



Electric Drive Unit

The Harbinger EDU is an extremely durable, fully integrated electric drive unit, incorporating the electric motor, transmission, and differential into one easily serviceable component.



Space-Saving Design

Allows for improved ground clearance and low floor height, making entering and exiting easier on the driver.



Long Lasting

Engineered to meet the demanding requirements of commercial vehicles, with a 450,000 mile service life.



Efficient System

Multiple motor winding paths for high efficiency, and an oil-cooled motor for maximum power density.



A Quiet Ride

Optimized for low noise operation of the gearset and motor, making for a more comfortable ride.



Electric Drive Unit Features and Specifications

Performance

| | |
|---|--|
| Service Lifetime | 450,000 miles / 725,000 km |
| System Efficiency | 95% (motor, transmission, & differential) |
| Operable Voltage Range | 575V – 800V |
| Motor Topology | 12 Pole IPM, Proprietary Winding |
| Peak Power | 330 kW / 440 HP |
| Continuous Power | 210 kW / 280 HP |
| Peak Torque (at motor) | 1,550 Nm / 1,140 ft-lb |
| Peak Torque (at wheel) | 18,100 Nm / 13,350 ft-lb |
| Motor Speed | 9,800 RPM |
| Output Speed | 812 RPM |
| Gear Ratio | 12.07:1 (two stage, single speed) |
| Dimensions w/o mount brackets (L x W x H) | 753 x 635 x 419 mm / 29.6 x 25.0 x 16.5 in |
| Weight (including oil) | 245 kg / 539 lbs. |
| Internal Cooling Medium | Low Viscosity Oil |
| External Cooling Medium | 50/50 Water/Ethylene Glycol (w/ Integrated Heat Exchanger) |
| Coolant Flow at Peak Power | 20 LPM |

Safety & Environmental

| | |
|--|--|
| Ingress Protection | IP6k9k |
| Operating Temperature Range ¹ | -25°C to 60°C |
| Corrosion Resistance | Tested in accordance with GMW 14872 and ASTM B117 (20 years) |



¹ Performance limitations apply when operated close to temperature limits.

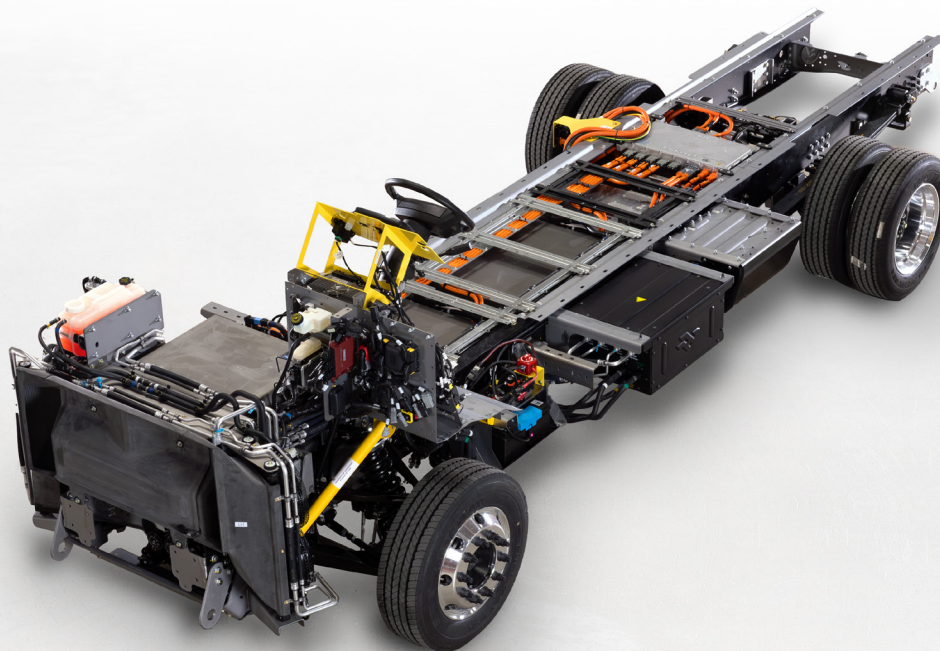
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Harbinger Chassis

Harbinger's scalable stripped chassis has been built to support all of the popular medium-duty body types available today.



E-Stripped Chassis

Chassis available in multiple wheelbases and GVWRs for maximum flexibility.



Scalable Battery Pack

Battery packs are scalable in 35 kWh increments to economically support customer needs.



Innovative Architecture

The double A-arm front suspension and de Dion rear suspension improve ride quality, comfort, and handling.



Integrated Electric Drive Unit

Compact and efficient EDU, with a 450,000 mile service life and low noise operation.



