



huka

USER MANUAL

Tandem Copilot



Congratulations on your new Copilot

Would you like to cycle carefree? With your Copilot, we want to make your world easier. You would probably rather go cycling than read the manual. That is why we have put together a manual that contains the most important and necessary information about the safe use of the Copilot. Please read this manual thoroughly before using the Copilot and always follow the instructions given in the manual. To make the best use of your tandem, I will sometimes give you a few tips, so that you can continue to cycle safely and have fun. We would like to hear about your experiences and where you like to cycle. Would you like to share it with us on Facebook? We love to hear from you!

Kind regards,

Milan Leusink



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General

Indication & application

The Copilot is a tandem bicycle where the driver is sitting on the back of the bike. In this position the driver has a good overview on the road and also on the person sitting in the front. The bike is specially designed for people who want to go out and cannot cycle independently.

- The Copilot complies with all laws and regulations applicable to public road use. Use of the Copilot as a racing or cross-bike is beyond the normal use and responsibility of Huka.
- It is your responsibility to act according to the specific safety requirements of the country you are cycling in. This includes possible insurance according to the relevant legislation including proper equipment of yourself and the bike that the relevant country requires.
- The driver must be independently mobile and must not have any physical or mental challenges that prevent safe participation in traffic, such as an (audio) visual impairment.

Warranty

Huka applies a 5-year warranty on the frame of the Copilot. You also have a 2-year warranty on the battery and other parts. All warranty's are carried out by your Huka dealer.

- The warranty does not apply to damage or defects to the Copilot caused by improper or injudicious use. The assessment of this lies with Huka B.V. or a representative, appointed by Huka B.V..
- The warranty does not apply to parts subject to wear and tear such as the chain, brakes and tires.
- Under no circumstances shall Huka be liable for any special or consequential damages due to negligence on the part of the user of the Copilot. Even Huka has been informed of such damages.
- Applicable law may not permit the limitation or exclusion of liability or damages. Thus, the above limitation or exclusion may not apply to you.

- The warranty and product liability in general may be invalidated if instructions in this manual have not been followed. This will occur if unauthorized maintenance work, technical modifications or additions to the bicycle have been carried out with non-original Huka parts without Huka's consent. It also invalidates the CE mark. The absence of a CE declaration may lead to problems in insuring the bicycle and in case of possible damage or liability.

TIP FROM MILAN Write down the frame number of your Copilot below. The number is important for guarantees, repairs or in case your bike is stolen for reporting to your insurance. The number can be found just above the bottom bracket at the back of the seat post on the frame tube.

Frame number

Key number



Location identification sticker



Example identification sticker

EU declaration of conformity

Provided under the sole responsibility of the manufacturer:

Huka B.V.

Münsterstraat 13, 7575 ED Oldenzaal, The Netherlands

Hereby declares that the following device:

Registered trade name:	Copilot
Product type:	Therapeutic tandem
Basic UDI Copilot 24	8720589794085
Basic UDI Copilot 26	8720589794092
Risk class:	Class 1
SRN:	NL-MF-000003494

To which this statement relates, in accordance with the following regulations:

European Parliament and Council Regulation (EU) 2017/745 of 5 April 2017 (MDR).

And equipped with the CE mark identifiable by the:

labels on the main frame of the bicycle and illustrated in the Warranty section of this manual.

Signed on behalf of Huka,



R. Lotgerink, Managing Director

Date: 01 October 2022

First bike ride on the Copilot

The time has come. The first experience on your own Copilot! Which bike ride you want, your safety comes first! Should you be cycling on a Huka bike for the first time, it has some points of attention. The most important tip we can give you is to relax as much as possible while cycling. To make everything as easy as possible, we will give you some instructions.

TIP FROM MILAN Make sure the handlebars and saddle for the driver and the passenger are properly adjusted before you start cycling. A good foundation for cycling, besides a safe bike, starts by having the right posture on the bike.

Safely on the road

Besides your agility on the Copilot, which will get better and better as you use it, it is important that the bike is in optimal condition when you hit the road. Please consider the following aspects:

- The driver must be at least 16 years old,
- Before each use, check the condition and operation of brakes, tires, rims, spokes and steering.
- Bear in mind that the braking characteristics change and the braking distance may increase with, among other things, a slippery road surface and/or heavier weight.
- The Copilot's turning radius is larger than that of a standard bike.
- If you want to turn the bike, the cyclist can dismount and lift the bike on the back.
- Make sure possible luggage is well secured and cannot slide around.
- Cycle on flat and paved surfaces and avoid deep potholes, high thresholds, sloping sides and puddles of water.
- Drive at an appropriate speed on wet or slippery surfaces and slopes.
- Do not bump into kerbs.

- Moderate your speed on descents so that you can always stop in time and in a safe manner.
- Moderate your speed before taking a turn so that all wheels stay on the ground. Leaning in will help.
- Always lock your bike when parking it using the cable lock.
- Use the parking brake against rolling away.
- We recommend wearing reflective clothing or a reflective jacket.
- The passenger should wear a seat belt if available.
- Wear an appropriate bicycle helmet.
- The Copilot is largely made of steel, which is considered non-flammable. The other materials used such as plastic, rubber and the like are not fireproof.



Never be tempted to overly enthusiastic driving on the carriageway, such as going up and down pavements. Your Copilot could suffer (in)visible damage as a result, which could pose additional risks.

Boarding and cycling

Always use the parking brake when mounting or dismounting. The parking brake prevents the bike from rolling away which can lead to dangerous situations.

- When getting on as a rider, lift your foot to the other side so that your feet are on either side of the bike. Put your strongest leg on the lowest pedal and take a seat on the saddle.
- As soon as you sit down and want to cycle, first release the parking brake.
- Put the gripshift in first gear so you can pedal lighter.
- Stay upright at all times and keep your feet on the pedals. Even when braking or standing still.

TIP FROM MILAN When cycling, steer from your arms and not your body. Cycling around corners takes some time to get used to. To maintain stability, lean slightly towards the inside of the turn with your body during sharp turns. Be careful when making short turns. Adjust your speed. Avoid sudden and violent steering movements. This way you avoid accidents and damage.

