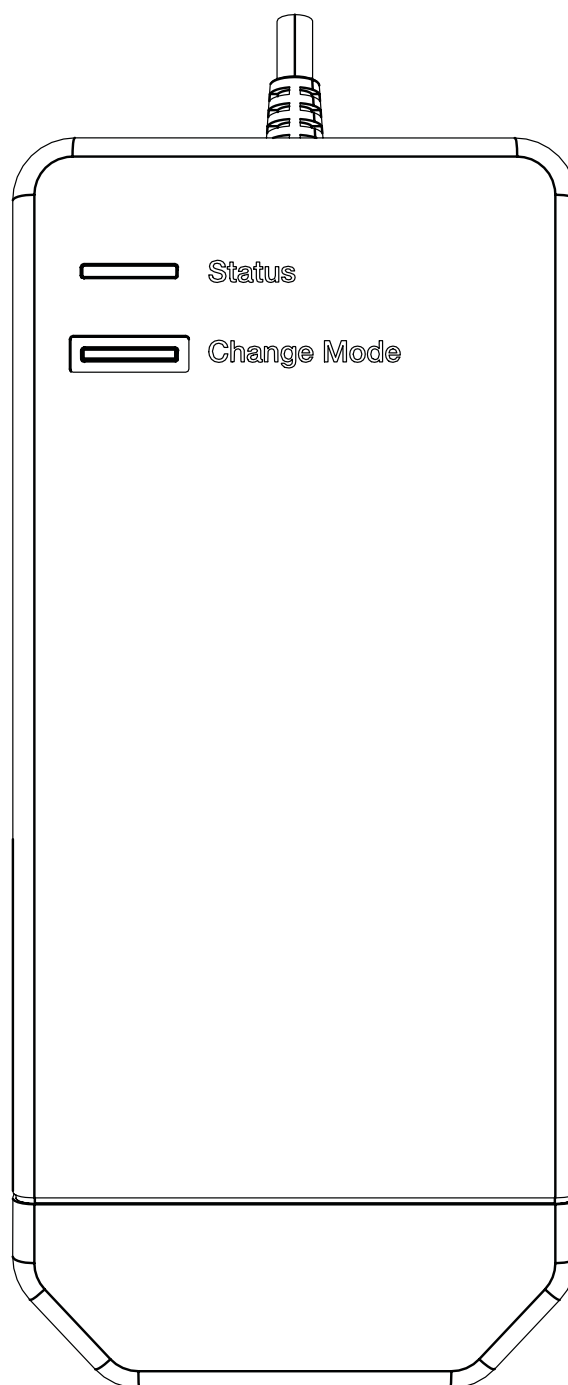


# smart Charger 250

Operating Manual | V01

**QORE**



**IMPORTANT SAFETY INSTRUCTIONS  
KEEP THESE INSTRUCTIONS**

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# 1 About this operating manual

This operating manual contains the necessary information for the intended use of the “smart Charger 250” charger for the “QORE System” drive system (hereinafter referred to simply as the “product”). The information provided in this manual is primarily intended for operators using the EPAC including the “Battery InTube 650” or “Battery InTube 800” batteries.

Before completing any work relating to the product:

- Make sure that you have read and understood this operating manual in full, paying particular attention to the safety and warning notices.
- Keep this operating manual in a safe place for future reference.

- Follow the instructions in this operating manual at all times when using and handling the product.

If you have any queries, questions or problems with the product that cannot be resolved by this operating manual, do not attempt to carry out any work yourself and contact Yamaha or your dealer.

|                      |                                            |
|----------------------|--------------------------------------------|
| Distributing company | Yamaha Motor eBike Systems GmbH            |
| Address              | Sickingenstraße 29-38<br>10553 Berlin      |
| Phone                | +49 30 343498 100                          |
| Email                | service.ebike@<br>yamaha-ebike-systems.com |

## 1.1 Design of safety and warning notices

This operating manual contains safety-related instructions to warn the user of residual risks.

