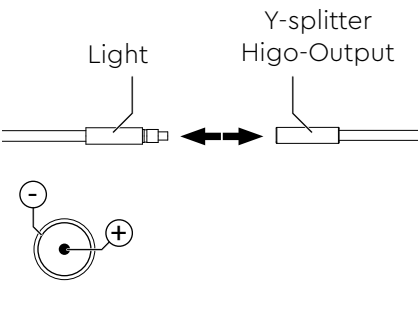

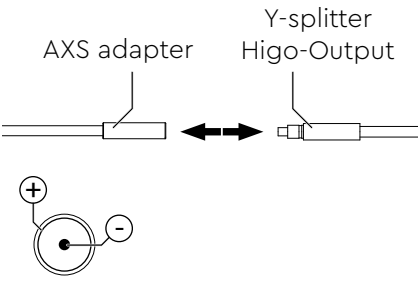

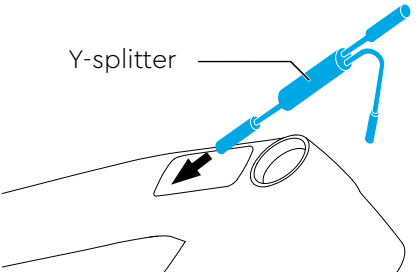

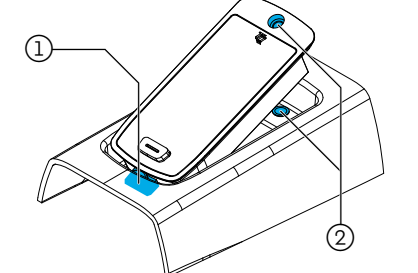
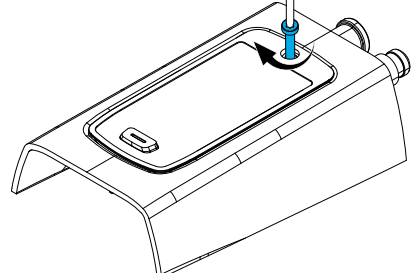






Variant B: With remote and with Y-splitter

- ① Establish the plug connection between green plug (display) and green socket (remote).
- ② Establish the plug connection between red plug (display) and black socket (Y-splitter).



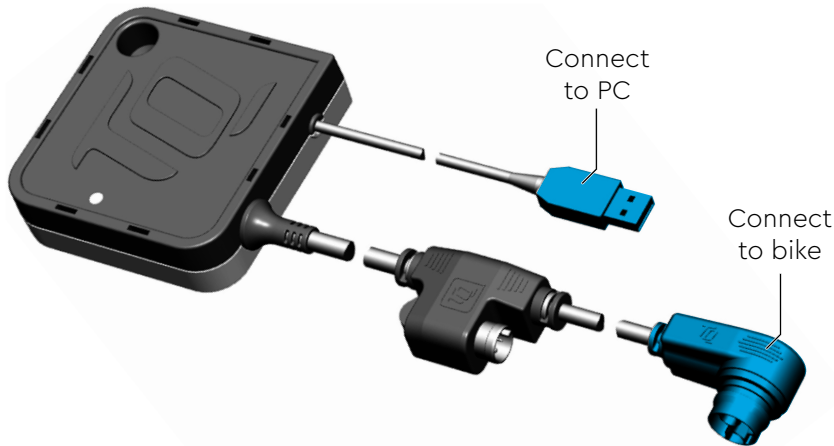
Please make sure that plug connectors are clean. The pins are not allowed to be bent.

| | | | |
|--------|---|---|---|
| 4 A |  | <p>AUX Connect the cable to the Higo Z205 Female (Micro A/B) connector for example with compatible light.</p> |  <p>Please make sure that plug connectors are clean. The pins are not allowed to be bent.</p> <p>The maximum power for external consumers (front and rear light etc.) is not allowed to exceed 26 W at 13.2 V.</p> |
| 4 B |  | <p>AXS Connect the cable with the Higo Z205 Male (Micro A) connector to compatible SRAM AXS adapter cables (circuits).</p> |  <p>Please make sure that plug connectors are clean. The pins are not allowed to be bent.</p> |
| 5 |  | <p>Insert the Y-splitter into the display pocket. First insert the cables into the display pocket.</p> |  <p>Take care not to crush any cables or plugs. If necessary, the Y-splitter must be secured against rattling.</p> |
| 6 |  | <ol style="list-style-type: none"> ① Insert the display enclosure down into the frame. ② The screw hole in the display needs to be above the screw hole in the frame. | |
| 7 |  | <p>Tighten the included M3×20 display screw with a torque of 0.5 Nm.</p> |     <p>0,5 Nm</p> |

Manual Dealer Service Tool (DST)