TIP FROM MILAN, If you want to change gears, make sure you stop pedaling first and then select the desired gear. Do not pedal while changing gears. This can lead to damage to the shifting mechanism. Damage to the gear hub due to abuse is not covered under warranty.

Brakes

Depending on the chosen braking system, we give some instructions on different braking possibilities.

- Handlebar brake right: To brake with front wheel, you need to squeeze the right brake lever.
- Handlebar brake left: To brake on the rear wheel, you need to squeeze the left brake lever.
- Back pedal brake: By stopping pedaling forwards and then pedaling backwards, the back pedal brake is activated.



Be careful using front brake taking corners. Using front brake in a corner can cause instability of the bike. This can lead to personal injury and property damage.

Pedal-assisted bicycles

If your Copilot is equipped with pedal assistance, the electric motor is switched on as soon as the system is turned on and you start pedaling. The pedaling becomes lighter. If you stop pedaling, the pedal assistance also stops.

- You switch on pedal assistance by pressing 'On/Off button' for 3 seconds.
- Switch off the pedal assistance by holding the 'On/Off button' for 3 seconds.
- You can set the support to different levels using the + / - buttons on the handlebars. Level 1 is low and Level 5 is high assistance.

Display

Your Copilot is equipped with a display that shows the status of the battery. The display also shows the speed, trip distance (Trip) and total distance (ODO). With the plus and minus button you can choose the level of support (display image). You have five modes of support.



Battery indication display with control buttons

Walk assistance function

The walk assistance function is designed to avoid heavy pushing when walking beside the bike. The walk assistance is activated by pressing the minus key several times until a little figure with a bike appears in the display, if then the minus key is held down, the bike will automatically ride up to 4 km/h.



Exposure to bright sunlight can make various materials very hot.



The product contains moving parts. Think of the chain, wheels, front fork etc. Be alert to pinching hazards

Product description

The Copilot consists of several parts. We describe the most important parts in this chapter.

Bike frame

The frame of the Copilot consists of a tubular metal construction complemented by aluminum and stainless steel components. Most metal parts are phosphated and then given an impact-resistant powder coating. This construction and finish guarantees years of cycling fun.



When you drive the Copilot alone without passenger, please hold the handlebar loosely to avoid shimmy effect of the front wheel. Shimmy effect can cause instability of the bike.

Wheels and tires

The wheels are made with quality hubs, stainless steel spokes and an aluminum rim. A-quality anti-puncture tires are fitted on these rims. These ensure good grip and low rolling resistance and less wear. The wheels of the bike should only be replaced by a Huka dealer.

TIP FROM MILAN Check tires regularly for wear and tire pressure to ensure safe cycling. Tire pressure and tire wear have a major impact on the handling of the bike.

Spokes

Proper tension of the spokes ensures a stable bike. Because of the performance of newly spoked wheels, your Copilot's spokes should be checked after **200 kilometers or 2 months**. Your Huka dealer can take care of that. Should a spoke break or become loose, please consult your Huka dealer immediately.

Chain guard & chain

The chain guard is specially designed for bicycles and made of an impact-resistant plastic. The chain guard protects the chain from dirt and water and also ensures that the chain cannot dirty your legs or clothes. With good chain tension, the Copilot pedals lightly and you hardly hear the chain. If you notice that a chain is too slack, have it adjusted by your Huka dealer.

Brakes

The Copilot is equipped with a back-pedal brake on the rear wheel and hydraulic disc brakes on both wheels. Optional you can choose for freewheel version instead of back-pedal brake in combination with hydraulic disc brakes on both wheels.

TIP FROM MILAN Brakes can wear out over time and are very important for safety when cycling. Therefore, have your brakes checked regularly and, if necessary, adjusted or replace brake pads. A Huka dealer can support you in this.



Always check the brake function before you use the bike. Good working brakes are very important for safe cycling.

Bottom bracket, crankset and pedals

- The bottom brackets are maintenance-free and not adjustable. If there is any play in the bearings, go to your Huka dealer immediately. If play develops between the crank and bottom bracket, remove the dust cap from the center of the crank and tighten the underlying bolt with a socket wrench 13.
- Most pedals are maintenance-free. Is there too much play? Please consult your Huka dealer. When assembling the pedals yourself, note the indications L (left) and R (right) on the pedal axles. The left pedal you turn left. The right pedal should be tightened clockwise. Use an open-ended spanner 15 or a special (narrow) pedal spanner.
- Various (customized) pedals are optionally available.

Gears

Your Copilot comes with 8-gears speed hub with back-pedal brake, or if you chose for a E-bike version, it comes with a 7-gear freewheel. Upon delivery your Huka dealer has checked the gearing and adjusted it correctly. The explanation of the gear hub can be found in the Shimano manual.



Adjusting the gear hub is specialized work. This should only be carried out by a Huka dealer.

Saddle

The saddles are adjustable in height, depth and angle. It is very important to adjust the saddle correctly to cycle efficiently, comfortably and safely. A different model of saddle is optional.



When adjusting height, make sure the seat post sticks enough into the frame so that the safety marking “MIN” is not visible

Handlebar

The handlebars of the Copilot are made of steel or aluminum. This depends on the chosen model handlebar. The handlebars can be adjusted in height and angle. With some models of stem you can also adjust angle and depth of the handlebar.



The saddle and handlebars should always be securely fastened. Check this regularly. A loose saddle or handlebar can create an unsafe situation.



When adjusting height, make sure the stem sticks enough into the frame so that the safety marking “MIN” is not visible

Mudguards

The mudguards are made of impact-resistant plastic and are fully colored. Splashing water is stopped by the mudguards and prevents dirty clothes.

Lighting

The Copilot features battery-powered LED lights with low power consumption. Batteries (type AA) are available from various shops.



Change batteries on time to avoid dangerous situations in traffic. Without batteries, the lights will not work. Make sure old batteries are disposed properly.

If your tandem is performed with power assist, the lights are powered by the battery of the electrical system and do not need to change batteries. You can turn on and off the lights by holding the + button on the handlebar for 3 seconds.

