



Brose E-Bike System

Original operating instructions

Addresses, identification and notes

Masthead

BMZ Batterien-Montage-Zentrum GmbH
Am Sportplatz 30
63791 Karlstein
Germany

Tel.: 06188 9956-0
Fax: 06188 9956-900
E-Mail: kontakt@bmz-gmbh.de

Product identification

Brose E-Bike System comprising:

- Motor (#23084),
- New-Style Display (#27937) or Sportive Display (#27938),
- Rechargeable battery (#29600 or #30900)

Country of origin: Germany
Code: CE

Customer service

BMZ Service Center
Am Sportplatz 15-17
63791 Karlstein am Main

Telephone number for E-Bike dealers: 06188 9956 9833
Telephone number for technical questions about the drive system: 06188 9956 680
Fax number: 06188 9956 699

E-Mail: service@bmz-gmbh.de

Document identification

Original operating instructions Brose E-Bike system
Article number: #31329
Version: 1.0 (14.07.2016)
Subject to change.

Copyright

All contents of these instructions are protected by copyright.
© by BMZ GmbH, Karlstein, 2016.

Contents

1	Motor	5
1.1	Safety guidelines	5
1.2	Intended use	5
1.3	Explanation of the figure	6
1.4	Operation	6
1.5	Cycling and advice	6
1.6	Maintenance and cleaning	7
1.7	Inspection	7
1.8	Transport	7
1.9	Waste Disposal	7
1.10	Technical data	8
2	Display	9
2.1	Safety guidelines	9
2.2	Intended use	9
2.3	Explanation of the figures	9
2.4	Description	9
2.4.1	Variants	9
2.4.2	Explanation of symbol	9
2.4.3	Charging status display	10
2.4.4	Support levels display	10
2.4.5	Multifunctional display	11
2.4.6	Control elements	11
2.4.7	USB slot	11
2.5	Assembly	11
2.5.1	Mount the New-Style display	11
2.5.2	Remove New-Style display	12
2.5.3	Mount the Sportive Display	12
2.6	Commissioning	12
2.7	Operation	13
2.7.1	Switching on the E-Bike system	13
2.7.2	Switching off the E-Bike system	13
2.7.3	Change support level	13
2.7.4	Activate pushing aid	13
2.7.5	Switch the lights on and off	13
2.7.6	Switchover the multifunctional display	14
2.7.7	Change the settings on the New-Style Display	14
2.7.8	Change the settings on the Sportive Display	14
2.7.9	Charge external devices via USB.	14
2.8	Maintenance and cleaning	14

2.9	Waste Disposal	15
2.10	Technical data	15
3	Rechargeable battery	16
3.1	Safety guidelines	16
3.2	Intended use	17
3.3	Explanation of the figures	17
3.4	Assembly	18
3.4.1	Insertion and removal of the rechargeable battery	18
3.4.2	Locking and unlocking the rechargeable battery latch	18
3.5	Commissioning	19
3.5.1	Check the rechargeable battery before using it for the first time	19
3.5.2	Charging the rechargeable battery	19
3.5.3	Charging status display	20
3.6	Operation	22
3.6.1	Switch rechargeable battery on and off	22
3.6.2	Operating modes of the rechargeable battery	22
3.7	Maintenance, cleaning and storage	22
3.8	Transport	23
3.9	Waste Disposal	23
3.10	Technical data	23
4	Charger	24
4.1	Safety guidelines	24
4.2	Intended use	25
4.3	Explanation of the figures	25
4.4	Commissioning	25
4.4.1	Connect the charger to the mains supply.	25
4.5	Operation	25
4.5.1	Charging the rechargeable battery	25
4.5.2	Charging process	26
4.5.3	LED status displays	26
4.6	Maintenance and cleaning	27
4.7	Waste Disposal	27
4.8	Technical data	27
5	Other lists/indices	28
5.1	List of figures	28
5.2	List of tables	28

1 Motor

1.1 Safety guidelines

WARNING

There is a risk of danger, if the safety instructions are not observed.

Non-observance of safety information and instructions can lead to an electrical shock, fire and/or serious injuries.

- ▶ Please observe all safety information and instructions both in these and in all other instructions included with the E-Bike.

- CAUTION: Risk of burns from touching the motor casing.
- CAUTION: Risk of injury if the E-Bike system is activated unintentionally. Please remove the rechargeable battery before working on the E-Bike (e.g. assembly, maintenance, working on the chain etc.), or transporting or storing it.
- CAUTION: Risk of injury when using the pushing aid without the wheels touching the floor. Only use the pushing aid when pushing the E-Bike.
- CAUTION: Please do not make any changes to your E-Bike. Never try to increase the performance capability of the E-bike system; otherwise, you could reduce the service life of the parts and risk damage to the E-Bike system and to the E-Bike. Also, any manipulation of the E-Bike system will invalidate the guarantee and warranty. Incorrect handling of the system also poses a risk to your safety and others on the road. If any unauthorised changes are made to the E-Bike system, there is a risk of high personal liability costs or even criminal proceedings, if the accident is a result of the manipulation.
- Observe all national regulations relating to the approval and use of E-Bikes.
- Never open the motor. This is maintenance-free and may only be repaired by qualified specialists and only using original spare parts. This retains the motor safety. If the motor is opened without authorisation, the warranty becomes invalid.
- All components of the E-Bike system and parts that are mounted to the motor (e.g. chain wheel, chain wheel bracket, pedals) may only be replaced with parts approved by the cycle manufacturer. This protects the motor from damage (e.g. from overloading).
- Read and observe the safety instructions and information in the operating instructions of the rechargeable battery and in the E-Bike operating instructions.
- Please keep these instructions for future reference.

