

Intensium 1 Energy

1U rack-mount lithium-ion battery systems for telecom High Energy

Intensium 1 has been designed to suit the various power and energy requirements to back-up telecom equipment.

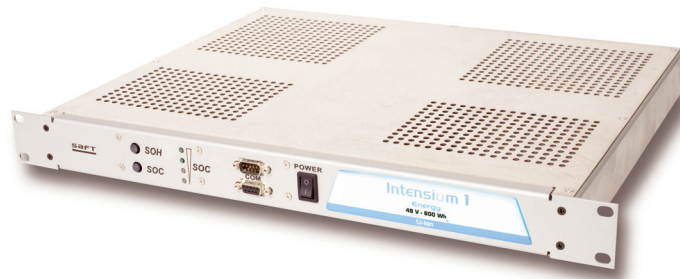
Its unsurpassed compactness leaves ample room for the value-generating equipment in the cabinet. With its reduced volume, top reliability and ease of operation, Intensium 1 represents a breakthrough in the way batteries are designed, installed and operated in various applications (micro-BTS, macro-BTS, ONU, HFC, RT, CPE,...)

Features

- Hot-swappable, rack-mount ETSI format
- Integrated 48 V system ensuring Energy Storage in 1U
- Parallel operation
- Built-in battery control for efficient operation
- 5-level redundant safety
- Comprehensive communication
- Compatible with standard telecom rectifiers
- RoHS and LFS compliant

Benefits

- More cabinet space for value-generating equipment
- Less weight for rooftop or pole-mounted sites
- No active cooling system required
- Easier site planning and installation
- Simplified power systems (no BFU required)
- High operational reliability
- Long working life
- Preventive but not premature battery replacement at end of life
- Optimized supervision strategy



Intensium 1 Energy



	Intensium 1 Energy 48 V - 300 Wh	Intensium 1 Energy 48 V - 600 Wh
Nominal characteristics		
Nominal voltage [V]	48	48
Capacity* [C/B] [Ah]	5.7	11.4
Energy* [C/B] [Wh]	300	600
Mechanical characteristics		
Width (mm)	213 (half-width 19")	426 (19" compatible)
Height (mm)	44 (1U)	44 (1U)
Depth (mm)	350	350
Weight (kg)	4.8	9.0
Electrical characteristics		
Voltage window [V]	40.5 to 57.0 according to ETSI 300.132.2	
Charge voltage range [V]	54.6 to 57.0**	54.6 to 57.0**
Max. permanent discharge current [A]	12	24
Recharge time [h]	≤12	≤12
Loads at various back up times		
30 min* [W]	500	1000
1 hour* [W]	270	540
2 hours* [W]	140	280
4 hours* [W]	72	144
8 hours* [W]	37	75

* Ufloat 57.0 V, Ucutoff 42 V, +20°C/+68°F

** Available capacity is reduced at charge voltages below 57.0 V

Functional characteristics

Saft Li-ion technology

MP 176065 HE cells using proven cobalt-based lithium-ion technology.

- Outstanding working life at high temperature
- Stable internal resistance over entire life
- Industrial production for both defense and civil high-tech applications
- UL 1642 certified
- 28-cell assembly: minimal connections for increased reliability

Control for efficient operation

- Active vs. sleep (storage, prolonged outage) modes
- Charge/Floating/Discharge management
- Cell balancing

Mechanical interface

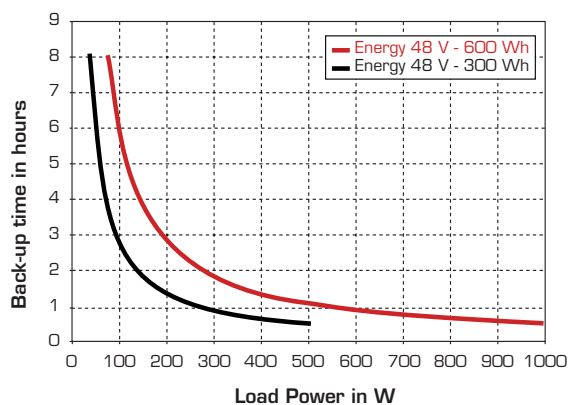
- ETSI 19 inches, 1U rack-mount design
- Installation on standard telecom equipment racks

Communication

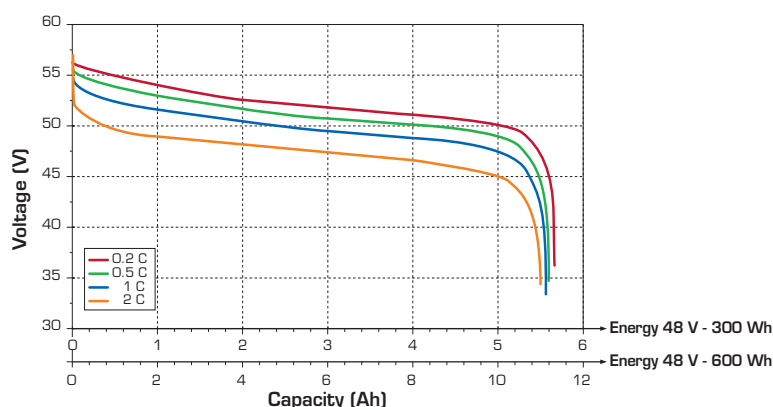
The battery system informs the user or the application, either via communication interface (CANbus, RS232, dry-contact ...) or visually (LEDs on front panel):

- State of charge, state of health
- Alarm level (minor, major), alarm reason (abusive conditions, failure, low SOC)
- Operating conditions (voltage, temperature, identification number)

Intensium 1 Energy Back-up time in hours at different loads



Intensium 1 Energy Typical discharges



	Intensium 1 Energy 48 V - 300 Wh	Intensium 1 Energy 48 V - 600 Wh
Operating conditions		
Lifetime at +20°C perm. (+68°F)		10 years
Lifetime at +40°C perm. (+104°F)		5 years
Maintenance requirement	Zero maintenance throughout lifetime	
Storage duration	12 months +25°C/+77°F (no electric maintenance)	
Operating temperature	-30°C*** to +60°C/-22°F*** to +140°F	
Storage temperature	-40°C to +65°C/-40°F to +149°F	
Seismic requirement compliance	GR-1089-CORE Zone 4	
Transport regulation compliance	UN 3090 - Equivalent to applicable EN regulation	
EMC standard compliance	EMC EN 300-386/ EN 61 000 chapter 4.2, 4.3, 4.4, 4.5, 4.6, 4.8/EN 55022	
Environmental standard compliance	ETSI 300.019.1.1. class 1.2/ 300.019.1.2. class 2.3/300.019.1.3 class 3.3	
Safety standard compliance	at cell level:	UL 1642
	at battery level:	IEC 60 950 and GR 3150
Certification	CE, UL, NEBS Telcordia GR 1089 and GR 63	
Protection class	IP 30	

*** Special version for low-temperature operation

Safety

5-level redundant safety design to cope with component failure or abusive conditions:

- Electronic board at battery system level
- Electronic board at 7-cell pack level
- 3 levels on **each** cell (current breaker, shutdown-effect separator, mechanical vent)

Industrial vision

Intensium 1 has been developed and qualified to suit the demanding requirements of performance and operational reliability of our customers,

who are manufacturing or operating high-value, industrial equipment.

Intensium 1 is made of proven components (cells, electronics) which are also employed in demanding space, automotive and other civil applications. Cell manufacturing is carried out on established industrial production lines. Manufacturing plants comply with the legislation in force in each country and with international quality standards (ISO 9001, QS 9000).

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