Luggage carrier

The luggage carrier is made of aluminum. There are various options for carrying luggage. Ask your Huka dealer so that the right materials are used and the whole thing is mounted safely. On a Copilot, the battery pack is mounted under this carrier.



Distribute the luggage as best as possible on the carrier. The maximum load is 20 kg. The total max load Copilot is 100 kg co-driver + 100 kg driver + 20 kg luggage = 220 kg.



Always ensure that lights and reflectors are clearly visible. Also, luggage should be properly secured. Luggage that is not properly secured can be dangerous when participating in traffic. Straps should be secured properly to prevent them from getting into the wheel.

Electric pedal assistance

The Copilot can be equipped with electric pedal assistance. The Copilot has a motor in the rear wheel and a battery pack under the luggage carrier. A display with controls is mounted on the handlebars.



Display



Motor in rear wheel



Battery pack

Pass Vario pedal assistance

With the Pas Vario support, you pedal along and the pedaling is supported by the electric motor in the rear wheel. The degree of support can be set with the + / - buttons on the handlebars and is readable on the display. The bike is equipped with a 43V 750wh Li-ion battery mounted under the luggage rack.

Accessories

The Copilot can be expanded with various accessories. Think of a backrest, foot fixation, mirrors, find out more about accessories from the Huka dealer who supplied the Copilot.



Fixing parts

It is important that all parts on the bike are properly tightened. Various parts should be tightened with a torque. Use a torque spanner for this. The table below shows values for the correct tightening torques. If in doubt, consult your Huka dealer for advice.

Section	Tightening torque
Quick-release seat post	hand-tight
Saddle bolt	24Nm
Handlebar stem	23Nm
Rear wheel nuts	40Nm
Rear wheel nuts with motor	50Nm
Wheel bolts for front wheels	20Nm



Failure to properly tighten components can lead to unsafe situations. Observe the prescribed tightening torques

Optimal use

Upon delivery of your new Huka, the components should be properly adjusted to your body and tailored to your needs. To make sure you sit comfortably, there are adjustment options to adjust the saddle and handlebars.

Adjusting seat height

1. Pull out the lever of the quick tensioner.
2. Pull or push the saddle to the desired height. The seat post should protrude at least 10 cm into the frame, with the safety marking not visible.
3. Push the lever in as far as possible to secure the seat post securely.



When adjusting the height, make sure the seat post sticks far enough into the frame that the safety marking "MIN" is not visible

TIP FROM MILAN A good rule for adjusting the saddle height: Sit on the bike with the crank in line with the seat tube. With the heel on the pedal, you should just barely be able to extend your leg.

Adjusting saddle depth

1. Using a No13 socket spanner, loosen the saddle bolt slightly to allow the saddle to slide.
2. Pull or push the saddle into the desired position.
3. Tighten the saddle bolt securely.



Setting the saddle angle

1. Using a No13 socket wrench, loosen the saddle bolt slightly to allow the saddle to rotate.
2. Tilt the saddle to the desired angle.
3. Tighten the saddle bolt securely.



Saddles and handlebars should be securely fastened. Loose saddles increase the risks of dangerous situations in traffic

Good posture also depends on the correct handlebar height that can be adjusted.

- The grips will generally need to be at the height of the rider's waist.
- The handlebars should not touch the knees while cycling, including when cornering.

Adjusting handlebar height

1. Using a size 6 Allen key to loosen the bolt in the centre of the stem three turns.
2. Slide the handlebar to the desired position. Make sure that the safety marking on the stem is not visible above the frame.
3. Tighten the bolt again with 23 Nm.



Safety marking on stem



When adjusting the height of the handlebar, make sure there is enough stem in the frame so that the safety marking is not visible

TIP FROM MILAN Sometimes the stem is very tight and cannot be moved even when the stem bolt is unscrewed. Take a plastic hammer and hit the stem bolt once. This will shoot down slightly, after which the handlebar will be loose.

Adjusting handlebar angle

1. Using a size 6 Allen key to loosen the bolt in the front of the stem three turns.
2. Slide the handlebar to the desired angle. Make sure that the handlebar stays central in the clamp of the stem.
3. Tighten the bolt again with 23 Nm.



Maintenance Copilot

Optimal riding comfort is created by keeping the bike in good condition. In this chapter we will show you how to do this. We also advise you to have annual maintenance carried out by your Huka dealer. They will check the Copilot for functionality, safety and possible wear.



After **200 kilometers or after 2 months**, you should have the first service by your Huka dealer. They will check screw connections, chain and spoke tension etc. If you don't have the maintenance done by a Huka dealer may affect the warranty.

Cleaning

Clean the bike regularly. This can be done with warm soapy water in combination with a mild detergent. The rims can be cleaned with warm water and a soft brush. Do not use a wire brush. This will damage the rims. The use of a high-pressure cleaner is not recommended. The high pressure will blow the grease out of the bearings, among other things. Rinsing with a garden hose is fine, as long as the jet is not too powerful.

Tire pressure & tread

Check tire pressure and tread regularly for optimal grip on the road. This will prevent unnecessary wear and tear on your Copilot's tires. It also makes cycling more pleasant and allows you to react better to braking and steering movements. The Copilot has tires with bicycle valve. The right tire pressure is between 3 and 5 bar. After inflating, check that the valve does not leak. Smear some saliva over the valve tube to do this. If an air bubble appears, the valve should be replaced. If the profile is less than 1 mm deep, the tire should be replaced. Your Huka dealer can support you in this.

TIP FROM MILAN In case of a malfunction, contact your Huka dealer immediately. Do not use the bike until the fault is rectified

Patching a tire

If you have a flat tire on the Copilot? Your Huka dealer can, of course, patch the tire. But should you want to do it yourself, here are instructions.

Required: a repair kit (with tire levers, glue, stickers and sandpaper, stand or jack, scissors, bicycle pump and a bucket of water).

