

ARROK® modular solution

Low voltage lithium-ion battery for off-road vehicles

ARROK® is a scalable battery solution developed by Saft for the unique requirements of off-road industrial vehicles.

ARROK® is based on Saft cells using lithium nickel manganese cobalt oxide (NMC) chemistry. The cells are integrated into a specialized battery design to ensure a high level of safety.

Our cells offer best-in-class energy density and operate reliably over a long cycle life and a wide range of temperatures.

Typical industrial applications

- Construction & mining
- Agriculture
- Material handling
- Urban equipment
- Ground support equipment
- Port equipment

Typical usage

- Traction for off-road electric vehicles
- Power for auxiliary equipment

Key benefits

- Capability to use the same product for different vehicle models to **avoid unnecessary development costs**
- **Increased** availability and **uptime** thanks to on-vehicle fast charging with no need for battery swapping
- **Optimized TCO** with reliable low-maintenance system
- **Future-proof system** thanks to Saft in-house chemistry updates




Key features

- Scalable in voltage and energy
- Ultra-compact design
- Fast charging
- Long life
- Robust casing ready to install directly in vehicle chassis

ARROK® low voltage features

- Stand-alone battery
- Perfect solution for 48 V and 96 V powertrain
- Energy scalability from 4,2 kWh up to 100 kWh

Modularity

Max number of ARROK® in series	2
Max number of ARROK® in parallel	12
Max scalable voltage	118 V
Max scalable energy	100 kWh
Battery Management System	Integrated

Nominal characteristics at + 25°C /+ 77°F

Capacity at C/5	82 Ah
Nominal voltage	51 V
100 % SOC voltage	57 V
0 % SOC voltage	45 V
Energy	4,2 kWh
Volumetric energy	216 Wh/L
Gravimetric energy	123 Wh/kg

Safety features

- ISO 26262 – ASIL B
- IP2x connector with poka-yoke
- Handling unit < 60 V

System features

- HMI LED indicator
- Constant power function
- Charge in workshop without COM

Mechanical features

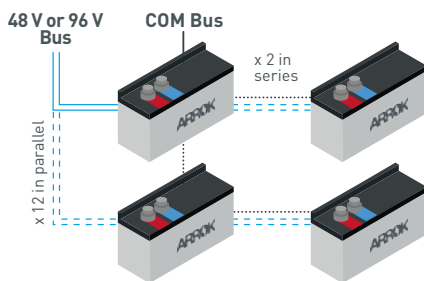
- Versatile fixing
- Robust aluminum construction
- Improved heat dissipation

BMS features

- CAN J1939-2020 standard
- UDS standard for diagnostics
- Single-chip monitoring

ARROK® LV Battery integrates

- Battery Management System (Self-power supply)
- Voltage, current & temperature monitoring
- Protection devices and pre-charge
- Passive balancing

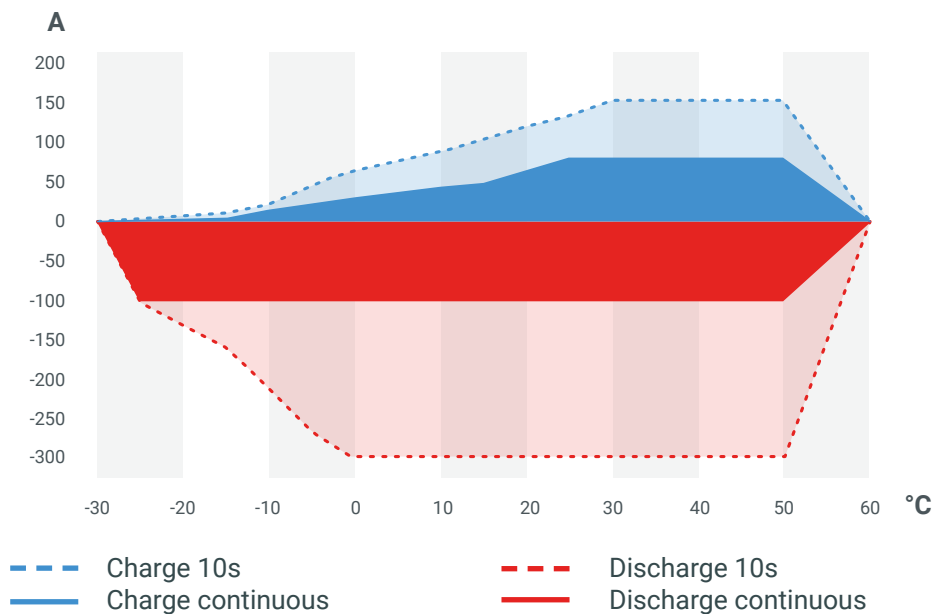


Dimensions	
Width	320 mm
Height	127 mm
Depth	477 mm
Weight	34 kg

Performances	
Cycling performance	2 500 cycles (80% DOD 1C/1C cycle)
Operating temperature	- 30°C to + 60°C
Storage and transportation temperature	- 40°C to + 70°C

Standards	
Safety	ISO 26262, IEC 62619, ECE R100-02, UN 38.3 (transport)
Performances & robustness	IEC 62620, ISO 16750, ISO 12405, ISO 20653
Electromagnetic compatibility	ECE R10, EN 61000, ISO 16750
Quality & environment	ISO 9001, ISO 14001

ARROK® current limits vs temperature



We understand that you need a reliable battery partner

That's why we manufacture our lithium-ion prismatic cells and ARROK® systems on highly automated assembly lines. With a worldwide presence, local teams and recognized expertise, Saft will support you at every stage of your electrification project.



Saft

26, quai Charles Pasqua
92300 Levallois-Perret - France
www.saftbatteries.com

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RCS NANTERRE 383.703.873