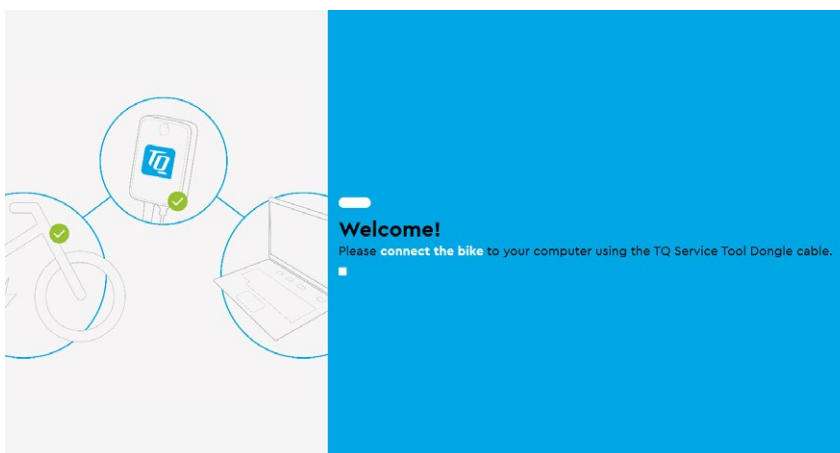
DST

1



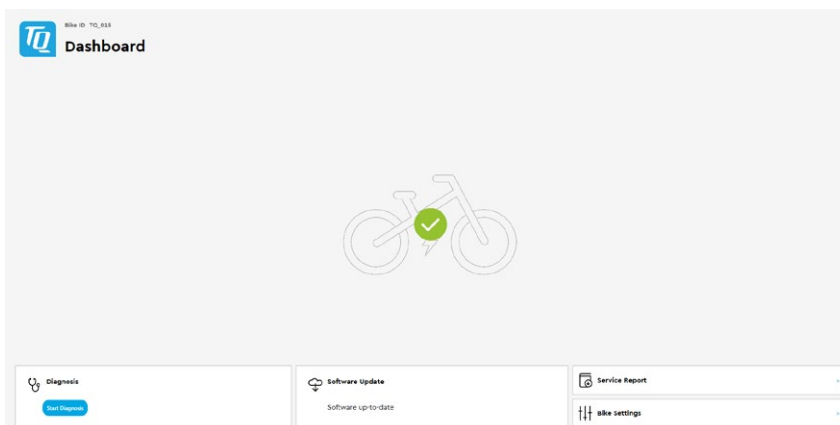
Connect the Dealer Service Tool to the PC via USB port and to the bike via the charging port.

2



Now establish the connection in the DST software.

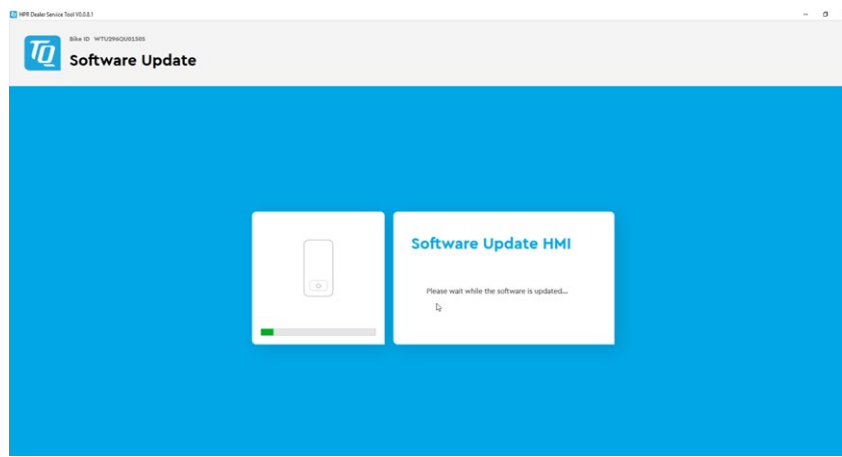
3



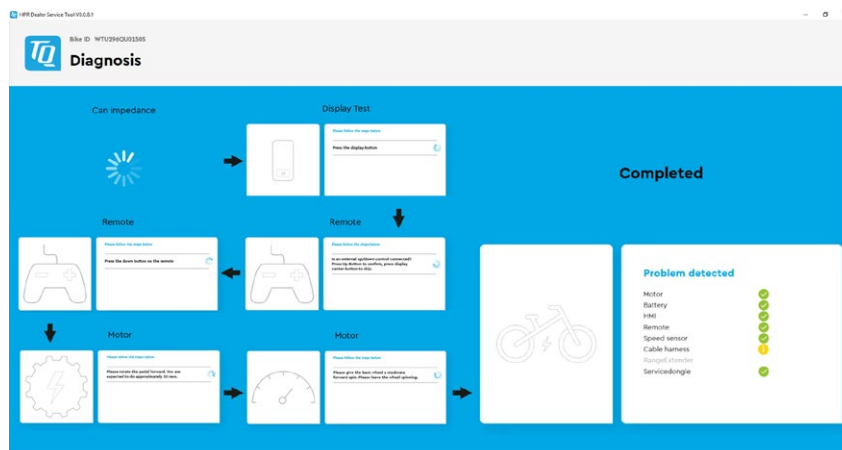
After the system has been successfully connected, you can access the "Diagnostics", "Software Update", "Service Report" and "Bike Settings" options.

If updates are available, they are automatically uploaded to the components.

