

# SRM-F3 Ni-Cd battery

## The reliable backup energy for rail transit

Saft's SRM-F3 nickel-based battery provides backup energy reliability for onboard auxiliary functions and is a lower maintenance, reduced operating cost solution.

Saft's SRM-F3 battery supports electrical systems onboard a wide variety of passenger rail transit cars. It is the ideal solution for OEMs and railway operators specifying the reliability and long service life of Ni-Cd technology with the proven performance of Sintered/PBE construction. The battery's ultra-light and compact format is enabled through a reduction in size and weight of at least 20% below equivalent capacity. It is a faster-recharge, reduced maintenance battery with excellent charge efficiency, requiring water topping-up only every two years or more in normal operation.

SRM-F3 technology is housed in transparent and flame retardant polysulfone containers which are assembled into trays to create a rugged battery solution proven over several decades in multiple rail applications.

### Applications

All types of trains

- Urban transport: metros, tramways, tram-trains, airport shuttles
- Regional transport: EMU, DMU (Electric and Diesel Multiple Units)
- Intercity transport: high-speed trains, electric locomotives, passenger coaches

All types of function

- Passenger safety: onboard signaling, security lighting, door control and communication networks
- Passenger comfort: ventilation, air-conditioning, lighting, Wi-Fi
- Fail-safe train start-up: pantograph lift-up, computing, electronics

### Benefits

Saft's SRM-F3 cell design meets the specific needs of North America's OEMs and railway operators for reliable onboard backup power.

- Excellent charge efficiency with faster recharge time and chargeability at low voltage
- Reduced installation footprint and lower weight
- Cost-effective battery with extensive service life, minimal maintenance and total reliability
- Low LCC (Life Cycle Cost)



#### Temperature

Operating temperature	From -25°C to +50°C
Resistance to extreme temperatures	From -50°C to +70°C

#### Maintenance

Low maintenance thanks to long time between topping-up operation	2 years or more depending upon operation characteristics
Optional water filling vents allow for quick and accurate topping-up to minimize maintenance costs	Less than 10 minutes for active topping-up operation

#### Light and compact design

Gain in container and battery compartment size vs conventionally sized batteries	60% depending upon requested mission profile
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#### Wide capacity range

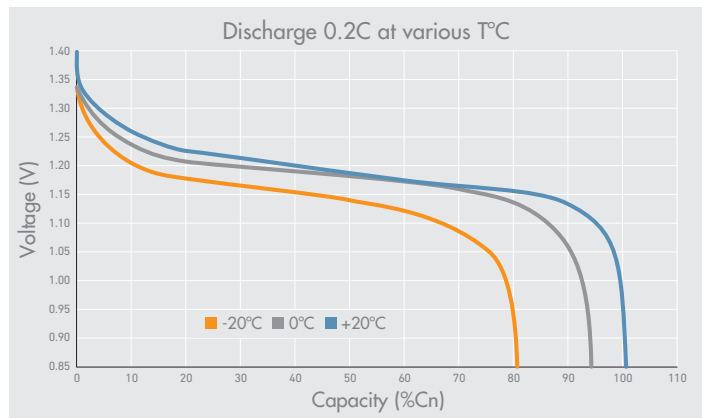
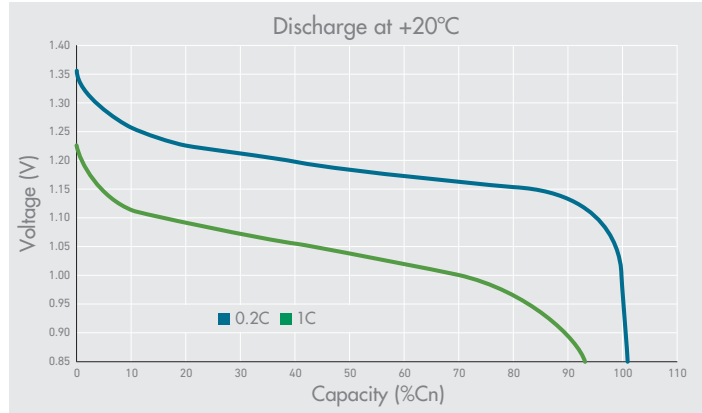
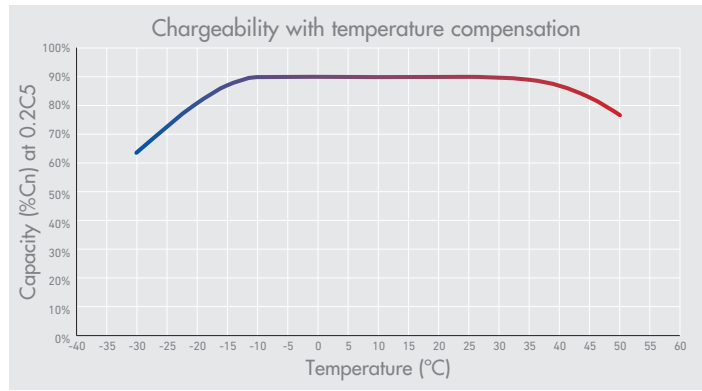
Capacity range to optimize sizing to specific performances request	From 80 to 250 Ah
Available trays for easy integration & handling	For 2 to 10 cells

## Features

- Saft's Sintered/PBE Ni-Cd technology, produced at Saft's US Valdosta factory, ensures reliable and predictable service life (over 15 years), without risk of sudden death
- Compact design and lightweight construction offers at least 20% reduction in volume and weight compared with a standard Ni-Cd battery of equivalent capacity
- Capacity range: 80 Ah – 250 Ah
- Wide operating temperature range from -25°C to +50°C
- Transparent, flame-retardant polysulfone containers
- Two years or more water topping-up interval under normal conditions
- Chargeability even at a lower charging voltage of 1.45 V/cell at +20°C (68°F) ensures faster recharge time, less installed capacity and lower water consumption

## Full conformity with quality, safety and environmental standards

- Electrical: exceeds the "M" type requirements of IEC 60 623, also significantly exceeds UIC 854 requirements
- Flammability, smoke emission and toxicity: NFPA130 (ASTM E 162, ASTM E 662), Boeing BSS7239
- Shocks & vibrations: IEC 61 373
- Quality: ISO 9001, IRIS, Saft world class continuous improvement program
- Environment: fully recyclable, ISO 14001, RoHS, REACH



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Doc No.: 22003-0918-2

Edition: September 2018

Data in this document is subject to change without notice and becomes contractual only after written confirmation by Saft.

Société par Actions Simplifiée au capital de 31 944 000 €

RCS Nanterre 383 703 873

Photo credits: Saft

Published by the TTG Communications Department

Produced in the UK by Arthur Associates Limited

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