HPR Display V04
HPR Remote V02/V03



User Manual
EN

1 Safety



These instruction contains information that you must observe for your personal safety and to prevent personal injury and damage to property. They are highlighted by warning triangles and shown below according to the degree of danger.

- ► Read the instructions completely before start-up and use. This will help you to avoid hazards and errors.
- ► Keep the manual for future reference. This user manual is an integral part of the product and must be handed over to third parties in case of resale.

NOTE

Also observe the additional documentation for the other components of the HPR drive system as well as the documentation enclosed with the e-bike.

1.1 Hazard classification

⚠ DANGER

The signal word indicates a danger with a **high** degree of risk which will result in death or serious injury if not avoided.

⚠ WARNING

The signal word indicates a danger with a **medium** level of risk which will result in death or serious injury if not avoided.

⚠ CAUTION

The signal word indicates a danger with a **low** level of risk which could result in a minor or moderate injury if not avoided.

NOTE

A note in the sense of this instruction is important information about the product or the respective part of the instruction to which special attention is to be drawn.

1.2 IMPORTANT SAFETY INSTRUCTIONS

⚠ WARNING

When using this product, basic precautions should always be followed, including the following:

- Read all the instructions before using the product.
- Do not put fingers or hands into the product.
- Do not be distracted by the information shown on the Display while riding, concentrate exclusively on the traffic. Otherwise there is a risk of an accident.
- Stop your e-bike when you want to perform actions other than changing the assistance level.
- The walk assist that can be activated via the Remote must only be used to push the e-bike. Make sure that both wheels of the e-bike are in contact with the ground. Otherwise there is a risk of injury.
- When the walk assist is activated, make sure that your legs are at a safe distance from the pedals. Otherwise there is a risk of injury from the rotating pedals.
- To reduce the risk of injury, close supervision is necessary when the product is used near children.
- Do not attempt to modify or repair the product. Check further detail in Chapter "1.3 Intended Use".
- This equipment is not intended to be used at ambient temperatures less than -5 °C (23 °F) or above ambient temperatures of 40 °C (104 °F).
- Only use this product within following temperature limits
  Operation: -5 °C to 40 °C / 23 °F to 104 °F
  Storage: 0 °C to 40 °C / 32 °F to 104 °F

1.2.1 Riding safety instructions

Observe the following points to avoid injuries due to a fall when starting with high torque:

- We recommend that you wear a suitable helmet and protective clothing every time you ride. Please observe the regulations of your country.
- The assistance provided by the drive system depends firstly on the selected assistance mode and secondly on the force exerted by the rider on the pedals. The higher the force applied to the pedals, the greater the Drive Unit assistance. The drive support stops as soon as you stop pedaling.
- Adjust the riding speed, the assistance level and the selected gear to the respective riding situation.

⚠ CAUTION

Risk of injury

Practice the handling of the e-bike and its functions without assistance from the drive unit at first. Then gradually increase the assistance mode.

1.2.2 Safety instructions for working on the e-bike

Make sure that the drive system is no longer supplied with power before doing any work (e.g. cleaing, chain maintenance, etc.) on the e-bike:

- Switch off the drive system at the Display and wait until the Display has disappeared.

Otherwise, there is a risk that the drive unit may start in an uncontrolled way and cause serious injuries, e.g. crushing, pinching or shearing of the hands.

All work such as repair, assembly, service and maintenance be carried out exclusively by a bicycle dealer authorized by TQ.

1.2.3 Safety instructions for the HPR Display V04 and HPR Remote V02/V03

- Do not be distracted by the information shown on the Display while riding, concentrate exclusively on the traffic. Otherwise there is a risk of an accident.
- Stop your e-bike when you want to perform actions other than changing the assistance level.

⚠ The walk assist that can be activated via the Remote must only be used to push the e-bike. Make sure that both wheels of the e-bike are in contact with the ground. Otherwise there is a risk of injury.

⚠ When the walk assist is activated, make sure that your legs are at a safe distance from the pedals. Otherwise there is a risk of injury from the rotating pedals.

1.2.4 Safety instructions for using Bluetooth® and ANT+

⚠ Do not use Bluetooth® and ANT+ technology in areas where the use of electronic devices with radio technologies is prohibited, such as hospitals or medical facilities. Otherwise, medical devices such as pacemakers may be disturbed by the radio waves and patients may be endangered.

⚠ People with medical devices such as pacemakers or defibrillators should check with the respective manufacturers in advance that the function of the medical devices is not affected by the Bluetooth® and ANT+ technology.

⚠ Do not use Bluetooth® and ANT+ technology near devices with automatic control, such as automatic doors or fire alarms. Otherwise, the radio waves may affect the devices and cause an accident due to possible malfunction or accidental operation.

1.2.5 e-Labeling usage

According multi-national requirements Regulatory Information is provided by the product itself. Users are able to access the information in no more than three steps in a device's menu. The actual steps are:

Starting from Main or Home Menu:

Step 1 – press center button + Walk assist/Assist mode up button for 10s

Step 2 – press center button for entering "Regulatory Information"

1.2.6 US – FCC

FCC ID: 2ANFF-Q104

The RF part is certified acc. to FCC 15.247, the host product (housing electrical parts, cables) is approved as unintentional radiator via SDoC procedure by manufacturer.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

— Reorient or relocate the receiving antenna.
— Increase the separation between the equipment and receiver.
— Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
— Consult the dealer or an experienced radio/TV technician for help.

Supplier's Declaration of Conformity
47 CFR § 2.1077 Compliance Information

Unique Identifier: TQ-Systems GmbH, Model: HPR DISPLAY V04

Responsible Party – U.S. Contact Information

TQ-Systems USA INC.

424 Network Station | Chesapeake, VA 23320 | US | info@tqusa.com

FCC Compliance Statement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and
(2) this device must accept any interference received, including interference that may cause undesired operation.

1.2.7 Canada – ISED

IC ID: 23072-Q104

CAN ICES-003 (B) / NMB-003 (B)

This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

(1) This device may not cause interference.

(2) This device must accept any interference, including interference that may cause undesired operation of the device.