The safety instructions in this operating manual are detailed in „**IMPORTANT SAFETY INFORMATION**“. To warn of specific hazards in the context of an activity or life cycle phase, warnings are used in the text. These warnings are identified by a warning symbol in conjunction with a signal word. The signal words indicate the degree of the hazard.

The following warnings are used in this operating manual.



DANGER indicates an immediate hazard which, if the safety measures are not followed, will result in fatal or serious injury.



WARNING indicates a potential hazard which, if the safety measures are not followed, can result in fatal or serious injury.



**CAUTION**

CAUTION indicates a potential hazard which, if the safety measures are not followed, can result in minor or non-serious injury.

---

**NOTICE**

NOTICE indicates a potential hazard which, if the safety measures are not followed, can result in property or damage to the environment.

---

## 1.2 Format conventions

This operating manual uses additional forms of presentation for certain information.

### Highlighting in texts

|                                     |                                                                                    |
|-------------------------------------|------------------------------------------------------------------------------------|
| <b>Bold</b>                         | Highlights information which is particularly important when describing procedures. |
| <i>Italicized</i>                   | Highlights references to information in this operating manual.                     |
| <u><i>Italicized underlined</i></u> | Highlights references to information in other documents.                           |

### Figures

The figures contained in this operating manual are schematic representations and serve only to graphically clarify the product and the respective processes. The figures may deviate from the actual state of the product upon delivery.

## Lists

Instructions are presented as numbered lists and must be carried out in the specified order.

1. Activity step 1
  2. Activity step 2
- ✓ Outcome

Bulleted lists are displayed as unnumbered lists.

- Bullet point 1
- Bullet point 2
- Sub-point 1
- Sub-point 2

## 1.3 Terms and abbreviations

| Term | Meaning                           |
|------|-----------------------------------|
| EPAC | Electrically Power Assisted Cycle |

## 1.4 Symbols and notices

### Symbols



This symbol indicates that personal protective equipment must be worn for the subsequent activity.



This symbol indicates components that are included in the scope of delivery.



This symbol indicates components that are not included in the scope of delivery but are required.



This symbol indicates tools and equipment required for the subsequent activity.

### Mandatory signs



Read the instructions in full before working on the product and follow the instructions provided.



Wear safety gloves.



Wear safety boots.



Wear safety goggles.

## 1.5 Applicable documents

To use the product as intended, it is necessary to observe all the accompanying information provided.

This includes this operating manual, the operating manual of the manufacturer of the EPAC, and the accompanying information for the additional components of the QORE System.

This includes, in particular:

- Operating manuals for the battery and battery holder
- Operating manuals for HMI Integrate & Remote and HMI Allround
- Operating manual for the speed sensor

## 2 IMPORTANT SAFETY INFORMATION

The following safety information describes potential hazards and residual risks that may arise when using the product. To avoid personal injury and damage to property, it is necessary to read and follow the instructions provided here before using the prod-

uct. It is also necessary to comply with all the applicable national regulations for the operation of EPACs as well as all the applicable national and international regulations on safety, health, and occupational safety.

### 2.1 Charger safety instructions

- The charger may only be used by persons suffering from reduced physical, sensory, or mental capabilities, or with a lack of experience and knowledge, if they are supervised or have been instructed in the safe use of the device and understand the hazards involved.
- The charger may only be used by children aged 14 years and older if they are supervised in its use.
- Children must not play with the charger.
- Keep the charger out of the reach of children at all times.
- Store the charger in a cool, dry place when it is not in use.
- Never carry the charger by its cables / power cord.
- Always disconnect the charger power plug from the mains power supply first before connecting it to or disconnecting it from the battery.
- Disconnect the charger from the mains power supply during thunderstorms.

- Do not step on or run over the charging cable.
- When laying cables, ensure they do not create tripping hazards and are not within the reach of children.
- Only use original spare parts.

#### ELECTRICAL HAZARDS

- Check the charger, cables and plugs for damage before each instance of use. Do not use if the charger, cables or plugs are damaged.
- Only connect the charger to an electrical outlet whose voltage matches the specifications on the type plate of the charger. The output of the charger must match with the input of the battery.
- Use the charger only in dry, well-ventilated indoor areas and keep it away from liquids.
- Do not attempt to repair or open the charger yourself. Any necessary repairs must be carried out by an authorized Yamaha dealer.

