Modul'ion®-35 24 V 205MFe

Super-Phosphate™ (SLFP) Medium Power module

Lithium-ion module combining Energy and Power
Suited for integration in advanced battery system of electric Material Handling Equipment

This **Modul'ion**®-35 is designed for parallel assembly in 24 V battery systems designed by Saft.

For easier integration in application, the module management electronic is located in the battery system.

Saft battery systems come equipped with battery management electronics, safety, communication and control interfaces to the host vehicle.

Applications

- Material Handling Equipment: pedestrian and stand on pallet trucks, reach stacker...

Module features

- High energy efficiency and density
- Quick and high recharge capabilities
- High life cycle performance
- Minimal maintenance (no water topping up) and emission-free (zero gassing)

Battery system features

- Saft Battery Management System (SOC, SOH, protection devices, current sensor) ensures that the battery operates within its limits in terms of voltage, temperature, current ...
- Robust construction withstanding industrial vehicle standards (IP rating, shock and vibration (DIN EN 60068-2-27 and DIN EN 60068-2-6)

Nominal characteristics at + 25°C/+ 77°F	
Nominal voltage (V)	23.1
Rated capacity (C/5) (Ah)	195
Typical capacity (C/5) (Ah)	205
Typical energy (C/5) (Wh)	4 736
Volumetric energy (Wh/l)	142
Gravimetric energy (Wh/kg)	105
Mechanical characteristics	
Width (mm)	667
Height (mm)	196
Depth (mm)	255
Weight (kg)	45
Electrical characteristics at + 25°C/+ 77°F	
Voltage window (V)	26.6 to 17.5
Max. continuous discharge current (A)	200
Max. continuous charge current (A)	200
Max. pulse discharge current in 5 s (A)	300
Max. pulse charge current in 5 s (A)	300
Power peaks in 5 s (kW)	6.9
Operating conditions	
Operating temperature	- 25°C to + 60°C (- 13°F to 140°F)
Recommended temperature for transport and storage	+10°C to + 30°C (50°F to 86°F)
Allowable temperature for transport and storage	- 40°C to + 70°C (- 40°F to 158°F)

Data are typical value, please consult Saft for battery sizing and module integration in battery system

saft

Benefits at battery system level

- Facilitates battery system development and integration thanks to its modular architecture
- Longer operating hours with constant performance
- Fast charging allows opportunity charging
- Minimize maintenance cost
- Enhanced cycling performance improves TCO of vehicles
- Accurate real time battery data monitoring thanks to the CAN bus communication with the host vehicle
- Environmentally friendly

Safety

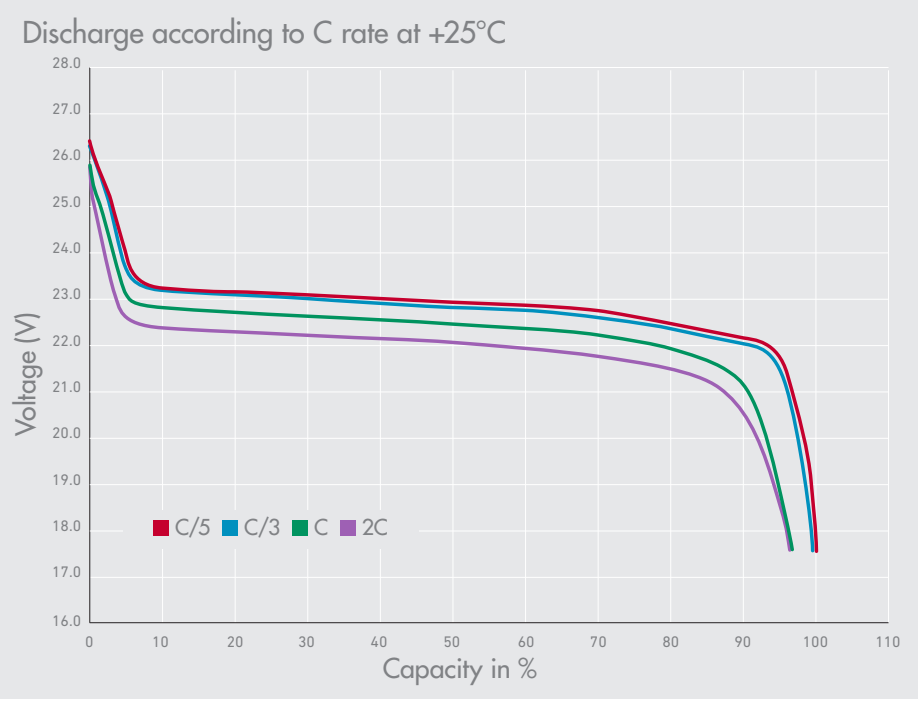
Safety driven design for cells, modules and systems guarantees safe behavior in case of abuse usage or component failure. This includes:

- Stringent design rules and qualification
- Implementation of redundant safety features
  - at cell level (e.g. shutdown effect separator and mechanical vent)
  - at module level (e.g. electronic board, voltage and temperature monitoring, balancing)
  - at battery level (e.g. electronic board, power switch and current sensor)

Compliance to standards	
Cell safety	UL 1642
Module safety	EN 50 178
Transportation regulation	ADR, IMDG Code, OACI/IATA
Transportation classification	UN 3480, class 9 (group II)
Marking	CE
Fire and smoke	UL94 V0
Directives/Regulations	REACH*, Voluntary RoHS**

**REACH: The Saft group has adopted internal procedures to ensure conformity with the European REACH Regulation*

***RoHS: Also batteries are not within the scope of the RoHS Directive, Saft has taken voluntary measures to ensure that the substances forbidden by RoHS are not present in the battery, with the exception of the electrochemical core.*



Saft
12, rue Sadi Carnot
93170 Bagnolet - France
Tel. : +33 (0)1 49 93 17 82
Fax : +33 (0)1 49 93 19 69
www.saftbatteries.com

Doc No.: 21910-2-0815
Edition: August 2015

Published by the Communication Department
Photo credit: Saft