# ENERDEL

## Allison Approved 21.0 kWh Drop-in Replacement Battery For The H40/H50 Hybrid Bus

Allison Transmission

### North America

In service since 2014, with 30+ transit authorities, EnerDel's packs are a rugged and trusted power source for hard working buses.

**2,000+**
Packs Sold

**7,000,000**
Miles Traveled

**50**
States

### Proven Safety and Reliability

EnerDel's battery packs are designed to meet the challenging power and energy requirements of demanding hybrid bus applications.

### Allison Transmission Approved Part SIL-20-EO-15EN

The EnerDel 21.0 kWh drop in battery is designed to outperform and outlast the H40/50 6.2kWh OEM battery. It provides transit companies with a high performance and long-lasting battery solution.

### Features and Benefits

- **Federal Transit Administration (FTA) Buy America compliant**
- 3x the life expectancy of an OEM battery
- 3-year standard warranty extendable to 8 years
- Easy to install—Direct drop in replacement pack
- Easy plug and play software integration
- Installation and technical service training available
- Quick ship lead times
- NMC chemistry for higher energy density and longer life

ENERDEL™
ENERGY SOLUTIONS

### How to Purchase


www.enerdel.com

3619 W 73rd St, Anderson, IN 46011

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+1 (317) 703-1853

# Battery Specifications

| Parameter | Units | Value | Notes |
|---|---|---|---|
| **Pack Energy** | | | |
| Rated Energy | kWh | 21.0 | Calculated value based on rated cell capacity |
| Minimum Available Energy | kWh | 18.7 | Calculated value based on de-rated cell capacity |
| **Discharge Power** | | | |
| Typical (continuous) | kW | 52.6 | At nominal cell voltage |
| Max (continuous) | kW | 105.1 | At nominal cell voltage |
| Peak (5s Pulse) | kW | 230 | At nominal cell voltage, less than 5 second duration |
| **Charge Power** | | | |
| Typical (continuous) | kW | 52.6 | At nominal cell voltage |
| **Discharge Current** | | | |
| Typical (continuous) | A | 80.0 | Between 15% and 100% SOC |
| Max (continuous) | A | 160.0 | Between 15% and 100% SOC |
| Peak (5s Pulse) | A | 350.0 | Between 30% and 100% SOC |
| **Charge Current** | | | |
| Typical (continuous) | A | 80.0 | Between 0% and 80% SOC |
| Max (continuous) | A | 160.0 | Between 0% and 80% SOC |
| | A | 350.0 | Between 0% and 70% SOC |
| **Pack Voltage** | | | |
| Max | V | 738 | Determined at Max. Cell Voltage |
| Nom | V | 657 | Determined at Nom. Cell Voltage @50% SOC |
| Min | V | 450 | Determined at Min. Cell Voltage |
| **Cell Voltage** | | | |
| Max | V | 4.1 | At 100% SOC |
| Nom | V | 3.65 | |
| Min | V | 2.5 | At 0% SOC |
| **Cell Capacity** | | | |
| Rat | Ah | 16.0 | From cell specification |
| **Pack Capacity (BOL)** | | | |
| Minimum Available Capacity | Ah | 28.5 | Estimated when C/3 rate is used to determine capacity; Current taper applied at the end of charge |
| **Pack Capacity (EOL)** | | | |
| Minimum Available Capacity | Ah | 19.9 | Estimated at 70% of minimum available capacity |
| **Operating Temperature** | | | |
| Normal | °C | -15 to 45 | Range (min/max) |
| Max | °C | 55 | Current limited above normal operating temperature |
| Min | °C | -25 | Current limited below normal operating temperature |
| **Other Properties** | | | |
| Pack shelf Life | Years | 5 | At 30% SOC |
| Storage Temperature | °C | -40 to 55 | Range (min/max) |
| Pre-charge | Type | Internal | (See Section 10. 1. 6) |
| GFD | n/a | Enabled | HV Impedance Diagnostics (See Section 10. 1. 10) |
| EPO | n/a | N/A | System uses HVIL — EPO internal connection |
| Mass | Kg | 439 +/- 1% | |

## Service

We strive to ensure our customers standards are exceeded throughout the entire service process.

- Quick ship inventory
- Installation & Service training and support
- Battery Diagnostic software & tools provided

## Warranty

We design and build solutions to outperform and outlast the competition.

- 3-year standard warranty
- Warranty extension up to 8 years

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