- Deflate the tire and unscrew the valve.
- Insert the first tire lever next to the valve (between the outer tire and the rim) and hook it behind a spoke. Do the same with the second tire lever (about two spokes away). Using the third tire lever, gently rock the tire loose.
- Remove the outer tire from the rim. Check the tire and rim for anything sharp (glass, nail, etc.) on the inside of the outer tire. Remove the inner tube from the wheel.
- Inflate the tire and find the leak by holding the tire under water. Where bubbles appear is where the leak is.
- Deflate the tire and lightly sand the puncture site. Spread some glue on the tire and leave it for two minutes.
- Use a ready-made sticker or cut a round from the piece of tire sticker. Stick this on the puncture and press firmly. Let it dry for 5 minutes.
- Place the valve back into the rim and assemble (wait to tighten the thin nut until the tire is back on the rim).
- Inflate the inner tube slightly and place it in the outer tire. Press the outer tire into the rim all around. Start at the valve and slowly go around.
- Inflate the tire to the correct pressure. Check that the outer tire sits nicely on the rim. Tighten the small nut on the valve. The tire is glued!

Wheels

The wheels help ensure light running and high riding comfort. Properly inflated tires and tightly tensioned spokes are important for optimal cycling comfort.

TIP FROM MILAN Before riding, check that the wheels turn smoothly and do not creak while cycling. Crackling noises usually indicate a loose spoke or a defective bearing. Contact your Huka dealer if this is the case

Spokes

The spokes should be checked for tension once a month. A loose spoke usually produces creaking noises. A loose spoke can cause the rim to warp, affecting riding. The spoke check is easy to perform by strumming your finger along the spokes like on a guitar. A spoke with abnormal tone is likely to be loose. Your Huka dealer can then carry out the repair.

Chain

The chain should be cleaned and lubricated at least once a month. In addition, the chain tension should be checked regularly. We recommend that this work is carried out by a Huka dealer.

Brakes

Regularly test the functionality of the brakes. A brake that is too slack will not brake sufficiently. The brake can easily be adjusted slightly tighter with the adjustment bolt on the inside of the brake handle.



Are the brakes not adjustable or does the Copilot still not brake properly? Then have it checked and adjusted by your Huka dealer

Battery charging

Before cycling, check that the battery is still sufficiently charged. Depending on the capacity, charging takes between 3 and 8 hours. Always use the original battery charger.

TIP FROM MILAN Low ambient temperature has a detrimental effect on battery charging. At temperatures below 10 degrees, take the battery indoor and charge it at room temperature.

Replacement of parts

Is your Copilot defective or need parts replaced? We advise you to have this done by your Huka dealer. This is one of the ways to prevent the factory warranty from expiring.

To replace the inner tube and/or tire, please use the following sizes:

Copilot 24

- Inner tube and tire front wheel: 47-507
- Inner tube and tire rear wheel: 47-507

Copilot 26

- Inner tube and tire front wheel: 47-559
- Inner tube and tire rear wheel: 47-559



Always have original Huka parts fitted to the bike. Your Huka dealer can order and mount these directly.

Lighting

The Copilot without power assist features battery-powered LED lighting front and rear with low power consumption and long life. Over time, the batteries need to be replaced. These are available from various shops.

You replace the headlight batteries by unscrewing the screw at the bottom with a screwdriver or a coin. Then tilt up the front and unhook the front out of the housing. Replace the 2 AA batteries. Pay attention to + and -. Then hook the front back into the housing and push back the front in the housing. Then turn back the screw in the bottom again.



Unscrew the nut



Tilt up the glass



Replace batteries



Hook up and close headlights



Incorrectly mounted batteries can cause a malfunction in the headlight. So always pay close attention to the + and - signs on the battery and battery holder

The rear lights are also battery-powered and over time need to change batteries. Should the rear light not work after changing batteries, contact the dealer to have it repaired.



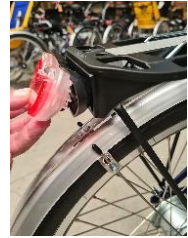
Push down clamp



Unhook backlight panel



Change batteries. Mind the + and – of the batteries



Hook in the backlight panel and push to lock

If your tandem is performed with power assist, the lights are powered by the battery of the electrical system and do not need to change batteries. You can turn on and off the lights by holding the + button on the handlebar for 3 seconds. Should the front or rear light not work check that the cables are connected properly. If this is correct and the lights do not work, contact the dealer to have it repaired.

Moving and carrying the bicycle

To move or carry the bike, the bike is best grabbed at the back by the luggage carrier and at the front by the head tube. We recommend lifting the bike with at least two people. It is not possible to lift the bike alone because of its weight. Only lift on the fixed parts and do not lift on accessories.

Other information

Contact details Huka

Do you have questions about our product development? Or do you have suggestions to improve our Huka bikes? If so, please contact us.

Munsterstraat 13
7575 ED Oldenzaal
+31 (0)541-572472

info@huka.nl

www.huka.nl

For questions about servicing your Copilot, we refer you to your Huka dealer.

Changes

Huka has a philosophy of continuous product development and improvement. As a result, the product supplied may differ from the images shown. Huka BV reserves the right to make changes to the product as described in these instructions for use. No liability is owed for this. Misprints reserved.

For the most up-to-date version of the manual, visit www.huka.nl/handleiding.

Product disposal

Do you no longer use the Copilot? Then contact your Huka dealer. They can guide you with a possible sale or trade-in of it. If you want to dispose of your Copilot, you can also contact your local waste disposal company. They will dispose of the bike according to the regulations and laws in force in your place of residence.



If you want to replace batteries or battery on your bike, keep in mind that it is chemical waste. Therefore, make sure it is disposed of properly by handing the battery at a Wecycle collection point.

Selling the Copilot

If you want to sell your Copilot to another user, it is important to hand over all the necessary technical documentation so that the new owner can use the bike safely.

Have the bike inspected by your Huka dealer before sale to ensure that the Copilot is sold in good condition. Do you want to buy a used Huka bike? Then we recommend having it checked by your Huka dealer beforehand. They can quickly see if the bike is subject to wear and tear or has hidden defects.

Huka makes your world easier

Huka has been a family-owned company providing mobility solutions for people with physical disabilities and the elderly for over 40 years. In doing so, we make use of the latest technological developments. Besides functionality and technology, we focus on attractive, contemporary designs. And because we value continuous improvement, we listen carefully to the riders of our bikes.



