

# EASy Marine®

## 80 Ah LFP Lithium Ion Battery Module

High Power Module  
38.4 V / 3.1 kWh

### Mechanical Characteristics Module

The **EASy Marine®** battery system is ideally suited for applications requiring high power density, continuous high charge and discharge rates and very safe operation.

Width	290	mm
Height	290	mm
Depth (excluding cover)	559	mm
Weight (approx.)	62	kg
Volume	47	l
IP Class	IP65	

### Features and Benefits

### Chemical Characteristics

- ▲ Very safe cell chemistry
- ▲ Robust aluminum casing avoids corrosion and provides shock resistance for demanding applications
- ▲ Series connection of battery modules (string) up to 1,000 V DC
- ▲ In parallel connected battery strings can be configured to battery systems with very scalable power / voltage ranges
- ▲ High maximum pulse discharge rate to meet exceptional peak demands
- ▲ Made in Germany
- ▲ Multistage master slave BMS
- ▲ Liquid cooling
- ▲ EASy to service and maintain
- ▲ Cobalt and nickel free, no NMP used
- ▲ Tested and certified to DNV, EN 62619 / 62620 and UN 38.3

Cathode	Lithium Iron Phosphate (LFP)
Anode	Graphite

### Electrical Characteristics

Nominal capacity @ 1 C @ 25 °C	80	Ah
Nominal operating voltage	38.4	V
Recommended charging voltage	42.0	V
Maximum charging voltage	43.2	V
Recommended cut-off discharge voltage	30.0	V
Energy	3.1	kWh
Specific energy	50	Wh/kg
Energy density	66	Wh/l

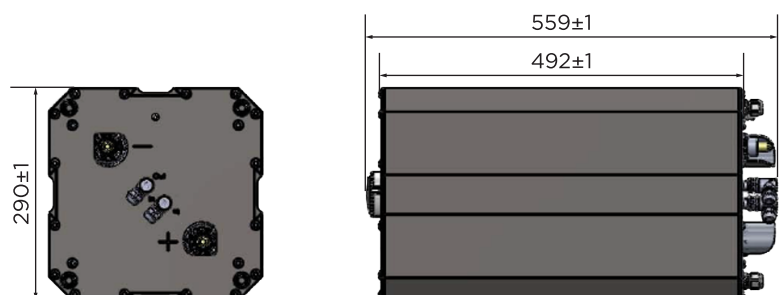
#### Specific power

Continuous discharge @ 5 C / 50 % SoC	250	W/kg
2 s pulse discharge @ 15 C / 50 % SoC	750	W/kg

#### Power density

Continuous discharge @ 5 C / 50 % SoC	328	W/l
2 s pulse discharge @ 15 C / 50 % SoC	989	W/l

External communication interface	CAN (further options possible)
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## Applications and Markets

- ▲ Hybrid and electric ships
- ▲ Hybrid electric drives
- ▲ Electric drives
- ▲ Load leveling and peak shaving
- ▲ Boosting and manoeuvring
- ▲ Port infrastructure
- ▲ Heavy duty vehicles
- ▲ Off-Road vehicles
- ▲ Rail and transport
- ▲ Mining
- ▲ Electric cranes
- ▲ Material handling

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## Operating Conditions

Recommended charging method	Constant Current/ Constant Voltage
Recommended continuous charging current	80 A (1 C)
Maximum continuous charging current	240 A (3 C)
<b>Discharge current @ 25 °C</b>	
Recommended	80 A (1 C)
Maximum continuous	400 A (5 C)
Maximum pulse (2 s)	1,200 A (15 C)
<b>Storage and transport conditions</b>	
	25 to 50 % SoC
Maximum temperature range	-20 °C to 50 °C
Recommended temperature range	10 °C to 25 °C
<b>Operating temperature</b>	
Discharge	0 °C to 40 °C
Charge (recommended)	10 °C to 30 °C
<b>Cycle life @ 20 °C (EoL @ 80 % of nominal capacity)</b>	
100 % DoD, 1 C	> 5,000 cycles
80 % DoD, 1 C	> 6,250 cycles

### Example of configuration

System voltage  
880 V

Energy content  
70 kWh

Continuous power  
350 kW

23 modules plus  
battery management unit



### Alternatively

Taylorred to  
your requirements