4

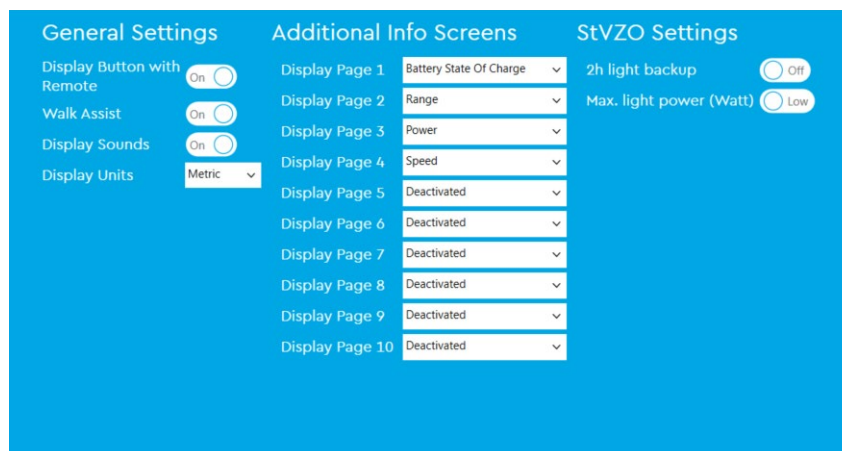


5



After calling up the diagnostics, various functions are checked and the result of the test is then clearly displayed.

6



The following things can be configured under "Bike Settings":

General Settings

- Remote connected?
- Walk assist ON/OFF
- Noise when display key is pressed Display
- Display units (metric – imperial)

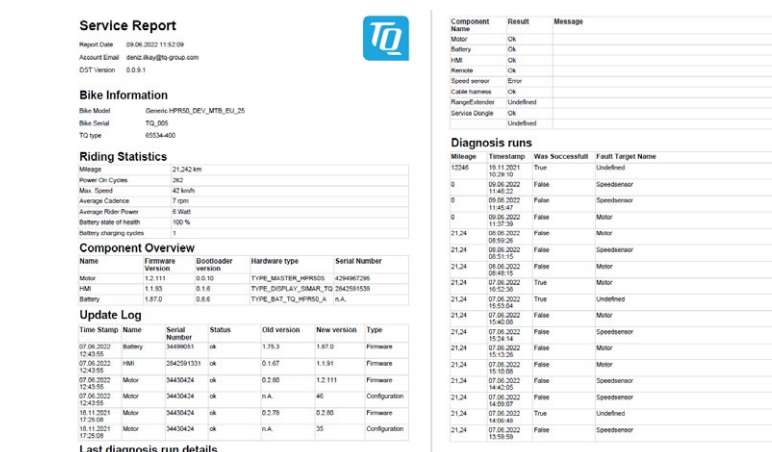
Additional info screens

see screenshot on the left

Road Traffic Licensing Regulations (StVZO) Settings

Enable 2 h residual illumination lighting time (German law) and set the light intensity

7



The Service Report is a summary of the most important information:

- Generation of report and user information
- Information about the bike (model, serial number and TQ type, if applicable)
- Cycling statistics
- Component overview with software versions and service number
- An update log with date and software version

The report can be exported as a PDF and made available to the customer.

Troubleshooting

Connect service tool and launch diagnostics.

Important notice: A software update must be performed after each component swap.

| Error code | Cause | Remedy |
|--------------------|---------------------------------|--|
| ERR 0401 DRV SW | General software error | <ol style="list-style-type: none"> 1. Reboot the system 2. In case of outdated firmware, please perform a software update |
| ERR 0403 DRV COMM | Peripheral Communication Error | <ol style="list-style-type: none"> 1. Reboot the system 2. In case of outdated firmware, please carry out a software update |
| ERR 0405 DISP COMM | Walk assist Communication Error | <ol style="list-style-type: none"> 3. Check peripheral components for wire breaks, along with cable and plug connections 4. Remove third-party component |
| ERR 0407 DRV SW | Electronics fault in drive unit | <ol style="list-style-type: none"> 1. Reboot the system 2. In case of outdated firmware, please perform a software update |
| ERR 0408 DRV HW | Drive unit overcurrent fault | <p>Unintended use! Avoid extraordinary cycling situation to the extent possible. In case of outdated firmware, please perform a software update.</p> <ol style="list-style-type: none"> 1. Reboot the system 2. Replace motor if error occurs during start |
| ERR 040B DRV SW | General software error | <ol style="list-style-type: none"> 1. Reboot the system 2. In case of outdated firmware, please perform a software update |
| ERR 040C DRV SW | | |
| ERR 040D DRV SW | | |
| ERR 040E DRV SW | | |
| ERR 040F DRV SW | | |
| ERR 0415 DRV SW | Configuration error | Update not performed properly. Please perform a software update. |
| ERR 0416 BATT COMM | General software error | <ol style="list-style-type: none"> 1. Reboot the system 2. In case of outdated firmware, please perform a software update 3. Check peripheral components for wire breaks, along with cable and plug connections 4. Remove third-party component 5. Replace battery |
| ERR 0418 DISP COMM | Initialization error in display | <ol style="list-style-type: none"> 1. Reboot the system 2. In case of outdated firmware, please perform a software update 3. Check peripheral components for wire breaks, along with cable and plug connections 4. Remove third-party component 5. Replace display 6. Replace wiring harness |
| ERR 041D DRV HW | Drive unit memory error | <ol style="list-style-type: none"> 1. Reboot the system 2. In case of outdated firmware of the motor, please perform a software update 3. Replace motor |
| ERR 041D DRV SW | | |
| ERR 042B DRV SW | General software error | <p>Outdated firmware</p> <ol style="list-style-type: none"> 1. Please perform a software update 2. Replace motor |
| ERR 042E DRV SW | | |
| ERR 0440 DRV HW | Electronics fault in drive unit | <ol style="list-style-type: none"> 1. Reboot the system 2. Replace motor |

