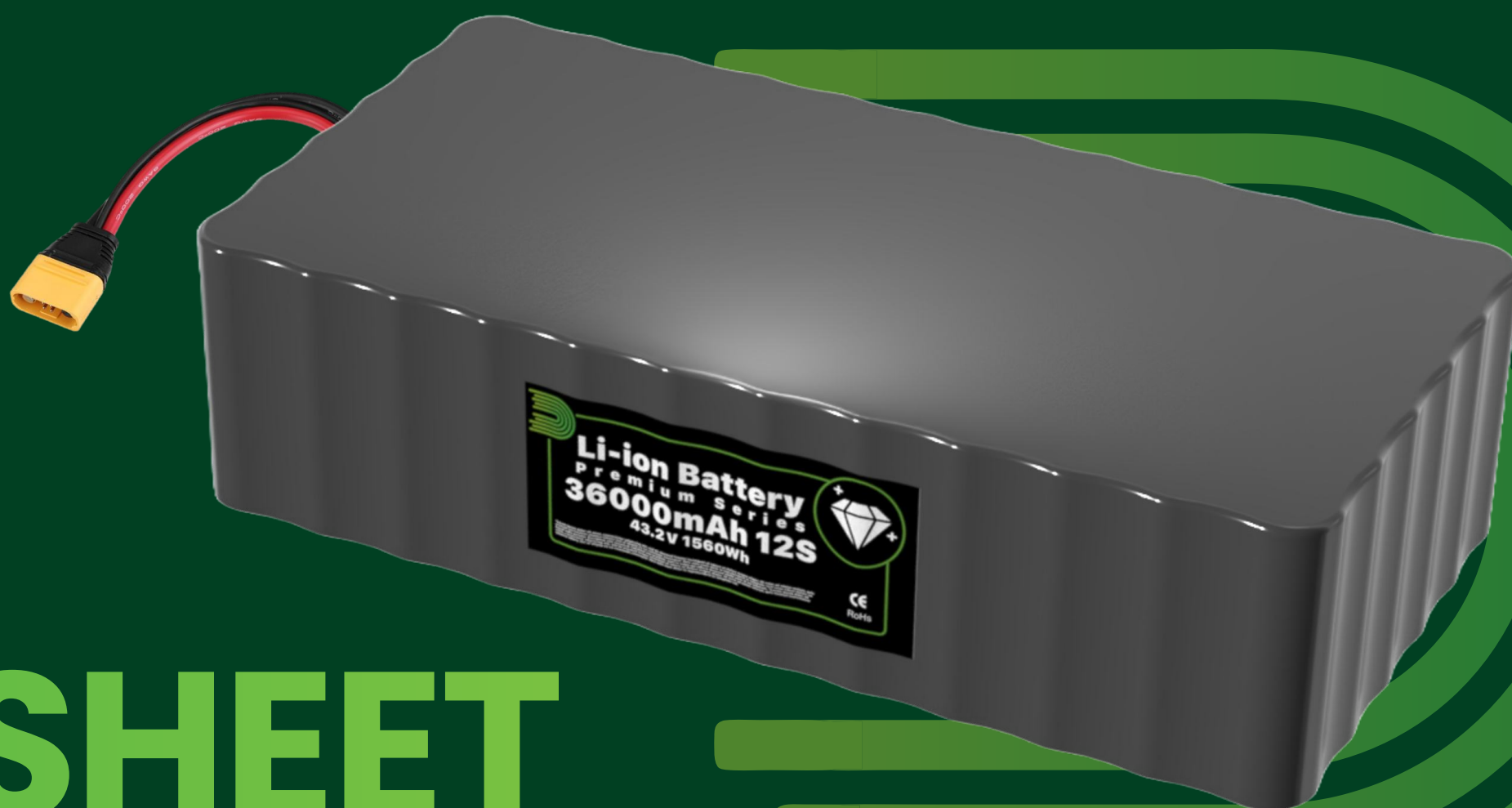




Premium Series

DATASHEET

Premium High Density 12S Series



PRODUCT OVERVIEW

The Premium High Density 12S Series is engineered to power professional UAVs and drones requiring 48V-class systems, enabling greater flight efficiency, longer range, and reduced cable losses. Utilizing high energy density cells from Amprius and Molicel, this series delivers unmatched performance for endurance or heavy-lift drone applications.

APPLICATIONS



Commercial Drones

Agriculture, Cargo, Missions, Tactical



Robotics

Warehouse, Cargo, Missions, Tactical

CONNECTORS

For models with Smart BMS:

- **AS150U** Connector (Power + Communication)

For models without Smart BMS, providing cell balancing capability:

- **XT90** Connector (Power)
- **Molex Micro-Fit 16-pin** Connector (Balancing)

PROTECTION FEATURES

Overcharge Protection
Over-discharge Protection
Overcurrent Protection
Short Circuit Protection
Temperature Monitoring and Protection

COMMUNICATION INTERFACES

CANBUS
RS485
UART

ADDITIONAL FEATURES

State of Charge (SOC) Estimation
Cell Balancing
Remote Monitoring Capability

** The above features apply only for battery models with smart BMS.

	M O D E L			
	TN12S3P-SA17-01	TN12S3P-M65A-01	TN12S6P-SA17-01	TN12S6P-M65A-01
ELECTRICAL SPECIFICATIONS				
Cell Configuration	12S 3P	12S 3P	12S 6P	12S 6P
Nominal Voltage	43.2V	43.2V	43.2V	43.2V
Nominal Capacity	18Ah	19.5Ah	36Ah	39Ah
Energy	780Wh	840Wh	1560Wh	1680Wh
Charge Voltage	50.4V	50.4V	50.4V	50.4V
Cut-off Voltage	33.6V	33.6V	33.6V	33.6V
Energy Density	300 Wh/kg	322 Wh/kg	300 Wh/kg	322 Wh/kg
CURRENT PARAMETERS				
Max Continuous Discharge Current	54 A (3C)	78 A (4C)	108 A (3C)	156 A (4C)
Max Pulse Discharge Current (≤30s)	90 A (5C)	117 A (6C)	180 A (5C)	234 A (6C)
Max Charge Current	18 A (1C)	19.5 A (1C)	36 A (1C)	39 A (1C)
PHYSICAL SPECIFICATIONS				
Dimensions (L x W x H)	75 x 80 x 300 mm 75 x 72 x 300 mm(no BMS)	75 x 80 x 300 mm 75 x 72 x 300 mm(no BMS)	150 x 80 x 300 mm 150 x 72 x 300 mm(no BMS)	150 x 80 x 300 mm 200 x 72 x 300 mm(no BMS)
Weight	2.8 kg	2.8 kg	5.3 kg	5.3 kg
Enclosure Material	PVC Shrink Wrap	PVC Shrink Wrap	PVC Shrink Wrap	PVC Shrink Wrap
ENVIRONMENTAL SPECIFICATIONS		PERFORMANCE SPECIFICATIONS		
Operating Temperature	Charge: 0°C to 45°C	Cycle Life	~600 cycles @0.5C/-1C ~500 cycles @1C/1C	
	Discharge: -20°C to 60°C	Designed to Meet	CE, UN 38.3, RoHS, IEC 62133	
Storage Temperature	Short-term (<1 month): -20°C to 45°C	Warranty	12 months	
	Long-term (>1 month): 0°C to 25°C			
Humidity	≤85% RH			

GOT QUESTIONS?
GET IN TOUCH WITH US

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