Intensium 3

High energy, 3U rack-mount lithium-ion battery system

Intensium 3 has been designed to provide power backup for remote or outside telecom plants like Access Terminals, Base Transceiver Stations, Base Station Controllers. They are also suitable to provide bulk power in Central Offices.

This "all included" stand-alone battery system now provides the benefits of Saft Li-ion technology in a qualified industrial design: Intensium 3 provides maintenance-free energy storage in a reduced volume, combining high operational reliability with outstanding life time under the most difficult environmental conditions.

Features

- Hot-swappable, rack-mount ETSI format
- Integrated 48 V system containing 2.3 kWh of energy
- Parallell operation, for scalability
- Energy density of 125 Wh/dm³, surpassing most advanced VRLA designs
- State of charge and state of health indication
- Built-in battery control for efficient operation
- Redundant safety
- Comprehensive communication
- Compatible with standard telecom rectifiers
- RoHs and LFS compliant

Benefits

- Increased energy in given space
- Easy installation and upscaling
- High operational reliability
- Optimized supervision strategy through remote control/diagnostic
- Very long life time
- Preventive but not premature replacement at end of life

	Intensium 3 Energy
Nominal characteristics	
Nominal Voltage (V)	48
Capacity* (C/8) (Ah)	45
Energy* (C/8) (Wh)	2 300
Volumetric energy density*** (Wh/dm³)	125
Gravimetric energy density (Wh/kg)	102
Mechanical characteristics	
Width (mm)	424 (19")
Height (mm)	130 (3 U)
Depth (mm)	332
Weight (kg)	22,5
Electrical characteristics	
Voltage window (V)	40 to 56
Charge voltage range (V)	54.6 to 56.0**
Max. permanent discharge current (A)	100
Recharge time (h)	24
Faradic charge efficiency (+20°C/+68°F)	99%
Energy charge efficiency (+20°C/+68°F)	96%
Backup time at various loads*	
30 min (W)	3 200
1 hour (W)	1 980
3 hours (W)	690
5 hours (W)	425
8 hours (W)	287
Operating conditions	
Lifetime at +20°C perm (+68°F)	20 years
Lifetime at +40°C (+104°F)	>10 years
Cycle life (80% dod; +20°C/+68°F)	> 3 000 cycles
Operating temperature	–25°C/+60°C (–13°F/+140°F)
Storage temperature	–40°C/+65°C (–40°F/+149°F)
Transportation 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
Safety standard compliance at battery level	IEC 60 950
Certification	certification CE - designed to meet GR 1089 and GR 63
Protection class	IP 41

* Ufloat 56 V Ucutoff 42 V, +20°C/+68°F

** Available capacity is reduced at charge voltages below 56 V

*** Volumetric energy density: 132 Wh/dm³ at +40°C/+104°F

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Functional characteristics

Saft Li-ion technology

Intensium 3 contains VLE cells with advanced nickel-based lithium-ion technology:

- Outstanding calendar and cycle life and reliability at high temperature
- Industrial production for high tech-applications such as space & defense, electric vehicles, robots, etc.
- Stable internal resistance over entire life
- High reliability by using high capacity cells: avoids massive cell paralleling within a 48 V module

Control for efficient operation

- On/Off switch
- Active/Sleep (storage, prolonged outage)/Alarm modes
- Charge/Discharge management
- Cell balancing

Mechanical & electrical interface

- ETSI 19 inches, 3U rack-mount design
- M6 terminals on front panel

Communication

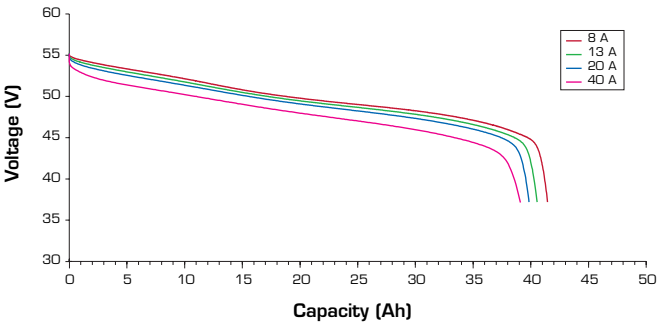
- The battery system informs the user or the application, either via communication interface (CANbus, RS 232, dry-contact…) or visually (LEDs on front panel)
- State of charge, state of health
- Alarm level (minor, major); alarm reason
- Operating conditions (voltage, temperature, identification number)

Safety

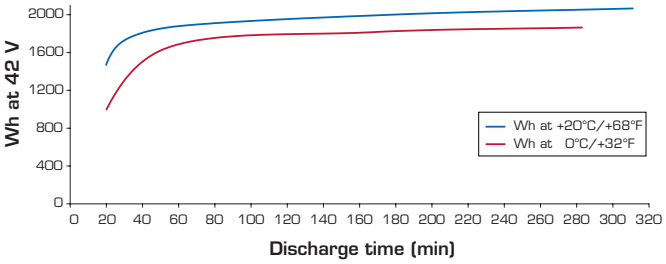
Redundant safety design to cope with component failure or abusive conditions:

- At battery system level: electronic board, reversible protection, separate power switches in charge and discharge circuit
- At 7-cell pack level: electronic board, individual cell voltage monitoring
- At cell level: shutdown-effect separator, mechanical vent & current breaker

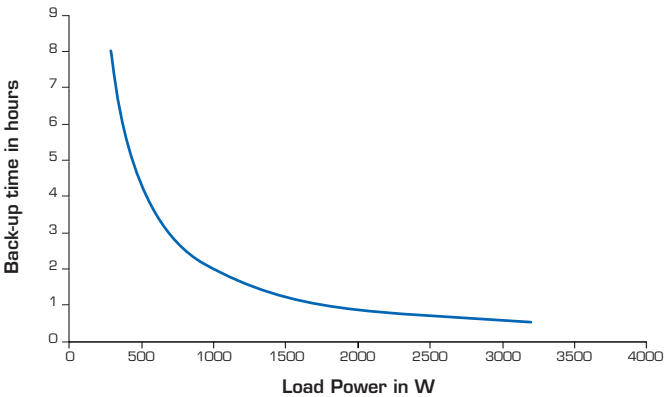
Intensium 3 - Energy
Typical discharge at +20°C/+68°F after charge to 56.0 V*



Intensium 3 - Energy
Available energy after charge to 56.0 V



Intensium 3 - Energy
Back-up time in hours at different loads*



* (Ufloat 56 V, Ucutoff 42 V, +20°C/+68°F)

Industrial vision

Intensium has been developed and qualified to suit the demanding requirements of performance and operational reliability telecom OEM's and operators, who are manufacturing or operating high-value, industrial equipment.

Intensium 3 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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