

Sodium Nickel Technology for Energy Storage Application: **FIAMM Cabinet 620 V 90 kWh**



FIAMM's solution for Community and Industrial Applications

Cabinet System

- + 620 VDC Battery System for Energy Storage
- + Suitable for On-Grid and Off-Grid applications as well as Micro-Grid
- + Solution up to 4 ST523 battery modules
- + 100% maintenance free in operation
- + System does not need to shut down to replace energy modules (increased uptime, system remains in operation)

Application

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

Applicable Standards

- + C.D. 2006/95/EC and C.D. 2004/108/EC
- + CEI EN 61000-6-2
- + CEI EN 61000-6-4
- + CEI 64-8
- + IEC EN 61439-1
- + IEC EN 61439-2
- + Non-Environmental Constraints according to 2012/18/EU

FIAMM Manufacturing

- + ISO 9001 Quality Management System
- + ISO 14001 Environmental Management System

Energy Spring Benefits



Safety

- + Zero ambient emission
- + No hazardous components
- + Redundant safety features (chemistry, cell, battery module and BMS)



Modularity

- + Scalable with parallel operation (up to 6 cabinets or 24 battery modules)
- + Compact footprint: high energy density and design
- + Compatible with DC power supply and bidirectional inverters
- + Front side access to batteries



Flexibility of installation

- + Indoor installation
- + Range of operating temperature in standard conditions: -20°C to 40°C

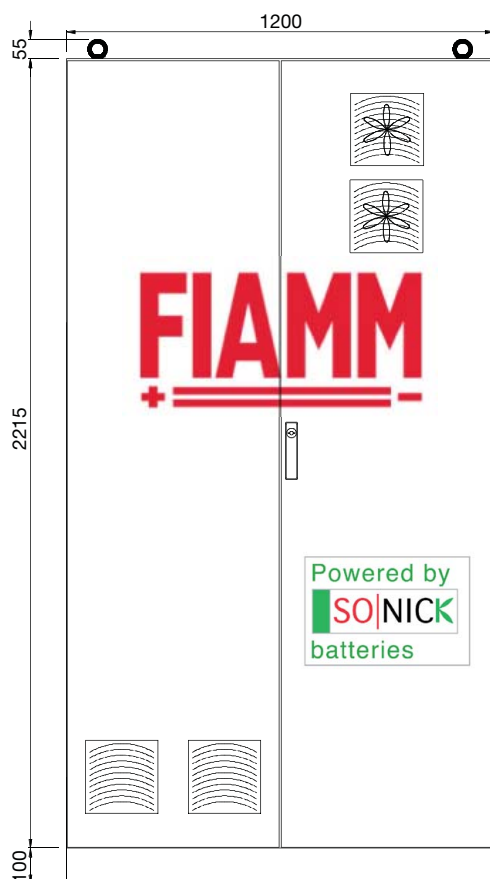
SoNick™ Technology Overview

- + Long-term safety and reliability with over 15 years of field deployment
- + Multipurpose application: EV, TLC, UPS, Railway
- + Over 100MWh installed globally
- + No auxiliary equipment (air conditioning, generator) needed

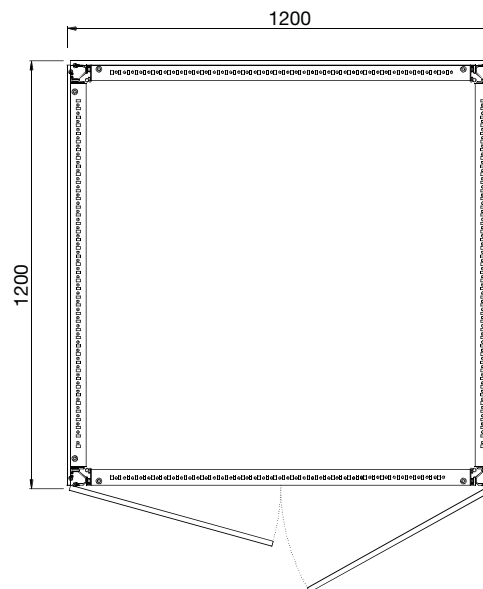
CABINET Technical Specification for configuration of 4 ST523

Battery / Chemistry Type	NaNiCl ₂
Constant Power Discharge (Rated)	25 kW for 3 hours
Nominal Energy Capacity	90 kWh (100% DOD)
System Rating (Voltage, Current Capacity)	Nom. 620 VDC, Nom. 152 Ah
Min / Max Operative System Voltages	500 VDC / 700 VDC
Standard Charge / Discharge hours	8 hours of charge, 3 hours of discharge
Standard Circuit Design	Up to 4 ST523 battery modules in parallel per Cabinet Up to 6 Cabinet in parallel (No. 24 FIAMM ST523 battery modules with one Gateway for communication)
Enclosure Dimensions	L: 1200 mm H: 2300 mm W: 1200 mm
Weight	1500 kg
Heater Consumption during floating	<700 Wh
Ventilation	Not need Air Conditioning, only forced-air ventilation for power electronics
Design Cycle Life	4500 Cycles at 80% DOD
Product / Material Specifications	Please refer to ST523 battery specifications
BMS Characteristics	Please refer to ST523 battery specifications

Front View



Top View



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