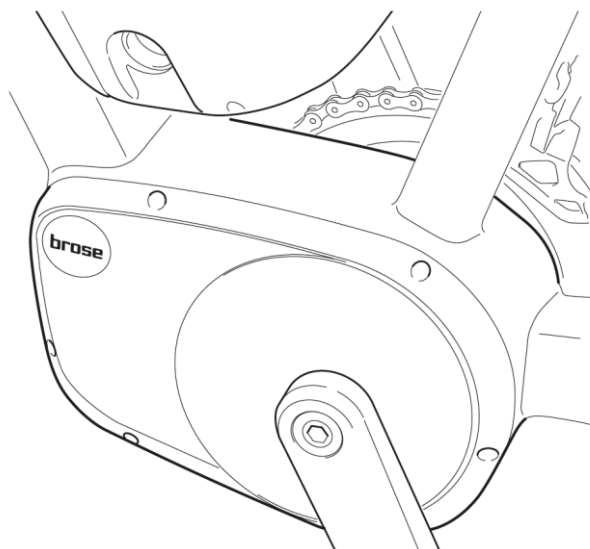
1.2 Intended use

The motor is only designed to drive your e-Bike and may not be used for other purposes.

1.3 Explanation of the figure

The illustrations are outlines only and details may vary on your E-Bike.

Figure 1
Motor with design
cover and mounted
cranks



1.4 Operation

For more information about using the E-Bike, please refer to chapter 2.7.

NOTE:

The E-Bike system is only functional when the display is mounted.

1.5 Cycling and advice

When does the E-Bike drive work?

The Brose E-Bike system provides electromotor support to the cyclist in a Pedal Electric Cycle (Pedelec). The support provided depends on the force applied by the cyclist onto the pedals. The E-Bike drive only provides support, if the cyclist is pedaling. This is independent of the support level.

Shut-off at over 25 km/h

The E-Bike drive switches off automatically at speeds in excess of 25 km/h. If the speed drops below 25 km/h, the support starts again automatically.

Pushing aid

Once exception is the pushing aid function that allows the E-bike to be pushed easily without turning the pedals at a speed of up to 6 km/h. The pedals may also turn when the pushing aid is activated.

Cycling without support

You can ride the E-Bike like a normal bike at any time by either switching off the E-Bike system or setting the support level to **Off** (see 2.7.2). The same applies when the rechargeable battery is empty.

Familiarisation

Take some time to familiarise your E-Bike system before you use it in normal road traffic. Test the various support levels until you feel safe handling this product. Before going on longer trips, familiarise yourself with how different parameters and ambient conditions impact on the range of your E-Bike.

Motor setups

The E-Bike system supports several motor setups. These are set individually for each bike model in cooperation with the bike manufacturers. You can obtain detailed information about your E-Bike's motor setup from your cycle manufacturer and your bicycle dealer.

Influences on the range

The range is affected by many factors such as:

- Support level: the higher the support level, the lower the range.
- Switching behaviour
- Type of tyres
- Tyre pressure
- Age, care and charging status of the rechargeable battery
- The route profile (gradients) and quality (surface)
- Weather conditions (e.g. oncoming wind, ambient temperature etc.)
- Weight of the E-Bike
- Load

Careful handling

Please observe the operating and storage temperature of the E-Bike components. Protect the motor, display and rechargeable battery from extreme temperatures (e.g. intensive sunshine without ventilating at the same time). The components (especially the rechargeable battery) can be damaged by extreme temperatures.

1.6 Maintenance and cleaning

Keep all components of the E-Bike clean, especially the contacts of the rechargeable battery and its bracket. Clean this carefully with a dry and soft cloth.

None of the components, including the motor, may be dipped into water or cleaned with a high-pressure device. Please contact an authorised dealer for servicing or repairs to the E-Bike.

1.7 Inspection

On reaching a mileage of 15,000 km, the drive belt needs to be replaced by a service centre authorised by Brose.

You can obtain information about your responsible service centre from your bicycle dealer.

1.8 Transport

When transporting a complete E-Bike, please note the transport information pertaining to the rechargeable batteries (see 3.8).

1.9 Waste Disposal

Motor, display, rechargeable battery, speed sensor, accessories and packaging should be disposed of in an environmentally-compatible manner. Do not dispose of your E-Bike and its components in the household waste system.

Only for EU countries



In compliance with the European Directive 2012/19/EU electrical devices that are no longer serviceable, and in compliance with the European Directive 2006/66/EG faulty or spent rechargeable batteries/batteries, must be collected separately and disposed of in an environmentally-friendly manner.

Please hand in all spent rechargeable batteries and non-functional displays to an authorised bicycle dealer.

1.10 Technical data

Table 1
Technical data motor

Motor	
Art. No.	#23084
Dimensions (mm)	213 x 150 x 128
Weight	3,400 g
Rated voltage	36 V DC
Type of protection:	IP56
Max. torque	90 N m
Continuous rated power	250 W
Support up to	25 km/h
Working temperature range	-10 ... 50 °C

2 Display

2.1 Safety guidelines

WARNING

There is a risk of danger, if the safety instructions are not observed.

Non-observance of safety information and instructions can lead to an electrical shock, fire and/or serious injuries.

- ▶ Please observe all safety information and instructions both in these and in all other instructions included with the E-Bike.

- CAUTION: Risk of injury if the E-Bike system is activated unintentionally. Please remove the rechargeable battery before working on the E-Bike (e.g. assembly, maintenance, working on the chain etc.), or transporting or storing it.
- CAUTION: Risk of injury when using the pushing aid without the wheels touching the floor. Only use the pushing aid when pushing the E-Bike.
- Please keep these instructions for future reference.

2.2 Intended use

The display and control unit is only intended for use with the Brose E-Bike system. It serves to display driving and status-relevant information and to control the motor.

2.3 Explanation of the figures

All illustrations are outlines only and details may vary on your E-Bike.

2.4 Description

2.4.1 Variants

Sportive Display

The compact Sportive Display is a display and control unit in one. It can be installed unobtrusively near the handle and is less susceptible to damage in case of a fall.