This equipment complies with the RF exposure evaluation requirements of RSS-102.

Le présent appareil est conforme aux CNR d' ISED applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes:

(1) le dispositif ne doit pas produire de brouillage préjudiciable, et

(2) ce dispositif doit accepter tout brouillage reçu, y compris un brouillage susceptible de provoquer un fonctionnement indésirable.

Cet équipement est conforme aux exigences d'évaluation de l'exposition aux RF de RSS-102.

1.2.8 ICASA

TA-2025/1549 APPROVED

1.2.9 Australia / New Zealand

1.2.10 Japan

R 204- A00066

1.2.11 Brasil

ANATEL

01212-26-16260

1.2.12 Mexico

Visualizador

ift **IFT TRTQV026-00022014**

NOM

1.2.13 Chile

SAVE THESE INSTRUCTIONS

1.3 Intended Use

The HPR Display V04 and the HPR Remote V02/V03 of the drive system are intended exclusively for displaying information and operating your e-bike and must not be used for other purposes.

Any other use or use that goes beyond this is considered improper and will result in the loss of the warranty. In case of non-intended use, TQ-Systems GmbH assumes no liability for any damage that may occur and no warranty for proper and functional operation of the product.

Intended use also includes observing these instructions and all information contained therein as well as the information on intended use in the supplementary documents enclosed with the e-bike.

Faultless and safe operation of the product requires proper transport, storage, installation and operation.

2 Technical data

2.1 HPR Display V04

Screen diagonal	2 inch
State of charge indication	Seperate for Battery and range extender
Connectivity	Bluetooth, ANT+ (Radio network standard with low power consumption)
Frequency Transmitting power max.	2.400 Ghz – 2.4835 Ghz 2.5 mW
Dimension	74 mm x 32 mm x 12.5 mm / 2.91" x 1.26" x 0.49"
Weight	35 g / 1.23 oz
Operating temperature Storage temperature	-5 °C to +40 °C / 23 °F to 104 °F 0 °C to +40 °C / 32 °F to 140 °F

Tab. 1: Technical data – HPR Display V04

Declaration of Conformity

We, TQ-Systems GmbH, Gut Delling, Mühlstr. 2, 82229 Seefeld, Germany, declare that the HPR Display V04 bicycle computer, when used in accordance with its intended purpose, complies with the essential requirements of RED Directive 2014/53/EU and RoHS Directive 2011/65/EU. The CE statement can be found at: www.tq-ebike.com/en/support/manuals/

2.2 HPR Remote V02/V03

Weight with cable	25 g / 0.88 oz
Operating temperature Storage temperature	-5 °C to +40 °C / 23 °F to 104 °F 0 °C to +40 °C / 32 °F to 104 °F

Tab. 2: Technical data – HPR Remote V02/V03

3 OPERATION

⚠ WARNING

- ▶ Do not attempt to modify or repair the product. Check further detail in Chapter "1.3 Intended Use"
- ▶ Only use this product within following temperature limits:
  Operation: -5 °C to 40 °C / 23 °F to 104 °F
  Storage: 0 °C to 40 °C / 32 °F to 104 °F
- ▶ Further safety warnings regarding Injury to persons can be found in the section: "1.2 Important Safety Instructions".

3.1 Overview HPR Display V04

Pos. in Fig. 1	Description
1	State of charge Battery
2	State of charge Range Extender
3	Display panel for different screen views with riding information (see section 3.6 on Page 14)
4	Assist mode (0–3 bar indication)
5	Button

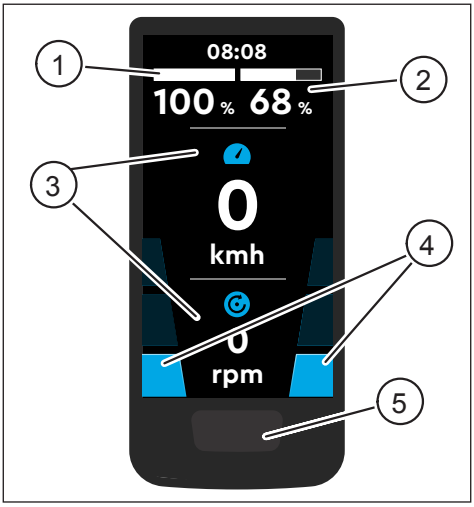


Fig. 1: Operation and indicaton components on Display

3.2 Overview HPR Remote V02/V03

Pos. in Fig. 2	Description
1	UP Button
2	DOWN Button

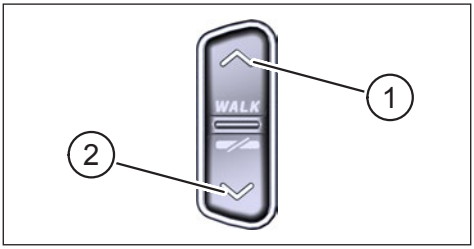


Fig. 2: Operation on the Remote

3.3 Functions

► Make sure that the Battery is sufficiently charged before operation.

3.3.1 Switch on drive system:

► Switch on the drive unit by **shortly** pressing the button (see Fig. 3) on the Display.

3.3.2 Switch off drive system:

► Switch off the drive unit by **long** pressing the button (see Fig. 3) on the Display.

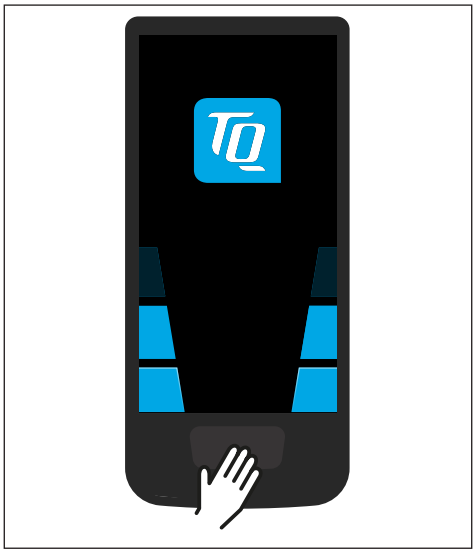


Fig. 3: Button on Display

3.4 Setup-Mode

3.4.1 Setup-Mode activate

- ▶ Switch **on** the drive system.
- ▶ Press and hold the button on the Display (pos. 5 in Fig. 1) and the DOWN button on the Remote (pos. 2 in Fig. 2) for at least 5 seconds.
- ▶ Dealer Service Tool necessary if no Remote installed.

