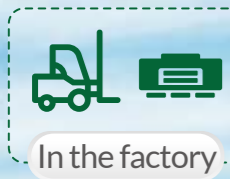
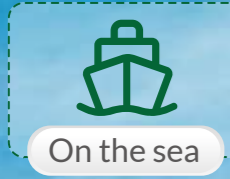
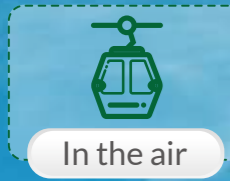


## TWS Lithium-ion Battery Solutions Powering Your Equipment with Confidence



# About TWS

## Dynamic Leadership in Innovative Rechargeable Lithium-ion Battery Solutions

TWS, a dynamic and global industry leader focused on providing innovative Lithium-based battery technology solutions, was founded in 1998. With over 25 years development, we have now grown to about 2,000 global employees to service the worldwide markets. TWS always follows the practice of customer-focused values and we're committed to providing innovative solutions in response to the rapid growth of new lithium-ion battery applications.

Founded in <b>1998</b>	Tech Centers <b>6</b>	Factories <b>4</b>
Patents <b>80+</b>	Active SKUs <b>500+</b>	Batteries Sold <b>300,000,000+</b>



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[@TWS-Technology](#)

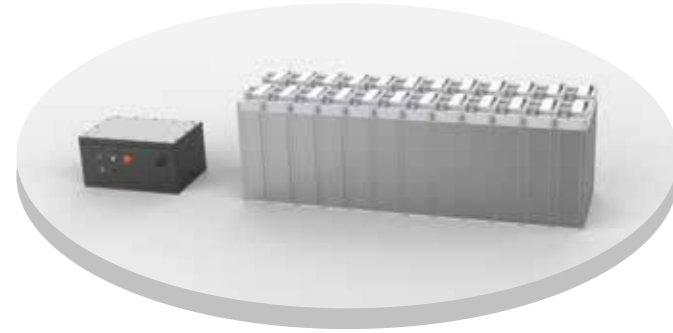
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## TWS HYPERPOWER Battery Cluster System Solution





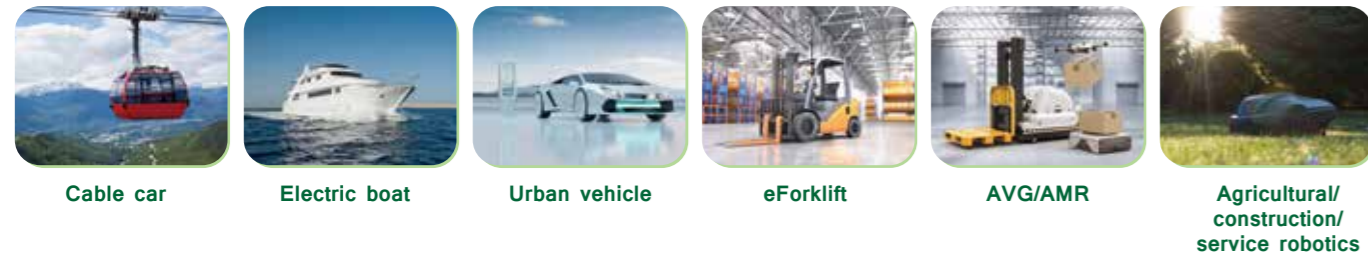
TWS 72V/96V HYPERPOWER Battery Cluster Systems are composed of 24V or 48V modules in series, to fulfill the diversified requirements for your industrial and services robotics, material handling equipment, EV, cable cars, eBoat, etc. The modular design can easily meet the voltage and capacity requirements, accelerating project development and saving costs. The built-in battery management system (BMS) includes battery management, balance control, communication and control interface.



