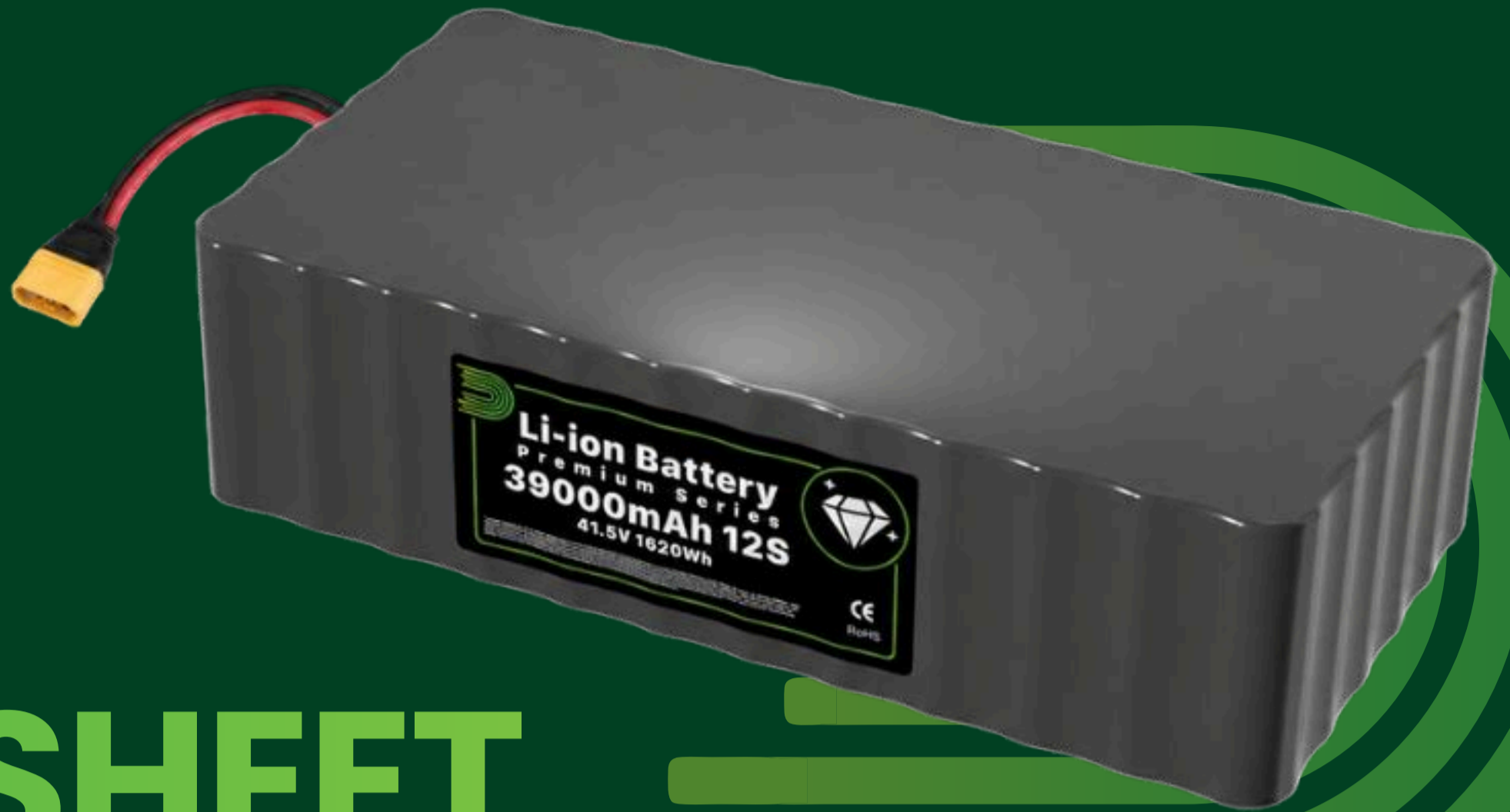




Premium Series

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)
- Han® MPC30 Connector (DroneCAN support)
- Han® MPC60 Connector (DroneCAN support)

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-SA112-01

TN12S3P-M65A-01

TN12S6P-SA112-01

TN12S6P-M65A-01

ELECTRICAL SPECIFICATIONS

Cell Configuration	12S 3P	12S 3P	12S 6P	12S 6P
Nominal Voltage	41.5V	43.2V	41.5V	43.2V
Nominal Capacity	19.5Ah	19.5Ah	39Ah	39Ah
Energy	810Wh	840Wh	1620Wh	1680Wh
Charge Voltage	50.4V	50.4V	50.4V	50.4V
Cut-off Voltage	33.6V	33.6V	33.6V	33.6V
Energy Density	308 Wh/kg	322 Wh/kg	308 Wh/kg	322 Wh/kg

CURRENT PARAMETERS

Max Continuous Discharge Current	39A (2C)	78A (4C)	78A (2C)	156A (4C)
Max Pulse Discharge Current ($\leq 30s$)	78A (4C)	117A (6C)	156A (4C)	234A (6C)
Max Charge Current	13.65A (0.7C)	19.5A (1C)	27.3A (0.7C)	39A (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 Discharge: -20°C to 60°C	Cycle Life	~600 cycles @0.5C/-1C ~500 cycles @1C/1C
Storage Temperature	Short-term (<1 month): -20°C to 45°C Long-term (>1 month): 0°C to 25°C	Warranty	12 months
Humidity	$\leq 85\%$ RH	Designed to Meet	CE, UN 38.3, RoHS, IEC 62133

**GOT QUESTIONS?
GET IN TOUCH WITH US**

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