- Do not bend, kink, or coil the charger's cables around the charger.
- Do not use the charger if the contacts are damp or wet.
- The improper removal of the power plug poses a risk of electric shock. Only unplug the power plug from the power socket if your hands are dry and clean. Only pull on the plug itself, not on the cable.
- The charger must be grounded during operation. In the event of a malfunction or failure, the grounding provides a path of least resistance for the electric current, reducing the risk of electric shock. The charger is equipped with a cable that has a grounding conductor and an grounding plug. The plug must be inserted fully and securely into a properly installed and grounded wall socket which complies with the local regulations.
- **WARNING** - The improper connection of the grounding conductor can result in electric shock. Ask a qualified electrician if you are unsure as to whether the charger is properly grounded.
- Do not touch the charger contacts with metallic objects. Keep metallic objects away from the charger.
- Regularly check the charger contacts for dirt and foreign objects. Remove any foreign objects with a dry, lint-free cloth when the charger is unplugged.

- Do not use the charger in areas that have high levels of electromagnetic interference.

### **HAZARDS DUE TO HEAT, FIRE AND EXPLOSION**

- Improper handling can cause the battery to explode. Never use the battery for any purposes other than those specified here.
- Keep the charger away from naked flames, heat (e.g., direct sunlight) and liquids.
- Only use the charger for the purpose of charging the original Yamaha battery. Do not use it to charge unsuitable batteries or rechargeable batteries (e.g. vehicle batteries).
- Do not use the charger with a multiple adapter or extension cord.
- The charger can become hot during charging and pose a risk of causing burning or igniting other materials. Allow the charger to cool before handling it and keep it away from flammable materials.
- Do not cover the charger or place any objects on it during the charging process.
- Only use the charger in a dry, fireproof location and do not leave it unattended during the charging process.
- Unplug the charger once the charging process is complete.



## 2.2 Labels on the product

This product has labels that provide further information and warn users of the hazards associated with its use. These labels must remain legible throughout the lifespan of the product and must be replaced

immediately if they are damaged. For information on the labels of the additional components of the QORE System, refer to the separate accompanying information.