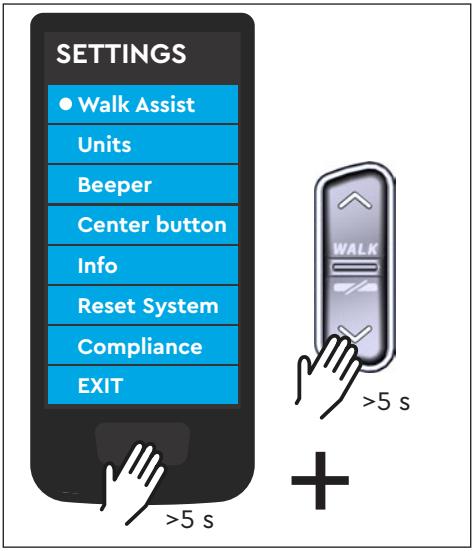


Fig. 4: Setup-Mode activate

3.5 Settings

The following settings can be made in the setup-mode:

Setting	Default value	Possible values
Measure	metric (km)	metric (km) or angloamerican (mi)
Acoustic acknowledge signal	ON (sounds with each buttonpress)	ON, OFF
Walk assist	ON	ON, OFF

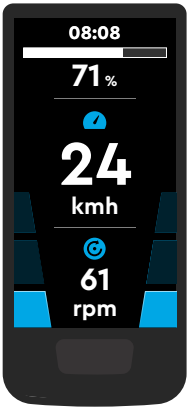
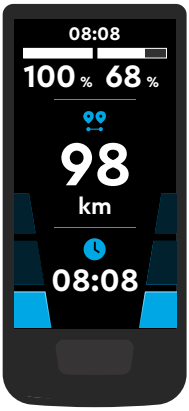
Tab. 3: Settings in Setup-Mode

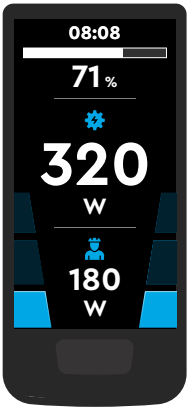
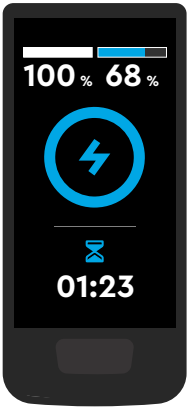
- ▶ Use the buttons on the Remote to scroll through the respective menu.
- ▶ Confirm the selection made with the button on the Display. The next selection is then displayed or the setup mode is terminated.
- ▶ The Display screen can be changed by pressing the Remote button (>3 s) if the walk assist function is deactivated due to country-specific laws and regulations.

3.6 Riding information

At the bottom of the display, driving information can be shown in 4 different views. Regardless of the currently selected view, the charging status of the battery and optional range extender is displayed in the center and the selected assistance level is shown at the top.

► With a **double click** press on the button on the Display (pos. 5 in Fig. 1) you switch to the next screen view.

Screen view	Information
	— Current speed (24 km/h in this example) in kilometers per hour (KPH) or miles per hour (MPH). — Current rider cadence in revolutions per minute (61 RPM in this example).
	— Riding range in kilometers or miles (98 km in this example), the range calculation is an estimate that depends on many parameters (see section 3.11.3 on Page 25). — All clock indications are only available with connected TQ E-Bike app.

Screen view	Information
	— Current drive unit power in watts (320 W in this example). — Current rider power in watt (180 W in this example).
	— Current charged Battery indicated in blue (Range Extender in this example) with expected ramining time (1:23h in this example) for all connected batteries.
	— Green indication shows completed charging process. (Red indication if no charging possible)

Screen view	Information
	— Activated light (LIGHT ON) — Switch on the light by pressing the UP button and DOWN button at the same time. Depending on wheter the e-bike is equipped with light and TQ smartbox (please see the smartbox manual for more information).
	— Deactivated light (LIGHT OFF) — Switch off the light by pressing the UP button and DOWN button at the same time.

Tab. 4: HPR Display V04 – Riding information

3.7 Select assist mode

You can choose between 3 assist modes or switch off the assist from the drive unit. The selected assist mode I, II or III is shown on the Display with the corresponding number of bars (see pos. 1 in Fig. 5).

— With a **short** press on the button UP of the Remote (see Fig. 6) you increase the assist mode.

— With a **short** press on the button DOWN of the Remote (see Fig. 6) you decrease the assist mode.

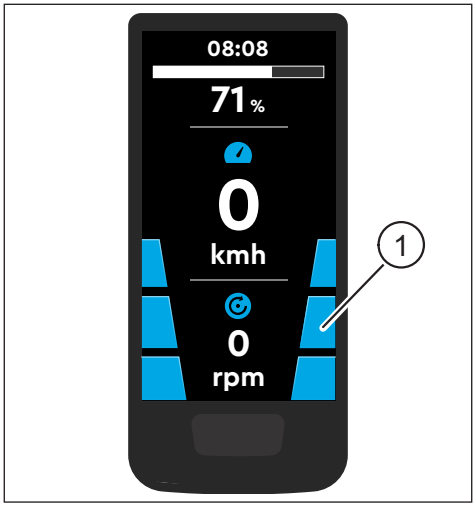


Fig. 5: Visualization of the selected assist mode



Fig. 6: Select assist mode on the HPR Remote V02

3.8 Set connections

3.8.1 Connection e-bike to smartphone

NOTE

— You can download the TQ E-Bike app from the Appstore for IOS and the Google Play Store for Android.

— Download the TQ E-Bike app.
— Switch on your E-Bike first to connect with the app.
— Select your bike (you only need to pair your smartphone the first time).
— Enter the numbers shown on the Display in your phone and confirm the connection.

