

Aspen 48M-25.9 Battery



PRODUCT SPECIFICATION SHEET

Aquion Energy's Aspen 48M-25.9 battery is a modular building block for clean energy storage systems. The Aspen 48M is composed of twelve Aspen 48S-2.2 batteries connected in parallel and comes pre-wired as a plug-and-play battery bank.

Based on Aquion's safe, clean, and sustainable Aqueous Hybrid Ion (AHI™) technology, the Aspen 48S-2.2 is engineered to meet Cradle to Cradle certification standards. Designed for years of hassle-free operation in stationary, long-duration applications, AHI batteries are optimized for storing energy for residential, off-grid, and microgrid applications. The Aspen 48M-25.9 delivers an unmatched combination of performance, safety, and environmental sustainability in a cost-effective battery platform.

PRODUCT PERFORMANCE

Testing performed at 30°C

| Embodied Energy (kWh) | | Charge Current (A) | | | | |
|-----------------------|-----|--------------------|------|------|------|------|
| | | 24 | 48 | 72 | 96 | 120 |
| Discharge Current (A) | 24 | 28.0 | 26.2 | 23.3 | 20.5 | 17.6 |
| | 48 | 26.2 | 23.7 | 21.9 | 19.2 | 16.5 |
| | 72 | 24.7 | 22.3 | 19.9 | 17.7 | 15.4 |
| | 96 | 23.3 | 21.2 | 19.0 | 17.0 | 14.8 |
| | 120 | 22.1 | 20.1 | 18.1 | 16.3 | 14.2 |

| Embodied Capacity (Ah) | | Charge Current (A) | | | | |
|------------------------|-----|--------------------|-------|-------|-------|-------|
| | | 24 | 48 | 72 | 96 | 120 |
| Discharge Current (A) | 24 | 567.9 | 523.1 | 468.6 | 420.1 | 368.1 |
| | 48 | 543.8 | 498.1 | 445.7 | 399.9 | 350.6 |
| | 72 | 530.4 | 483.4 | 432.5 | 388.1 | 339.6 |
| | 96 | 511.1 | 469.1 | 419.6 | 376.4 | 329.1 |
| | 120 | 490.6 | 454.3 | 406.1 | 364.1 | 318.5 |



OPERATION & PERFORMANCE

| | |
|---|---|
| Nominal Energy (10-hour charge/20-hour discharge) | 25.9 kWh |
| Nominal Voltage | 48 V |
| Cycle Life | 3,000 cycles (to 70% retained capacity) |
| Ambient Operating Temperature | -5°C to 40°C |
| Voltage Range | 40.0 to 59.5 V |
| Peak Power | 11.7 kW |
| Continuous Current | 240 A |
| Onboard Sensing | Voltage, current, temperature |
| Usable Depth of Discharge | 100% |

WARRANTY

| | |
|------------------|--|
| Limited Warranty | 8 years: 5 years full + 3 years prorated |
|------------------|--|

PHYSICAL CHARACTERISTICS

| | |
|--------|----------------------|
| Height | 1,159 mm (45.6") |
| Width | 1,321 mm (52.0") |
| Depth | 1,016 mm (40.0") |
| Weight | 1,504 kg (3,315 lbs) |

CERTIFICATIONS

| | |
|------------------|---|
| Sustainability | Cradle to Cradle Certified™ Bronze product (component Aspen 48S batteries only) |
| UL Recognition | In process |
| CE | CE marked |
| Shipping Testing | ISTA testing in process |
| IP Rating | IP2X |

Performance characteristics based on testing conducted by Aquion Energy. Performance may vary depending on use, conditions, and application. For the most up-to-date specification, visit <http://aquionenergy.com>.