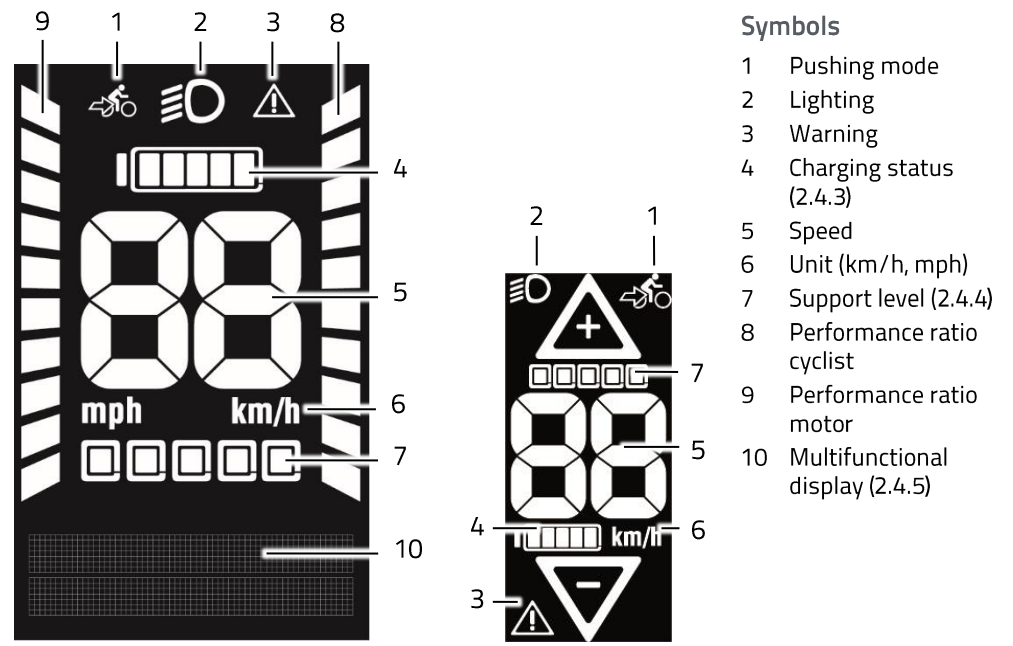
New-Style Display

The large New-Style display is easy to read and has additional functions. The system is controlled easily via the control unit near the handle.

2.4.2 Explanation of symbol

The various displays have a similar design. The New-Style display also has a multifunctional display and a display that shows the ratios of the performance by the rider and that of the motor.

Figure 2
Display symbols new style (left) and: Sportive (right)











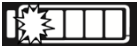



2.4.3 Charging status display

The charging status of the rechargeable battery (4) is shown in five segments on the display. One segment corresponds to about 20% of the rechargeable battery capacity (see 3.5.3).

Emergency mode





If the charging status is < 20 %, the charging status display will begin to flash. If the charging status is < 5 %, the charging status display will disappear. In this state the motor support is switched off to ensure that the lights can be used for a further two hours.

Table 2
Charging status display
* = flashes

during charging	during driving
 0-19 %	 100-80 %
 20-39 %	 79-60 %
 40-59 %	 59-40 %
 60-79 %	 39-20 %
 80-99 %	 19-5 %
 100 %	 < 5-0 % Emergency mode, motor off

2.4.4 Support levels display

Table 3
Support level display

Display	Support level
	off
	1 (minimum)
	2
	3 (maximum)

2.4.5 Multifunctional display

Table 4
Multifunctional display

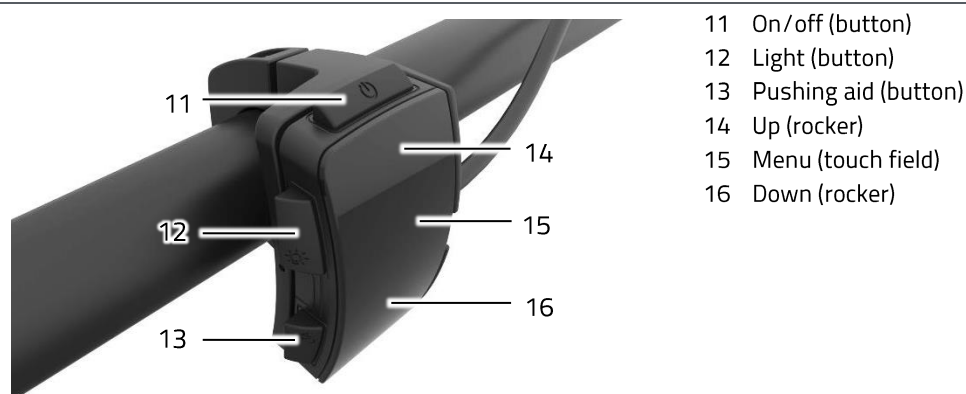
Key functions. In order to...	Unit
Time (Time of Day)	hh:mm (24 h or 12 h am/pm)
Tour dist. (Trip Distance)	km mi
Tour kcal (Trip Calories)	kcal
Tour time (Trip Time)	hh:mm
Ø Speed (Avg. Speed)	km mi
Max speed (Max-Speed)	km/h mi/h
Tot. dist. (Total Distance)	km mi
Tota. time (Total Time)	hh:mm

NOTE:

Individual functions can be deactivated depending on the E-Bike model. You can obtain detailed information from your cycle manufacturer and your bicycle dealer.

2.4.6 Control elements

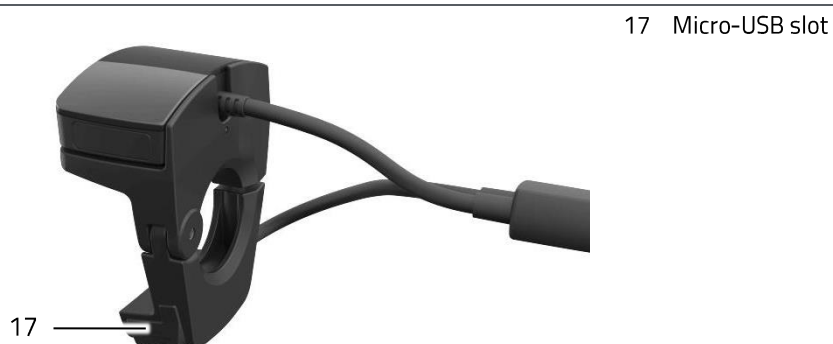
Figure 3
Control elements



2.4.7 USB slot

This display has a micro USB slot (17) on the lower side. You can charge other devices, e.g. mobile phone, using a suitable USB cable.

Figure 4
Rear side of Sportive Display



NOTE:

The charging current is 0.5 amps. Observe the allowed charging currents of your devices.

2.5 Assembly

2.5.1 Mount the New-Style display

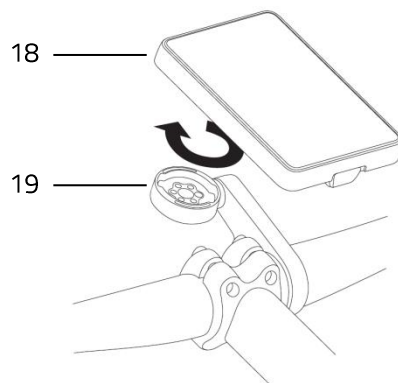
Requirement

- ✓ Motor and battery are mounted.