Bluetooth®

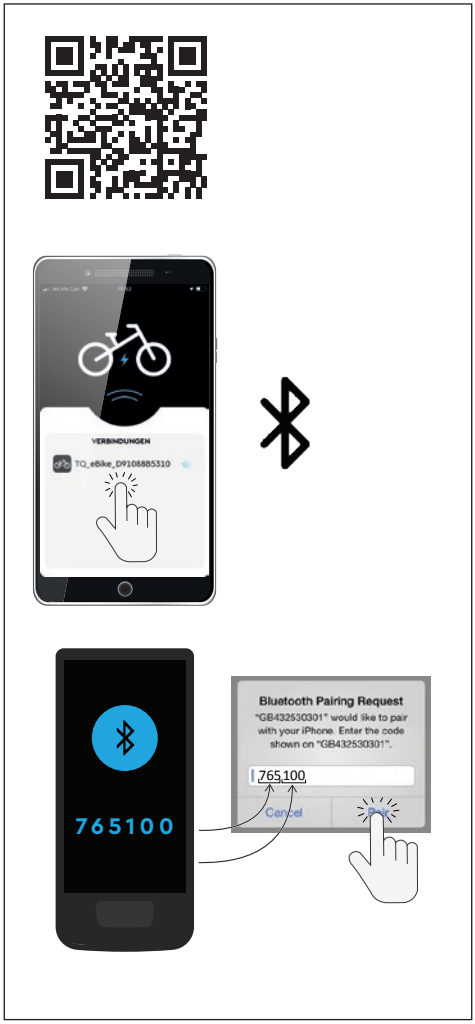


Fig. 7: Connection E-Bike to Smartphone

3.8.2 Connection e-bike to bicycle computers

NOTE

— To make a connection with the bicycle computer, the e-bike and bicycle computer must be within radio range (maximum distance approx. 10 meters).

— Pair your bicycle computer (Bluetooth or ANT+).
— Switch on your E-Bike first to connect with an ANT+ device.
— Select at least one of the three shown sensors (see Fig. 8).
— Your e-bike is now connected.

Bluetooth®

ANT+™



Fig. 8: Connection e-bike to bicycle computer

3.8.3 Connection e-bike to SHIMANO Di2 groupsets

Function overview

— Select drivetrain support levels using the Di2 shift levers
— Shift display with the Di2 shift lever
— Light ON/ OFF using the Di2 shift levers
— Enter setting mode using the Di2 shift levers

Necessary requirements and installation steps for Di2 functionality

Hardware requirements:

— SHIMANO CAN adapter EW-EX310 from software version 4.1.0
DURA-ACE Di2 from 2022, ULTEGRA Di2 from 2022 and SHIMANO 105 Di2 (With software version equal or higher then 4.3.0)
— TQ: SmartBox from Rev. 0200, E-System from software version equal or higher then 1.102.39

Setting up the SHIMANO application:

► Download and register the app
(https://bike.shimano.com/e-tube/project.html)

First steps:

► Select language
► Register SHIMANO ID
► Register bike or power meter
(press the button on the rear derailleur together and the app connects to the bike)
► Select the "Customize" menu
► Select button and set either „MULTI PURPOSE CH.1" for left shifter and „MULTI PURPOSE CH.2" for right shifter (or vice versa) in the Shimano E-Tube APP. These functions will trigger the following functionalities in the e-bike

	MULTI PURPOSE CH.1	MULTI PURPOSE CH.2
Single press	assist up	assist down
Double press	display / settings up	display / settings down
Long press	LIGHT ON/OFF	LIGHT ON/OFF

Tab. 5: Di2 button assignment

For entering the settings menu, follow the next steps:

- ▶ Actuate via Long Press „MULTI PURPOSE CH.1" and „MULTI PURPOSE CH.2" simulateniously
- ▶ Cycle through the options via single press on the Shimano SDIs and confirm via the button on the display
- ▶ To leave the settings menu you have to confirm all options after another until leaving the settings menu

If you want to use only one function per button via Single Press you can also choose the related function in the Shimano E-Tube APP. These functions will trigger the following functionalites in the e-bike:

SHIMANO function	TQ function
assist up	assist up
assist down	assist down
Display / settings	cycle through display screens
LIGHT ON/OFF	LIGHT ON/OFF

Tab. 6: Functions

Please note that in the future more functionalities will be added.

- ▶ Confirm configuration
- ▶ Disconnect

3.8.4 Connection e-bike to SRAM AXS groupsets

Function overview

— Select drivetrain support levels using the SRAM AXS shift levers

Necessary requirements and installation steps for functionality

Hardware requirements:

— SRAM AXS components (With software version equal or higher then 4.1.0)

Setting up the Sram application

► https://support.sram.com/hc/en-us/articles/6030759847451-How-do-I-change-eTap-AXS-shift-button-assignments-using-the-AXS-App

First steps:

► Connect to SRAM AXS components
► Select "Configure Controlls"
► Select the Button you want to configure
► Open the dropdown menue with the title "ANT+ Control"
► Select "ANT Function 1" for "Assist up"
► Select "ANT Function 2" for "Assist down"
► Disconnect

3.9 Walk assist

The walk assist makes it easier to push the e-bike, e.g. off-road.

NOTE

— The availability and characteristics of the walk assist are subject to country-specific laws and regulations. For example, the assistance provided by the push assist is limited to a speed of max. 6 km/h in Europe.
— If you have locked the use of the walk assist in setup mode (see section "3.5 Settings"), the next screen with riding information is Displayed instead of activating the walk assist (see chapter "3.6 Riding information").

3.9.1 Activate walk assist

⚠ CAUTION

Risk of injury

- ▶ Make sure that both wheels of the e-bike are in contact with the ground.
- ▶ When the walk assist is activated, make sure that your legs are a sufficient safety distance from the pedals.

- ▶ When the e-bike is at standstill, press the UP button on the Remote for longer than 0.5 s (see Fig. 9) to activate the walk assist.
- ▶ Press the UP button again and keep it pressed to move the e-bike with the walk assist.