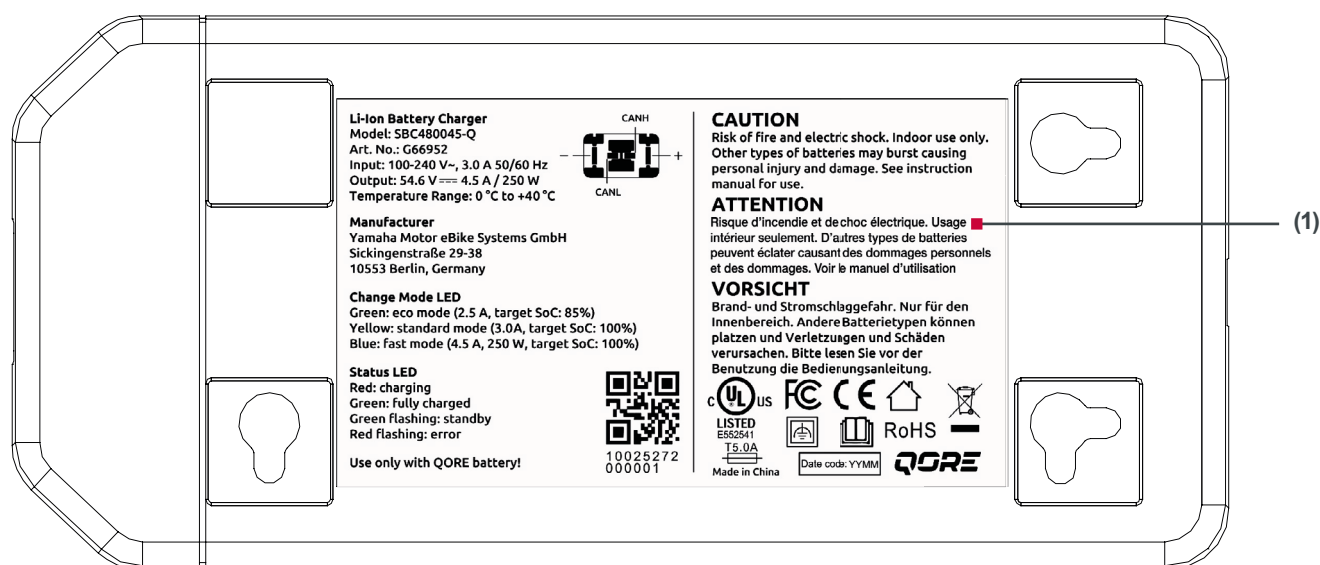


Fig. 1 Labels on the charger

(1) Type plate (example)

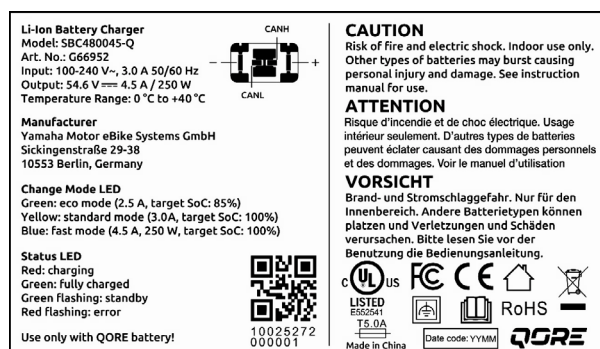


Fig. 2 Type plate of the charger (example)

### 3 Intended use

The smart charger (hereinafter referred to simply as the product) has been designed to supply power to the QORE System. It must only be used to charge the Battery InTube 650/800.

- The product is only intended for use with the QORE System.
- Any other use is considered to be improper.

#### **Foreseeable misuse**

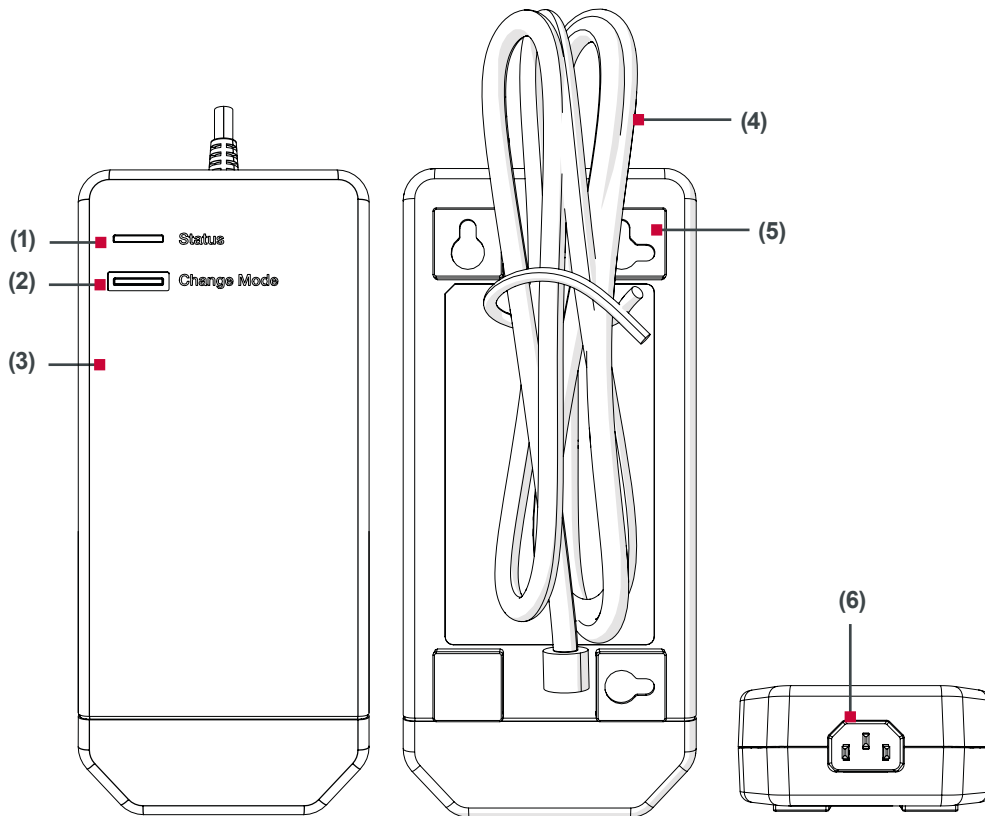
The operation of the product with components, parameters or equipment other than those specified by Yamaha is