| Error code | Cause | Remedy |
|---|---|---|
| ERR 0445 DRV HW | Motor overcurrent fault | Unintended use! Avoid extraordinary cycling situation to the extent possible. 1. Reboot the system 2. Replace motor if error occurs during start |
| ERR 0451 DRV HOT ERR 0452 DRV HOT | Motor overtemperature fault | The motor has risen above or fallen below the permissible operating temperature. Avoid extraordinary cycling situation to the extent possible. 1. Switch off the drive to allow it to cool down if necessary 2. Reboot the system 3. Replace motor if error occurs during start |
| ERR 0453 DRV SW | Motor initialization error | 1. Reboot the system 2. In case of outdated firmware, please perform a software update |
| ERR 0457 BATT CONN | Motor voltage error | Connection problem between engine and battery 1. Reboot the system 2. In case of outdated firmware, please perform a software update 3. Check peripheral components for wire breaks, along with cable and plug connections 4. Remove third-party component 5. Replace battery 6. Replace motor |
| ERR 0458 BATT CONN | Motor overvoltage error | Defective or incorrect charger 1. Check charger or use approved charger 2. Replace motor if error occurs during start |
| ERR 045D BATT GEN | General battery error | 1. Reboot the system 2. In case of outdated firmware, please perform a software update |
| ERR 0465 BATT COMM | Battery communication error timeout | 3. Replace battery |
| ERR 0469 BATT GEN | Critical battery fault | |
| ERR 0475 BATT COMM | Battery initialization error | |
| ERR 0477 DRV SW | Software Drive Unit configuration incorrect | Software update interrupted or configuration error during flashing 1. Please perform software update 2. Replace motor if error occurs at startup |
| ERR 0479 DRV SW ERR 047A DRV SW ERR 047B DRV SW | General software error | Update not performed properly 1. Reboot the system 2. Please perform a software update |
| ERR 047D DRV HW | Motor overcurrent fault | Unintended use! Avoid extraordinary cycling situation to the extent possible 1. Reboot the system 2. In case of outdated firmware, please perform a software update 3. Replace motor if error occurs during start |
| ERR 047F DRV HOT | Drive unit overtemperature error | The motor has risen above or fallen below the permissible operating temperature. Avoid extraordinary cycling situation to the extent possible. 1. Switch off the drive to allow it to cool down if necessary 2. Reboot the system 3. In case of outdated firmware, please perform a software update 4. Replace motor if error occurs during start |
| ERR 0480 DRV SENS | Drive unit assistance fault | Unintended use! Avoid extraordinary cycling situation to the extent possible. 1. Reboot the system 2. In case of outdated firmware, please perform a software update 3. Replace motor if error occurs during start |
| ERR 0481 BATT COMM | Battery communication error | 1. Reboot the system 2. Please perform a software update |

Troubleshooting

| Error code | Cause | Remedy |
|-------------------|-----------------------------------|--|
| ERR 0482 DRV SW | Drive unit calibration error | Update not performed properly 1. Reboot the system 2. Please perform a software update |
| ERR 0483 DRV SW | Software runtime error | Outdated motor firmware 1. Reboot the system 2. Please perform a software update |
| ERR 0484 DRV SW | | |
| ERR 0485 DRV SW | | |
| ERR 0486 DRV SW | | |
| ERR 0487 DRV SW | | |
| ERR 0488 DRV SW | | |
| ERR 0489 DRV SW | | |
| ERR 048A DRV SW | | |
| ERR 048B DRV SW | | |
| ERR 048C DRV SW | | |
| ERR 048D DRV SW | | |
| ERR 048E DRV SW | | |
| ERR 048F DRV SW | | |
| ERR 0490 DRV SW | | |
| ERR 0491 DRV SW | | |
| ERR 0492 DRV SW | | |
| ERR 0493 DRV HW | Drive unit voltage error | 1. Reboot the system 2. Replace motor if error occurs during start |
| ERR 0494 DRV HW | Problem with supply voltage | |
| ERR 0495 DRV HW | Drive unit voltage error | |
| ERR 0496 DRV HW | Drive unit phase break | |
| ERR 0497 DRV HW | Drive unit calibration error | |
| ERR 04C8 DRV SW | General software error | Outdated motor firmware 1. Reboot the system 2. Please perform a software update |
| ERR 0498 DRV COMM | Peripheral communication error | Outdated firmware of peripheral components 1. Reboot the system 2. Please perform a software update 3. Remove third-party component |
| ERR 0499 DRV COMM | | |
| ERR 049A DRV COMM | | |
| ERR 049B DRV SENS | Cadence sensor error | 1. Reboot the system 2. In case of outdated firmware, please perform a software update 3. Replace motor |
| ERR 049C DRV SENS | Torque sensor error | Unintended use! Avoid extraordinary cycling situation to the extent possible. 1. Reboot the system 2. Replace motor if error occurs during start |
| ERR 049D DRV SENS | | |
| ERR 049E DRV SENS | | |
| ERR 049F DRV SENS | | |
| ERR 04A0 DRV COMM | CAN bus communication error | Soiling or water in plugs Connection problems in the wiring harness Electronics fault in one of the components 1. Check charging port for soiling 2. Reboot the system 3. In case of outdated firmware, please perform a software update 4. Check peripheral components for wire breaks, along with cable and plug connections |
| ERR 04A1 DRV COMM | | |
| ERR 04A2 DRV COMM | Microcontroller electronics error | 1. Reboot the system 2. Replace motor |
| ERR 04A3 DRV SW | Cadence sensor error | 1. Reboot the system 2. In case of outdated firmware, please perform a software update |
| ERR 04A4 DRV HW | | |
| ERR 04A5 DRV SW | Torque sensor error | 3. Replace motor |