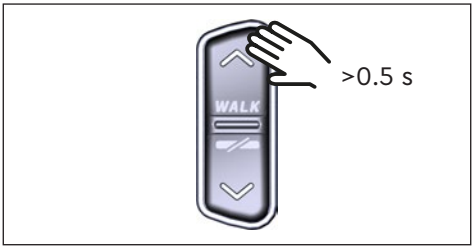


Fig. 9: Activate walk assist

3.9.2 Deactivate walk assist

The walk assist is deactivated in the following situations:

— Press the DOWN button on the Remote control (pos. 2 in Fig. 2).
— Press the button on the Display (pos. 5 in Fig. 1).
— After 30 s without actuation of the walk assist.
— By pedaling.

3.10 Reset to factory settings

- ▶ Switch **on** the drive system.
- ▶ Press and hold the button on the Display and the DOWN button on the Remote for at least 10 s, the Setup-Mode is indicated first and RESET is followed (see Fig. 10).
- ▶ Make your choice with the buttons on the Remote and confirm it by pressing the button on the Display.
- ▶ Dealer Service Tool necessary if no Remote installed.

When resetting to factory settings, the following parameters are reset to the factory settings:

— Drive Unit tuning
— Walk assist
— Bluetooth
— Acoustic acknowledge sounds

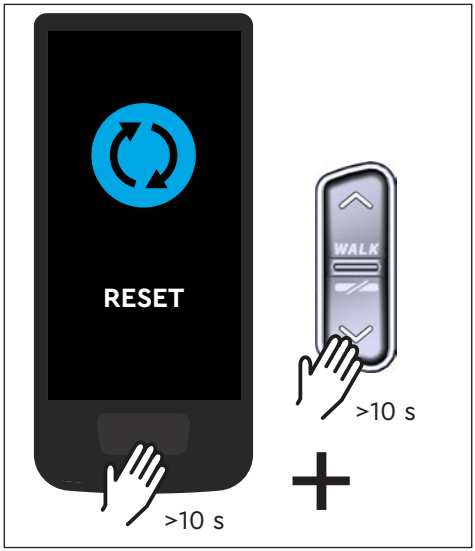


Fig. 10: Reset to factory settings

3.11 General riding notes

3.11.1 Functionality of the drive system

The drive system supports you when riding up to a speed limit permitted by law which may vary depending on your country. The precondition for Drive Unit assistance is that the rider pedals. At speeds above the permitted speed limit, the drive system turns off the assistance until the speed is back within the permitted range.
The assistance provided by the drive system depends firstly on the selected assistance mode and secondly on the force exerted by the rider on the pedals. The higher the force applied to the pedals the greater the Drive Unit assistance.
You can also ride the e-bike without Drive Unit assistance, e.g. when the drive system is switched off or the Battery is empty.

3.11.2 Gear shift

The same specifications and recommendations apply for shifting gears on an e-bike as for shifting gears on a bicycle without Drive Unit assistance.

3.11.3 Riding range

The possible range with one Battery charge is influenced by various factors, for example:

— Weight of e-bike, rider and baggage
— Selected assist mode
— Speed
— Route profile
— Selected gear
— Age and state of charge of the Battery
— Tire pressure
— Wind
— Outside temperature

The range of the e-bike can be extended with the optional range extender.

4 TRANSPORT AND STORAGE

— Store the Display and Remote in a dry place, protected from direct sunlight.

5 USER MAINTENANCE

5.1 Maintenance and Service

All service, repair or maintenance work performed by a TQ authorized bicycle dealer. Your bicycle dealer can also help you with questions about bicycle use, service, repair or maintenance.

5.2 Cleaning

— The components of the drive system must not be cleaned with a high-pressure cleaner.

— Clean the Display and the Remote only with a soft, damp cloth.

6 Environmentally friendly disposal

The components of the drive system and the batteries must not be disposed of in the residual waste garbage can.



— Dispose of metal and plastic components in accordance with-country-specific regulations.

— Dispose of electrical components in accordance with country-specific regulations. In EU countries, for example, observe the national implementations of the Waste Electrical and Electronic Equipment Directive 2012/19/EU (WEEE).

— Dispose of batteries and rechargeable batteries in accordance with the country-specific regulations. In EU countries, for example, observe the national implementations of the Waste Battery Directive 2006/66/EC in conjunction with Directives 2008/68/EC and (EU) 2020/1833.

— Observe addtitonally the regulations and laws of your country for disposal.

In addition you can return components of the drive system that are no longer required to a bicycle dealer authorized by TQ.

7 Error codes

The drive system is continuously monitored. In the event of an error, a corresponding error code is shown on the Display.

Error code	Cause	Corrective measures
ERR 0401 DRV SW	General software error	Restart the system. Contact your TQ dealer if the error still occurs.
ERR 0403 DRV COMM	Peripheral communication error	
ERR 0405 DISP COMM	Walk assist communication error	
ERR 0407 DRV SW	Drive Unit electronic error	
ERR 0408 DRV HW	Drive Unit overcurrent error	Restart the system and avoid unintended use. Contact your TQ dealer if the error still occurs.
ERR 040B DRV SW	General software error	Restart the system. Contact your TQ dealer if the error still occurs.
ERR 040C DRV SW		
ERR 040D DRV SW		
ERR 040E DRV SW		
ERR 040F DRV SW		
ERR 0415 DRV SW	Configuration error	Contact your TQ dealer.
ERR 0416 BATT COMM	General software error	Restart the system. Contact your TQ dealer if the error still occurs.
ERR 0418 DISP COMM	Display initalization error	
ERR 041D DRV HW	Drive Unit memory error	
ERR 041D DRV SW		
ERR 042B DRV SW	General software error	
ERR 042E DRV SW		
ERR 0440 DRV HW	Drive Unit electronic error	
ERR 0445 DRV HW	Drive Unit overcurrent error	Restart the system and avoid unintended use. Contact your TQ dealer if the error still occurs.
ERR 0451 DRV HOT	Drive Unit over temperature error	Permissible operating temperature exceeded or fall below. Switch off the drive unit to allow it to cool down if necessary. Start the system again. Contact your TQ dealer if the error still occurs.
ERR 0452 DRV HOT		
ERR 0453 DRV SW	Drive Unit initalization error	Restart the system. Contact your TQ dealer if the error still occurs.
ERR 0457 BATT CONN	Drive Unit voltage error	

