

SUPPLIER SPECIFICATION / ENGLISH EDITION

8S1P Lithium-Ion Polymer Battery Pack

Model 9987191NSH4 | 29.6 V nominal | Supplier document XHBL-QS-097, Rev. A/0, July 30, 2026

Product summary

This English-only edition reorganizes the supplier-provided bilingual specification. Technical values and test procedures are reproduced from that source. It is not a certification, independent test report, or guarantee of performance.

Parameter	Supplier specification
Cell / pack type	8S1P lithium-ion polymer pack
Typical / minimum capacity	40.5 Ah typical / 39 Ah minimum, tested at 8 A (0.2C) to 20.0 V at 25 +/- 2 deg C
Nominal voltage	29.6 V
Nominal energy	1,184 Wh nominal (calculated from nominal voltage x 40 Ah label; supplier spec does not list Wh)
Charge ending voltage	34.0 V
Discharge ending voltage	20.0 V
Standard charge current	8 A (0.2C) at 25 +/- 2 deg C
Maximum charge current	8 A (0.2C) at 0-20 deg C; 20 A (0.5C) at 20-45 deg C
Charge time	2-3 h at maximum charge current / 5-6 h at standard charge current
Standard discharge current	8 A (0.2C)
Maximum continuous discharge	120 A (3C) continuous
Burst discharge	400 A (10C), up to 3 seconds
Voltage at shipment	26.4-28.0 V
Operating temperature	Charge: 0 to 45 deg C; discharge: -20 to 55 deg C
AC impedance	<25 mOhm AC at 1 kHz
Approximate weight	Approx. 3,120 g

Dimensions and connections

Feature	Supplier specification
Pack thickness	<=86 mm
Pack width	<=90 mm
Pack length	<=212 mm
Discharge lead	150 +/- 10 mm, excluding plug; XT90-S
Charge lead	120 +/- 10 mm, excluding plug; JST-XHR-9P, reverse type
Wrapping	Black PVC

Electrical and performance tests

Source document XHBL-QS-097 | Revision A/0 | 2026-07-30

Test environment

Unless otherwise specified: 25 +/- 2 deg C and 15-80% relative humidity.

Test / characteristic	Supplier criterion and method
Initial capacity	>=39 Ah after standard charge and standard discharge
AC impedance	Measured by the AC method after standard charge; criterion: <25 mOhm AC at 1 kHz.
Temperature characteristics	55 deg C: >=90%; 0 deg C: >=85%; -20 deg C: >=60%. After standard charge, rest 2 hours at the test temperature, then discharge at 8 A (0.2C).
Cycle life	>=300 cycles; capacity retention >=80% of initial capacity
Cycle-life test procedure	At 25 +/- 3 deg C: CC-CV charge at 8 A (0.2C) to 34.0 V, terminate at 0.03C mA; CC discharge at 8 A (0.2C) to 22.4 V. The supplier specifies discharge capacity of at least 80% of initial capacity.
Vibration test	After standard charge: amplitude 0.8 mm; frequency 10-55 Hz; sweep rate 1 Hz/min; X, Y and Z axes for 90-100 min in three mutually perpendicular directions. Supplier criterion: no leakage, explosion, or fire.

Drop test

The source specifies a drop from 1.0 m onto concrete at least 5 cm thick, with a tile layer, at 25 +/- 3 deg C, in shipment condition (50% charge). The source-language versions disagree on the number of drops per axis; confirm the repetition count with the supplier before relying on this test method. The stated criterion is no explosion or fire.

Shelf-life / capacity retention

Condition	Supplier criterion and procedure
25 +/- 3 deg C for 28 days	After standard charge, store at 25 +/- 3 deg C for 28 days: retained capacity >=90%; recovery capacity >=95%. Recharge and discharge using the standard procedure.
55 +/- 2 deg C for 7 days	After standard charge, store at 55 +/- 2 deg C for 7 days: retained capacity >=80%; recovery capacity >=85%. Recharge and discharge using the standard procedure.

Storage

Storage period	Temperature and humidity	
Short-term storage	Less than 3 months	-20 to +45 deg C; 65 +/- 20% RH
Long-term storage	More than 6 months	-20 to +35 deg C; 65 +/- 20% RH
Recommended 1-year storage	1 year	-20 to +25 deg C; 65 +/- 20% RH

Periodic activation

Every 3 months, the supplier procedure says: charge at 0.2C to 34.0 V, rest 10 min, discharge at 0.2C to 20.0 V, rest 10 min, then charge at 0.2C to 28.0 V. Confirm this maintenance procedure before use.

Safety, handling and warranty

Read these precautions before handling, charging, storing, integrating, or disposing of the battery. Use only with a system designed for the exact configuration.

- Do not immerse the battery in water or seawater. Keep it in a cool, dry place when not in use.
- Keep the battery away from fire, heaters, and other heat sources. Do not leave it in direct sunlight or in a hot vehicle.
- Use a charger specifically designed for this battery. Do not connect the battery directly to a mains electrical outlet.
- Observe polarity. Never short-circuit the terminals or connect them with metal objects. Keep batteries away from loose metal during transport and storage.
- Do not strike, throw, crush, trample, bend, or deform the battery. Do not bend or open the sealing edges.
- Do not solder directly to the cell or pierce it with nails or other sharp objects. Pack design and packaging must not damage the cell.
- Do not mix this cell with other chemistries or different lithium-polymer cell models. Do not use damaged cells. Never disassemble a cell.
- Only the cell supplier or equipment supplier should replace a cell. Keep batteries away from children.
- Insulate conductive components that may contact the cell sealing edges.
- Avoid locations with strong electrostatic or magnetic fields; the source specification warns that these may damage safety devices.
- If electrolyte contacts the eyes, do not rub. Rinse with clean running water and seek immediate medical attention.
- If the battery develops an unusual odor, heat, discoloration, deformation, or other abnormal condition during use, charging, or storage, stop using and charging it and isolate it safely.
- If terminals are dirty, clean them with a dry cloth before use. Insulate the terminals of discarded or fully discharged batteries to reduce fire risk.

Supplier warranty statement

The supplier specification states a 6-month warranty period from shipment. Replacement is stated for defects verified as caused by the manufacturing process; customer abuse, misuse, or destructive testing is excluded. This is the supplier statement and is not an IonPlus Energy warranty. Confirm the applicable commercial warranty in the final quotation.

Document status

Prepared by IonPlus Energy as an English-only reference edition of supplier document XHBL-QS-097 (Rev. A/0, dated 2026-07-30). Supplier-specific ambiguities are called out above rather than silently corrected. Confirm all values, test conditions, storage instructions, and the ordered configuration with the supplier before use.

Supplier-source notes to confirm

The source gives a typical/minimum capacity of 40.5/39 Ah; the 40 Ah product label is retained as the nominal market designation.

The source bilingual text conflicts on drop-test repetitions: Chinese says one drop per axis; the existing English text says three. Repetition count is not confirmed.