| Error code | Cause | Remedy |
|--|----------------------------------|---|
| ERR 04A6 BATT COMM | Battery communication error | Connection problem between engine and battery 1. Reboot the system 2. In case of outdated firmware, please perform a software update 3. Remove third-party component 4. Replace battery |
| ERR 04A7 DRV SW | General software error | Outdated motor firmware 1. Reboot the system 2. Please perform a software update |
| ERR 04A8 SPD SENS | Speed sensor error | 1. Check speed sensor 2. Ensure permissible clearance of the spoke magnet to the speed sensor or check for tampering |
| ERR 04A9 DRV SW ERR 04AA DRV SW | General software error | Outdated motor firmware 1. Reboot the system 2. Please perform a software update |
| WRN 04AB DRV SENS | Cadence sensor error | 1. Reboot the system 2. In case of outdated firmware, please perform a software update 3. Replace motor |
| ERR 04AD DRV SW | Drive unit control error | Outdated motor firmware 1. Reboot the system 2. Please perform a software update |
| ERR 04AE DRV SW ERR 04AF DRV SW | Cadence sensor error | 1. Reboot the system 2. Replace motor if error occurs during start |
| ERR 04B0 DRV HW | Drive unit mechanical error | Unusual use of the walk assist/ Locking rotor 1. Check if something is jammed or wedged in the chain ring 2. Walk assist needs to be pushed more strongly by the user 3. Replace motor |
| ERR 04C8 DRV SW ERR 04C9 DRV SW ERR 04CA DRV SW ERR 04CB DRV SW | General software error | Outdated motor firmware 1. Reboot the system 2. Please perform a software update |
| WRN 0601 SPD SENS | Speed sensor problem | Missing or defective speed sensor 1. Ensure permissible clearance of the spoke magnet to the speed sensor 2. Reboot the system 3. Replace speed sensor |
| WRN 0602 DRV HOT | Drive unit overtemperature | Permissible operating temperature exceeded. Avoid extraordinary cycling situation to the extent possible. 1. Switch off the drive to allow it to cool down if necessary 2. Reboot the system 3. In case of outdated firmware, please perform a software update 4. Replace motor if error occurs during start |
| WRN 0603 DRV COMM | CAN bus communication problem | Soiling or water in plug connectors. Connection problems in the wiring harness. Electronics fault in one of the components. 1. Check charging port for soiling 2. Reboot the system 3. In case of outdated firmware, please perform a software update 4. Check peripheral components for wire breaks, along with cable and plug connections |
| WRN 0604 DRV UPDT | Encoder update from Torquesensor | 1. Wait approx. 1 minute and do not switch off the system so that the update can be performed. 2. Replace motor if error occurs at startup |

Troubleshooting

| Error code | Cause | Remedy |
|--------------------|--|--|
| WRN 0605 SPD SENS | Speedsensor problem | Missing or defective speedsensor 1. Ensure permissible distance of the magnet to the speedsensor 2. Please perform software update 3. Replace speedsensor |
| ERR 4401 BATT HW | Battery hardware failure | 1. Reboot the system 2. Battery plug correctly inserted, check for cable break and contamination 3. Replace wiring harness 4. Exchange Battery |
| ERR 4403 BATT HW | | |
| ERR 4404 BATT SW | Battery – CAN initialization not possible | 1. Reboot the system 2. Exchange Battery |
| ERR 4405 BATT HW | Battery hardware failure | |
| ERR 4407 BATT OV | Battery cell voltage too high | |
| ERR 4408 BATT OV | | |
| ERR 4409 BATT HW | Battery deep discharged or defect cell | 1. Charge Battery immediately 2. Reboot the system 3. Exchange Battery |
| ERR 440A BATT UV | Battery voltage too low | 1. Charge Battery immediately 2. Exchange Battery |
| ERR 440C BATT OV | Battery voltage too high | 1. Reboot the system 2. Exchange Battery |
| ERR 440E BATT GEN | Battery short circuit | |
| ERR 440F BATT UV | Battery voltage too less | 1. Charge Battery immediately 2. Exchange Battery |
| ERR 4410 BATT HW | Battery cell difference too high | 1. Reboot the system 2. Exchange Battery |
| ERR 4411 BATT UV | Battery voltage too less | 1. Charge Battery immediately 2. Exchange Battery |
| ERR 4412 BATT OV | Battery voltage too high | 1. Reboot the system 2. Exchange Battery |
| ERR 4414 BATT HW | Battery cell difference measurement too high | 1. Reboot the system 2. Please perform software update (at least version 1.99.5) 3. Exchange Battery |
| ERR 4415 BATT UV | Battery voltage too less | 1. Reboot the system 2. Exchange Battery |
| ERR 4416 BATT HW | Battery charging not possible | |
| ERR 4417 BATT HW | Battery cell voltage too less | |
| ERR 4418 BATT HW | Battery hardware failure | |
| ERR 4419 BATT HW | | |
| ERR 441B BATT HW | Battery cell temperature deviation | 1. Cool down or warm up the Battery to room temperature 2. Reboot the system 3. Exchange Battery |
| ERR 441C BATT HOT | Battery cell temperature too high | 1. Cool down the Battery to room temperature 2. Reboot the system 3. Exchange Battery |
| ERR 441D BATT COLD | Battery cell temperature too low | 1. Warm up the Battery to room temperature 2. Reboot the system 3. Exchange Battery |
| ERR 441E BATT HOT | Battery cell temperature too high | 1. Cool down the Battery to room temperature 2. Reboot the system 3. Exchange Battery |
| ERR 441F BATT COLD | Battery cell temperature too low | 1. Warm up the Battery to room temperature 2. Reboot the system 3. Exchange Battery |
| ERR 4420 BATT HOT | Battery cell temperature too high | 1. Cool down the Battery to room temperature 2. Reboot the system 3. Exchange Battery |
| ERR 4421 BATT HOT | | |

