

E-AXLE DRIVE

INCLUDING BATTERY EMULATOR



Water-cooled configuration.
Many configurations available.

EV Propulsion & Powertrain Testing

This leading-edge Unico E-Axle dynamometer drive with a Unico Battery Emulator is a modular design that allows for multiple types of drive elements to be connected to the common DC bus. Combine multiple AC dynamometers and E-Motors with a battery emulator and universal inverter. Power ratings from 50kW to 1000kW, with higher power options available. Support induction and permanent magnet motor dynamometers. Highly efficient and fully regenerative, the system is capable of steady state, transient, and high dynamic simulations. Supports most industry standard communication protocols, making it versatile to work with any automation systems platform. Multiple programmable and preset safety features. Enclosures can be ordered with air-cooled or water-cooled designs.

APPLICATIONS

- Development
- Characterization
- Calibration of control unit
- Performance
- Durability
- Validation

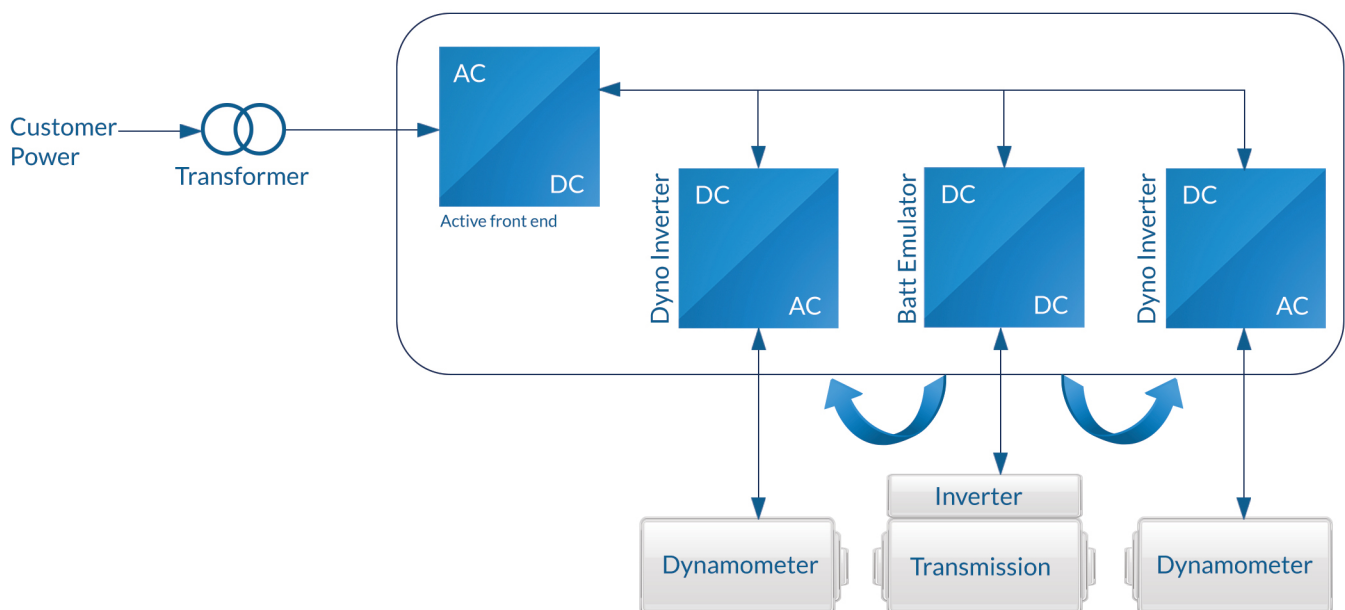
FEATURES

- E-Axle power ratings from 50kW to 1000kW, higher power available on request
- Supports induction and permanent magnet dynamometer
- Steady state, transient, high dynamic simulation capable
- High efficiency, fully regenerative
- Common DC bus architecture allows for Add-on dynamometer controls sections
- Supports most industry standard communication protocol, making it versatile to work with any available automation system platform
- Multiple programmable and preset safety features
- Air cooled or water cooled design



Air Cooled Configuration

BLOCK DIAGRAM



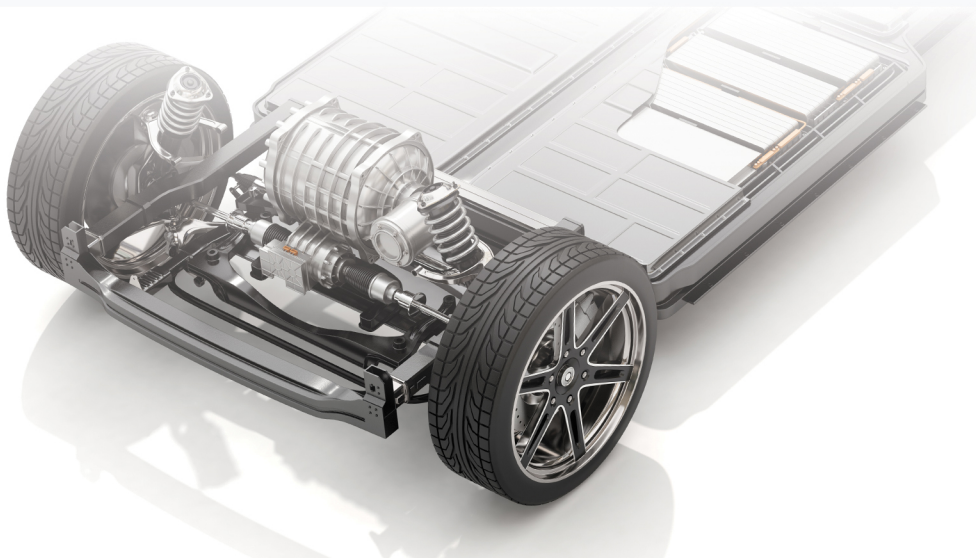
GENERAL SPECIFICATIONS

SPECIFICATIONS

AC Input	480VAC, 3Ph, 50/60Hz (other voltages available on request)
Ambient	Up to 40°C, max 1000m above sea level, 95%RH non-condensing
Enclosure	NEMA 1 (other options available upon request)
Cooling	Air cooled (water cooled or air-conditioned cabinets upon request)
Cabinet Paint	RAL 7035 Rough Semi-gloss Poly Powder finish
Certification Compliance	UL, CE (other certifications available)
Control modes	Torque, speed PID available, or controlled by test cell automation
Control	Local and remote
Built in remote interface	Analog as well as RS-422, RS-485, two ports (other interface and protocol, see options below)
Safety and control interlocks	Hardwired, opto-isolated, software configurable
Data logging	Data sampler through UEdit®
Dynamometer	Induction, permanent magnet
Encoder feedback	Most encoder, resolver feedback supported
Inline torque meter	Industry standard inline torque meters supported
Battery emulator	See Battery Emulator Brochure

OPTIONS

Isolation transformer	Various sizes as required
Remote voltage sense	Available
Additional analog and digital input, output	Technical discussion required
Cabinet paint finish	Customer specific
Protection class	NEMA 12
External communication interface	<ul style="list-style-type: none">• CAN open• Ethernet• Modbus Plus• CC-Link• EtherCAT(async)• Profibus DPV1• ControlNet• Interbus• Profibus Master• ControlNet• LonWorks• EtherCAT (sync)



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