

# Technical specification

---

## Data Sheet

(MU8G1 + BU25G1)



# Legal Provisions

## Copyright

This manual is protected by copyright

The information contained in this document is the property of GS HUB GmbH.

Duplication or reprinting, even in extracts, as well as the true-to-original reproduction of the illustrations are permitted for internal and/or private use as long as the duplication is not for commercial purposes and does not require permission.

Any use or publication beyond that is only allowed with written permission from GS HUB GmbH.

The “HomeHub” battery system is a product of

GS HUB GmbH  
Trendelburger Straße 45a  
34434 Borgentreich  
Germany

© 2020 GS HUB GmbH

## Warranty

The current warranty conditions can be downloaded at <https://support.homehubportal.com/>.

## Trademarks

All trademarks are recognized even if they are not specifically marked. All of the trademarks or brands used in this document only refer to the respective product or the owner of the trademark or brand. The mention of products that are not GS HUB GmbH products is for informational purposes only. GS HUB GmbH does not claim any trademarks or brands other than its own. The absence of identification does not imply that a product or label is not subject to trademark rights.

## Limitation of Liability

All texts, technical information, data, notes, and illustrations relating to the operation contained in this manual correspond to the technical state of development at the time of publication.

The content of the documentation does not justify any claims on the part of the buyer.

The manufacturer is not liable for damages, malfunctions, or their consequences due to the non-observance of these operating instructions, improper use, improper repairs, unauthorized modifications, or the use of unauthorized spare parts.

# Table of Contents

- Legal Provisions..... 2
- Copyright..... 2
- Warranty..... 2
- Trademarks..... 2
- Limitation of Liability..... 2
- Technical Data..... 4
- Connection Overview..... 7

# Technical Data

## Composite System

|                                      | 2,5 - 10 kWh System   | 12,5 - 20 kWh system (two cabinets)                 |
|--------------------------------------|---|---|
| Maximum energy                       | 10 kWh  | 20 kWh  |
| Maximum capacity                     | 200 Ah  | 400 Ah  |
| Maximum charging current             | 200 A (1 C @ 25 °C)   | 240 A   |
| Maximum discharge current            | 200 A (1 C @ 25 °C)   | 240 A   |
| Charging time                        | >1 h  | >1.6 h  |
| End-of-charge voltage                | 57.6 V <sub>dc</sub>  | 57.6 V <sub>dc</sub>                                |
| End-of-discharge voltage             | 43.2 V <sub>dc</sub>  | 43.2 V <sub>dc</sub>                                |
| Maximum number of battery modules    | 4   | 8   |
| IP rating                            | IP 55   |   |
| Protection class                     | III (SELV/PELV)   |   |
| Communication ports                  | CAN (inverter communication)<br>Ethernet (communication accessories such as the EMS, online updates, and service)   |   |
| Battery management system            | Yes   |   |
| Software updatable                   | Yes   |   |
| Uninterrupted emergency power        | Yes (for AC depending on battery inverter)  |   |
| Adjustable depth of discharge        | Yes, between 60% and 100% (standard and recommended 80%)  |   |
| Conformity                           | CE, RoHS, IEC 62619:2017/AS IEC 62619:2017, YDB 032-2009, UN38.3  |   |
| Number of cycles                     | 6,000 (at 80% depth of discharge; 25°C)   |   |
| Material                             | Stainless steel   |   |
| Maximum weight                       | 208 kg   460 lbs  | 400 kg   882 lbs                                    |
| Dimensions (length x width x height) | (690 × 550 × 1100) mm<br>27.2 × 21.7 × 43.3 in  | (1380 × 550 × 1100) mm<br>2 × 54.4 × 21.7 × 43.3 in |
| Operating temperature                | -10 °C to +55 °C   14 °F to 130 °F  |   |
| Storage temperature                  | -20 °C to +60 °C   -4 °F to 140 °F  |   |
| Relative humidity                    | Up to 95 % not condensing   |   |
| Protective devices                   | UVP (multi-level undervoltage protection)<br>OVP (multi-level overvoltage protection)<br>UTP (multi-level undertemperature protection)<br>OTP ( multi-level overtemperature protection)<br>OCP (overcurrent protection)<br>APT (adaptive power throttling)<br>Fuse<br>Power contactor |   |