| Error code | Cause | Remedy |
|--------------------|------------------------------------|---|
| ERR 4422 BATT COLD | Battery cell temperature too low | <ol style="list-style-type: none"> 1. Warm up the Battery to room temperature 2. Reboot the system 3. Exchange Battery |
| ERR 4423 BATT COLD | | |
| ERR 4424 BATT HW | Battery hardware failure | <ol style="list-style-type: none"> 1. Reboot the system 2. Exchange Battery |
| ERR 4428 BATT HW | | |
| ERR 4429 BATT HW | | |
| ERR 442A BATT HW | | |
| ERR 442B BATT HW | | |
| ERR 442C BATT HW | | |
| ERR 442D BATT HW | Battery hardware failure | <ol style="list-style-type: none"> 1. Reboot the system 2. Battery plug correctly inserted, check for cable break and contamination 3. Replace wiring harness 4. Exchange Battery |
| ERR 442F BATT HOT | | |
| ERR 4430 BATT HW | Battery hardware failure | <ol style="list-style-type: none"> 1. Reboot the system 2. Exchange Battery |
| ERR 4431 BATT HW | | |
| ERR 4432 BATT HW | | |
| ERR 4433 BATT HW | | |
| ERR 4434 BATT HW | | |
| ERR 4435 BATT HW | | |
| ERR 4436 BATT HW | Battery hardware failure | <ol style="list-style-type: none"> 1. Reboot the system 2. Battery plug correctly inserted, check for cable break and contamination 3. Replace wiring harness 4. Exchange Battery |
| ERR 4437 BATT HW | | |
| ERR 4439 BATT HW | Battery hardware failure | <ol style="list-style-type: none"> 1. Reboot the system 2. Exchange Battery |
| ERR 443A BATT GEN | | |
| ERR 443B BATT GEN | Battery charge overcurrent | |
| ERR 443D BATT HW | Battery discharge overcurrent | |
| ERR 443E BATT GEN | Battery hardware failure | |
| ERR 443F BATT GEN | Battery overcurrent | |
| ERR 4441 BATT HW | Battery hardware failure | |
| ERR 4442 BATT HW | | |
| ERR 4443 BATT HW | | |
| ERR 4444 BATT HW | | |
| ERR 4446 BATT HW | | |
| ERR 4447 BATT HW | | |
| ERR 4448 BATT HW | | |
| ERR 4449 BATT SW | | |
| ERR 444B BATT HW | | |
| ERR 4450 BATT OV | | |
| ERR 4455 BATT HW | Battery cell voltage too high | <ol style="list-style-type: none"> 1. Reboot the system 2. Exchange Battery |
| ERR 4462 BATT HW | | |
| ERR 4463 BATT HW | Battery hardware failure | <ol style="list-style-type: none"> 1. Reboot the system 2. Exchange Battery |
| ERR 4464 BATT HW | | |
| ERR 4464 BATT HW | Battery reference voltage too high | <ol style="list-style-type: none"> 1. Reboot the system 2. Exchange Battery |