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PERFORMANCE AT CONSTANT CURRENT DISCHARGE

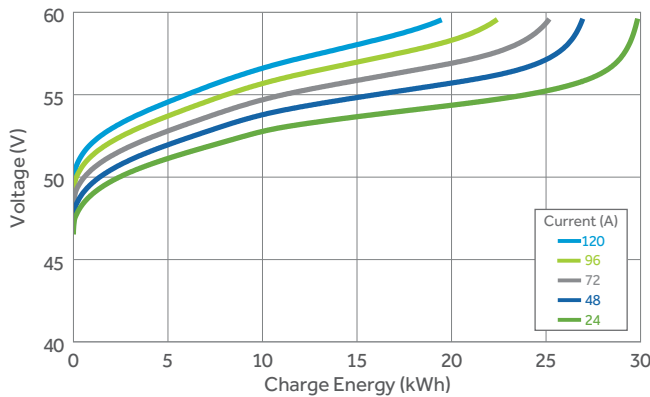
Nominal Energy & Capacity by Charge and Discharge Duration

| kWh & Ah | | 10-hour Charge | |
|-------------------------|----|----------------|-------|
| | | kWh | Ah |
| Discharge Duration (hr) | 4 | 18.8 | 446.4 |
| | 8 | 21.0 | 472.8 |
| | 10 | 21.7 | 480.0 |
| | 12 | 22.3 | 487.2 |
| | 20 | 25.9 | 507.6 |

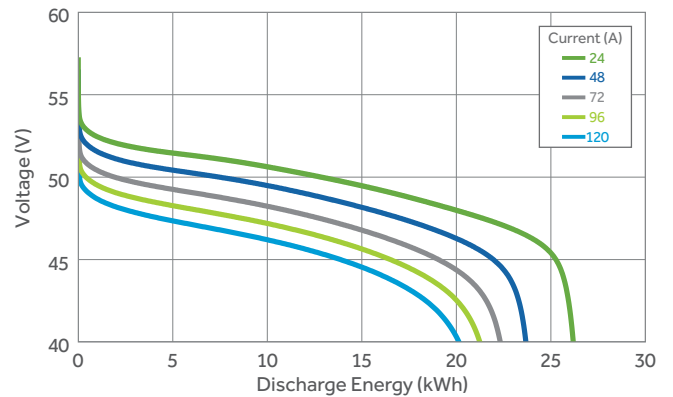
Round Trip Energy Efficiency

| RTE (%) | | Charge Current (A) | | | | |
|-----------------------|-----|--------------------|----|----|----|-----|
| | | 24 | 48 | 72 | 96 | 120 |
| Discharge Current (A) | 24 | 90 | 90 | 89 | 88 | 87 |
| | 48 | 88 | 88 | 87 | 86 | 85 |
| | 72 | 87 | 87 | 86 | 85 | 84 |
| | 96 | 85 | 85 | 84 | 83 | 82 |
| | 120 | 83 | 83 | 82 | 81 | 80 |

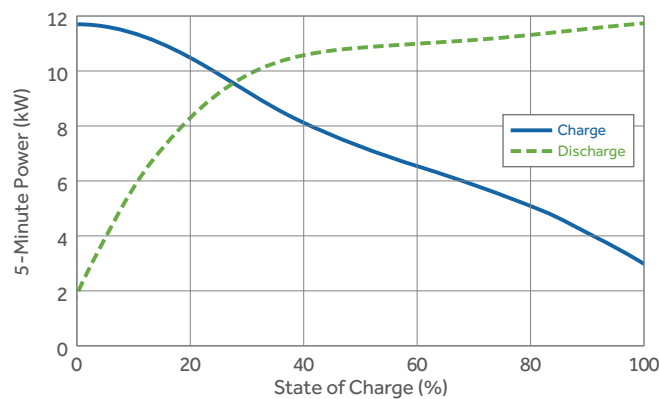
Voltage vs. Charge Energy



Voltage vs. Discharge Energy (from 10-hour charge)



5-Minute Peak Power



CRADLE TO CRADLE CERTIFIED™ BRONZE



Aquion batteries are the first and only batteries in the world to be Cradle to Cradle Certified™, an esteemed quality mark for products made from sustainable materials and manufacturing processes. Cradle to Cradle Certified™ is a certification mark licensed by the Cradle to Cradle Products Innovation Institute. Visit www.c2ccertified.org for more details.

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