## Cabinet with Rails (CH5G1)

|                                      |   |
|--------------------------------------|---|
| Maximum number of module inserts     | 5   |
| Material                             | Stainless steel                               |
| IP rating                            | IP 55   |
| Weight                               | 80 kg   176 lbs                               |
| Dimensions (length x width x height) | (690 × 550 × 1100) mm   27.2 × 21.7 × 43.3 in |
| Cable duct                           | 3 × 4 × M25 × 1,5   3 × 4 × 1 in × 1,5        |

## Management Module (MU8G1)

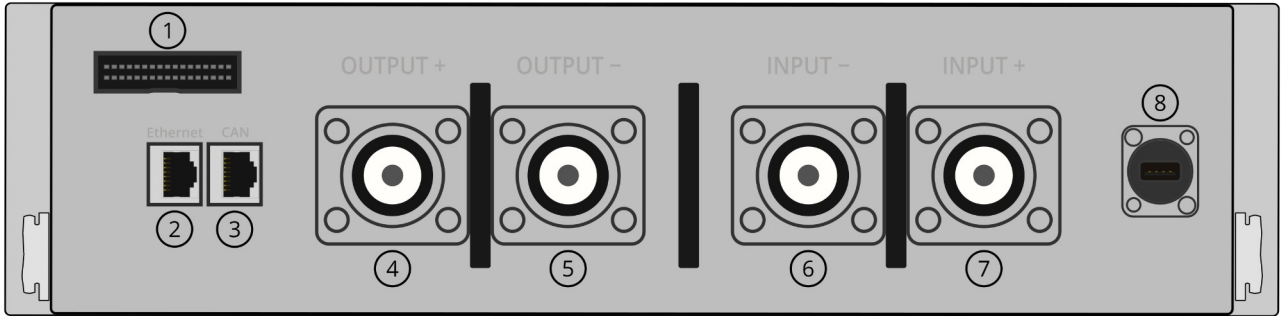
|                                      |  |
|--------------------------------------|--|
| Display                              | 7" color display (WSVGA 1024×600 px)   |
| Processor                            | 1.5 GHz Quad-Core CPU  |
| Working memory                       | 1 GB DDR3 RAM  |
| Data storage                         | about 28 GB  |
| Maximum current                      | 240 A  |
| Maximum number of battery modules    | 8  |
| IP rating                            | IP 43  |
| Cabinet material                     | Stainless steel  |
| Weight                               | 16 kg   35 lbs 16 kg   |
| Dimensions (length x width x height) | (435 × 502 × 118) mm   17.1 × 19.8 × 4.6 in  |
| Connections                          | 2 × M8 pole terminal for busbar<br>2 × M8 pole terminal for connecting cable<br>1 × internal battery bus<br>1 × Ethernet<br>1 × CAN bus for battery inverter |
| Operating temperature                | -20 °C to +60 °C   -4 °F to 140 °F   |
| Storage temperature                  | -20 °C to +60 °C   -4 °F to 140 °F   |
| Relative humidity                    | Up to 95 % non-condensing  |
| Adjustable depth of discharge        | Yes, between 60% and 100% (standard and recommended 80 %)  |
| Protective devices                   | UVP (common undervoltage protection)<br>OCP (overcurrent protection)<br>APT (adaptive power throttling)<br>Power contactor<br>Fuse                           |