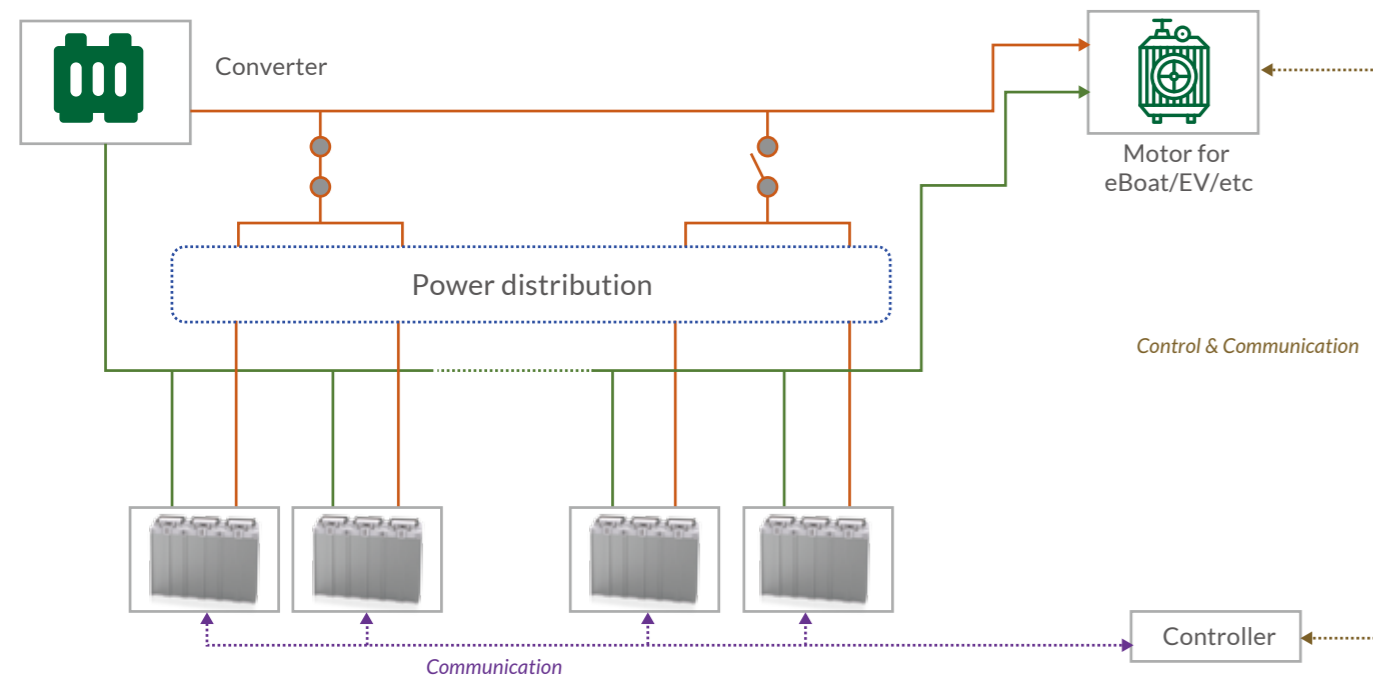
### Advantages

- Easy system integration to meet various application scenarios
- Multiple designs with hardware, software and BMS solutions
- High performance: lighter weight, high energy density
- Rapid development with cost efficiency

### Applications



### System Architecture



#### TWS HyperPower 72V cluster

Solution	TWS-RPS-HYPERPOWER-C72V
Dimensions	465*92*350 (mm, 3 series battery) 310* 92*200 (mm, PowerBox)
Weight	23 kg
Configuration	24S2P
Module	TWS-RPS-LFP-M2430, in 3 series
Nominal energy	2.304 kWh
Nominal capacity	30 Ah
Nominal voltage	76.8 V
Charge method	CC/CV
Charge cut-off voltage	87.6 V
Maximum continuous charge current	0~10°C: 6 A, 10~45°C: 15 A
Maximum continuous discharge current	30 A @25°C
IP grade	IP67
Communication bus	BCU: RS485/CAN 2.0 BMU: Daisy Chain
Communication protocol	Modbus/CAN2.0 A/CAN2.0 B/CANOpen
Cycle life	1000 cycles (25°C, 70%)
Certifications	UL2271, IEC62133, IEC62619, UN38.3
<b>Working environment</b>	
Operating temperature	Charge: 0~45°C, discharge: -20~55°C
Recommended charging temperature	5~40°C
Recommended discharging temperature	-10~55°C
Operating humidity	25%-75% RH
<b>Protection</b>	
Protection	Over voltage protection, under voltage protection, over temperature protection, under temperature protection, over current protection, short-circuit protection
<b>Scalability</b>	
Scalability	Master-slave system, up to 12 clusters in parallel

