

Ni-MH

Nickel-Metal Hydride modules for electric vehicles



Designed in partnership with the automotive industry, Saft's Nickel-Metal Hydride (Ni-MH) provides very attractive performance to electric vehicle battery systems. Saft Nickel-Metal Hydride are available in either 12V or 24V configurations and feature a liquid cooling system.

With enhanced specific energy and energy density, Saft Ni-MH batteries help electric vehicles to extend their range up to 150 km.

Applications

- All-electric vehicles

Main advantages

- Maintenance-free operation
- High power/energy ratio
- Excellent safety and flawless
- Resistance to abuse testing
- Easy fast charging
- Fully recyclable
- Liquid cooling
- More than 1,200 charge/discharge cycles
- Monoblock design

Technology

- Nickel foam positive electrode
- AB₅ hydride on steel foil negative electrode

Electrical characteristics

Nominal voltage (V)	12	24
Rated capacity at C/3 rate (Ah)	100	100
Specific energy (Wh/kg at C/3)	69	69
Typical energy density (Wh/dm ³ at C/3)	145	147
Typical specific power (W/kg at 80% DOD, 30 sec, 2/3 U _o)	160	160
Typical power density (W/dm ³)	332	340

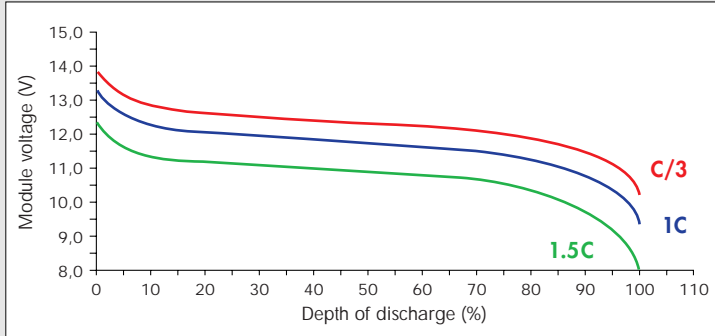
Mechanical characteristics

Dimensions (mm): L x W x H	390x120x195	760x120x195
Weight (kg)	18.6	37
Typical volume (dm ³)	8.8	17.3

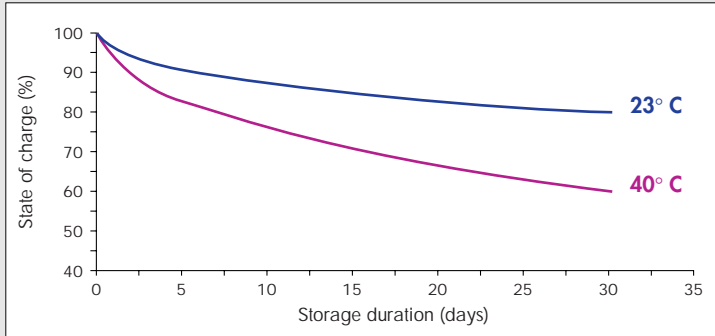
Operating conditions

Operating temperature range (°C) as given by the thermal management system	-10/+45 in charge	-10/+60 in discharge
Transport or storage temperature range (°C)	-40/+65	

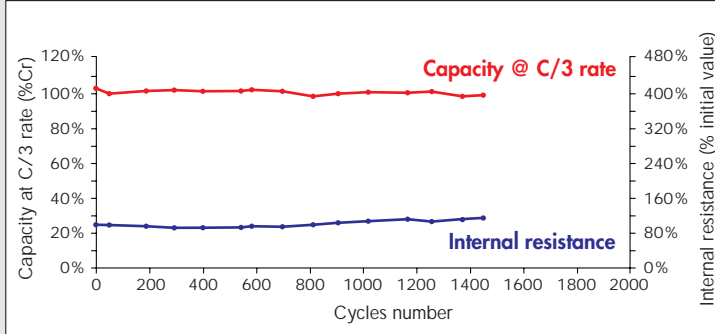
100 Ah Ni-MH Module - Discharge at various rates at +23°C



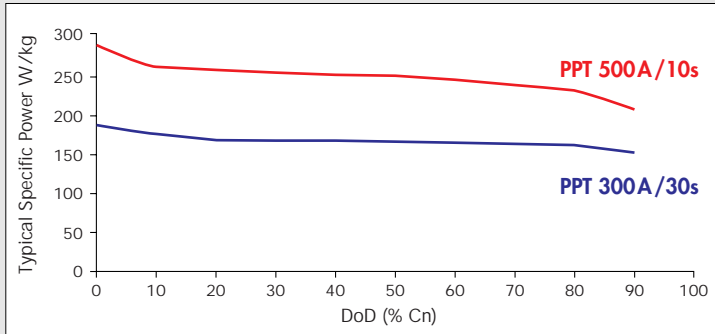
100 Ah Ni-MH Module - Charge retention at temperatures from 0°C to 60°C



**100 Ah Ni-MH Module electrochemistry - Capacity at C/3
Cycling test at 80% DoD at RT: charge at C/3 + C/20 (k=1.1) /discharge at 1C**



**100 Ah Ni-MH Module - Specific Power during PPT at +23°C
Min Voltage 0.83 V/cell**



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