Tools

- Allen SW 2.5
- Allen SW 3
- Intermediate cable

Figure 5
Mount the New-Style display



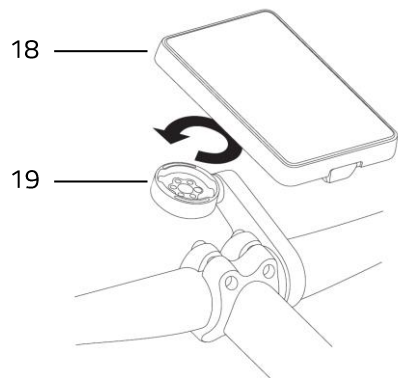
- 18 New-Style Display
- 19 Display bracket

Instructions

1. Mount the control unit within reach on the handlebars. (SW 2.5)
2. Mount the display bracket in the centre of the handlebar (SW 3).
3. Place the New-Style display into the bracket at an angle of 45° to the left and then twist until straight.
4. Connect the display to the motor via an intermediate cable.

2.5.2 Remove New-Style display

Figure 6
Remove the New-Style display



- 18 New-Style Display
- 19 Display bracket

1. Disconnect the display from the intermediate cable.
2. Turn the New-Style display by 45° to the right and remove by lifting upwards.

2.5.3 Mount the Sportive Display

Requirement

- ✓ Motor and battery are mounted.

Tools

- Allen screwdriver SW 2.5

Instructions

1. Mount the Sportive Display close to the left handle. (SW 2.5)
2. Connect the connector to the motor.

2.6 Commissioning

You do not need to take any further steps to commission the display after mounting it. The display is operational as soon as it has been fitted into the bracket.

NOTE:

It is only fully functional if the speed sensor and the cables have been mounted correctly and the rechargeable battery is adequately charged.

2.7 Operation

2.7.1 Switching on the E-Bike system

- ▶ Press the LED button on the rechargeable battery.
 - ⇒ *The display unit activates automatically.*
 - ⇒ *The E-Bike system is now operational.*

2.7.2 Switching off the E-Bike system

Standby mode

If the bike is not moved, the display unit and motor switch to standby mode. However, this can also be activated manually.

If you only want to park your E-Bike briefly, you can switch to the **standby mode** as follows:

- ▶ Press the **On/Off** button briefly
 - ⇒ *The display is switched off.*
 - ⇒ *The rechargeable battery remains in the **Active Mode** for two hours (see 3.6.2).*

As soon as you move the E-Bike again, the display and motor are reactivated and the E-Bike system is available again. After two hours in the **Active Mode** the rechargeable battery switches to the **Deep Sleep mode** (see 3.6.2).

Complete deactivation

There are two ways of completely deactivating the E-Bike system:

- ▶ Press the **On/Off** button longer (> 3 s).

OR

- ▶ Press the **LED** button on the rechargeable battery longer (> 3 s).
 - ⇒ *The display unit, motor and rechargeable battery will be switched off completely.*

NOTE:

After completely switching off the system, it needs to be started again via the LED button on the rechargeable battery to reactivate it (see 3.6.1).

Scott E-Bikes

Scott E-Bikes can only be switched off via the rechargeable battery.

2.7.3 Change support level

- ▶ Press rocker **Up** to increase the support level.
- ▶ Press rocker **Down** to decrease the support level.

2.7.4 Activate pushing aid

- ▶ Keep the **pushing aid** button pressed (min. 3 s).
- ▶ To finish, release button.

2.7.5 Switch the lights on and off

- ▶ Press the **Light** button briefly.

2.7.6 Switchover the multifunctional display

Instructions

- ▶ Touch the touch field **Menu**

2.7.7 Change the settings on the New-Style Display

Overview

You can make the following settings:

Table 5
Settings New-Style
Display

Range	Value
Reset trip	Reset all values for driving time, calorie consumption, average speed to 0
Reset all	Reset all values including total trip distance and time to 0
Date	DD/MM/YY
Time format	24/12
Time	hh/mm
Language	German/English
Metric/Anglo-American	km/mi

Instructions

1. Press the **Light** button for three seconds.
2. Press the **Menu** touch field as often as required until the required menu is displayed.
3. Set the values with the rocker **Up** and **Down**.
4. Touch the touch field **Menu** to confirm.

NOTE:

The settings menu can be quitted by pressing the **Menu** touch field in the last area. The settings menu can be quit immediately by pressing the **Light** button.

2.7.8 Change the settings on the Sportive Display

Overview

The Sportive Display can show miles or kilometres.

Instructions

1. Press the **Light** button for three seconds.
2. Set the unit with the rocker **Up** and **Down**.
3. Press the **Light** button for three seconds to confirm.

2.7.9 Charge external devices via USB.

- ▶ Place the display unit into the bracket.
- ▶ Open the flap on the USB interface.
- ▶ Use a suitable USB cable to connect the USB interface with the respective end device.

⇒ "CHArG" is shown briefly in the display.

2.8 Maintenance and cleaning

Keep all components of the E-Bike clean, especially the contacts of the rechargeable battery and its bracket. Clean them carefully with a dry and soft cloth.

None of the components, including the motor, may be dipped into water or cleaned with a high-pressure device.

Please contact an authorised dealer for servicing or repairs to the E-Bike.

2.9 Waste Disposal

Motor, display, rechargeable battery, speed sensor, accessories and packaging should be disposed of in an environmentally-compatible manner. Do not dispose of your E-Bike and its components in the household waste system.

Only for EU countries



In compliance with the European Directive 2012/19/EU electrical devices that are no longer serviceable, and in compliance with the European Directive 2006/66/EG faulty or spent rechargeable batteries/batteries, must be collected separately and disposed of in an environmentally-friendly manner.

Please hand in all spent rechargeable batteries and non-functional displays to an authorised bicycle dealer.

