SRM+ Ni-Cd battery

The optimized high-energy railway backup battery

Saft’s SRM+ nickel-based battery range assures continuity of onboard auxiliary backup applications and delivers outstanding performance, especially in arctic and desert temperature extremes.

Saft’s SRM+ high performance Sintered/PBE nickel-cadmium battery ensures reliable energy backup over a service life of more than 15 years and is fully recyclable. The single cell design offers a high level of flexibility in battery system configuration and the package has the same installation footprint as an equivalent block battery solution. SRM+ is purpose-designed to operate cost-efficiently and provides outstanding chargeability across a wide temperature range.

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
- Total reliability for high energy backup applications requiring “M” type performance, even in the toughest conditions
- Purpose designed for cost-effective solutions
- Optimized use of battery space
- Low LCC (Life Cycle Cost)
- Battery design offers complete flexibility
- Standardized or customized options available

| Temperature | Operating temperature | From -30°C to +50°C |
| Maintenance | Resistance to extreme temperatures | From -50°C to +70°C |
| 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 |
| Wide capacity range | Capacity range to optimize sizing to specific performances request | From 40 to 360 Ah |
| Available crates for easy integration & handling | For 2 to 8 cells |
Features

- Saft’s Sintered/PBE Ni-Cd technology ensures reliable and predictable service life (over 15 years), without risk of sudden death.
- Compact single cell design offers a 25% reduction in weight and installation footprint compared with SRM.
- Advanced electrolyte ensures excellent charge/discharge performance.
- Wide operating temperature range from -30°C to +50°C and resistance to extreme temperatures from -50°C to +70°C.
- Proven resistance to shocks and vibrations.
- Outstanding chargeability over an extended temperature range.
- Fast recharge (90% capacity achieved in 5 hours) for rapid return to service.
- Lower water consumption for optimized maintenance intervals.
- Flexibility in capacity, container type and maintenance systems.
  - 17 capacity steps ranging from 40 Ah to 360 Ah.
  - Containers available in various plastics (FRpp, P, F2).
  - Optional centralized water filling system.
- Compatible with Saft’s range of standardized battery systems or can be integrated into a customized tray, individually designed, engineered and tested to meet specific application requirements.

Full conformity with quality, safety and environmental standards

- Electrical: exceeds the medium “M” type requirements of IEC 60 623.
- Integration: EN 50547 railway auxiliary onboard battery.
- Shocks & vibrations: IEC 61 373.
- Quality: ISO 9001, ISO/TS 22163 (IRIS), Saft world class continuous improvement program.
- Environment: fully recyclable, ISO14001, RoHS, REACH.

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Chargeability with temperature compensation

Discharge at +20°C

Discharge 0.2C at various T°C