considered misuse. Furthermore, the following are considered misuse:

- The unauthorized modification or alteration of the product and its integrated safety features without the written approval of Yamaha.
- The bypassing or disabling of safety- and protective equipment.
- The use of accessory components not approved by Yamaha for use with the product.

## 4 Structure and function

The charger is for charging the Battery InTube 650 / 800.



**Fig. 3** Overview of charger

- (1) Charging status indicator
- (2) Charging mode button with indicator
- (3) Housing
- (4) Charging cable
- (5) Bracket for wall mounting
- (6) Inlet socket on the bottom  
(IEC inlet) for AC power cord

## 5 Technical data

| Charger specifications                      | Description                                 |
|---------------------------------------------|---------------------------------------------|
| Weight                                      | 900 g (including charging cable)            |
| Dimensions                                  | 200 x 91 x 39.7 mm                          |
| IP protection class                         | IP56                                        |
| Housing material                            | Plastic                                     |
| Charging modes                              | 3                                           |
| Charging output                             | eco: 140 W<br>default: 165 W<br>fast: 250 W |
| Charging current                            | eco: 2.5 A<br>default: 3.0 A<br>fast: 4.5 A |
| Charger supply voltage                      | 54.6 V                                      |
| Frequency                                   | 50/60 Hz                                    |
| DC connection                               | proprietary                                 |
| Compatibility                               | QORE System                                 |
| Communication                               | CAN Bus                                     |
| Certification                               | EN 60335 / EN 55014<br>/ FCC / UL62368      |
| Permissible ambient conditions for charging | 0°C to +40°C                                |
| Storage conditions                          | 0°C to +40°C                                |

| Charger specifications | Description               |
|------------------------|---------------------------|
| Manufacturer           | Shenzhen Moduary Co., Ltd |

For the battery specifications, refer to the operating manual for the battery.

## 6 TRANSPORT AND STORAGE



### CAUTION

#### Bruises and contusions caused by falling components

If the product falls on extremities, bruises and contusions may result.

- Handle the product with care at all times.

### NOTICE

#### Damage to the product due to improper transport

Failure to follow the instructions on the packaging may result in damage to the product.

- Observe the packaging labelling when handling the package.
- If you are unsure, do not carry out any work and contact the Yamaha customer service team or your dealer.

### Symbols on the packaging

The packaging may feature symbols indicating special transport or storage conditions and warning the user of hazards when handling the package.

| Symbol                                                                               | Meaning                                            |
|--------------------------------------------------------------------------------------|----------------------------------------------------|
|    | Protect the package against the rain and moisture. |
|   | Do not exceed the specified stacking limits.       |
|  | Transport with this side facing upwards.           |
|  | Protect the package against direct sunlight.       |

## Delivery

The charger is packaged according to the requirements. Upon delivery, check for the following:

- Completeness
- Damage to the packaging and the components inside
- Completeness and accuracy of the shipping documents

If any defects are discovered in the product or shipping documents during inspection, report them to Yamaha and the responsible

forwarding company immediately and document them on the transport documents.

## Transport

Protect the charger against moisture, heat and impact during transport. Ensure that the cable is not pinched.

## Storage

Store the product in a dry, dust-free location. Avoid exposure to direct sunlight.

