



**SACHS**  
MICRO MOBILITY



# Downtube Battery Si651.01

Operating Instructions

## Identification

### Product

Model: Downtube Battery Si651.01  
 Art. No. 32600-[...]  
 Country of Origin: Germany  
 Mark: CE

### Manufacturer

BMZ Batterien-Montage-Zentrum GmbH  
 Am Sportplatz 28  
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 Germany

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### Document

Operating Instructions Downtube Battery Si651.01  
 Version: 0.2 (26.09.2019)  
 Subject to change.





## Important notes on this document

**Carefully read the operating instructions before using the e-bike battery.**

These operating instructions contain necessary information on the correct use of the e-bike battery. They do not contain information on the use of the complete drive system (battery + motor + display) and are directed towards the end user.

Keep these instructions accessible to all battery users.

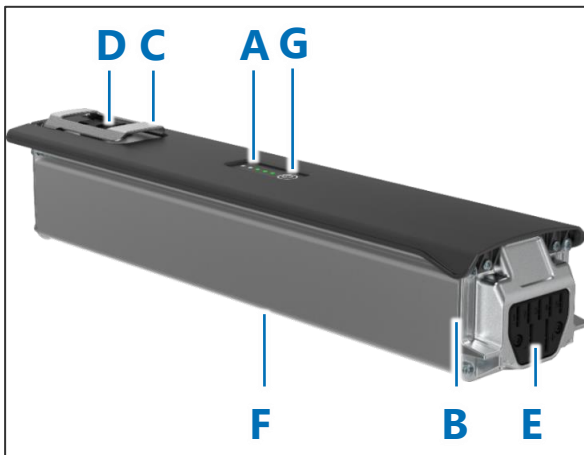
### Description of illustration

Symbol	Description
	Non-compliance can lead to severe injury or death.
	Non-compliance may lead to slight or less severe personal injury.
	Non-compliance can lead to property damage.
	Tips, additional information

# 1 Product Description

## 1.1 Overview

- A State of charge display
- B Warranty seal
- C Dismounting latch
- D Charging socket
- E Discharging socket
- F Product label
- G Power button



## 1.2 Intended Use

The battery supplies the e-bike's drive system with power. It may only be used with compatible, designated drive systems and chargers.

Any other use is not in compliance with the intended application. Warranty will cease in case of non-compliant use.

If the warranty seal is defective or missing, warranty and guarantee become void.

## 1.3 Technical Data

	13S4P
Nominal capacity	13.6 Ah
Energy	651.0 Wh
Max. permanent discharge current	25 A
Max. permanent charge current	5 A
Voltage	48 V
Max. charging voltage	54.6 V
Weight	4.1 kg
Dimensions (W x H x L)	3.78 x 3.31 x 17.72 inches 96 x 84 x 450 mm

## 1.4 Safety Features

An integrated safety relay protects the battery from overcharging, deep discharging, overcurrent, short circuit, and operation outside the safe temperature range.

## 1.5 LED Display

### LED Display with power Button



### Description of Symbols

Symbol	Meaning
●	LED on
○	LED off
*	LED blinking

### State of Charge Display

Shortly press the power button to display state of charge.

LED 1, 2, 3, 4, 5	Charge Level
●●●●●	100...80 %
●●●●○	79...60 %
●●●○○	59...40 %
●●○○○	39...20 %
●○○○○	19...10 %
*○○○○	9...0 % Re-charge within two days to avoid permanent damage to the battery.

## 1.6 Compatible chargers

Please only use the original BMZ charger with article number 27143-4 for charging.

## 1.7 Labeling and Symbols

### Label



### Symbols


Symbol	Description
	Polarity and pin configuration of charging and discharging sockets

Symbol	Description
 <b>Li-ion</b>	Lithium-ion battery symbol (contains recyclable materials)
	Conform with relevant European directives
	Warning of hot surface
	General warning symbol
	Danger of explosion and fire, caused by short circuit, overheating, or other electrical/mechanical abuse
	Do not expose to open flame, fire, open ignition source. Danger of explosion and fire.
	Do not immerse in liquids.
	Follow operating instructions.
	Do not dispose of in domestic or commercial waste.

## 2 Safety

When misused, lithium-ion batteries pose a threat of explosion and fire. Adhere to safety advice to minimize risks and to avoid misuse.

