

Intensium® Max 20 High Energy

2.3 MWh high energy lithium-ion battery storage container

The Intensium® Max 20 High Energy is Saft's unmanned and ready to install Energy Storage System (ESS) in a 20-foot container, enabling utility-scale storage solutions for grids, renewables and industries.

Benefits at a glance

1 Flexible

High energy density building blocks, suitable for storage assets ranging up to several hundreds of MWh

2 Project de-risking

Quick and cost-effective installation of containers, 'plug and play' delivered and factory tested

3 Easy system integration

Compatible with most Power Conversion Systems available in the market

4 Maximized energy storage economics

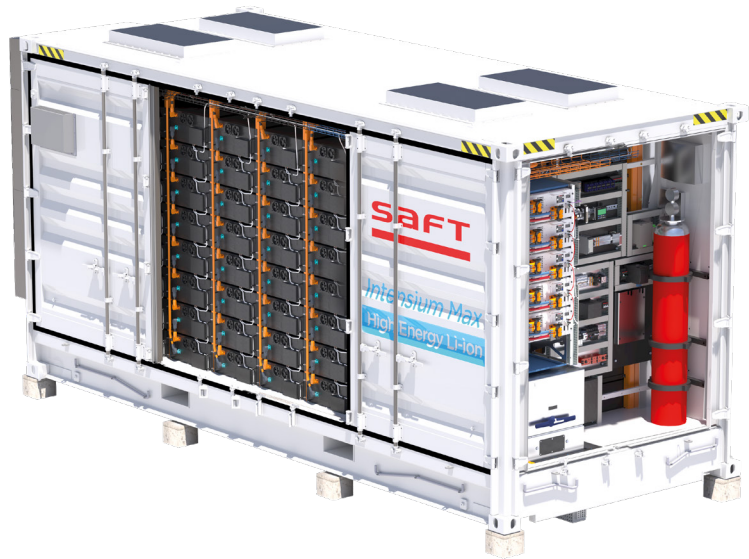
- Optimized energy and power availability over SoC
- Multiple charge-discharge cycles per day with minimum auxiliary consumption
- Long lifetime cells and optimum thermal management
- High availability and service ability

5 Low maintenance with Saft I-Sight

Real-time battery control, supervision and big-data publishing platform for enhanced analytics and services

6 Safety driven design

To guarantee safe behavior during operations and in case of an abusive event, protecting assets, operators and first responders



Built with advanced Lithium Iron Phosphate (LFP) technology, the Intensium® Max 20 High Energy is a fully integrated storage system, combining high energy density with high levels of safety, operational reliability and compliance with international standards.

The design choices of the Intensium® Max 20 High Energy are leveraging 10 years of technology and operational experience in multiple applications and environments to maximize the value of your next battery Energy Storage System asset.

Applications

- Integration of renewables: smoothing, shifting, minimizing curtailment
- Peaking capacity
- Transmission & Distribution grid support
- Energy management in large C&I sites
- Microgrids

Features

Advanced industrial design offering highest safety and robustness

- Unmanned container with external access, fully assembled and tested within Saft manufacturing hubs
- Single, easy access distribution cabinet integrating all power and control interfaces, supervision and safety devices

Proven architecture for high availability

- Individually connectible strings with one Battery Management Module per string
- Master Battery Management for global charge and discharge management, auxiliary equipment monitoring and diagnostic functions
- I-Sight platform for external communication, battery containers parallelization, remote monitoring and supervision, data management to lower operation and maintenance with a high cybersecurity level

Sophisticated battery management for enhanced operability

- Monitoring and control of voltage, current and temperature
- Balancing of State of Charge (SoC) between cells and strings
- Real-time indication of SoC
- Alarms and faults management

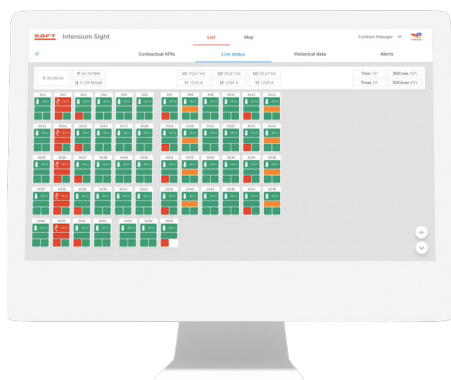
- Indication of State of Health (SoH) integrating cycling and calendar aging

Advanced thermal management system based on air conditioning unit and controllable fans

- High cooling efficiency
- Temperature homogeneity within containers

Safety driven design to guarantee safe behavior in case of abuse usage or cell thermal runaway at module, string and container levels

- UL9540A tested Lithium Iron Phosphate (LFP) technology
- Short-circuits, over-currents, over-temperature and over-voltages management
- Stop push button, disconnect switch, ground fault detection
- Fire detection and two levels of suppression systems (gas, water) to fight fires in their initial stages and prevent collateral damages
- Blast panels on the container roof
- Safety features focus to protect first line intervention personnel



Electrical	
Rated energy (C/5) ¹	2.3 MWh
Discharge duration range	1 – 4 hours
Voltage range	1040 V – 1400 V
Rated DC power	1.1 MW charge/discharge
Rated current	900 A charge/discharge
Maximum DC power	2.2 MW charge/discharge
Maximum current	1800 A charge/discharge

¹According to IEC 60620

Mechanical	
Dimensions (L, H, W) without HVAC	6.1m, 2.9m, 2.4m / 20ft, 9ft 6in, 8ft
Dimensions (L, H, W) with HVAC	6.7m, 2.9m, 2.4m / 22ft, 9ft 6in, 8ft
Weight	< 30,500 kg / 60,000 lbs
Container protection class	IP 54 (operation)

Operating & storage conditions	
Ambient temperature	-20°C/+45°C
Design lifetime	≤ 20 years
Altitude above sea level	≤ 2000 m
Ambient relative humidity	Up to 100%
Storage temperature	-20°C/+45°C
Storage time	12 months (under conditions)

Saft I-Sight platform	
Features	Local HMI and cloud interface
External controllers	Sunspec MESA, Modbus TCP/IP

Standards	
Safety	IEC 62619, IEC 62477, UL 1973, UL 9540, UL 9540A
Marking	CE, UL
Directives	REACH
Manufacturing hubs	ISO 9001, QS 9000, ISO 14000
Cybersecurity	IEC 62443-4-2
Transport (fully populated)	UN3536

Saft I-Sight energy and asset performance

Intensium® - Sight is Saft's real-time battery control, supervision and big-data publishing platform for enhanced analytics and services; it enables storage asset owners access to highly granular system data. Saft I-Sight has a high level of cybersecurity, ensuring data confidentiality, product availability and safety.



Saft

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