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Stripped Chassis Features and Specifications

Propulsion

| | |
|------------------------------------|---|
| Drivetrain Architecture | Permanent magnet motor, transmission, and differential in fully integrated EDU |
| Drivetrain Power | 330 kW (440 HP) peak / 210 kW (280 HP) continuous |
| Drivetrain Torque | 1,550 Nm (1,140 ft-lb) at motor / 18,100 Nm (13,350 ft-lb) at wheel |
| Gradeability | 32% at GVWR |
| Battery Architecture | 800V system, multiple parallel packs (NCA chemistry) 3 to 6 battery packs per vehicle |
| Battery Pack Energy | 35 kWh per pack 105 kWh to 210 kWh on vehicle |
| Voltage Range (nominal) | 480V – 805V |
| Battery Pack Mass / Energy Density | 210 kg (462 lbs.) per pack, 170 Wh/kg |
| Charging | J1772 (L1/L2) and CCS1 (L3) compliant, 1 hour fast charge capable |
| Battery Cooling | Liquid cooled, 50/50 water/ethylene glycol cooling medium |
| Battery Safety Testing | UN 38.3 |
| Range | 100 to 250+ miles depending on pack configuration and drive cycle |

Chassis Systems

| | |
|--|---|
| Front Axle Gross Weight Rating (FGAWR) | 7,200 lbs or 9,000 lbs. |
| Front Suspension | Double A-arm with coil-over damper and anti-roll bar |
| Rear Axle Gross Weight Rating (RGAWR) | 13,750 lbs or 17,500 lbs. |
| Rear Suspension | De Dion beam with leaf springs and anti-roll bar |
| Parking Brake | Electronic parking brake (EPB) and park pawl integrated with transmission |
| Brakes | Hydraulic, 4 wheel vented disc with dual piston calipers ESC, TSC, ABS, and regen |
| Standard Driver Assistance Features | Front and rear virtual bumper, AVAS, backup camera with dynamic trajectory |
| Steering | Electric power assist steering (EPAS) with dual power packs and 50 degree wheel cut |
| Thermal System | Multizone heat pump and cabin AC prep |
| Frame | Hot dip galvanized 80 ksi steel ladder frame |

Dimensions and Weight

| | |
|------------------------------------|--|
| Wheelbase | 158", 178", or 208" |
| Gross Vehicle Weight Rating (GVWR) | 16,000 lbs, 19,500 lbs, 22,000 lbs, or 26,000 lbs. |
| Towing Capacity | Up to 7000 lbs. ¹ |
| Wheels and Tires | 19.5x7.5 wheels and 245/70R19.5 tires |
| Corrosion Resistance | Tested in accordance with GMW 14872 and ASTM B117 (20 years) |

¹Available in 2025.

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Tailored Battery Solutions

The first high energy density battery pack built specifically for medium-duty vehicles.



Scalable Cost Savings

Battery packs are scalable in 35 kWh increments to economically support customer needs.



Safe and Certified

Multilevel short circuit protection at the cell, pack, and system level. Tested according to UN 38.3.



Fast and Efficient Technology

Advanced liquid-cooled battery packs enable rapid charging speeds (up to one-hour fast charge).



Space-Saving Design

Designed for space efficient integration into industry-standard medium-duty frame rails.



Battery Pack Features and Specifications

Energy & Performance

| | |
|--------------------------------------|--|
| Nominal Voltage Range | 480V – 805V |
| Useable Voltage Range | 518V – 800V |
| Useable Energy | 35 kWh |
| Dimensions (L x W x H) | 920 x 702 x 258 mm / 36.2 x 27.6 x 10.2 in |
| Mass | 210 kg / 462 lbs. |
| Volume | 163 L |
| Gravimetric Energy Density (Nominal) | 170 Wh/kg |
| Volumetric Energy Density (Nominal) | 215 Wh/L |
| Fast Charge | 1 Hour Fast Charge (20% SOC to 90% SOC) |
| Peak Output Power | 110 kW |
| Continuous Output Power | 40 kW |
| Cycle Life ¹ | > 2000 Cycles |
| Cell Chemistry | NCA |

Thermal

| | |
|------------------------------|------------------------------------|
| Module Construction | Aluminum HPDC Monolithic Coldplate |
| Cooling Medium | 50/50 Water/Ethylene Glycol |
| Coolant Flow for Fast Charge | 6 LPM |
| Heat Rejection Rate | > 2.4 KW |

Safety & Environmental

| | |
|--|--|
| Ingress Protection | IP6k9k |
| Operating Temperature Range ² | -25°C to 60°C |
| Corrosion Resistance | Tested in accordance with GMW 14872 and ASTM B117 (20 years) |
| Mechanical – Random Vibration | Tested in accordance with SAE J2380 |
| Battery Safety Testing | UN 38.3 |

¹ End of life is defined as 60% capacity retention. Fast charge cycles are not covered by the cycle life warranty.

² Performance limitations apply when operated close to temperature limits.

Pre-production products shown. Specifications are subject to change without notice.
All specifications are "per pack." Multiple parallel packs are utilized in typical operation.
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