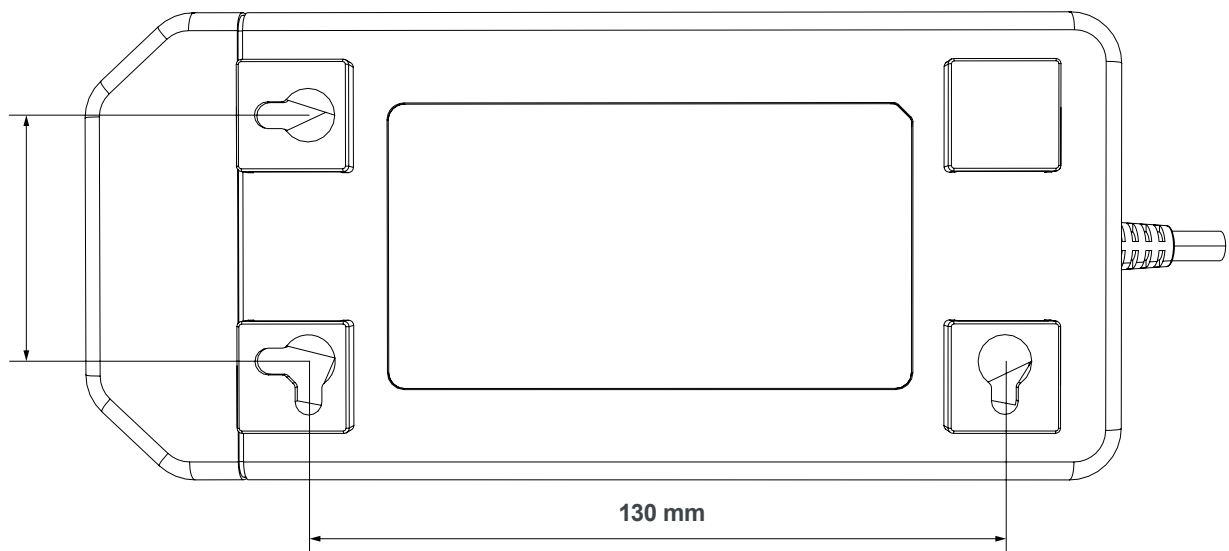
*Refer to the respective accompanying information for storage instructions on additional QORE System components.*

## 7 ASSEMBLY

The “smart Charger 250” can be installed vertically or horizontally on a wall. For this purpose, three mounting brackets are provided which are attached to the wall using screws.

The hole spacings from hole-center to hole-center are:

- Horizontal assembly: 130 mm
- Vertical assembly: 46 mm



**Fig. 4** Spacings for the wall bracket

## 8 DISPLAY AND OPERATION

An LED indicator shows the charging status. The operation occurs via the “Change Mode” LED button. Observe the safety

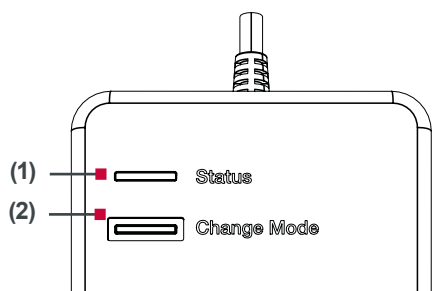
instructions in this operating manual (see „*IMPORTANT SAFETY INFORMATION*“) and in the accompanying documents.

### 8.1 LED indicators

The charger has two LEDs:

- “Status” LED indicator (1): Displays the current charging status of the connected battery.
- “Change Mode” LED button (2): Shows the current charging program and is used for switching the charging programs.

46 mm



**Fig. 5** LED indicators on the charger

#### “Status” LED indicator

The differing LED statuses on the “Status” LED indicator have the following meaning:

| LED            | Meaning       |
|----------------|---------------|
| Red            | charging      |
| Green          | fully charged |
| Flashing green | Standby mode  |
| Flashing red   | Error         |

#### “Change Mode” LED button

The differing LED statuses on the “Change Mode” LED button have the following meaning:

| LED    | Meaning                                                               |
|--------|-----------------------------------------------------------------------|
| Yellow | Default: Full charging of the battery with 3 A                        |
| Green  | Eco: Gentle charging of the battery to 85% charge at 2.5 A            |
| Blue   | Fast charging: Full charging with a maximum charging current of 4.5 A |



