

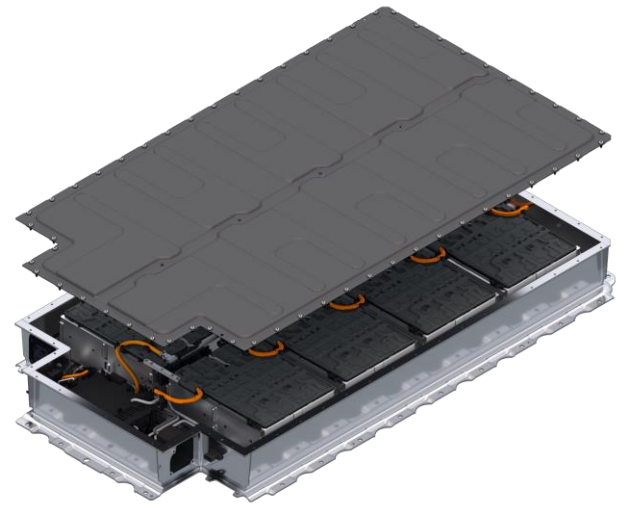
# LION Smart Storage Power 53 Datasheet



Industry and Commercial  
Energy Storage



Uninterruptible  
Power Supply



## Features

### Availability

- Samples on pack-level available Q1/2025

### Backward compatible

- Same interfaces and form factor as LION Smart Storage Power 42

### High peak power

- High peak power capability
- Fast charging compatibility

### Customizable setup

- Connectivity up to 12 batteries via gateway up to 634 kWh
- 400V and 800V architectures possible

### High quality components

- NMC battery cells
- High quality electronic components and algorithms

### Easy integration

- Contact protection on pack level
- Standardized interfaces & customized software

### Designed for critical mobility applications

- Safety certified Battery Management Systems (BMS)
- Robust passive safety structure



Preliminary, subject to change  
without notice

## Standards Compliance

- ECE R100 Battery safety
- ECE R10 EMC
- UN 38.3 Transport Safety
- ISO 16750 Environmental conditions
- Functional safety
  - IEC 61508 SIL 2
  - ISO 26262 ASIL C

## Applicable Conditions

- Optimized shipping quantity:
  - Europe: 42 packs in wooden box
  - Overseas: 48 packs in wooden box

## Contact Info

[sales@lionsmart.com](mailto:sales@lionsmart.com)



Parameter	Unit	Value*
Configuration (Modules x Cells)		96s1p (8 x 12)
Battery Cell Chemistry		NMC
Charging end point (operation)	V	417.6
Nominal Voltage (DC)	V	359.0
Discharge end point (operation)	V	268.8
Nominal Capacity	Ah	147
Energy Content (nominal)	kWh	52.8
Energy Content (usable)	kWh	47.4
End of Life (State of Health)*	%	70
Cycle Life (@25°C ambient, 1C/1C & 100% DoD)	#	>2500
Cycle Life (@25°C ambient, 1C/1C & 80% DoD)	#	>3000
Cell (JR) Temperature Range - Operational Cell (JR) Temperature Range - Optimal	°C	-40 <-> 53 17 <-> 28
Storage heating	kW	1 (optional equipment)
Protection class (IP class)		IP67, IP6K9K
Dimensions (L x W x H) Housing	mm	1662 x 964 x 174
Total Weight (depending on variant)	kg	approx. 280
Humidity Range (during storage)	%	0-90 (no condensation)
Cooling (Direct Refrigerant)		By coolant R1234yf; R134a; water-glycol
Certificates, Norms & Standards (To be discussed in detail depending on application & use case)		Fully compliant for a wide range of mobile and stationary energy storage applications and use cases.

\*Further use beyond this point is not recommended for safety reasons.



# The Future Of Battery Technology

LION Smart