| Error code | Cause | Remedy |
|-------------------|---|--|
| ERR 446C BATT HW | Battery hardware failure | <div>1. Reboot the system</div> <div>2. Exchange Battery</div> |
| ERR 446E BATT HW | | |
| ERR 4471 BATT HW | | |
| ERR 4472 BATT HW | | |
| ERR 4473 BATT HW | | |
| ERR 4474 BATT HOT | Battery temperature too high | <div>1. Cool down the Battery to room temperature</div> <div>2. Reboot the system</div> <div>3. Exchange Battery</div> |
| ERR 4475 BATT HOT | | |
| ERR 4476 BATT GEN | Battery hardware failure | <div>1. Reboot the system</div> <div>2. Exchange Battery</div> |
| ERR 447B BATT HW | | |
| ERR 447C BATT HW | | |
| ERR 447F BATT GEN | | |
| ERR 4483 BATT GEN | | |
| ERR 4484 BATT GEN | | |
| ERR 4485 BATT GEN | Battery Software does not fit the Range Extender | <div>1. Try without Range Extender</div> <div>2. Reboot the system</div> <div>3. Exchange Range Extender</div> |
| ERR 4486 BATT GEN | Battery hardware failure | <div>1. Reboot the system</div> <div>2. Exchange Battery</div> |
| ERR 4487 BATT HW | Software status of Battery or Range Extender not up to date | <div>1. Please perform software update (at least version1.99.5 for Battery and Range Extender)</div> <div>2. Exchange Battery</div> |
| ERR 448A BATT HW | Battery hardware failure | <div>1. Reboot the system</div> <div>2. Exchange Battery</div> |
| ERR 448B BATT HW | | |
| ERR 448E BATT GEN | | |
| ERR 448F BATT HW | | |
| ERR 4490 BATT HW | | |
| ERR 4491 BATT HOT | | |
| ERR 4492 BATT OV | Battery cell voltage too high | <div>1. Reboot the system</div> <div>2. Exchange Battery</div> |
| ERR 4494 BATT HOT | Battery temperature difference too high | <div>1. Cool down the Battery to room temperature</div> <div>2. Reboot the system</div> <div>3. Exchange Battery</div> |
| ERR 4495 BATT HW | Battery hardware failure | <div>1. Reboot the system</div> <div>2. Exchange Battery</div> |
| ERR 4496 BATT HW | | |
| ERR 449A BATT GEN | | |
| ERR 449B BATT GEN | | |
| ERR 5001 REX HW | Range Extender hardware failure | <div>1. Reboot the system</div> <div>2. Range Extender plug correctly inserted, check for cable break and contamination</div> <div>3. Replace wiring harness</div> <div>4. Exchange Range Extender</div> |
| ERR 5003 REX HW | | |
| ERR 5004 REX SW | Range Extender – CAN initialization not possible | <div>1. Reboot the system</div> <div>2. Exchange Range Extender</div> |
| ERR 5005 REX HW | Range Extender hardware failure | |
| ERR 5007 REX OV | Range Extender cell voltage too high | |
| ERR 5008 REX OV | | |
| ERR 5009 REX HW | Range Extender deep discharged or cell defect | Charge Range Extender immediately Exchange Range Extender |



| Error code | Cause | Remedy |
|-------------------|--|--|
| ERR 500A BATT UV | Voltage of the Range Extender too low | Charge Range Extender immediately Exchange Range Extender |
| ERR 500C REX OV | Range Extender voltage too high | 1. Reboot the system 2. Exchange Range Extender |
| ERR 500E REX GEN | Range Extender short circuit | |
| ERR 500F REX UV | Range Extender voltage too less | 1. Charge Range Extender immediately 2. Exchange Range Extender |
| ERR 5010 REX HW | Range Extender cell difference too high | 1. Reboot the system 2. Exchange Range Extender |
| ERR 5011 REX UV | Range Extender voltage too less | 1. Charge Range Extender immediately 2. Exchange Range Extender |
| ERR 5012 REX OV | Range Extender voltage too high | 1. Reboot the system 2. Exchange Range Extender |
| ERR 5014 BATT HW | Cell difference measurement of the Range Extender too high | 1. Reboot the system 2. Please perform software update (at least version 1.99.5) 3. Exchange Range Extender |
| ERR 5015 REX UV | Range Extender voltage too less | 1. Reboot the system 2. Exchange Range Extender |
| ERR 5016 REX HW | Range Extender charging not possible | |
| ERR 5017 REX HW | Range Extender cell voltage too less | |
| ERR 5018 REX HW | Range Extender hardware failure | |
| ERR 5019 REX HW | | |
| ERR 501B REX HW | Range Extender cell temperature deviation | 1. Cool down or warm up the Range Extender to room temperature 2. Reboot the system 3. Exchange Range Extender |
| ERR 501C REX HOT | Range Extender cell temperature too high | 1. Cool down the Range Extender to room temperature 2. Reboot the system 3. Exchange Range Extender |
| ERR 501D REX COLD | Range Extender cell temperature too low | 1. Warm up the Range Extender to room temperature 2. Reboot the system 3. Exchange Range Extender |
| ERR 501E REX HOT | Range Extender cell temperature too high | 1. Cool down the Range Extender to room temperature 2. Reboot the system 3. Exchange Range Extender |
| ERR 501F REX COLD | Range Extender cell temperature too low | 1. Warm up the Range Extender to room temperature 2. Reboot the system 3. Exchange Range Extender |
| ERR 5020 REX HOT | Range Extender cell temperature too high | 1. Cool down the Range Extender to room temperature 2. Reboot the system 3. Exchange Range Extender |
| ERR 5021 REX HOT | | |
| ERR 5022 REX COLD | Range Extender cell temperature too low | 1. Warm up the Range Extender to room temperature 2. Reboot the system 3. Exchange Range Extender |
| ERR 5023 REX COLD | | |
| ERR 5024 REX HW | Range Extender hardware failure | 1. Reboot the system 2. Exchange Range Extender |
| ERR 5028 REX HW | | |
| ERR 5029 REX HW | | |
| ERR 502A REX HW | | |
| ERR 502B REX HW | | |
| ERR 502C REX HW | | |