2.10 Technical data

Table 6
Technical data display

New-Style display (#27937)	
Dimensions (mm)	Display: 44 x 62.5 x 8 Control unit: 18 x 46 x 19.75 Display range: 38 x 50
Weight	Display unit: 67 g
Rated voltage	36 V DC
Type of protection:	IP65
Working temperature range	-10 ... 60 °C
Storage temperature range	-20 ... 85 °C
USB charging voltage	5 V DC
USB charging current max.	500 mA

Table 7
Technical data lighting

Lighting	
Rated voltage	6 V
Rated current max.*	500 mA
Rated output*	Front light: 2.6 W Rear light: 0.6 W

The rated current and the rated output of the lighting may vary depending on the rechargeable battery that is used. You can obtain detailed information from your cycle manufacturer and your bicycle dealer.

3 Rechargeable battery

3.1 Safety guidelines

WARNING

There is a risk of danger, if the safety instructions are not observed.

Non-observance of safety information and instructions can lead to an electrical shock, fire and/or serious injuries.

Injuries or damage is also possible as a result of dangerous reactions of chemical substances that leak from the rechargeable battery resulting from non-observance of the safety instructions.

- Please observe all safety information and instructions both in these and in all other instructions included with the E-Bike.

- CAUTION: Risk of injury if the E-Bike system is activated unintentionally. Before working on the E-Bike (e.g. assembly, maintenance, working on the chain etc.), or transporting or storing it, please remove the rechargeable battery from the E-Bike.
- CAUTION: Risk of injury when using the pushing aid without the wheels touching the floor. Only use the pushing aid when pushing the E-Bike.
- Risk of short circuits! Do not open, dismantle or chop up the rechargeable battery. Opening the rechargeable battery will invalidate the warranty.
- Risk of explosion! Protect the rechargeable battery from heat (e.g. also from permanent exposure to sunlight), fire and submersion into water.
- Risk of burns and fire caused by short circuits! Keep small metal objects (e.g. paper clips, nails, screws, keys etc.) away from the rechargeable battery. These could bridge the contacts. All warranty claims toward Brose will become invalid in case of short circuit damage resulting from this.
- Risk of skin irritation or burns from leaking fluids: if used incorrectly, fluid can leak from the rechargeable battery. Avoid contact with this. In case of accidental contact, rinse the affected areas with water. If the fluid comes into contact with mucous membranes (e.g. eyes), please seek medical attention immediately.
- Do not expose the rechargeable battery to mechanical impacts. There is a risk of damage to the rechargeable battery.
- The risk of short circuits and fire or an electrical shock is higher, if a damaged rechargeable battery is used. Never continue to use a faulty or damaged rechargeable battery.
- Vapours may irritate the respiratory organs. Vapours may be created if the rechargeable battery is damaged or used incorrectly. Let in fresh air and seek medical advice if symptoms persist.
- Risk of fire due to use of other chargers. Only charge the rechargeable battery with the charger supplied with the E-Bike system.

- Only use the rechargeable battery in conjunction with E-Bikes with the original Brose E-Bike system. This is the only way to protect the rechargeable battery from dangerous overloading.
- Risk of injury or risk if other rechargeable batteries are used: only use rechargeable batteries approved by the bike manufacturer for your E-Bike. The warranty and liability will become invalid if other rechargeable batteries are used.
- Keep the rechargeable battery away from children.
- Always keep the rechargeable battery dry and clean.
- Always keep the contacts of the rechargeable battery clean. If they are soiled, clean them with a dry cloth.
- Avoid unnecessary charging. Do not charge the rechargeable battery for a longer period, if you are not going to use it.
- Please keep these instructions for future reference.
- Never leave the rechargeable battery and charger unattended during charging.

3.2 Intended use

The rechargeable battery is designed and intended for use in a Brose E-Bike system.

3.3 Explanation of the figures

All illustrations are outlines only and serve as examples. The details may vary from your own E-Bike because the Brose E-Bike system can be combined with a number of different rechargeable battery variants. You can obtain detailed information about the rechargeable battery used in your E-Bike from your cycle manufacturer and your bicycle dealer.

3.4 Assembly

3.4.1 Insertion and removal of the rechargeable battery

Figure 7
Insertion of the
rechargeable battery



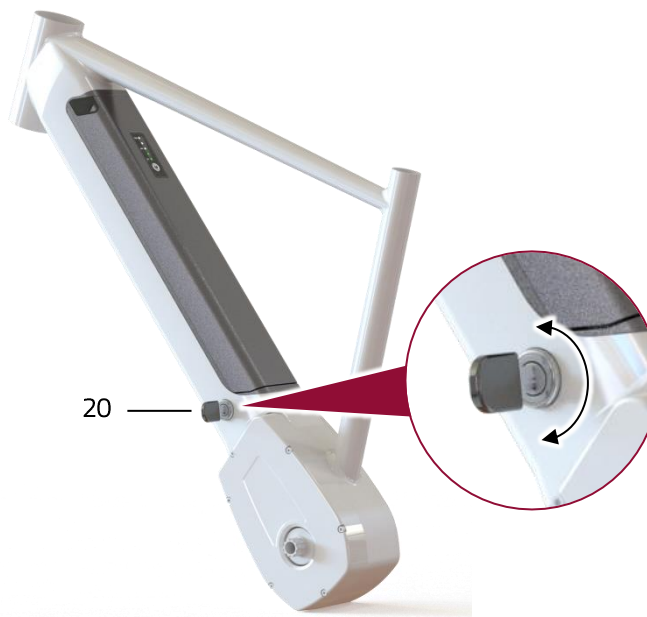
The Brose E-Bike system can be combined with a number of different rechargeable battery variants. The assembly and removal of the rechargeable battery depends on the rechargeable battery model used. You can obtain detailed information about this from your cycle manufacturer and your bicycle dealer.

NOTE:

Always switch the rechargeable battery off before placing it into or removing it from the bracket.

3.4.2 Locking and unlocking the rechargeable battery latch

Figure 8
Rechargeable battery
latch



20 Rechargeable battery
latch

The various assembly variants of the rechargeable battery require various rechargeable battery latch designs. You can obtain detailed information about locking

and unlocking the rechargeable battery from your cycle manufacturer and your bicycle dealer.

