

Technical specifications

Technical specifications	MGUHE240220 25.2 V / 220 Ah	MGUHE240330 25.2 V / 330 Ah
Technology	Lithium-Ion NMC	
Cell configuration	7S64P	7S96P
Nominal voltage	25.2 V	
Nominal capacity	220 Ah	330 Ah
Nominal energy	5.5 kWh	8.3 kWh
Cycle Life @80% DOD (0.3C)	1750	1900 (0.2 C)
Energy / weight ratio ⁴	189 Wh/kg	196 Wh/kg
Weight ⁴	29.3 kg	42.5 kg
Discharge		
Discharge cut-off voltage	21.0 V	
Recommended discharge current	66 A (0.3 C)	66 A (0.2 C)
Maximum discharge current ¹	300 A (1.4 C)	300 A (0.9 C)
Internal fuses ²	300 A	
Charge		
Max. charge voltage	29.4 V	
Recommended charge voltage	28.0 V	
Recommended charge current	66 A (0.3 C)	66 A (0.2 C)
Maximum charge current ¹	220 A (1.0 C)	210 A (0.7 C)
Configuration		
Series configuration ³	Yes, up to 2	
Parallel configuration ³	Yes, up to 96	
Temperature		
Operating temp. charge	0 to +45°C	
Operating temp. discharge	-20 to +55°C	
Storage temp.	-20 to +45°C	
Mechanical		
Power connections	M8 stud, max. 15 Nm	
Protection class	IP20	
Cooling	Air, forced (2x fan inside)	Air, convection (no fans)
Dimensions	362x193x355 mm	366x193x497 mm
Safety		
Battery Management System	Integrated slave BMS	
Balancing	Passive	
Compatible BMS master controller	MG Master LV, HV	
Communication	CAN-Bus (RJ45 or M12 connection)	
Standards		
EMC: Emission	EN-IEC 61000-6-3:2007/A1:2011/C11:2012	
EMC: Immunity	EN-IEC 61000-6-1:2007	
Low voltage directive	EN-IEC 60335-1:2012/A11:2014	

1) Duration is depending on battery temperature
 2) Fuses can be replaced with dummy fuses. Batteries need to be fused elsewhere in the circuit.
 3) More series and parallel on request
 4) Including BMS and enclosure

UHE Series

Ultra High Energy Lithium-Ion batteries



Marine
Electric propulsion
Aux. battery bank

Industrial
Peak shaving
UPS systems

Off-grid/Solar
Self-consumption
Off-grid solutions

Automotive
Mobile power sources
Electric mobility

UHE Series

The UHE battery series is the ideal solution when a really high energy density battery is required. The battery module uses battery cells with an energy density of 270 Wh/kg. The integrated battery management system brings the highest standard in safety and gives insight in the status of the battery. Flexibility in system configuration is created by a modular design. On a system level a voltage range of 25.2 V up to 465 V and a capacity range of 5.5 kWh up to 800 kWh can be created with the 25.2 V modules.



25.2 V
5.5 kWh and 8.3 kWh

- ▶ Superior energy density
- ▶ High safety standard
- ▶ Integrated battery management system
- ▶ Plug and Play installation
- ▶ Scalable system design due to 25.2 V modules
- ▶ Up to 465 V system voltage



High voltage systems

The HE batteries are available in a high voltage version (HV). This makes it possible to connect these batteries in series up to 16 modules (465 VDC). This configuration can be used in UPS systems, propulsion applications and solar energy storage.

M12 and RJ45

The communication connections between the batteries and Master unit can be established with either economical RJ45 cables or more robust M12 cables. Up to 96 V both options are available. In the range higher than 96 V only the M12 option is available.



Safety

Each battery module comes with an integrated battery management system (BMS). This is an intelligent electronic module (slave BMS), that measures all cell voltages and temperatures to control balancing on both battery cell and module level. The battery modules communicate by a galvanic isolated CAN-Bus with the MG Master LV or HV (master BMS), which collects and monitors the status of all battery modules. If the measured values from a battery module exceed the limit, the MG Master will automatically take action to protect the connected battery modules.

Battery management controllers

Protecting, monitoring and controlling a battery system is very important to create a safe, reliable and easy-to-use system. The MG Master LV or HV is the safety and control unit of the battery system. It protects the connected battery modules against over-charging, over-discharging, over-temperature, under-temperature and controls the balancing of the battery cells. Besides a safety function, the MG Master LV or HV monitors and tracks other important parameters to give insight in the battery status and energy consumption. The compact design makes it ideal for use in applications with limited space.

MG Master LV



12 V to 96 V
150 A to 1000 A

MG Master HV



144 V to 800 V
300 A and 500 A

Energy storage systems

System flexibility is one of the main key features of all MG products. Combining UHE series batteries together with one of the Master units will create a powerful system for a complete range of applications with system voltages of 25.5 V up to 465 V and capacities of 5.5 kWh up to 800 kWh.

System example: 48 V / 660 Ah / 33.2 kWh / 170 kg

