

AxTrax 2

Electric Axle

Integrated and modular e-drive
designed for commercial vehicles



ZF's Next Generation Electric Axle for Commercial Vehicles

Able to serve a wide range of vehicle applications, AxTrax 2 is designed to replace the engine, transmission, and conventional axle to electrify a commercial vehicle. Integrating in-house developed components as part of the modular platform approach, AxTrax 2's unified axle-based design, compact size, and light weight provide high power and torque at enhanced efficiency in a single package. Furthermore, the minimized space requirements enable OEMs to reimagine the design of commercial vehicle platforms.

AxTrax 2

Integrated and Modular e-Axle

e-Actuator

High-performance ECU

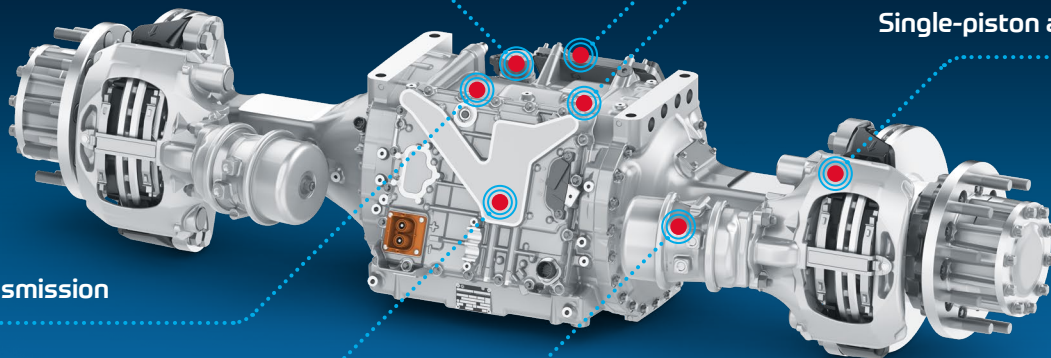
Oil-cooled hairpin electric motor

Single-piston air disc brake

3-speed transmission

800 Volt silicon carbide (SiC) inverter

Spring brake chamber



The ZF Difference

- Integrated axle one-box-solution enables OEMs to reimagine the vehicle architecture to enhance form and function, improve aerodynamics, or add additional batteries due to available space and weight
- Provides optimized performance and efficiency due to inhouse development of key components and software as part of a seamless platform approach
- Benefits from ZF's expertise in developing e-mobility, axle, and transmission solutions for a broad range of vehicles spanning from passenger cars up to heavy-duty trucks and buses
- Able to be delivered with full ZF air disc brake and actuation solution (Wheel-end solution)

Value to Customers

- Maximizes available space for batteries, enhances vehicle architecture design flexibility enabling future vehicle concepts
- Delivers premium, reliable performance with powerful acceleration and optimized energy efficiency supporting demanding CV requirements
- Incorporates high electrical efficiency, enables smaller size, minimized external electrical connections
- Helps to extend battery duration and vehicle operational range
- Provides seamless torque delivery in 6x4 CV applications for optimal power distribution and comfortable driving experience
- Offers high-speed processing for advanced software functionality, while fulfilling regulatory cyber security requirements and functional safety
- Enables compliance with other vehicle systems such as braking system, ADAS or automated driving systems
- Enables local zero emissions for battery electric and fuel cell vehicles
- Supports operation in urban environment and optimizes driving experience with quiet and smooth electric powertrain operation
- Delivering harmonized in-house wheel-end brake solution for ease of integration of AxTrax 2 into vehicle applications

Technical Features

- Packages fully electric powertrain within the axle envelope
- Equipped with a hairpin electric motor delivering 210kW continuous power and peak system output torque 26,000 Nm
- Software enabled variable power blending in 6x4 CV applications optimizes e-motor usage, performance and efficiency
- Includes an integrated 800 Volt silicon carbide (SiC) inverter
- Features a 3-speed transmission with an e-actuator for optimized e-powertrain efficiency
- Offers full neutral capability enabling coasting and towing
- Delivered with state-of-the-art powershifting strategy in a 6x4 CV application
- Incorporated high-performance ECU
- Comes with smart CAN interface for bi-directional communication
- Easily integrates with ZF air disc brake and actuation solution

For further product details contact your sales representative.
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About Us

ZF is a global technology company supplying systems for passenger cars, commercial vehicles and industrial technology, enabling the next generation of mobility. ZF allows vehicles to see, think and act. In the four technology domains of Vehicle Motion Control, Integrated Safety, Automated Driving, and Electric Mobility, ZF offers comprehensive product and software solutions for established vehicle manufacturers and newly emerging transport and mobility service providers. ZF electrifies a wide range of vehicle types. With its products, the company contributes to reducing emissions, protecting the climate and enhancing safe mobility. With some 165,000 employees worldwide, ZF reported sales of €43.8 billion in fiscal 2022. The company operates 168 production locations in 32 countries.

ZF's Commercial Vehicle Solutions (CVS) division is helping shape the future of commercial transportation ecosystems. Our mission is to be the preferred global technology partner to the commercial vehicle industry. Powerfully combining ZF's commercial vehicle systems expertise, extensive technology portfolio and global operations, the division serves the full commercial vehicle industry value chain. As the automotive industry progresses towards an increasingly autonomous, connected, and electrified (ACE) future, ZF's CVS division innovates, integrates and supplies components and advanced control systems that help make commercial vehicles and fleets operate more safely and sustainably. CVS unites ZF's former Commercial Vehicle Technology and Commercial Vehicle Control Systems divisions, the latter being formed following ZF's acquisition of WABCO in Spring 2020.