Your Huka dealer

7 USER MANUAL FOR DP C18.CAN



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7.1 IMPORTANT NOTICE

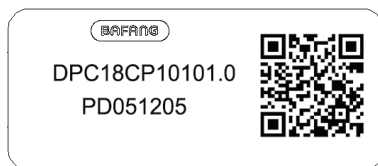
- If the error information from the display cannot be corrected according to the instructions, please contact your retailer.
- The product is designed to be waterproof. It is highly recommended to avoid submerging the display under water.
- Do not clean the display with a steam jet, high-pressure cleaner or water hose.
- Please use this product with care.
- Do not use thinners or other solvents to clean the display. Such substances can damage the surfaces.
- Warranty is not included due to wear and normal use and aging.

7.2 INTRODUCTION OF DISPLAY

- Model: DP C18.CAN BUS
- The housing material is PC; the Display Glass is made of high-currentem material:



- The label marking is as follows:



- i** **Note:** Please keep the QR code label attached to the display cable. The information from the Label is used for a later possible software update.

7.3 PRODUCT DESCRIPTION

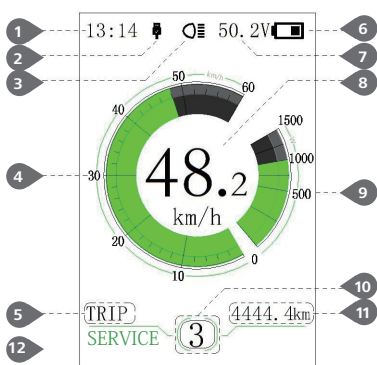
7.3.1 Specifications


- Operating temperature: -20 °C~45 °C
- Storage temperature: -20 °C~50 °C
- Waterproof: IP65
- Bearing humidity: 30%-70% RH



7.3.2 Functional Overview

- Speed display (including top speed and average speed, switching between km and miles).
- Battery capacity indicator.
- Automatic sensors explanation of the lighting system.
- Brightness setting for backlight.
- Indication of performance support.
- Motor output power and output current indicator.
- Kilometer stand (including single-trip distance, total distance and remaining distance).
- Walk assistance.
- Setting the support levels.
- Energy consumption indicator CALORIES (Note: If the display has this function).
- Display for the remaining distance. (Depends on your riding style)
- Setting password.

7.4 DISPLAY



- 1 Time
- 2 USB charging indicator displays the icon , if an external USB device is connected to the display.



- 3 The display shows  this symbol, if the light is on.
- 4 Speed Graphics
- 5 Trip: Daily kilometers (TRIP) - Total kilometers (ODO) - Top speed (MAX) - Average speed (AVG) - Range (RANGE) - Energy Consumption (CALORIES(only with torque sensor fitted)) - Travel time (TIME).
- 6 Display of battery capacity in real time.
- 7 Voltage indicator in voltage or in percent.
- 8 Digital speed display.
- 9 Power indicator in watts / amperes.
- 10 Support level/ Walking assistance 
- 11 Data: Display data, which corresponds to the current mode.
- 12 Service: Please see the service section

7.5 KEY DEFINITION





7.6 NORMAL OPERATION

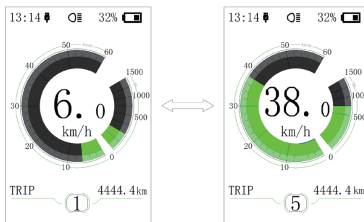
7.6.1 Switching the System ON/OFF

Press and hold  (>2S) on the display to turn on the system. Press and hold  (>2S) again to turn off the system.

If the "automatic shutdown time" is set to 5 minutes (it can be set with the "Auto Off" function, See "Auto Off"), the display will automatically be turned off within the desired time when it is not in operation. If the password function is enabled, you must enter the correct password to use the system.

7.6.2 Selection of Support Levels

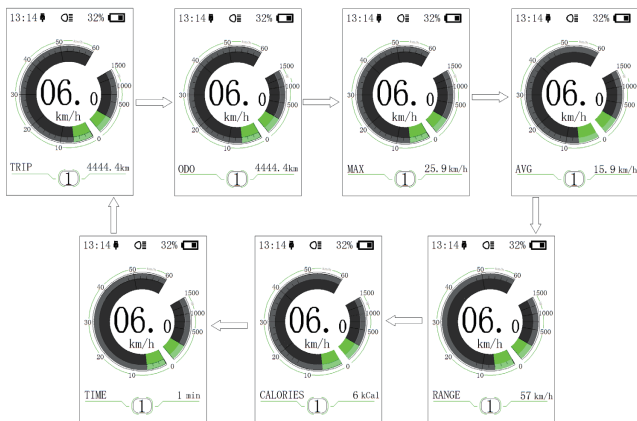
When the display is turned on, press the  or  (<0.5S) button to switch to the support level, the lowest level is 0, the highest level is 5. When the system is switched on, the support level starts in level 1. There is no support at level 0.



7.6.3 Selection Mode

Briefly press the  (0.5s) button to see the different trip modes.

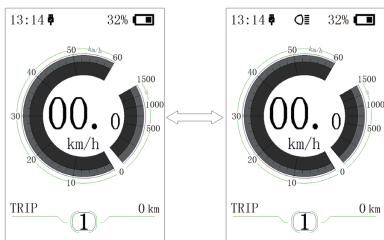
Trip: daily kilometers (TRIP) - total kilometers (ODO) - Maximum speed (MAX) - Average speed (AVG) - Range (RANGE) - Energy consumption (CALORIES(only with torque sensor fitted)) - Travel time (TIME).



7.6.4 Headlights / backlighting

Hold the (>2S) button to activate the headlight and taillights.

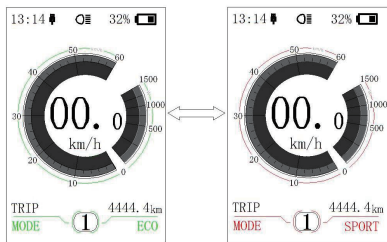
Hold the (>2S) button again to turn off the headlight. The brightness of the backlight can be set in the display settings "**Brightness**". If the display /Pedelec is switched on in a dark environment, the display backlight/headlight will automatically be switched on. If the display backlight/headlight has been manually switched off, the automatic sensor function is deactivated. You can only turn on the light manually. After switching on the system again.



