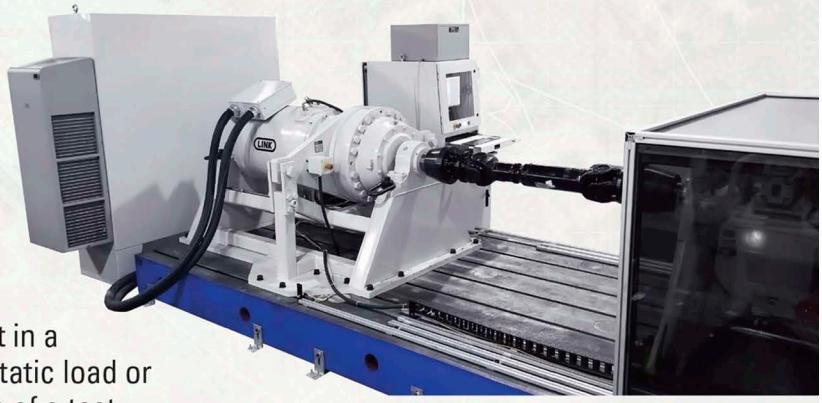
# Servo-electric heavy-duty drive shaft testing platform provides precise control with simple to use interface.

## Challenge:

A 35 kN/m, 172,000 cycle per day, drive shaft fatigue testing system would historically be implemented with a rotary hydraulic actuator. Increasing customer expectations are driving the industry toward servo motors. Test control systems must adapt to new methods to take advantage of all that they offer.

## Solution:

The LINK 3500 Test Controller was paired with the Baumueller b maXX BM5000 series servo drive and DST2 series high torque servo motor.

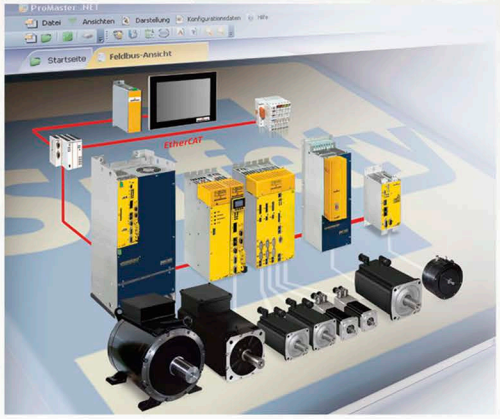


## Result:

Precise control of the test procedures was achieved while taking advantage of the features of both the LINK 3500 controller and Baumueller b maXX servo drive.

## Summary:

Mechanical testing of a commercial drive shaft requires that large forces be applied to the shaft in a variety of ways. Various waveforms as well as static load or position could be the desired target for a portion of a test. Part or test variations could require dynamic adjustment to the motion to ensure that the setpoint is being attained.




The LINK 3500 Test Controller provides those needed features in a flexible and simple to use interface. Sensors such as load cells, torque transducers, encoders, and AC LVDT's can be connected directly to the unit without external signal conditioning. Output can be current for driving servo valves directly or voltage to control a variety of devices. Traceable calibration and setup of the inputs and outputs are stored within the Test Controller.

The servo motor chosen for the project is the DST2 high torque series by Baumueller. The b maXX servo drive provides endless adjustments via their ProDrive configuration software. Automated tuning and EtherCAT communication proved to be powerful value-added features to the system.

The combination of the LINK 3500 Test Controller and Baumueller b maXX servo drive leveraged each of the products strengths and features to produce a powerful but easy to use testing platform.

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