3.5 Commissioning

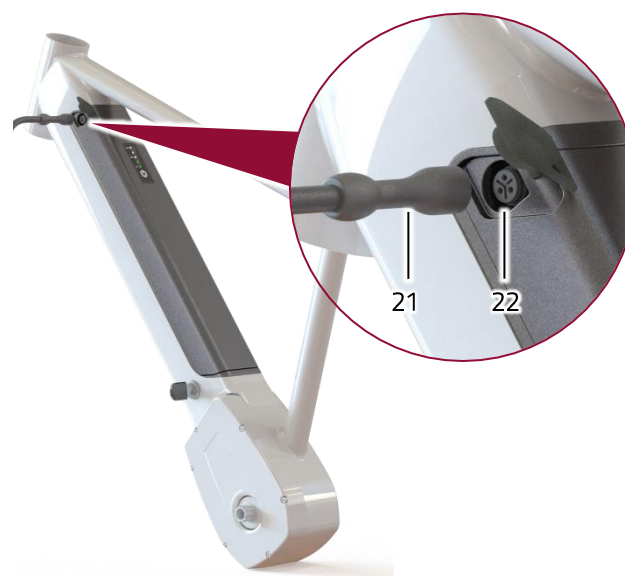
3.5.1 Check the rechargeable battery before using it for the first time

The rechargeable battery is partially charged when delivered. Therefore, test the rechargeable battery before you charge it for the first time or use it with your E-Bike.

- ▶ Activate the rechargeable battery by pressing the LED button.
 - ⇒ The charging status display should now switch from 'empty' to 'full' and then the current display status is shown for approx. 4 seconds.
 - ⇒ If no LED on the charging status display shines or if the rechargeable battery cannot be activated, it may be possible that the cell voltage is too low and the rechargeable battery needs to be charged.
 - ⇒ If at least one but not all LEDs of the charging status display shine, the rechargeable battery should be fully charged before it is used for the first time.

3.5.2 Charging the rechargeable battery

Figure 9
Charging the rechargeable battery (example)



- 21 Charging connector
- 22 Charging connection

Only use the charger supplied with your E-Bike. Only this charger matches your rechargeable battery.

NOTE:

The rechargeable battery is partially charged when delivered (approx. 30-50 %). To guarantee the full performance of the rechargeable battery, charge it completely with the charger before it is used for the first time (see also, chapter 4).

The rechargeable battery can be charged separately or on the E-Bike without reducing the service life.

- ▶ Connect the charger to the mains supply.

⇒ The LED status display of the charger should now be active (see 4.5.3).

Rechargeable battery not on the E-Bike

- ▶ Connect the charger connector to the charging socket of the rechargeable battery.

⇒ Charging begins.

NOTE:

Some rechargeable batteries may have two charging connections. It does not matter which of the two connections is used for the charging process.

Rechargeable battery on the E-Bike

- ▶ Connect the charger connector to the free charging socket of the rechargeable battery.

⇒ Charging begins.

NOTE:

Interrupting the charging process does not damage the rechargeable battery.

NOTE:

If the rechargeable battery cannot be charged, the cell voltage has undercut the critical value of 2V per cell and the rechargeable battery is faulty.

NOTE:

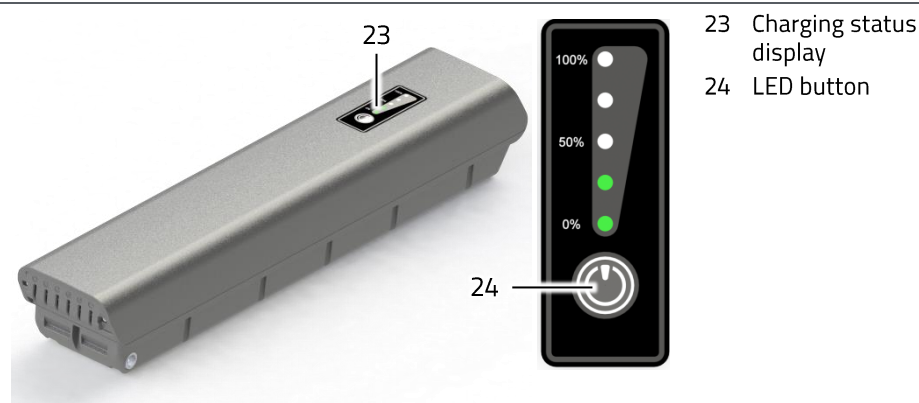
Do not charge a damaged rechargeable battery and do not use it. Please contact an authorised dealer.

NOTE:

The rechargeable battery reaches its maximum service life, if it is charged in ambient temperatures between 10 and 30°C.

3.5.3 Charging status display

Figure 10
Charging status display



When cycling and when the rechargeable battery is disconnected

The five LEDs on the charging status display (23) show the charging status of the rechargeable battery after pressing the LED button (24). Each LED equates to about 20% capacity. All five LEDs will light up when the rechargeable battery is fully charged. The charging status of the activated rechargeable battery is also shown on the display of the display unit (see 2.4.3). If the capacity of the rechargeable battery lies below 10 %, the first LED on the charging status display flashes.

During charging

The rechargeable battery can be charged with and without the display unit. Without a display unit, the charger can only be monitored on the charging status display. The display unit can be removed during the charging process or can even be positioned after the start of the charging process. The charging status is shown with the charging status display on the rechargeable battery and via the bar on the display (4, Figure 2, page 9). During the charging process, the LEDs of the charging status display on the rechargeable battery shine. Each LED that shines permanently

corresponds to about 20% of the capacity. The flashing LED shows the charging of the next 20 %.

During the charging process, the charging status display is presented as follows:

Table 8
Charging status display
on the rechargeable
battery

LEDs	Charging status
★○○○○	0-19 %
●★○○○	20-39 %
●●★○○	40-59 %
●●●★○	60-79 %
●●●●★	80-99 %
●●●●●	100 %

3.6 Operation

3.6.1 Switch rechargeable battery on and off

Switching on

One way of switching on the E-Bike system is to switch on the rechargeable battery.

- ▶ Press the LED button on the rechargeable battery (see Figure 8, page 18).
- ⇒ The LEDs of the charging status display shine briefly and then show the current display status for approx. 4 seconds.

NOTE:

If the capacity of the rechargeable battery lies below 10 %, only the first LED on the charging status display flashes (21).