## 8.2 Switch charging mode

To switch the charging mode, press the “Change Mode” LED button. The charger is set to the default mode the first time you use it. Pressing the charging mode button once takes you to the next mode in the sequence. The sequence is as follows:

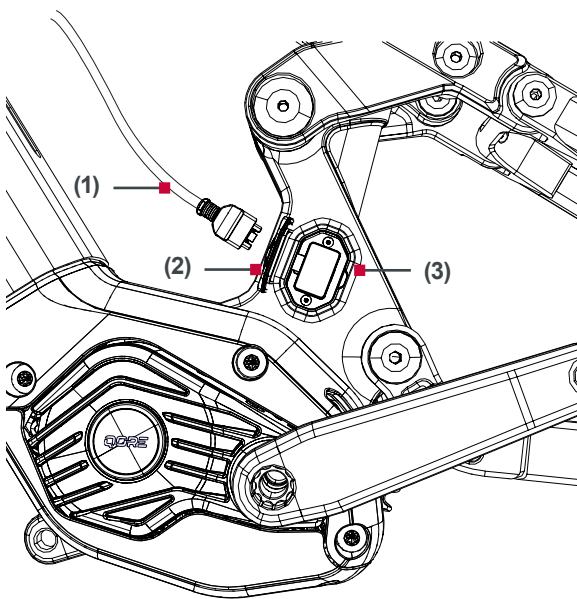
- Press the charging mode button once: Eco mode is activated (green).
- Press the charging mode button again once: Fast charging mode is activated (blue).
- Press the charging mode button again once: Default mode is activated.

The charger automatically reverts to the last charging mode used.

## 8.3 Charging the battery

The battery can be charged on either the EPAC or removed and charged.

### 8.3.1 Charging the battery on the EPAC



1. Switch the QORE System off on the operating unit. For information about the operating unit, refer to the respective operating manual.
2. Clean the charging port cover (2) to prevent dirt from getting on the contacts when opening it.
3. Open the charging port.
4. Connect the power cord to the charger.
5. Connect the charging plug of the charger (1) with the charging port on the EAPC (3).
6. Connect the power cord to a power outlet (power socket).

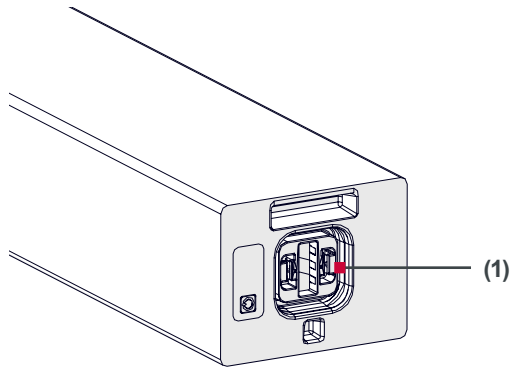
When the battery is fully charged, the “Status” LED indicator turns green.

7. Once the charging is complete, disconnect the charger from the power supply and then from the battery.

The charger switches off automatically when it is disconnected from the power supply.

8. Reattach the charging port cover (2) to prevent the ingress of dirt and water.

### 8.3.2 Charging the removed battery



1. Connect the power cord to the charger.
2. Connect the charging cable with the battery (1).
3. Connect the power cord with the power supply (power socket).

The charger switches off automatically when it is disconnected from the power supply.

4. Once the charging is complete, disconnect the charger from the power supply and then from the battery.

The charger switches off automatically when it is disconnected from the power supply.

## 9 Troubleshooting

The following information is intended to help you troubleshoot any faults that may occur when using the product.

