



## 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

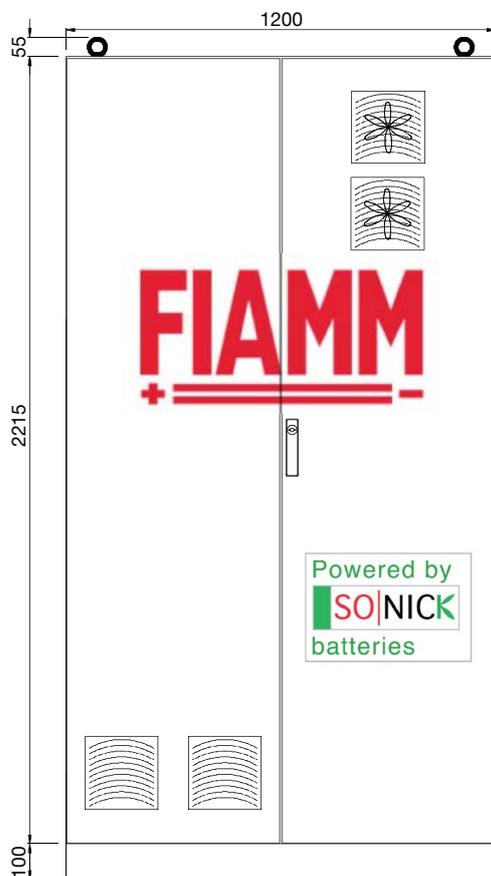
### SoNick™ Technology Overview

- + 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

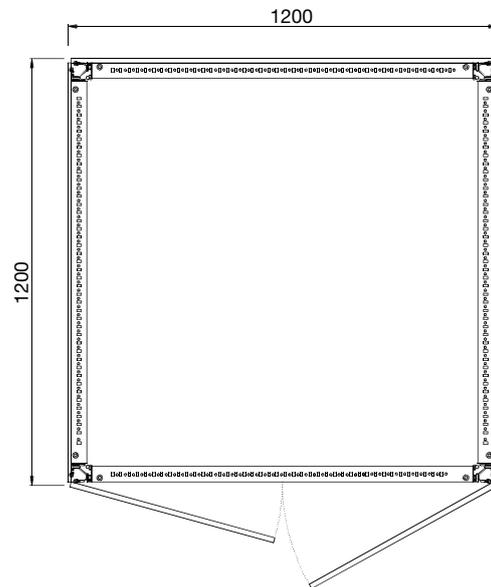
## CABINET Technical Specification for configuration of 4 ST523

<b>Battery / Chemistry Type</b>	NaNiCl <sub>2</sub>
<b>Constant Power Discharge (Rated)</b>	25 kW for 3 hours
<b>Nominal Energy Capacity</b>	90 kWh (100% DOD)
<b>System Rating (Voltage, Current Capacity)</b>	Nom. 620 VDC, Nom. 152 Ah
<b>Min / Max Operative System Voltages</b>	500 VDC / 700 VDC
<b>Standard Charge / Discharge hours</b>	8 hours of charge, 3 hours of discharge
<b>Standard Circuit Design</b>	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)
<b>Enclosure Dimensions</b>	L: 1200 mm H: 2300 mm W: 1200 mm
<b>Weight</b>	1500 kg
<b>Heater Consumption during floating</b>	<700 Wh
<b>Ventilation</b>	Not need Air Conditioning, only forced-air ventilation for power electronics
<b>Design Cycle Life</b>	4500 Cycles at 80% DOD
<b>Product / Material Specifications</b>	Please refer to ST523 battery specifications
<b>BMS Characteristics</b>	Please refer to ST523 battery specifications

Front View



Top View



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