Switching off

- ▶ To switch off the rechargeable battery, press the LED button for > 3 seconds (see Figure 8, page 18).
- ⇒ The LEDs of the charging status display (23) go off.
- ⇒ The E-Bike system is also switched off at the same time.

3.6.2 Operating modes of the rechargeable battery

Active Mode

Once it is switched on, the rechargeable battery is in **Active Mode**. If no further action is taken (operation or moving the E-Bike), it remains in **Active Mode** for two hours.

The **Active Mode** is activated by pressing the LED button (24), by charging the rechargeable battery or placing the rechargeable battery into the E-Bike.

Deep Sleep Mode

To minimise the system's internal consumption, the rechargeable battery automatically switches to the **Deep Sleep Mode** after 2 hours in **Active Mode**, if there is no activity and if the display unit is switched off. The **Deep Sleep Mode** is also activated if the LED button (24) or the On/off button of the display unit is pressed for at least three seconds or if the rechargeable battery is not in the E-Bike for more than 30 seconds.

3.7 Maintenance, cleaning and storage

Cleaning

Keep the rechargeable battery clean. Clean it carefully with a dry and soft cloth. The rechargeable battery may not be dipped into water or cleaned with a water jet. If the rechargeable battery no longer functions, please contact an authorised dealer. Only place the rechargeable battery on a clean surface. In particular, avoid soiling on the charging connections and the contacts.

Service life

The service life of the rechargeable battery can be extended if it is maintained and, in particular, stored in the right conditions.

- Temperature: 18-23°C

- Air humidity: 0-80 %
- Charging status: approx. 50 %

As the rechargeable battery gets older, its capacity will decrease, even if it is well kept. If the operating time is much shorter after charging, this indicates that the rechargeable battery is spent. It should be replaced.

Storage

After about three months in storage, check the charging status of the rechargeable battery and charge it up to about 50 % if necessary.

3.8 Transport

The rechargeable battery may only be sent in hazardous good packaging bearing the relevant warning information.

Please contact an authorised dealer, if you have any questions about transportation. You can also obtain suitable transport packaging from your dealer.

3.9 Waste Disposal

Motor, display, rechargeable battery, speed sensor, accessories and packaging should be disposed of in an environmentally-compatible manner. Do not dispose of your E-Bike and its components in the household waste system.

Only for EU countries



In compliance with the European Directive 2012/19/EU electrical devices that are no longer serviceable, and in compliance with the European Directive 2006/66/EG faulty or spent rechargeable batteries/batteries, must be collected separately and disposed of in an environmentally-friendly manner.

Please hand in all spent rechargeable batteries and non-functional displays to an authorised bicycle dealer.

3.10 Technical data

Please see the data sheet provided by the cycle manufacturer for details about the technical data of the rechargeable battery used in your E-Bike.

4 Charger

4.1 Safety guidelines

WARNING

There is a risk of danger, if the safety instructions are not observed.

Non-observance of safety information and instructions can lead to an electrical shock, fire and/or serious injuries.

- ▶ Please observe all safety information and instructions both in these and in all other instructions included with the E-Bike.

- Risk of an electrical shock if penetrated by water: the charger should never be exposed to excessive moisture (e.g. rain, snow etc.).
- Risk of fire and explosion if the wrong batteries are charged. Only use the charger supplied for the rechargeable battery in your Brose E-Bike system. The rechargeable battery voltage and charging voltage of the charger must match.
- Risk of electrical shock caused by dirt: always keep the charger clean.
- There is a higher risk of an electrical shock from damaged chargers, cables and connectors: always check the charger, cable and connector before use. If you establish any damage, do not use the charger under any circumstances. Do not open the charger and only allow it to be repaired by qualified specialists and only using original spare parts.
- Risk of fire if charger overheats during charging: do not place the charger on a flammable surface (e.g. paper, textiles etc.) or operate it in a flammable environment.
- Risk of misuse and injuries: Children and persons that, because of their physical, sensory or intellectual capabilities, or because of their lack of experience or knowledge, are incapable of using the charger safely, must not use this equipment without the supervision or guidance of a responsible person.
- Never leave the rechargeable battery and charger unattended during charging.
- Please keep these instructions for future reference.

There is a brief version of the most important safety instructions in English, French and Spanish on the underside of the charger with the following content:

- Observe the operating instructions to ensure safe use. Risk of an electrical shock.
- Only use in dry environments.
- Only charge rechargeable batteries of the Brose E-Bike system. Other rechargeable batteries could explode and cause damage.
- Do not replace the mains cable. There is a risk of fire and explosion.

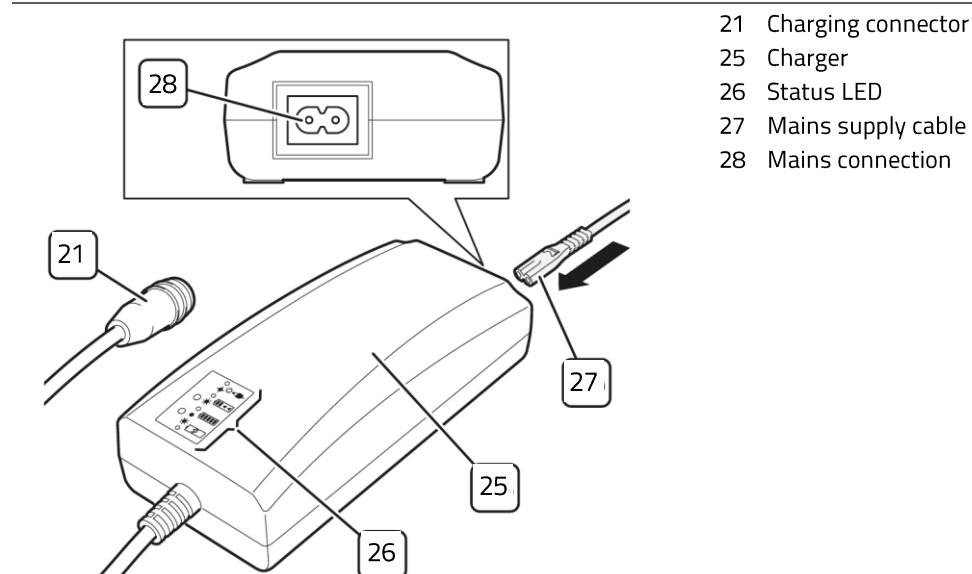
4.2 Intended use

The charger may only be used to charge the rechargeable batteries supplied with the E-Bike.