## Battery Module (BU25G1)

|                                      |   |
|--------------------------------------|---|
| Nominal voltage                      | 51.2 V <sub>dc</sub>  |
| Nominal capacity                     | 50 Ah (2.5 kWh)   |
| Recommended charging current         | 10 A (0.2 C @ 25 °C)  |
| Maximum charging current             | 50 A (1 C @ 25 °C)  |
| Cell chemistry                       | Lithium-Iron-Phosphate (LiFePO <sub>4</sub> )   |
| End-of-charge voltage                | 57.6 V <sub>dc</sub>  |
| End-of-discharge voltage             | 43.2 V <sub>dc</sub>  |
| End-of-charge voltage (cell)         | 3.6 V <sub>dc</sub>   |
| End-of-discharge voltage (cell)      | 2.7 V <sub>dc</sub>   |
| Temperature sensors                  | 2   |
| Balancer                             | 2   |
| Cells                                | 16 (16S1P)  |
| Protective devices                   | UVP (undervoltage protection at cell level)<br>OVP (overvoltage protection at cell level)<br>UTP (undertemperature protection)<br>OTP (overtemperature protection)<br>Power contactor |
| Charging temperature                 | 0 °C bis +55 °C   32 °F to 130 °F   |
| Discharging temperature              | -10 °C bis +55 °C   14 °F to 130 °F   |
| Storage temperature                  | -20 °C bis +60 °C   -4 °F to 140 °F   |
| Relative humidity                    | Up to 95% non-condensing  |
| Connections                          | 2 × M8 pole terminal for busbar<br>2 × internal battery bus (daisy chain)<br>1 × internal power supply  |
| Number of cycles                     | 6,000 (at 80% depth of discharge)   |
| Weight                               | 28 kg   62 lbs  |
| Cabinet material                     | Stainless steel   |
| Dimensions (length x width x height) | (435× 502 × 118) mm   17.1 × 19.8 × 4.6 in  |

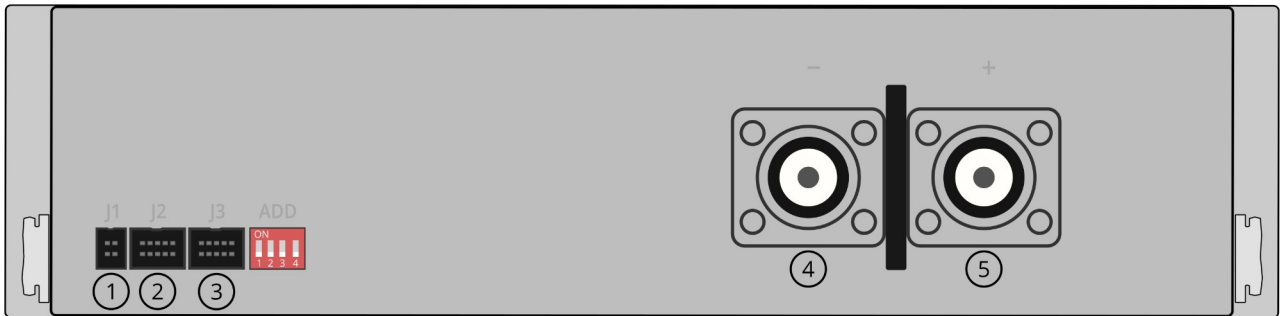
# Connection Overview

## Management Module



- |   |   |
|---|---|
| <ul style="list-style-type: none"> <li>① Internal battery communication bus and module power supply</li> <li>② Network connection socket (<b>Ethernet</b>)</li> <li>③ Inverter connection socket (<b>CAN</b>)</li> <li>④ DC battery connection (<b>OUTPUT +</b>)</li> </ul> | <ul style="list-style-type: none"> <li>⑤ DC battery connection (<b>OUTPUT -</b>)</li> <li>⑥ Internal DC connection for busbar (<b>INPUT -</b>)</li> <li>⑦ Internal DC connection for busbar (<b>INPUT +</b>)</li> <li>⑧ USB connection</li> </ul> |
|---|---|

## Battery Module



- |   |  |
|---|--|
| <ul style="list-style-type: none"> <li>① Internal BMS power supply (<b>J1</b>)</li> <li>② Internal battery communication bus (<b>J2</b>)</li> <li>③ Internal battery communication bus (<b>J3</b>)</li> </ul> | <ul style="list-style-type: none"> <li>④ Internal DC connection for busbar (-)</li> <li>⑤ Internal DC connection for busbar (+)</li> </ul> |
|---|--|