

FIAMM

Energy Storage
Solutions



SO|NICK

ST523 620V 23,5kWh

SODIUM NICKEL TECHNOLOGY

Application

- + Load Levelling
- + Power Quality
- + Renewable Resource Optimization
- + Utility Grid Ancillary Services
- + Microgrid

Battery technical features

- + Use of sodium and nickel as active materials with solid ceramic electrolyte
- + No memory effect
- + Specific energy: 70% lighter and 30% smaller than conventional batteries
- + Battery outside temperature only few degrees above the ambient temperature
- + Steel cell case and double stainless steel battery case
- + Integrated battery monitoring system (BMS) for monitoring, diagnostics and data logging
- + User interface on front panel
- + No memory effect



SoNick Solution Plus

Safety

- + Zero ambient emission
- + 100% recyclable
- + No hazardous components: intrinsically safe chemistry
- + Robust structure: safe from any physical damage

Modularity

- + Light and compact solution (high energy density)
- + Scalable with parallel operation
- + Compatible with DC power supply and bidirectional inverters

Flexibility of installation

- + Suitable for any place of installation (IP55)
- + Temperature: constant performance at -20°C to +60°C / -4°F to 140°F

FIAMM Manufacturing

Over 10 years experience with sodium nickel technology
ISO 9001 Quality Management System
ISO 14001 Environmental Management System

Applicable Standards

EN 61000-6-1
CE
CAS Nr 7440-02-0 - Nickel specification

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Characteristics

Cell Chemistry	Sodium Nickel Chloride (NaNiCl₂)		
Total Number of Cells	240		
Nominal Current Capacity	38 Ah		
Nominal Energy Capacity	23.5 kWh (100% efficiency, 100% DOD)		
Operation Voltage	Minimum	Nominal	Maximum
	450 VDC	620 VDC	641 VDC
Max Charge Voltage	700 VDC (DC Bus)		
Min Discharge Voltage	450 VDC (DC Bus)		
Operating Ambient Temperature	-20°C to 60°C / -4°F to 140°F		
Weight	256 kg / 564 lb		
Cooling	Not Needed		
Heating from cold to operation temperature	Take up to 24hr		

BMS Features

AUX Power for 24VDC feed	Depends on requirements
Monitor/Control	SOC Internal resistance measurement Balancing (between modules) Thermal management Fault detection Over/under voltage Over/under temperature Over current
Charge Control	Current control by IGBT
Communications	CAN Open, Modbus