If the fault cannot be resolved using the measures provided here, or if the fault is not detailed below, do not use the product and contact the customer service team at an authorized Yamaha dealer.

| Fault                                 | Possible cause                                                                      | Remedy                                                                                                                                 |
|---------------------------------------|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| Status LED on the charger flashes red | Ambient temperature or operating temperature of the battery or charger too high     | Disconnect the battery or charger from the mains, allow it to cool down, or move it to a cooler location and restart if necessary      |
|                                       | Other cause                                                                         | Replace the charger                                                                                                                    |
| Battery won't charge                  | Plug is not connected correctly                                                     | Connect the plug correctly                                                                                                             |
|                                       | Ambient temperature of the battery or charger is too low ( $<-10^{\circ}\text{C}$ ) | Move the battery and charger to a warmer location and restart if necessary                                                             |
|                                       | Defective charger                                                                   | Replace the charger                                                                                                                    |
|                                       | Defective battery                                                                   | Replace the battery                                                                                                                    |
| Charging taking too long              | Incorrect operating mode                                                            | Check the operating mode (switch from Eco to Default or Fast Charging if necessary)                                                    |
| Battery not charging fully            | Incorrect operating mode                                                            | Check operating mode<br>Eco mode only charges the battery to 85% charge<br>(Switch from Eco to Standard or Fast Charging if necessary) |

## 10 Accessories and spare parts

### 10.1 Accessories

| Product                        | Product number |
|--------------------------------|----------------|
| "Battery InTu-be 650" battery  | G8K7J5         |
| "Battery InTu-be 800" battery  | G8B371         |
| Charger<br>"smart Charger 250" | G66952         |
| Country-specific cable (EU)    | G66967         |
| Country-specific cable (USA)   | G66968         |

## 10.2 Spare parts

Necessary spare parts are available from Yamaha upon request. For information about extended maintenance and service procedures and the availability of spare parts, contact the Yamaha customer service team.

|                      |                                            |
|----------------------|--------------------------------------------|
| Distributing company | Yamaha Motor<br>eBike Systems GmbH         |
| Address              | Sickingenstraße 29-38<br>10553 Berlin      |
| Phone                | +49 30 343498 100                          |
| Email                | service.ebike@<br>yamaha-ebike-systems.com |

## 11 DISPOSAL



The symbol depicting a crossed out garbage bin indicates that a product and its accessories (e.g. charger, USB cable) must not be disposed of together with household waste at the end of their service life.

To prevent damage to the environment or human health due to improper waste disposal and to support the sustainable reuse of material resources, these items must be separated from other types of waste and recycled responsibly.

## 12 EU Declaration of Conformity



**European Declaration of Conformity**  
Original declaration of conformity

**1** Product  
Charger for EPAC  
Part number: G66952/ G66967

**2** Name and address of the manufacturer  
Yamaha Motor eBike Systems GmbH  
Sickingenstraße 29-38  
10553 Berlin  
Germany

**3** This declaration of conformity is issued under the sole responsibility of the manufacturer

**4** Object of the declaration  
Trade name: QORE Charger  
Equipment category: EPAC system Charger

**5** The object of the declaration described above is in conformity with the relevant Union harmonization legislation  
  
Directive 2014/35/EU Low Voltage Directive (LVD)  
Directive 2011/65/EU+ EU 2015/863 ROHS  
Directive 2014/30/EU Electromagnetic Compatibility (EMC)

**6** Reference to relevant harmonized standards and other technical specifications:  
  
EN 60335-1:2012/A16:2023  
EN 60335-2-29:2021/A1:2021+A11:2024  
EN 62233:2008  
EN IEC 55014-1:2021  
EN IEC 55014-2:2021  
EN IEC 61000-3-2:2019/A1:2021  
EN 61000-3-3:2013/A2:2021

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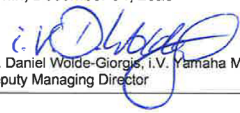
Status: 27 May 2026  
Standard number: Y-TDS-100014-101  
Version number: V01





7 Signed on behalf of  
Yamaha Motor eBike Systems GmbH

Berlin, December 04, 2025

  
Dr. Daniel Wolde-Giorgis, i.V. Yamaha Motor eBike Systems GmbH,  
Deputy Managing Director



**IMPORTANT SAFETY INSTRUCTIONS  
KEEP THESE INSTRUCTIONS**

Yamaha no. Y-TDS-592587-102

Yamaha Motor eBike Systems GmbH // Sickingerstraße 29-38 // 10553 Berlin