- Only 1 powerbox for controlling and communicating in the system
- 3\* 24V BMU in series to configure 72V battery cluster
- Up to 12 clusters in parallel for extended capacity
- Maximum power of 27.648 kWh with 12 clusters in parallel

#### M2430 module

Module	TWS-RPS-LFP-M2430
Cell type	LFP 33140
Dimensions	155*92*350 (mm)
Weight	6.1 Kg
Configuration	8S2P
Nominal capacity	30 Ah
Nominal voltage	25.6 V

#### TWS HyperPower 96V cluster

Solution	TWS-RPS-HYPERPOWER-C96V
Dimensions	310*92*350 (mm, 2 series battery) 310* 92*200 (mm, PowerBox)
Weight	17 kg
Configuration	32S1P
Module	TWS-RPS-LFP-M4815, in 2 series
Nominal energy	1.536 kWh
Nominal capacity	15 Ah
Nominal voltage	102.4 V
Charge method	CC/CV
Charge cut-off voltage	116.8 V
Maximum continuous charge current	0~10°C: 3 A, 10~45°C: 7.5 A
Maximum continuous discharge current	30 A @25°C
IP grade	IP67
Communication bus	BCU: RS485/CAN 2.0 BMU: Daisy Chain
Communication protocol	Modbus/CAN2.0 A/CAN2.0 B/CANOpen
Cycle life	1000 cycles (25°C, 70%)
Certifications	UL2271, IEC62133, IEC62619, UN38.3
<b>Working environment</b>	
Operating temperature	Charge: 0~45°C, discharge: -20~55°C
Recommended charging temperature	5~40°C
Recommended discharging temperature	-10~55°C
Operating humidity	25%-75% RH
<b>Protection</b>	
Protection	Over voltage protection, under voltage protection, over temperature protection, under temperature protection, over current protection, short-circuit protection
<b>Scalability</b>	
Scalability	Master-slave system, up to 12 clusters in parallel

- Only 1 powerbox for controlling and communicating in the system
- 2\* 48V BMU in series to configure 96V battery cluster
- Up to 12 clusters in parallel for extended capacity
- Maximum power of 18.312 kWh with 12 clusters in parallel

#### M4815 module

Module	TWS-RPS-LFP-M4815
Cell type	LFP 33140
Dimensions	155*92*350 (mm)
Weight	6.5 Kg
Configuration	16S1P
Nominal capacity	15 Ah
Nominal voltage	51.2 V

Solution	TWS-RPS-HYPERPOWER-C96V
Dimensions	310*92*350 (mm, 2 series battery) 310* 92*200 (mm, PowerBox)
Weight	17 kg
Configuration	32S1P
Module	TWS-RPS-LFP-M4815, in 2 series
Nominal energy	1.536 kWh
Nominal capacity	15 Ah
Nominal voltage	102.4 V
Charge method	CC/CV
Charge cut-off voltage	116.8 V
Maximum continuous charge current	0~10°C: 3 A, 10~45°C: 7.5 A
Maximum continuous discharge current	30 A @25°C
IP grade	IP67
Communication bus	BCU: RS485/CAN 2.0 BMU: Daisy Chain
Communication protocol	Modbus/CAN2.0 A/CAN2.0 B/CANOpen
Cycle life	1000 cycles (25°C, 70%)
Certifications	UL2271, IEC62133, IEC62619, UN38.3
<b>Working environment</b>	
Operating temperature	Charge: 0~45°C, discharge: -20~55°C
Recommended charging temperature	5~40°C
Recommended discharging temperature	-10~55°C
Operating humidity	25%-75%RH
<b>Protection</b>	
Protection	Over voltage protection, under voltage protection, over temperature protection, under temperature protection, over current protection, short-circuit protection
<b>Scalability</b>	
Scalability	Master-slave system, up to 12 clusters in parallel