| Error code | Cause | Remedy |
|------------------|--|---|
| ERR 502D BATT HW | Range Extender hardware error | 1. Reboot the system 2. Range Extender plug correctly inserted, check for cable break and contamination 3. Replace wiring harness 4. Exchange Range Extender |
| ERR 502F REX HOT | Range Extender temperature too high | 1. Cool down the Range Extender to room temperature 2. Reboot the system 3. Exchange Range Extender |
| ERR 5030 REX HW | Range Extender hardware failure | 1. Reboot the system 2. Exchange Range Extender |
| ERR 5031 REX HW | | |
| ERR 5032 REX HW | | |
| ERR 5033 REX HW | | |
| ERR 5034 REX HW | | |
| ERR 5035 REX HW | | |
| ERR 5036 BATT HW | Range Extender hardware error | 1. Reboot the system 2. Range Extender plug correctly inserted, check for cable break and contamination 3. Replace wiring harness 4. Exchange Range Extender |
| ERR 5037 REX HW | Range Extender hardware failure | 1. Reboot the system 2. Exchange Range Extender |
| ERR 5039 REX HW | | |
| ERR 503A REX GEN | Range Extender charge overcurrent | |
| ERR 503B REX GEN | Range Extender discharge overcurrent | |
| ERR 503D REX HW | Range Extender hardware failure | |
| ERR 503E REX GEN | Range Extender overcurrent | |
| ERR 503F REX HW | Range Extender hardware failure | |
| ERR 5041 REX HW | | |
| ERR 5042 REX HW | | |
| ERR 5043 REX HW | | |
| ERR 5044 REX HW | | |
| ERR 5046 REX HW | | |
| ERR 5047 REX HW | | |
| ERR 5048 REX HW | | |
| ERR 5049 REX SW | | |
| ERR 504B REX HW | | |
| ERR 5050 REX OV | Range Extender cell voltage too high | 1. Reboot the system 2. Exchange Range Extender |
| ERR 5055 REX HW | Range Extender hardware failure | |
| ERR 5062 REX HW | | |
| ERR 5063 REX HW | | |
| ERR 5064 BATT HW | Reference voltage of the Range Extender too high | |
| ERR 506C REX HW | Range Extender hardware failure | |
| ERR 506E REX HW | | |
| ERR 5071 REX HW | | |
| ERR 5072 REX HW | | |
| ERR 5073 REX HW | | |



| Error code | Cause | Remedy |
|--|---|--|
| ERR 5074 REX HOT ERR 5075 REX HOT | Range Extender hardware failure | <ol style="list-style-type: none"> 1. Cool down the Range Extender to room temperature 2. Reboot the system 3. Exchange Range Extender |
| ERR 5076 REX GEN ERR 507B REX HW ERR 507C REX HW ERR 507F REX GEN ERR 5083 REX GEN ERR 5084 REX GEN | Range Extender hardware failure | <ol style="list-style-type: none"> 1. Reboot the system 2. Exchange Range Extender |
| ERR 5085 REX GEN | Range Extender Software does not fit the Battery | <ol style="list-style-type: none"> 1. Try without Range Extender 2. Reboot the system 3. Exchange Range Extender |
| ERR 5086 REX GEN | Range Extender hardware failure | <ol style="list-style-type: none"> 1. Reboot the system 2. Exchange Range Extender |
| ERR 5087 REX HW | Software status of Battery or Range Extender not up to date | <ol style="list-style-type: none"> 1. Please perform software update (at least version 1.99.5 for Battery and Range Extender) 2. Exchange Range Extender |
| ERR 508A REX HW ERR 508B REX HW ERR 508E REX GEN ERR 508F REX HW ERR 5090 REX HW | Range Extender hardware failure | <ol style="list-style-type: none"> 1. Reboot the system 2. Exchange Range Extender |
| ERR 5091 REX HOT | Range Extender cell temperature too high | <ol style="list-style-type: none"> 1. Cool down the Range Extender to room temperature 2. Reboot the system 3. Exchange Range Extender |
| ERR 5092 REX OV | Range Extender cell voltage too high | <ol style="list-style-type: none"> 1. Reboot the system 2. Exchange Range Extender |
| ERR 5094 REX HOT | Range Extender temperature difference too high | <ol style="list-style-type: none"> 1. Cool down the Range Extender to room temperature 2. Reboot the system 3. Exchange Range Extender |
| ERR 5095 REX HW ERR 5096 REX HW ERR 509A REX GEN ERR 509B REX GEN | Range Extender hardware failure | <ol style="list-style-type: none"> 1. Reboot the system 2. Exchange Range Extender |
| ERR 5401 DRV CONN | Communication error between drive unit and display | <p>Connection problem between motor and display. Update not performed properly. Electronics fault in display and/or motor.</p> <ol style="list-style-type: none"> 1. Reboot the system 2. In case of outdated firmware or if an update was not properly carried out, please perform a software update 3. Check peripheral components for wire breaks, along with cable and plug connections 4. Replace display 5. Replace motor |
| ERR 5402 REM BTN ERR 5403 REM BTN | Remote button pressed when switching on | <ol style="list-style-type: none"> 1. Do not hold down remote button during startup 2. Check jammed keys for dirt and clean if necessary 3. Replace remote 4. Replace display |
| WRN 5404 REM BTN | Walk assist user error | <p>Instruct users in the proper use of walk assist!</p> <ol style="list-style-type: none"> 1. Activate walk assist by pressing the up key (Walk) of the remote until Walk appears on the display 2. Then immediately release the button and press it again to use walk assist |



We have checked the contents of the publication for conformity with the product described. Nevertheless, deviations cannot be excluded, so that we do not assume any liability for complete conformity and correctness.

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