Error code	Cause	Corrective measures
ERR 0458 BATT CONN	Drive Unit overvoltage error	Replace the Charger and use only original Charger. Contact your TQ dealer if the error still occurs.
ERR 045D BATT GEN	General Battery error	Restart the system. Contact your TQ dealer if the error still occurs.
ERR 0465 BATT COMM	Battery communication error timeout	
ERR 0469 BATT GEN	Critical Battery error	
ERR 0475 BATT COMM	Battery initalization error	
ERR 0477 DRV SW	Software Drive Unit configuration incorrect	
ERR 0479 DRV SW	General software error	
ERR 047A DRV SW		
ERR 047B DRV SW		
ERR 047D DRV HW	Drive Unit overcurrent error	Restart the system and avoid unintended use. Contact your TQ dealer if the error still occurs.
ERR 047F DRV HOT	Drive Unit overtemperature error	Permissible operating temperature exceeded or fall below. Switch off the drive unit to allow it to cool down if necessary. Start the system again. Contact your TQ dealer if the error still occurs.
ERR 0480 DRV SENS	Drive Unit assist error	Restart the system and avoid unintended use. Contact your TQ dealer if the error still occurs.

Error code	Cause	Corrective measures
ERR 0481 BATT COMM	Battery communication error	Restart the system. Contact your TQ dealer if the error still occurs.
ERR 0482 DRV SW	Drive Unit configuration error	
ERR 0483 DRV SW	Software runtime error	
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	
ERR 0494 DRV HW	Supply voltage problem	
ERR 0495 DRV HW	Drive Unit voltage error	Restart the system. Contact your TQ dealer if the error still occurs.
ERR 0496 DRV HW	Drive Unit phase breakage	
ERR 0497 DRV HW	Drive Unit calibration error	
ERR 04C8 DRV SW	General software error	
ERR 0498 DRV COMM	Peripheral communication error	
ERR 0499 DRV COMM		
ERR 049A DRV COMM		
ERR 049B DRV SENS	Cadence-sensor error	
ERR 049C DRV SENS	Torquesensor error	Restart the system and avoid unintended use. Contact your TQ dealer if the error still occurs.
ERR 049D DRV SENS		
ERR 049E DRV SENS		
ERR 049F DRV SENS		

Error code	Cause	Corrective measures
ERR 04A0 DRV COMM	CAN-Bus communication error	Check the charging port for dirt. Restart the system. Contact your TQ dealer if the error still occurs.
ERR 04A1 DRV COMM		
ERR 04A2 DRV COMM	Microcontroller electronics error	Restart the system. Contact your TQ dealer if the error still occurs.
ERR 04A3 DRV SW	Cadence-sensor error	
ERR 04A4 DRV HW		
ERR 04A5 DRV SW	Torquesensor error	
ERR 04A6 BATT COMM	Battery communication error	
ERR 04A7 DRV SW	General software error	
ERR 04A8 SPD SENS	Speedsensor error	Check the distance between magnet and Speedsensor or check for tampering.
ERR 04A9 DRV SW	General software error	Restart the system. Contact your TQ dealer if the error still occurs.
ERR 04AA DRV SW		
WRN 04AB DRV SENS	Cadence-sensor error	
ERR 04AD DRV SW	Drive Unit control error	
ERR 04AE DRV SW	Cadence-sensor error	
ERR 04AF DRV SW		
ERR 04B0 DRV HW	Drive Unit mechanical error	Check if anything is stuck or wedged in the chainring. Contact your TQ dealer if the error still occurs.
ERR 04B1 DRV HW	Drive Unit Encoderfehler	Restart the system. Contact your TQ dealer if the error still occurs
ERR 04C8 DRV SW	General software error	Restart the system. Contact your TQ dealer if the error still occurs.
ERR 04C9 DRV SW		
ERR 04CA DRV SW		
ERR 04CB DRV SW		
WRN 0601 SPD SENS	Speedsensor problem	Check the distance between magnet and Speedsensor. Restart the system. Contact your TQ dealer if the error still occurs.
WRN 0602 DRV HOT	Drive Unit overtemperature	Permissible operating temperature exceeded. Switch off the drive unit to allow it to cool down. Start the system again. Contact your TQ dealer if the error still occurs.

Error code	Cause	Corrective measures
WRN 0603 DRV COMM	CAN-Bus communication problem	Check the charging port for dirt. Restart the system. Contact your TQ dealer if the error still occurs.
WRN 0604 DRV UPDT	Encoder update from Torquesensor	Wait approx. 1 minute and do not switch off the system so that the update can be performed. Contact your TQ dealer if the error still occurs.
WRN 0605 SPD SENS	Speedsensor problem	Ensure permissible distance of the magnet to the speed sensor. Restart the system. Contact your TQ dealer if the error still occurs.
ERR 4401 BATT HW	Battery hardware failure	Restart the system. Contact your TQ dealer if the error still occurs.
ERR 4403 BATT HW		
ERR 4404 BATT SW	Battey – CAN initialization not possible	
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	Recharge the Battery immediately. Restart the system. Contact your TQ dealer if the error still occurs.
ERR 440A BATT UV	Battery voltage too low	Recharge the Battery immediately. Contact your TQ dealer if the error continues to occur.
ERR 440C BATT OV	Battery voltage too high	Restart the system. Contact your TQ dealer if the error still occurs.
ERR 440E BATT GEN	Battery short circuit	
ERR 440F BATT UV	Battery voltage too less	Allow the Battery to cool down or warm up to room temperature. Restart the system. Contact your TQ dealer if the error still occurs.
ERR 4410 BATT HW	Battery cell difference too high	Restart the system. Contact your TQ dealer if the error still occurs.
ERR 4411 BATT UV	Battery voltage too less	Allow the Battery to cool down or warm up to room temperature. Restart the system. Contact your TQ dealer if the error still occurs.
ERR 4412 BATT OV	Battery voltage too high	Restart the system. Contact your TQ dealer if the error still occurs.