### 2.1 Safety Advice

 <b>WARNING</b>
<p><b>Non-compliance with safety advice can lead to personal injury.</b></p> <p>Non-compliance with safety advice can lead to fire and/or severe personal injury. Injury through chemical substances is also possible.</p> <p>► Follow safety instructions.</p>

- Remove battery from e-bike for handling (i. e. maintenance), transportation or storage. Unintentional activation of the e-bike poses risk of injury and/or damage.
- Use the battery and equipment only if in proper condition.
- Never use a damaged or broken battery.
- Only use the battery that is approved for your e-bike.
- Use this battery only in e-bikes with Sachs Micro Mobility systems. Your battery is only protected from dangerous overloading if used in the intended application.
- Charge the battery before use. Only use the supplied charger which was part of your delivery scope.
- Keep the battery and its contacts clean and dry. Remove any dirt with a clean and dry cloth.
- Do not use any solvents (i. e. dilution, alcohol, oil, anti-corrosives), detergents, or running water to clean the battery.
- Persons (including children) with reduced physical, sensory or mental abilities or lack of experience and knowledge may not use the battery, unless they are supervised and instructed by a person responsible for their safety.
- Do not expose the battery to strong mechanical impacts. It poses a risk of damage to the battery.
- Do not allow children to play with the battery.
- Do not open or dismantle the battery.
- Do not expose the battery to drastic temperature changes.
- Protect the battery from temperatures above 140 °F (60 °C), direct sunlight, and fire. Excessive heat may result in battery leakage and damage to the casing.
- Do not immerse the battery in any liquid. Do not clean with high-pressure cleaner.
- Do not use the battery if contacts are damaged. Do not use with damaged power cables.

## 2.2 Emergency Information

### 2.2.1 First-Aid Measures

Medical aid will be required in case of symptoms caused by combustion gases or leakage.

#### After inhalation

In case of damage or improper use chemical gases may leak. Leave area immediately and breath fresh air. Seek medical advice in case of any symptoms. Gases may cause respiratory irritation.

#### After skin contact

Remove solid parts immediately. Flush affected areas with plenty of water (at least for 15 min). Carefully pad dry affected areas– do not rub. Remove contaminated clothes immediately. Seek for medical attention if skin shows redness or irritation.


#### After eye contact

Flush eye gently with plenty of water (at least for 15 min). Shield unaffected eye. Seek for medical assistance immediately.

#### After ingestion

Drink plenty of milk or water and induce vomiting. Seek medical attention immediately.

#### 2.2.2 Fire Fighting Measures

<span style="font-size: 1.2em;">⚠</span> <b>WARNING</b>	
	<p>Inhaling smoke can cause poisoning.</p> <ul style="list-style-type: none"> <li>▶ When facing the fire, position yourself with wind in your back.</li> <li>▶ If possible, use breathing protection.</li> </ul>

1. If possible, remove other batteries carefully.
2. Evacuate all persons from immediate area of fire.
3. To fight the fire use plenty of water or a class D fire extinguisher.
4. Call the fire department if fire cannot be extinguished or controlled.

## 3 Operation

### 3.1 Safety Advice

Only use a battery that has been approved for use in your e-bike. Check if the battery and housing are intact before use.

Turn off the battery before inserting or removing it. Check if the battery is properly locked in place and securely attached before each ride. Chapter 2.1 and **Fehler! Verweisquelle konnte nicht gefunden werden.** contain detailed safety advice on the use and transportation of the battery.

### 3.2 Switching on the Battery

Shortly press the power button to switch on the battery. LEDs will sequentially light up and go out again.

### 3.3 Charging the Battery



Only use the charger that was supplied with your e-bike. The battery can be charged inside or outside the frame.



If the battery won't charge or if it is damaged do not use it and contact Sachs Micro Mobility GmbH.

Blinking LEDs change to solid green light as the charging process progresses:

LED 1, 2, 3, 4, 5	Charge Level
* ○ ○ ○ ○	0...19 %
● * ○ ○ ○	20...39 %
● ● * ○ ○	40...59 %
● ● ● * ○	60...79 %
● ● ● ● *	80...99 %
● ● ● ● ●	100 %

*Display shows state of charging level*

### 3.4 Switching off the Battery

To switch off the battery keep power button pressed until all LEDs have turned off.

Battery will turn off automatically if not in use.

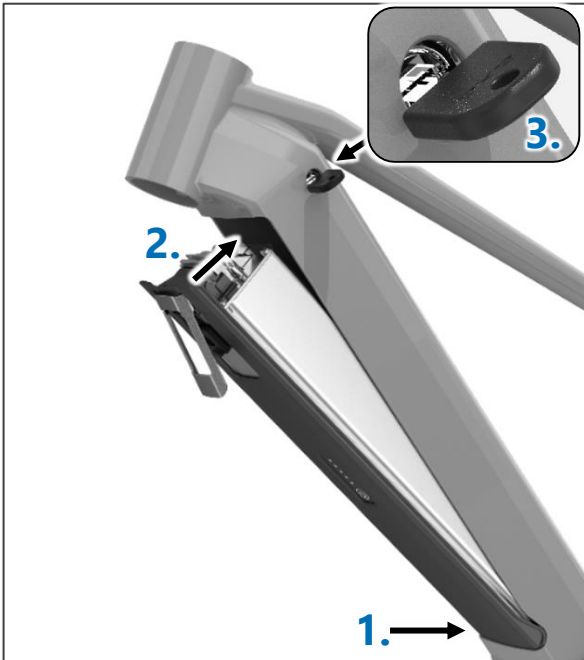
### 3.5 Inserting and Removing the Battery

#### 3.5.1 Inserting the Battery

##### NOTICE

Battery may drop out of the frame. Latch may release itself due to heavy motion.