7.6.5 ECO/SPORT Modus







Press and hold the (<2S) Button, to change from ECO mode to Sport mode.

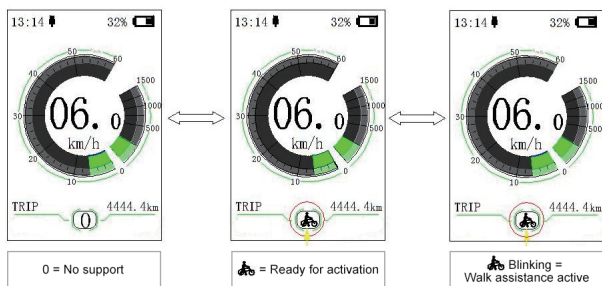
(Depending on the version of the pedelec manufacturer)



7.6.6 Walk Assistance

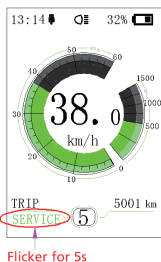
The Walk assistance can only be activated with a standing pedelec.

Activation: Press the  button until this symbol  appears. Next hold down the  button whilst the  symbol is displayed. Now the Walk assistance will activate. The symbol  will flashes and the pedelec moves approx. 6 km/h. After releasing the  button, the motor stops automatically and switches back to level 0.



7.6.7 SERVICE

The display shows "Service" as soon as a certain number of kilometers or battery charges has been reached. With a mileage of more than 5000 km (or 100 charge cycles), the "Service" function is displayed on the display. Every 5000 km the display "SERVICE" is displayed every time. This function can be set in the display settings.

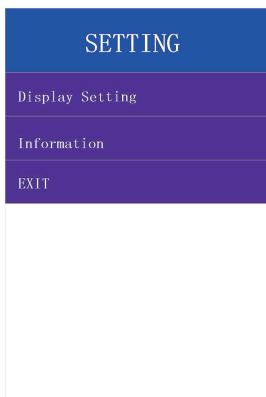


7.7 SETTINGS

After the display is turned on, quickly press the **i** button twice, to access the "SETTINGS" menu. By pressing the **+** or **-** (<0.5S) button, you can select: Display Settings, Information or EXIT. Then press the **i** (<0.5S) button to confirm your selected option.

Or select "EXIT" and press the **i** (<0.5S) button to return to the main menu, or select "BACK" and press the **i** (<0.5S) button to return to the Settings interface.

If no button is pressed within 20 seconds, the display will automatically return to the main screen and no data will be saved.



You can quickly press the **i** (<0.5S) button twice at any time, to return to the main screen.

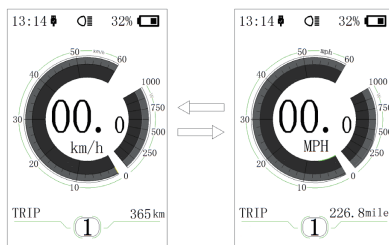
7.7.1 "Display setting"

Press the **+** or **-** (<0.5S) button to select Display Settings, and then briefly press the **i** (<0.5S) button to access the following selections.

Display Setting	
Unit	Metric
Service Tip	OFF
Brightness	100%
Auto Off	5Min
MAX PAS	5
Power View	Power
SOC View	Percent
TRIP Reset	NO
AL Sensitivity	3
Password	>
Set Clock	>
BACK	

7.7.1.1 "Unit" Selections in km/Miles

Press the **+** or **-** (<0.5S) button to highlight "Unit" in the Display settings menu, and then press the **i** (<0.5S) button to select. Then with the **+** or **-** button choose between "Metric" (kilometer) or "Imperial" (Miles). Once you have chosen your desired selection, press the **i** (<0.5S) button to save and exit to the "Display setting" interface.



7.7.1.2 "Service Tip" Switching the notification on and off

Press the **+** or **-** (<0.5S) button to highlight "Service tip" in the Display settings menu, and then press **i** (<0.5S) to select. Then with the **+** or **-** button choose between "ON" or "OFF". Once you have chosen your desired selection, press the **i** (<0.5S) button to save and exit to the "Display setting" interface.

7.7.1.3 "Brightness" Display brightness

Press the **+** or **-** (<0.5S) button to highlight "Brightness" in the Display settings menu. Then press **i** (<0.5S) to select. Then with the **+** or **-** button choose between "100%" / "75%" / "50%" / "30%" / "10%". Once you have chosen your desired selection, press the **i** (<0.5S) button to save and exit to the "Display setting" interface.

7.7.1.4 "Auto Off" Set Automatic system switch off time

Press the **+** or **-** (<0.5S) button to highlight "Auto Off" in the Display settings menu, and then press **i** (<0.5S) to select. Then with the **+** or **-** button choose between "OFF", "9"/"8"/"7"/"6"/"5"/"4"/"3"/"2"/"1", (The numbers are measured in minutes). Once you have chosen your desired selection, press the **i** (<0.5S) button to save and exit to the "Display setting" interface.

7.7.1.5 "MAX PAS" Support level

(Function not available with ECO/SPORT display)

Press the **+** or **-** (<0.5S) button to highlight "Max Pass" in the Display settings

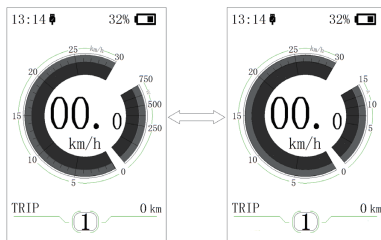
menu, and then press **i** (<0.5S) to select. Then with the **+** or **-** button choose between "3/5/9" (the amount of support levels). Once you have chosen your desired selection, press the **i** (<0.5S) button to save and exit to the "Display setting"

7.7.1.6 "Default Mode" Set for ECO/Sport mode

Press the **+** or **-** (<0.5S) button to highlight "Default Mode" in the Display settings menu. Then press **i** (<0.5S) to select. Then with the **+** or **-** button choose between "ECO" or "Sport". Once you have chosen your desired selection, press the **i** (<0.5S) button to save and exit to the "Display setting" interface.

