WATTALPS Battery System

Immersion Cooling Technology

Packs from 48 V up to 800 V



WATTALPS battery systems are composed of modules containing li-ion cells, a temperature control system, a junction box and a BMS.
. The cells and busbars inside the modules are fully immersed in a dielectric fluid.
. All modules have identical dimensions & voltage. They can be connected in series from 48 to 800 V and in parallel to achieve the targeted energy.
. Three families of cells have been qualified to fit your application needs.

Module Families	High Energy	Fast Charge & Life	Performance Power
Key usage	**For full-day autonomy**	**For regular fast charge**	**Most advanced solution for frequent fast charge and hybrid applications**
Key Features	- Highest energy density - Punctual fast charge possible	- Good energy density - Good cycle life with repeated fast charges	- Ultra-fast charge and regen. - Good energy density
Cell Category	High Energy (HE)	Fast Charge & Life (FCL)	Performance power (PP)
Discharging Power 80% SOC			
- **Continuous**	**2.5 C**	**2.0 C**	**5.2 C**
- Peak 10s	3.7 C	6.3 C	7.3 C
Charging Power 20% SOC			
- Continuous for life optimisation	0.2 C	0.5 C	1.0 C
- **Continuous** fast charge / regen.	**1.0 C**	**1.0 C**	**2.9 C**
- Regen. 10s	1.9 C	7.4 C	7.7 C
Energy per module	1 764 Wh	1 464 Wh	1 512 Wh
Module Size (W x L x H)	200 x 335 x 90 mm (without connectors) ; 200 x 380 x 90 mm (including connectors and cover)		

System Specifications	
System Voltage	From 48 V up to 800 V
Energy density	Volumetric: up to 250 Wh/l ; Gravimetric: up to 140 Wh/kg
Power density	Volumetric Continuous: up to 1 160 W/l discharge; up to 635 W/l charge Gravimetric Continuous: up to 630 W/kg discharge; up to 345 W/kg charge
Cycle Life*	To be calculated upon Average Temperature, Depth of Discharge (DOD), Charging Rate (C), State of Charge (SOC), End of Life State of Health (SOH)
Immersion cooling	- Cells **and** busbars fully immersed. - Biodegradable and non toxic dielectric fluid. - No fluid maintenance required during entire battery life. - Integrated coolant circuit with high thermal inertia. - High efficiency active thermalization with heating and/or active cooling as option.
Functional safety	- BMS developed by WATTALPS and certified according to ISO 26262. - Non propagation of cell thermal runaway. - Passive safety & gas venting channel included.
Applicable standards*	R100 Rev.**5** / R10 / IEC62619 / UN 38.3 /Bureau Veritas Marine type approval.
Protection rating	IP67 / IP69K / IPXXB even with open connectors.
Battery ambient operating temperature	From -20°C up to + 60°C
Module position	All X, Y, Z, orientations are possible.
Second life & recycling*	Yes

* Please consult us
sales@wattalps.com

wattalps®

TDS-006774D-01 WATTALPS © Content is not contractual, and is subject to change without notice. Last update: November 2026.