Error code	Cause	Corrective measures
ERR 4414 BATT HW	Battery cell difference measurement too high	Restart the system and make sure that Battery has at least firmware version 1.99.5. Contact your TQ dealer if the error still occurs.
ERR 4415 BATT UV	Battery voltage too less	Restart the system. Contact your TQ dealer if the error still occurs.
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	Allow the Battery to cool down or warm up to room temperature. Restart the system. Contact your TQ dealer if the error still occurs.
ERR 441C BATT HOT	Battery cell temperature too high	Allow the Battery to cool down to room temperature. Restart the system. Contact your TQ dealer if the error still occurs.
ERR 441D BATT COLD	Battery cell temperature too low	Allow the Battery to warm up to room temperature. Restart the system. Contact your TQ dealer if the error still occurs.
ERR 441E BATT HOT	Battery cell temperature too high	Allow the Battery to cool down to room temperature. Restart the system. Contact your TQ dealer if the error still occurs.
ERR 441F BATT COLD	Battery cell temperature too low	Allow the Battery to warm up to room temperature. Restart the system. Contact your TQ dealer if the error still occurs.
ERR 4420 BATT HOT	Battery cell temperature too high	Allow the Battery to cool down to room temperature. Restart the system. Contact your TQ dealer if the error still occurs.
ERR 4421 BATT HOT		
ERR 4422 BATT COLD	Battery cell temperature too low	Allow the Battery to warm up to room temperature. Restart the system. Contact your TQ dealer if the error still occurs.
ERR 4423 BATT COLD		

Error code	Cause	Corrective measures
ERR 4424 BATT HW	Battery hardware failure	Restart the system. Contact your TQ dealer if the error still occurs.
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	Restart the system. Check if Battery connector is properly plugged in or dirty. Contact your TQ dealer if the error still occurs.
ERR 442F BATT HOT	Battery temperature too high	Allow the Battery to cool down to room temperature. Restart the system. Contact your TQ dealer if the error still occurs.
ERR 4430 BATT HW	Battery hardware failure	Restart the system. Contact your TQ dealer if the error still occurs.
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	Restart the system. Check if Battery connector is properly plugged in or dirty. Contact your TQ dealer if the error still occurs.
ERR 4437 BATT HW	Battery hardware failure	Restart the system. Contact your TQ dealer if the error still occurs.
ERR 4439 BATT HW		
ERR 443A BATT GEN	Battery charge overcurrent	
ERR 443B BATT GEN	Battery discharge overcurrent	
ERR 443D BATT HW	Battery hardware failure	
ERR 443E BATT GEN	Battery overcurrent	

Error code	Cause	Corrective measures
ERR 443F BATT HW	Battery hardware failure	Restart the system. Contact your TQ dealer if the error still occurs.
ERR 4441 BATT HW		
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	Battery cell voltage too high	Restart the system. Contact your TQ dealer if the error still occurs.
ERR 4455 BATT HW	Battery hardware failure	Restart the system. Contact your TQ dealer if the error still occurs.
ERR 4462 BATT HW		
ERR 4463 BATT HW		
ERR 4464 BATT HW	Battery reference voltage too high	Restart the system. Contact your TQ dealer if the error still occurs.
ERR 446C BATT HW	Battery hardware failure	Restart the system. Contact your TQ dealer if the error still occurs.
ERR 446E BATT HW		
ERR 4471 BATT HW		
ERR 4472 BATT HW		
ERR 4473 BATT HW		
ERR 4474 BATT HOT	Battery temperature too high	Allow the Battery to cool down to room temperature. Restart the system. Contact your TQ dealer if the error still occurs.
ERR 4475 BATT HOT		
ERR 4476 BATT GEN	Battery hardware failure	Restart the system. Contact your TQ dealer if the error still occurs.
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	If necessary, try without the Range Extender. Restart the system. Contact your TQ dealer if the error still occurs.

Error code	Cause	Corrective measures
ERR 4486 BATT GEN	Battery hardware failure	Restart the system. Contact your TQ dealer if the error still occurs.
ERR 4487 BATT HW	Software status of Battery or Range Extender not up to date	Contact your TQ dealer so that the required update can be applied via DST.
ERR 448A BATT HW	Battery hardware failure	Restart the system. Contact your TQ dealer if the error still occurs.
ERR 448B BATT HW		
ERR 448E BATT GEN		
ERR 448F BATT HW		
ERR 4490 BATT HW		
ERR 4491 BATT HOT	Battery cell temperature too high	Allow the Battery to cool down to room temperature. Restart the system. Contact your TQ dealer if the error still occurs.
ERR 4492 BATT OV	Battery cell voltage too high	Restart the system. Contact your TQ dealer if the error still occurs.
ERR 4494 BATT HOT	Battery temperature difference too high	Allow the Battery to cool down or warm up to room temperature. Restart the system. Contact your TQ dealer if the error still occurs.
ERR 4495 BATT HW	Battery hardware failure	Restart the system. Contact your TQ dealer if the error still occurs.
ERR 4496 BATT HW		
ERR 449A BATT GEN		
ERR 449B BATT GEN		
ERR 5001 REX HW	Range Extender hardware failure	
ERR 5003 REX HW		
ERR 5004 REX SW	Range Extender – CAN initialization not possible	
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	Recharge the Range Extender immediately. Restart the system. Contact your TQ dealer if the error still occurs.
ERR 500A BATT UV	Voltage of the Range Extender too low	Charge the Range Extender immediately. Contact your TQ dealer if the error continues to occur.

