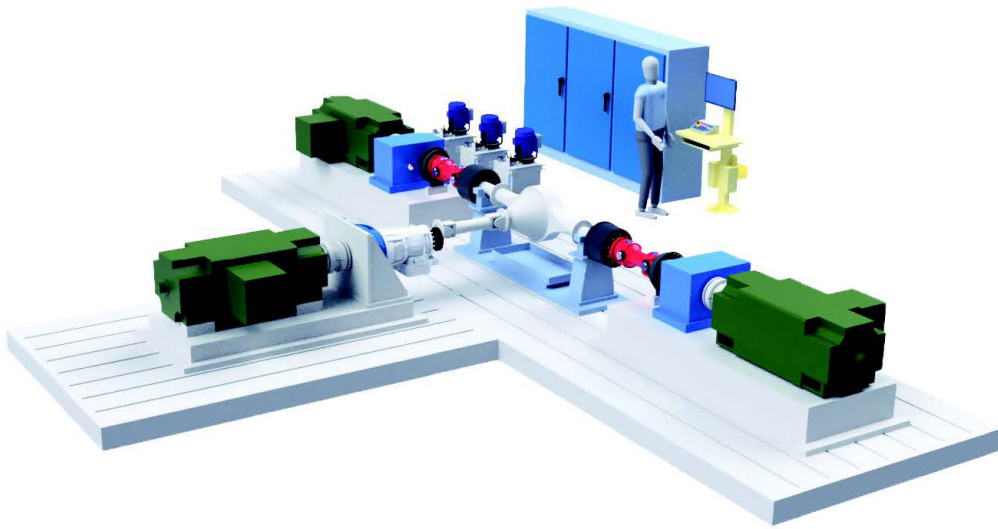


# E-Mobility Enhanced Driveline Test System



## Product Overview

Link Engineering Company's E-Mobility Enhanced Driveline test system provides a wide range of motor measurement and characterization capability. This system combines a high-performance axle dynamometer with a motor analyzer and an array of precision instrumentation for complete electric motor drive system analysis. The test system may be operated manually or automatically to perform a sequence of automated tests and measurements.

Component isolation contactors and switches are included, so that the drive system under test may be tested as a complete system or broken into the individual drive system components: motor, motor inverter/motor controller, and power source/battery, for component level measurements such as motor winding resistance or open circuit battery voltage. The system is designed to allow component level tests to be performed with an automated sequence of system level testing.

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# E-Mobility Enhanced Driveline Test System

## Key Benefits

- Manual and automated control with ProLINK control and data acquisition system
- Automated report generation through RevDATA+
- Motor analyzer with direct measurement of speed, torque, supply voltage and current, and motor lead voltage and current
- Torque, speed, and mechanical power measurement using one to three motor dynamometers
- Automated isolation of individual drive system components for component level measurements within complete system testing
- Direct drive AC dynamometer with four quadrant control ( $\pm$ speed, $\pm$ torque)
- In-line shaft torque transducer with maximum torque up to 10,000 Nm or Greater
- Low speed testing with low torque ripple and cogging torque
- Maximum speed up to 20,000 rpm
- Axle and motor fixturing configurations with quick change motor adaptors
- Guarding and safety interlocks for operator protection
- Motor analyzer measurements/calculations including Urms, Irms, P, Q, S,  $\cos \phi$ ,  $\lambda$ , fundamental power, Id, and Iq
- Integrated high precision measurement instrumentation and motor/power analyzer

Specifications	
<b>Operating Speed Ranges</b>	Ranges available from $\pm 2,000$ rpm to $\pm 10,000$ rpm, special ranges up to $\pm 20,000$ rpm
<b>In-line Shaft Torque Ranges</b>	Ranges available from $\pm 500$ Nm to $\pm 10,000$ Nm with 0.01% accuracy
<b>Dynamometer Power Ranges</b>	Ranges available from $< 50$ kW to 600 kW
<b>High Bandwidth Current Measurement (AC)</b>	$\pm 300$ A peak, 4.8 Hz to 20 MHz, $< \pm 2\%$ accuracy ( $\pm 0.2\%$ with conductor centered in coil)
<b>Standard Current Measurement (AC and DC)</b>	AC: $\pm 200$ Arms, DC: $\pm 300$ A, 0.01% gain error DC to 5 kHz, 1.0% gain error 5 kHz to 100 kHz, 12 $\mu$ A max. offset
<b>Common Bus Battery Simulator</b>	Low ripple digital DC power supplies with a variety of voltage and current ranges 150 kW to 800 kW, and voltage ranges from 400 Vdc to 1200 Vdc Integrated with common bus dynamometer drive for power savings Two quadrant regenerative capability



Link Engineering Company

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