



**international  
battery®**

**Bulk Energy Storage includes:**

- Integral, active cell balancing
- Communication ports
- Add-on configurations /scalable energy
- Cells with UN Transport Certification
- Modular and Scalable Design

**Control Module includes:**

- Isolation Contactor
- Current Monitoring Shunt



**HyperClass™ Lithium-ion  
150 to 300kWh  
960VDC  
Bulk Energy  
Storage System**



Thirty "1x10" HyperClass™ battery modules, series wired cells with battery management system-ready to connect to PCS on-site, into strings of energy storage

Large scale ESS, DES, and BESS energy storage by International Battery consists of 150kWh to 500kWh strings scalable to megawatt size systems. Strings feature large format, prismatic, rechargeable Lithium-ion batteries that are well suited for a wide range of energy storage applications and ready to pair with inverters, chargers, & power conditioners. Strings utilize advanced large format Lithium-ion cells that provide excellent peak power and operating time.

HyperClass™ Module includes:	Lithium Iron Phosphate (LFP) battery cells wired in series strings. Battery Management System developed by International Battery. Thermal Management.
Performance features:	DC/DC(energy storage) Round trip Efficiency 90% (kWh). Low Maintenance. BMS monitoring /state of charge /at the individual cell level. High Energy Density. Small Footprint. Wide operating temperature range. High discharge currents. Reliable with long cycle life. Maximum Safety / High level of abuse tolerance.
Configurations:	Typical 480VDC and 960VDC series wired strings, easily configurable for multiple string applications. Battery modules placed on racks. Control box size will vary depending on size of system.
Options:	Remote Monitoring Stackable tray packs (Specify suffix NTS) Extended Service Plan NEMA rated cabinets Companion Inverter, Charger, or power conditioner

## Typical configuration specifications

<b>Module Example: IB 32VDC 010 ESS 160 LFP MB SOA NR SP</b>			
<b>Specifications: 32 VDC Module</b>	<b>One Module / 10 LFP cells</b>		
Cell Chemistry	Lithium Iron Phosphate (LFP)		
Nominal Capacity at 25 °C	160 Ah @ C/3		
Nominal System Energy Capacity	5.12 kWh (100% efficiency)		
Battery Voltage	Min	Nom	Max
	25 VDC	32 VDC	36 VDC
Maximum Charge Voltage	36 VDC		
Minimum Voltage	25 VDC		
Charge Time C/2	2 hours		
Self Discharge	<3% per month		
Total Number of Cells in example	1 module of 10 cells		
System Configuration	10 cells in series, 1x10 block		
Temperature: Charge	0°C to 50°C		
Temperature: Discharge	-20°C to 60°C (@-20°C discharge ≥C/10)		
Storage Temperature	-30°C to 60°C		
Balancing	Active		
Calendar Life	10 years		
Nominal Module Size	nom 15" w X 15" d X 15" h, use upright		
Example Module Weight	67.3kg / 148 pounds		

HyperClass™ 1x10 battery can be series wired for systems from 10kWh to 150kWh. (multiple parallel strings are required for Bulk Energy Storage systems BESS)



<b>150kWh Example: IB 960VDC 300 ESS 160 LFP MB SOA NR SP</b>	
<b>Specifications: 960VDC string</b>	<b>30 Modules / 300 LFP cells /series</b>
Cell Chemistry / Large Format	Lithium Iron Phosphate (LFP)
Control box & shut off box included	
<b>300kWh Example: IB 960VDC 600 ESS 160 LFP MB SOA NR SP</b>	
<b>Specifications: 960 VDC strings</b>	<b>60 Modules / 600 LFP cells</b>
Cell Chemistry / Large format	Lithium Iron Phosphate (LFP)
2 Control boxes & shutoff box included	
<b>1/2 MWh Example: IB 480VDC 1500 BESS 160 LFP MB SOA NR SP</b>	
<b>Specifications: 8 x 75kWh strings</b>	<b>8 strings / 120 modules / 1500 LFP cells</b>
Cell Chemistry / Large Format	Lithium Iron Phosphate (LFP)
Control boxes & shut off box included	(Typically 4 strings per 250kW inverter)

Consult International Battery Applications Engineering Department for specifics on your job.

See HyperClass™ Cell Specification sheet for specific characteristics  
Batteries are shipped at 40% State of Charge

Specifications subject to change

Cycle life testing is ongoing at KEMA labs

Control box for each string up to 250kWh

1x10 modules begin with large format LFP cells



Communications ports allow constant monitoring of all modules of HyperClass™ battery cells



International Battery also offers nom 4 kWh 1x8 and 4.5kWh 1x9 modules.



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QUALITY MANAGEMENT SYSTEM  
CERTIFIED BY DNV  
ISO 9001:2008



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