Error code	Cause	Corrective measures
ERR 500C REX OV	Range Extender voltage too high	Restart the system. Contact your TQ dealer if the error still occurs.
ERR 500E REX GEN	Range Extender short circuit	
ERR 500F REX UV	Range Extender voltage too less	Allow the Range Extender to cool down or warm up to room temperature. Restart the system. Contact your TQ dealer if the error still occurs.
ERR 5010 REX HW	Range Extender cell difference too high	Restart the system. Contact your TQ dealer if the error still occurs.
ERR 5011 REX UV	Range Extender voltage too less	Allow the Range Extender to cool down or warm up to room temperature. Restart the system. Contact your TQ dealer if the error still occurs.
ERR 5012 REX OV	Range Extender voltage too high	Restart the system. Contact your TQ dealer if the error still occurs.
ERR 5014 BATT HW	Cell difference measurement of the Range Extender too high	Restart the system and make sure that the Range Extender has at least firmware version 1.99.5. Contact your TQ dealer if the error still occurs.
ERR 5015 REX UV	Range Extender voltage too less	Restart the system. Contact your TQ dealer if the error still occurs.
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	Allow the Range Extender to cool down or warm up to room temperature. Restart the system. Contact your TQ dealer if the error still occurs.
ERR 501C REX HOT	Range Extender cell temperature too high	Allow the Range Extender to cool down to room temperature. Restart the system. Contact your TQ dealer if the error still occurs.
ERR 501D REX COLD	Range Extender cell temperature too low	Allow the Range Extender to warm up to room temperature. Restart the system. Contact your TQ dealer if the error still occurs.

Error code	Cause	Corrective measures
ERR 501E REX HOT	Range Extender cell temperature too high	Allow the Range Extender to cool down to room temperature. Restart the system. Contact your TQ dealer if the error still occurs.
ERR 501F REX COLD	Range Extender cell temperature too low	Allow the Range Extender to warm up to room temperature. Restart the system. Contact your TQ dealer if the error still occurs.
ERR 5020 REX HOT	Range Extender cell temperature too high	Allow the Range Extender to cool down to room temperature. Restart the system. Contact your TQ dealer if the error still occurs.
ERR 5021 REX HOT		
ERR 5022 REX COLD	Range Extender cell temperature too low	Allow the Range Extender to warm up to room temperature. Restart the system. Contact your TQ dealer if the error still occurs.
ERR 5023 REX COLD		
ERR 5024 REX HW	Range Extender hardware failure	Restart the system. Contact your TQ dealer if the error still occurs.
ERR 5028 REX HW		
ERR 5029 REX HW		
ERR 502A REX HW		
ERR 502B REX HW		
ERR 502C REX HW		
ERR 502D BATT HW	Range Extender hardware error	Restart the system. Check whether the Range Extender cable is plugged in correctly or is dirty. If necessary, try without Range Extender. Contact your TQ dealer if the error still occurs.
ERR 502F REX HOT	Range Extender temperature too high	Allow the Range Extender to cool down to room temperature. Restart the system. Contact your TQ dealer if the error still occurs.
ERR 5030 REX HW	Range Extender hardware failure	Restart the system. Contact your TQ dealer if the error still occurs.
ERR 5031 REX HW		
ERR 5032 REX HW		
ERR 5033 REX HW		
ERR 5034 REX HW		
ERR 5035 REX HW		

Error code	Cause	Corrective measures
ERR 5036 BATT HW	Range Extender hardware error	Restart the system. Check whether the Range Extender cable is plugged in correctly or is dirty. If necessary, try without Range Extender. Contact your TQ dealer if the error still occurs.
ERR 5037 REX HW	Range Extender hardware failure	Restart the system. Contact your TQ dealer if the error still occurs.
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	Restart the system. Contact your TQ dealer if the error still occurs.
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	Restart the system. Contact your TQ dealer if the error still occurs.
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	Corrective measures
ERR 5074 REX HOT	Range Extender temperature too high	Allow the Range Extender to cool down to room temperature. Restart the system. Contact your TQ dealer if the error still occurs.
ERR 5075 REX HOT		
ERR 5076 REX GEN	Range Extender hardware failure	Restart the system. Contact your TQ dealer if the error still occurs.
ERR 507B REX HW		
ERR 507C REX HW		
ERR 507F REX GEN		
ERR 5083 REX GEN		
ERR 5084 REX GEN		
ERR 5085 REX GEN	Range Extender Software does not fit the Battery	If necessary, try without the Battery. Restart the system. Contact your TQ dealer if the error still occurs.
ERR 5086 REX GEN	Range Extender hardware failure	Restart the system. Contact your TQ dealer if the error still occurs.
ERR 5087 REX HW	Software status of Battery or Range Extender not up to date	Contact your TQ dealer so that the required update can be applied via DST.
ERR 508A REX HW	Range Extender hardware failure	Restart the system. Contact your TQ dealer if the error still occurs.
ERR 508B REX HW		
ERR 508E REX GEN		
ERR 508F REX HW		
ERR 5090 REX HW		
ERR 5091 REX HOT	Range Extender cell temperature too high	Allow the Range Extender to cool down to room temperature. Restart the system. Contact your TQ dealer if the error still occurs.
ERR 5092 REX OV	Range Extender cell voltage too high	Restart the system. Contact your TQ dealer if the error still occurs.
ERR 5094 REX HOT	Range Extender temperature difference too high	Allow the Range Extender to cool down or warm up to room temperature. Restart the system. Contact your TQ dealer if the error still occurs.

Error code	Cause	Corrective measures
ERR 5095 REX HW	Range Extender hardware failure	Restart the system. Contact your TQ dealer if the error still occurs.
ERR 5096 REX HW		
ERR 509A REX GEN		
ERR 509B REX GEN		
ERR 5401 DRV CONN	Communication error between Drive Unit and Display	
ERR 5402 DISP BTN	Remote button pressed when switching on	Don't press the Remote button during start-up. Check whether buttons are stuck due to dirt and clean them if necessary. .
ERR 5403 DISP BTN		
WRN 5404 DISP BTN	Walk assist user error	Activate walk assist by pressing the UP button (Walk) on the Remote until Walk appears on the Display. Release the button directly and press it again to use the walk assist. Contact your TQ dealer if the error still occurs.

Tab. 7: Error codes

NOTE

For more information and TQ product manuals in various language, please visit **www.tq-ebike.com/en/support/manuals** or scan this QR-Code.

We have checked the contents of this publication for conformity with the product described. However, deviations cannot be ruled out so that we cannot accept any liability for complete conformity and correctness.

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