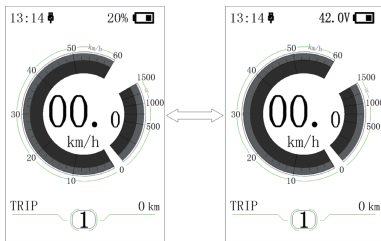
7.7.1.7 "Power View" Setting the power indicator

Press the **+** or **-** (<0.5S) button to highlight "Power View" in the Display settings menu, and then press **i** (<0.5S) to select. Then with the **+** or **-** button choose between "Power" or "Current". Once you have chosen your desired selection, press the **i** (<0.5S) button to save and exit to the "Display setting" interface.



7.7.1.8 "SOC View" Battery view in volt percent

Press the **+** or **-** (<0.5S) button to highlight "SOC View" in the Display settings menu, and then press **i** (<0.5S) to select. Then with the **+** or **-** button choose between "percent" or "voltage". Once you have chosen your desired selection, press the **i** (<0.5S) button to save and exit to the "Display setting"



7.7.1.9 "TRIP Reset" Reset mileage

Press the **+** or **-** (<0.5S) button to highlight "TRIP Reset" in the Display settings menu, and then press **i** (<0.5S) to select. Then with the **+** or **-** button choose between "YES" or "NO". Once you have chosen your desired selection, press the **i** (<0.5S) button to save and exit to the "Display setting"

7.7.1.10 "AL Sensitivity" Automatic headlight sensitivity

Press the **+** or **-** (<0.5S) button to highlight "AL-Sensitivity" in the Display settings menu, and then press **i** (<0.5S) to select. Then with the **+** or **-** button choose between "0" / "1" / "2" / "3" / "4" / "5" / "OFF". Once you have chosen your desired selection, press the **i** (<0.5S) button to save and exit to the "Display setting"

7.7.1.11 "Password"

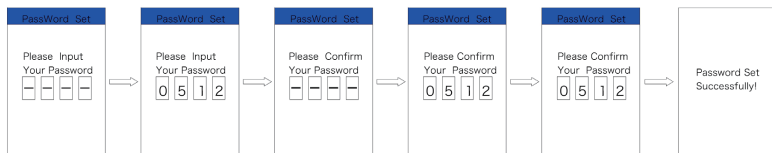
Press the **+** or **-** (<0.5S) button to choose Password in the menu. Then by briefly pressing **i** (<0.5S) to enter the password selection. Now again with the **+** or **-** (<0.5S) buttons highlight "Start Password" and press the **i** (<0.5S) button to confirm. Now again using the **+** or **-** (<0.5S) Button choose between "ON" or "OFF" and press the **i** (<0.5S) button to confirm.

Now you can input your 4-digit pin code. By using the **+** or **-** (<0.5S) button choose numbers between "0-9". By briefly pressing the **i** (<0.5S) button you can move on to the next number.

After entering your desired 4-digit code, you must re-enter the 4-digits you chose, to ensure the code is correct.

After selecting a password, the next time you turn on the system it will ask you to input your password. Press the **+** or **-** (<0.5S) button to select the numbers, Then press briefly **i** (<0.5S) to confirm.

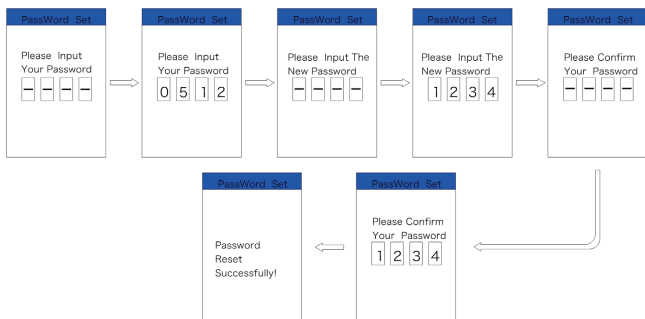
After entering the wrong number three times, the system switches off. If you have forgotten the password, please contact your retailer.



Changing the password:

Press the **+** or **-** (<0.5s) button to choose Password in the menu. Then by briefly pressing **1** (<0.5s) to enter the password section. Now again with the **+** or **-** (<0.5s) button highlight "Password set" and press the **1** (<0.5s) button to confirm. Now with the **+** or **-** (<0.5s) buttons and highlight "Reset Password" and with the **1** (<0.5s) button to confirm.

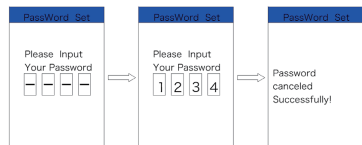
By entering your old password once, followed by inputting the new password twice, then your password will be changed.



Deactivating the password:

To deactivate the password, use the **+** or **-** buttons to get to the menu point "Password" and press the **1** (<0.5s) button to highlight your selection. Press the **+** or **-** (<0.5s) button until it shows "OFF". Then press briefly **1** (<0.5s) to select.

Now enter your password, to deactivate it.



7.7.1.12 "Set Clock"

Press the **+** or **-** (<0.5S) Button to access the "Set Clock" menu. Then briefly press the **i** (<0.5S) button to confirm selection. Now press the **+** or **-** (<0.5S) button and input the correct number (time) and press the **i** (<0.5S) button to move to the next number. After entering the correct time, press the **i** (<0.5S) button to confirm and save.

7.7.2 "Information"

Once the system is turned on, quickly Press the **i** (<0.5S) button twice to access the "SETTINGS" menu. Press **+** or **-** (<0.5S) button to select "Information", and then press the **i** (<0.5S) button to confirm your selection.

Or select the point "EXIT" by confirming with the **i** (<0.5S) button to return to the main menu.

Information	
Wheel Size	27"
Speed Limit	25km/h
Battery Info	>
Ctrl Info	>
Display Info	>
Torque Info	>
Back	

7.7.2.1 Wheel Size and Speed Limit

The "Wheel Size" and "Speed Limit" cannot be changed, this information is here to be viewed only.

