HPR DISPLAY V03
HPR Single Button Remote

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.
- 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 Bar End Display and HPR Single Button Road Remote

- Do not be distracted by the LED indication 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.

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 FCC

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.

No changes shall be made to the equipment without the manufacturer's permission as this may void the user's authority to operate the equipment.

This equipment complies with the RF exposure limits in FCC § 1.1310.

FCC ID: 2ANFF-Q103

1.2.6 ISED

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.

IC ID: 23072-Q103

SAVE THESE INSTRUCTIONS

1.3 Intended Use

The HPR DISPLAY V03 (Bar End Display) and the HPR Single Button Remote of the drive system are intended exclusively for indicating 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 V03 (Bar End Display)

Disply Type	Most minimalistic for invisible integration
Information indication	5 status color LED`s for state of charge, ride modes and error modes
Connectivity	Bluetooth, ANT+ (Radio network standard with low power consumption)
Frequency Transmitting power max.	2.400 Ghz – 2.4835 Ghz 2.5 mW
Power supply	13.2 V / 19 mA
Dimension	Ø 28 mm x 36 mm / Ø 1.1 " x 1.42 "
Weight	11 g / 0.39 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 V03

Declaration of Conformity

We, TQ-Systems GmbH, Gut Delling, Mühlstr. 2, 82229 Seefeld, Germany, declare that the HPR Display V03 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 Single Button Remote

Weight with cable	6 g / 0.21 oz (short) 10 g / 0.35 oz (long)
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 Single Button Remote

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 V03

Pos. in Fig. 1	Description
1	State of charge Battery & Range Extender (Number of LED`s)
2	Assist mode (Different LED`s color)
3	Button

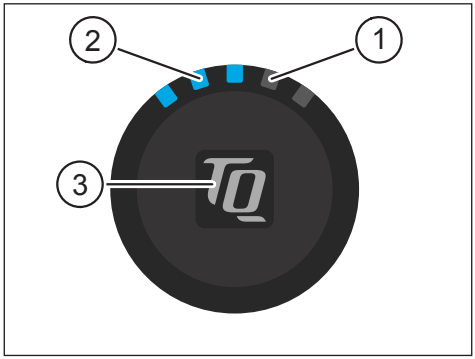


Fig. 1: Operation and indicaton components on Display

3.2 Overview HPR Single Button Remote

Pos. in Fig. 2	Description
1	Button (left and right)

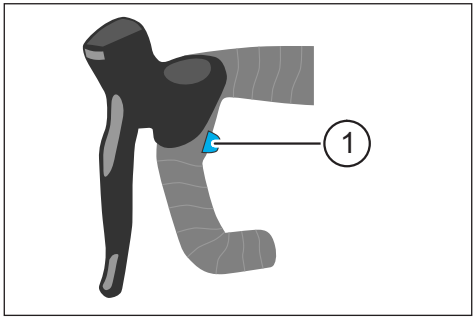


Fig. 2: Operation on the Remote

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 on the Display (see Fig. 3).

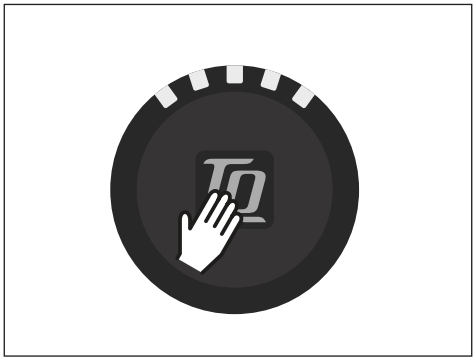


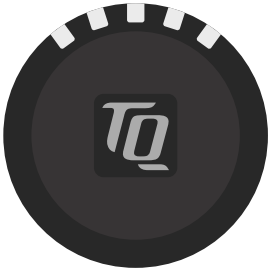
Fig. 3: Button on Display

3.4 Riding information

You can choose between 3 assist modes or switch off the assist from the drive unit. The selected assist mode **low, mid** or **high** is indicated with corresponding LED color.

3.4.1 Stealth-Mode

Stealth-Mode can optionally be activated in the TQ App. In this mode the LEDs light up for only 3 seconds after the last button activation.

Display view	Information
	— LED's illuminated in white indicate an active system without assist mode
	— LED's illuminated in blue indicate **low** assist mode
	— LED's illuminated in green indicate **mid** assist mode

Display view	Information
	— LED's illuminated in red indicate **high** assist mode
	— The number of illuminated LED`s indicate the state of charge of the active used battery (main Battery and Range Extender if connected)
	— LED's flashing red indicate an error in the system. (Please make a troubleshooting at your dealer)
	— LED's flashing in blue indicate the pairing mode.

Tab. 3: HPR DISPLAY V03 – Riding information

3.5 Select assist mode

You can choose between 3 assist modes or switch off the assist of the drive unit. The selected assist mode **low, mid** or **high** is indicated with corresponding LED color (see "3.4 Riding information").