- ▶ Lock battery in place with key.



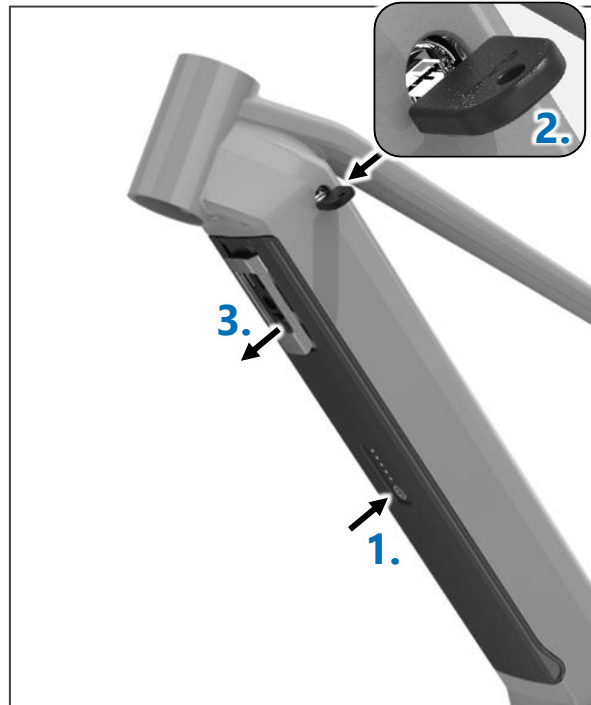
1. Insert turned off battery with display facing down.
2. Push battery in until it locks in place.
3. Secure battery by locking it with key. Remove key and store it safely.

#### 3.5.2 Removing the Battery

##### NOTICE

Battery may drop when it is released from the frame.

- ▶ Use both hands to remove battery from the frame.



1. Switch off battery.
2. Open lock.
3. Pull latch to release the battery.

### 3.6 Troubleshooting

Problem	Possible Solution
All LEDs blinking and error code on display.	Battery is non-operational. Please contact Service Center.
One LED is blinking	Charge battery.
Latch is stuck	Apply small amount of bike chain lubricant spray.
Defective cover	Contact Service Center.
Lid of charging socket is torn off.	Do not use the battery. Socket may be loose.
Battery is not working	<ul style="list-style-type: none"> <li>■ Press power button to switch battery on</li> <li>■ Battery is too cold. Allow it to warm up slowly in warmer environment.</li> <li>■ Battery is too warm. Allow it to cool down slowly.</li> <li>■ Battery is deeply discharged due to inadequate storage. Contact your vendor.</li> </ul>

Problem	Possible Solution
Limited range	<ul style="list-style-type: none"> <li>■ Low temperatures. Decreased battery range during winter is normal.</li> <li>■ Loss of capacity due to inadequate storage or natural aging: Replace battery.</li> </ul>

Contact your vendor if there is a problem that is not listed.

### 3.7 Cleaning

If necessary, clean latch and lightly apply some bike chain lubricant spray.

If necessary, clean battery with dry and clean cloth.

Keep battery contacts and sockets clean. Wipe with clean and dry cloth, if necessary.

## 4 Storage and Transportation

### 4.1 Storage

#### Safety Provisions

- Remove battery from e-bike when it is not in use.
- Do not store battery near hot or inflammable objects. Danger of explosion.
- Temperatures above 140 °F (60 °C) may lead to leakage and damage to battery's casing. Avoid contact with leaked substance.
- Do not store battery near heaters. Protect battery from direct sunlight.
- Store battery in a dry place away from flames and food.
- Keep small metallic objects away from the battery. They may accidentally bridge contacts.

#### Recommendations for best life span

- Store battery with a charge level of 50 %. Check charge level every three months (if not in use) and recharge to 50 %, if necessary.
- Protect from freezing temperatures.
- Avoid drastic temperature changes.
- Recommended storage temperature: 72...79 °F (22...26 °C)

### 4.2 Transportation

#### 4.2.1 Dispatch

The battery is categorized as a dangerous good and may only be packaged and dispatched by especially trained personnel. Contact your dealer for more information.

#### 4.2.2 Transport on Public Roads

Private users may transport their battery on public roads without any restrictions.

Commercial users or third parties transporting lithium-ion batteries need to adhere to respective dangerous goods regulations.

## 5 Disposal

Do not dispose your old battery with your household waste. In EU countries it is mandatory to return batteries. Returning old batteries is free of charge. To avoid a short circuit, fully discharge the battery and cover its poles with adhesive tape.

If batteries are not disposed of properly, they pose a risk of fire, health and environmental hazards.

#### Drop-off points

- Manufacturer
- E-bike vendor
- Local recycling centers