7.7.2.2 Battery Information

Press the **+** or **-** (<0.5S) button to access the Battery Info menu, and then press the **i** (<0.5S) button to select confirm. Now press the **+** or **-** (<0.5S) button and select "Back" or "Next Page". Then press the **i** (<0.5S) button to confirm, now you can read the battery information.

Content	Explanation
TEMP	Current temperature in degrees (°C)
TotalVolt	Voltage (V)
Current	Discharge (A)
Res Cap	Remaining Capacity (A/h)
Full Cap	Total Capacity (A/h)
RelChargeState	Default Loader Status (%)
AbsChargeState	Instant charge (%)
Cycle Times	Charging cycles (number)
Max Uncharge Time	Maximum time in which no charge was made (Hr)
Last Uncharge Time	
Total Cell	Number (individual)
Cell Voltage 1	Cell Voltage 1 (mV)
Cell Voltage 2	Cell Voltage 2 (mV)
Cell Voltage n	Cell Voltage n (mV)
HW	Hardware Version
SW	Software Version

NOTE: If no data is detected, "--" is displayed.

7.7.2.3 Controller Information

Press the **+** or **-** (<0.5S) button and select "CTRL Info", and then press the **i** (<0.5S) button to confirm. Now you can read the controller information. To Exit press the **i** (<0.5S) button, once "EXIT" is highlighted to return to the information settings.

Ctrl Info	
HW	*****
SW	*****
Back	

7.7.2.5 Torque Information

Press the **+** or **-** (<0.5S) button and select "Torque info", then press the **i** (<0.5S) button to read the software and hardware data in the display. To Exit press the **i** (<0.5S) button, once "EXIT" is highlighted to return to the information settings.

Torque Info	
HW	*****
SW	*****
Back	

7.7.2.4 Display Information

Press the **+** or **-** (<0.5S) button and select Display Info, then press the **i** (<0.5S) button to read the software and hardware data in the display. To Exit press the **i** (<0.5S) button, once "EXIT" is highlighted to return to the information settings.


Display Info	
HW	*****
SW	*****
Back	

7.7.2.6 Error Code

Press the **+** or **-** (<0.5S) button and select "Error Code", and then press the **i** (<0.5S) button to confirm. It shows error information for the last ten errors of the pedelec. Error code "00" means that there is no error. To return to the menu press the **i** (<0.5S) button, once "BACK" is highlighted to return to the information settings.

7.8 ERROR CODE DEFINITION



The display can show the errors of a pedelec. If an error is detected, the wrench icon  appears on the display and one of the following error codes will be displayed.

Note: Please read the description of the error code carefully. If you see the error code, restart the system first. If the problem is not resolved, please contact your dealer.

Error	Declaration	Troubleshooting
04	The throttle is not back in its correct position.	Check the throttle can adjust back into its correct position, if the situation does not improve, please change to a new throttle.(only with this function)
05	The throttle has fault.	1. Check the connector of throttle whether they are correctly connected. 2. Disconnect the throttle, If the problem still occurs, please contact your retailer. (only with this function)
07	Overvoltage protection	1. Remove the battery. 2. Re-Insert the battery. 3. If the problem persists, please contact your retailer.
08	Error with the hall sensor signal inside the motor	Please contact your retailer.
09	Error with the Engine phase's	Please contact your retailer.
10	The temperature inside the engine has reached its maximum protection value	1. Turn off the system and allow the Pedelec to cool down. 2. If the problem persists, please contact your retailer.
11	The temperature sensor inside the motor has an error	Please contact your retailer.
12	Error with the current sensor in the controller	Please contact your retailer.
13	Error with the temperature sensor inside of the battery	Please contact your retailer.

Error	Declaration	Troubleshooting
14	The protection temperature inside the controller has reached its maximum protection value	<ol style="list-style-type: none"> 1. Turn off the system and let the pedelec cool down. 2. If the problem persists, please contact your retailer.
15	Error with the temperature sensor inside the controller	Please contact your retailer.
21	Speed sensor Error	<ol style="list-style-type: none"> 1. Restart the system 2. Check that the magnet attached to the spoke is aligned with the speed sensor and that the distance is between 10 mm and 20 mm. 3. Check that the speed sensor connector is connected correctly. 4. If the error persists, please contact your retailer.
25	Torque signal Error	<ol style="list-style-type: none"> 1. Check that all connections are connected correctly. 2. If the error persists, please contact your retailer.
26	Speed signal of the torque sensor has an error	<ol style="list-style-type: none"> 1. Check the connector from the speed sensor to make sure it is connected correctly. 2. Check the speed sensor for signs of damage. 3. If the problem persists, please contact your retailer.
27	Overcurrent from controller	Please contact your retailer.
30	Communication problem	<ol style="list-style-type: none"> 1. Check all connections are correctly connected. 2. If the error persists, please contact your retailer.
33	Brake signal has an error (if brake sensors are fitted)	<ol style="list-style-type: none"> 1. Check all connectors. 2. If the error continues to occur, please contact your retailer.

Error	Declaration	Troubleshooting
35	Detection circuit for 15V has an error	Please contact your retailer.
36	Detection circuit on the keypad has an error	Please contact your retailer.
37	WDT circuit is faulty	Please contact your retailer.
41	Total voltage from the battery is too high	Please contact your retailer.
42	Total voltage from the battery is too low	Please contact your retailer.
43	Total power from the battery cells is too high	Please contact your retailer.
44	Voltage of the single cell is too high	Please contact your retailer.
45	Temperature from the battery is too high	Please contact your retailer.
46	The temperature of the battery is too low	Please contact your retailer.
47	SOC of the battery is too high	Please contact your retailer.
48	SOC of the battery is too low	Please contact your retailer.
61	Switching detection defect	Please contact your retailer. (only with this function)
62	Electronic derailleur cannot release.	Please contact your retailer. (only with this function)
71	Electronic lock is jammed	Please contact your retailer. (only with this function)
81	Bluetooth module has an error	Please contact your retailer. (only with this function)