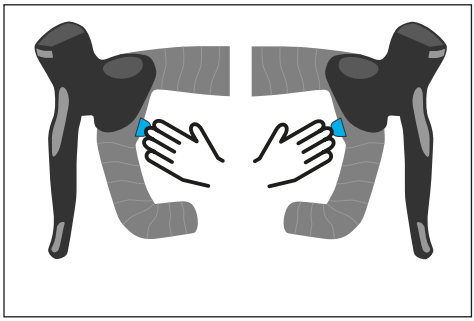


Fig. 4: Selection of the assist mode on the HPR Single Button Remote

— With a **short** press on the right button of the HPR Single Button Remote (see Fig. 4) or with the optional button of an electric gear shifting (see "3.8.2 Gear shift" & "3.8.3 Riding range") you increase the assist mode.

— With a **short** press on the left button of the HPR Single Button Remote (see Fig. 4) or with the optional button of an electric gear shifting (see "3.8.2 Gear shift" & "3.8.3 Riding range") you decrease the assist mode.

3.6 Set connections

3.6.1 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.
— Press and hold the button on the Bar End Display for at least 5 seconds when the Bike is OFF.
— The bike will start up normally and will then enter the pairing mode.
— Search and select the bike (e.g. TQ 12345) via the TQ E-Bike APP.
— If you want to abboard the pairing process press any button (display or remote) or wait 30 seconds.
— Select your bike (you only need to pair your smartphone the first time).

Fig. 5: Connection E-Bike to Smartphone

3.6.2 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+).
— Press and hold the button on the Bar End Display for at least 5 seconds when the Bike is OFF.
— The bike will start up normally and will then enter the pairing mode.
— Search and select the bike (e.g. TQ 12345) via the TQ E-Bike APP.
— If you want to abboard the pairing process press any button (display or remote) or wait 30 seconds.
— Select at least one of the three shown sensors (see Fig. 6).
— Your e-bike is now connected.

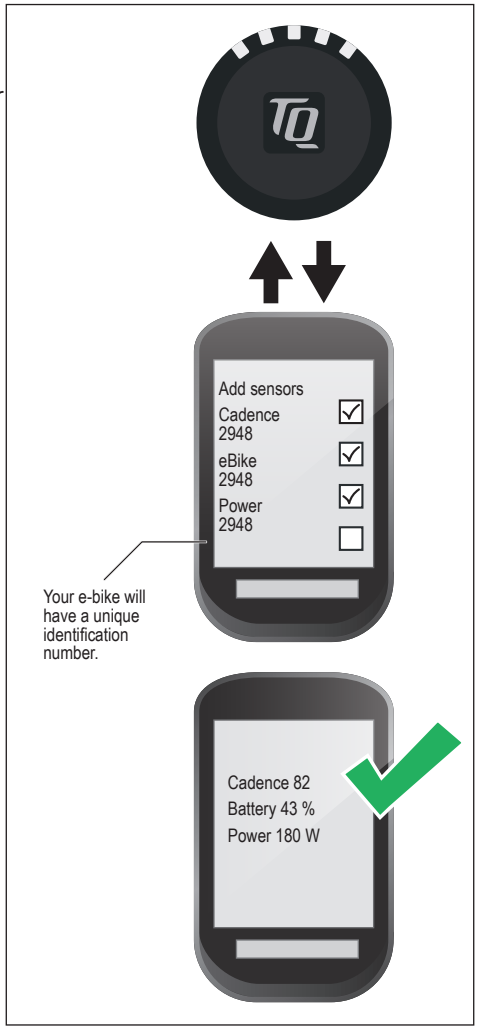


Fig. 6: Connection e-bike to bicycle computer

3.6.3 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

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. 4: 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. 5: Functions

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

- ▶ Confirm configuration
- ▶ Disconnect

3.6.4 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

3.7 Walk assist

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

NOTE

— Due to safety reasons the walk assist is not available with HPR40 Drive Unit.

— 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.

3.7.1 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. 7) to activate the walk assist.

► Press the UP button again and keep it pressed to move the e-bike with the walk assist.

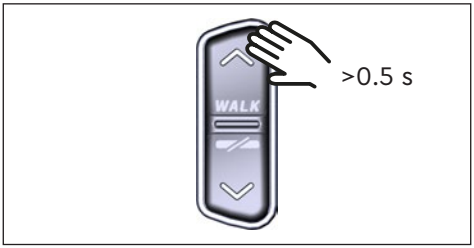


Fig. 7: Activate walk assist

3.7.2 Deactivate walk assist

The walk assist is deactivated in the following situations:

— Press the DOWN button on the Remote control.

— Press the button on the Display.

— After 30 s without actuation of the walk assist.

— By pedaling.

3.8 General riding notes

3.8.1 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.

3.8.2 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.

3.8.3 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.

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.

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