



nyobolt

AUTOMOTIVE

Light Commercial Vehicle



Nyobolt ULTRA packs deliver unprecedented charge time in under 10 minutes with over 4000 cycles, raising the bar on operational performance and increasing uptime and payload driving lower total cost of ownership.

The ULTRA module is scalable in series and parallel to support a range of on-highway commercial vehicle applications from light-to-heavy duty commercial vans, trucks and semis.



Key Features

- 100% usable battery capacity.
- Excellent temperature performance by maintaining very low temperature increase via low internal resistance over full SOC range.
- The module has integrated cell voltage and temperature monitoring with passive balancing and isolated SPI communication allowing it to be daisy chained.
- Up to 64 modules can be connected together in series and parallel to form a high power battery up to 1000V.
- The module is liquid cooled via a coldplate that can be supplied as an integrated assembly.

Use in commercial fleet applications:



Maximize fleet productivity by **recharging in less time** than it takes to reload a vehicle



Simplify fleet charging queues by recharging in minutes with a central charge point



Decrease costs for multishift operations by reducing the fleet size



Facilitate just-in-time pick-up/delivery logistics

Specification

HPMOD-ULTRA-390-7S3P

Cell Type	52Ah Pouch
Cell Dimensions	350mm x 104mm x 11.7mm
Cell Weight	820g
Module Configuration	7S3P
Rated Capacity / Energy	156 Ah / 4.1 kWh
Nominal Voltage	25.9 V
Max Voltage	29.4 V
Min Voltage	18.9 V
Peak 2 second charge / discharge power	32kW / 32kW
Peak 10 second charge / discharge power	28kW / 28kW
Continuous charge / discharge power	21kW / 21kW
Cycle Life	> 4000 fast charge cycles to 80% SOH
Weight (excluding coldplate)	21.5 kg
Dimensions	L390 x W304 x H106 mm (12.6L)
Cooling	Coldplate water-glycol (optionally integrated)
Operating Temperature	-10 to +40 °C
Protection	IP40
Certification	Certified and tested to ECE R100.2 and UN38.3

Example Applications

The ULTRA module is scalable in series and parallel to support a range of batteries from 48V to 1000V. This supports application areas such as factory robots and forklift trucks through to electric vehicles for commercial, off-highway and marine.

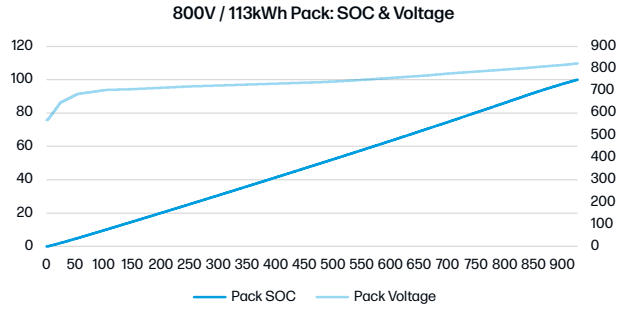
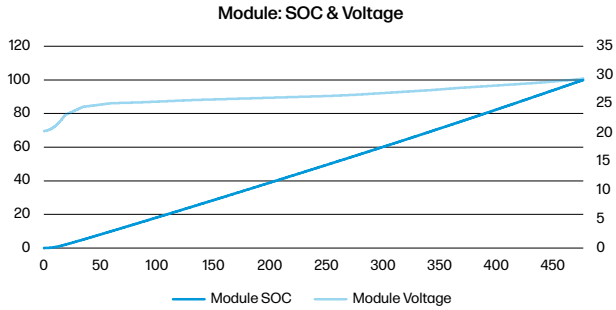
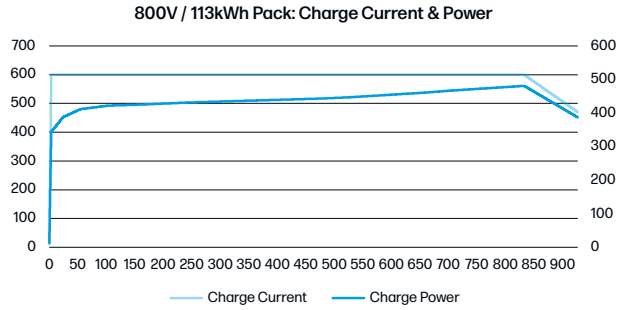
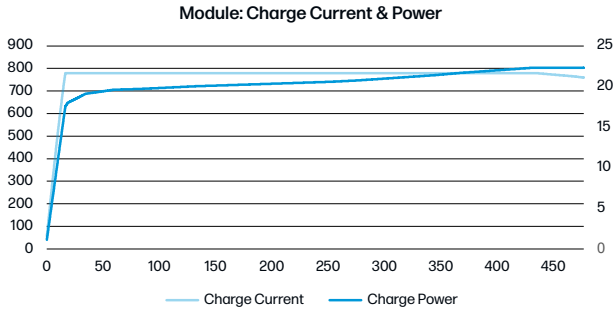
It can be used with the Nyobolt battery management system with its integrated cell monitor interface and power distribution unit. The battery management system has advanced monitoring and software algorithms for tracking the status and health of the battery through its life. The safety architecture comprises a main micro and safety micro to conform with requirements such as ISO 26262 to ASIL-C.

A maximum of 64 modules can be connected to each cell monitor interface which communicates with the battery management system over CAN. The battery management system can support connection of up to 2 cell monitor interfaces to give capability for monitoring up to a total of 768 series cells.

Example specifications for a 400V and 800V battery pack:

	400V xEV	800V xEV
Number of Series Modules	16	28
Number of Parallel Modules	1	1
Rated Capacity / Energy	156 Ah / 65 kWh	156 Ah / 113 kWh
Usable Energy	59 kWh	102 kWh
Nominal Voltage	414 V	725 V
Max Voltage	470 V	823 V
Min Voltage	302 V	529 V
Peak 2 second charge / discharge power	520kW / 520kW	900kW / 900kW
Peak 10 second charge / discharge power	450kW / 450kW	780kW / 780kW
Continuous charge / discharge power	330kW / 330kW	560kW / 560kW
10%-90% Charge time with 500A/350kW Charger	< 10-minutes	< 10-minutes

Module and Pack Charge profiles, limited to 600kW/600A charger:





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More power in less time

To find out more visit
www.nyobolt.com

Or contact us at
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