4.3 Explanation of the figures

All illustrations are outlines only and serve as examples. The details may vary from your own E-Bike because the Brose E-Bike system can be combined with a number of different chargers. You can obtain detailed information about the charger supplied with your E-Bike from your cycle manufacturer and your bicycle dealer.

Figure 11
Charger



4.4 Commissioning

4.4.1 Connect the charger to the mains supply.

NOTE:

Check mains voltage! The voltage of the power source must correspond to the details on the type plate of the charger.

1. Connect the mains connection cable to the charger.
2. Insert the mains supply cable into the socket.
 - ⇒ The LED status display of the charger should now be active.
 - ⇒ The charger is now operational.

4.5 Operation

4.5.1 Charging the rechargeable battery

Only charge the rechargeable battery in compliance with all safety instructions.

**Removed
rechargeable battery**

For removed rechargeable battery:

1. Switch off rechargeable battery (see 3.6.1).
2. Remove rechargeable battery from the bracket on the E-Bike.

NOTE: Only place the rechargeable battery on a clean surface. In particular, avoid soiling on the charging connections and the contacts.

3. Insert the charging connector of the charger into a matching charging slot on the rechargeable battery.

⇒ *Charging begins.*

Rechargeable battery on the E-Bike

Charging the rechargeable battery on the E-Bike

See Figure 9, page 19.

1. Switch off rechargeable battery
2. Insert the charger connector into the free charging slot.

⇒ *Charging begins.*

NOTE:

In particular, avoid soiling on the charging connections and the contacts.

4.5.2 Charging process

Charging begins automatically as soon as the charger is connected to the rechargeable battery and the mains supply.

The rechargeable battery can be charged with and without the display unit. Without a display unit, the charger can only be monitored on the charging status display. The display unit can be removed during the charging process or can even be positioned after the start of the charging process. The charging status is shown with the charging status display on the rechargeable battery and via the bar on the display unit. During the charging process, the LEDs of the charging status display on the rechargeable battery shine (see 3.5.3).

NOTE:

Be careful, if you touch the charger during charging. It may become very hot, especially when ambient temperatures are high.

Once the rechargeable battery is completely charged, the LEDs will go out. The charging process is completed.

1. Disconnect the charger from the mains supply.
2. Disconnect the rechargeable battery from the charger.

⇒ *Then the rechargeable battery switches itself off.*

If, after charging, the rechargeable battery is not removed from the charger and the charger is still connected to the mains supply, it will switch on again after a few hours, check the charging status of the rechargeable battery and may start charging again if necessary.

4.5.3 LED status displays

Table 9
LED status displays
2-A charger

2-A charger	
Standby	green LED shines
Precharging	green and red LED flash
Charging process	red LED shines
Rechargeable battery full / trickle charging	green LED shines
Rechargeable battery test	green LED shines

Table 10
LED status displays
4-A charger

4-A charger	
Standby	green LED flashes
Charging process	red LED shines
Rechargeable battery full /	green LED shines

4-A charger

trickle charging

Error green and red LED flash

4.6 Maintenance and cleaning

If the charger fails, please contact an authorised dealer.

Use a soft dry cloth to clean the charger. Do not use water or other cleaning fluids!

4.7 Waste Disposal

The charger, accessories and packaging should be disposed of in an environmentally-compatible manner. Do not dispose of the charger in the household waste system!

In compliance with the European Directive 2012/19/EU electrical devices that are no longer serviceable, and in compliance with the European Directive 2006/66/EG faulty or spent rechargeable batteries/batteries, must be collected separately and disposed of in an environmentally-friendly manner.

Only for EU countries**4.8 Technical data**

Table 11
Technical data chargers

	2-A charger	4-A charger
Dimensions (mm)	140 x 70 x 40	206 x 94 x 61
Weight	475 g	770 g
Final charging voltage	42 V DC	42 V DC
Rated output current	2 A	4 A
Temperature range operation	-10 ... 40°C	0 ... 45°C
Temperature range storage	-20 ... 70°C	-25 ... 70°C

5 Other lists/indices

5.1 List of figures

Figure 1	Motor with design cover and mounted cranks.....	6
Figure 2	Display symbols new style (left) and: Sportive (right).....	9
Figure 3	Control elements.....	11
Figure 4	Rear side of Sportive Display.....	11
Figure 5	Mount the New-Style display	12
Figure 6	Remove the New-Style display.....	12
Figure 7	Insertion of the rechargeable battery.....	18
Figure 8	Rechargeable battery latch	18
Figure 9	Charging the rechargeable battery (example).....	19
Figure 10	Charging status display	20
Figure 11	Charger	25

5.2 List of tables

Table 1	Technical data motor	8
Table 2	Charging status display.....	10
Table 3	Support level display.....	10
Table 4	Multifunctional display	11
Table 5	Settings New-Style Display.....	14
Table 6	Technical data display.....	15
Table 7	Technical data lighting.....	15
Table 8	Charging status display on the rechargeable battery.....	22
Table 9	LED status displays 2-A charger	26
Table 10	LED status displays 4-A charger.....	26
Table 11	Technical data chargers	27



© 2016 BMZ GmbH. Subject to change. BMZ assumes no liability for technical or editorial errors.

BMZ GmbH

Am Sportplatz 28-30
63791 Karlstein am Main
Germany

Phone +49 61 88-9956-0
Fax +49 61 88-9956-900

mail@bmz-gmbh.de
www.bmz-gmbh.de

BMZ Company Ltd.

2nd Building, NO.2 Jinlong Street
Baolong Industry Zone, Longgang
518116 Shenzhen
China

Phone +86 755 89775-800
Fax +86 755 89775-900

sales@bmz-ltd.cn

BMZ Poland Sp. z o.o.

Ul. Leonarda da Vinci 5
PL-44-109 Gliwice
Poland

Phone +48 32 7842-450
Fax +48 32 7842-451

biuro@bmz-gmbh.de

BMZ USA Inc.

2656 Lishelle Place
Virginia Beach, VA 23452
USA

Phone +1 757 821-8494
Fax +1 757 821-8499

info@bmz-usa.com
www.bmz-usa.com