

Locomotive Motor Testing

Advanced solutions for detection and correction of locomotive traction motor problems



Minimized locomotive downtime means reduced costs

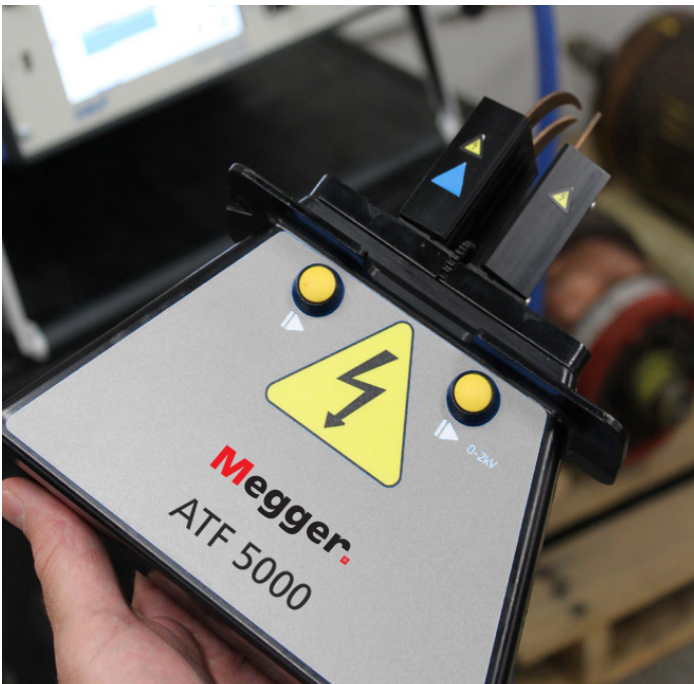
Traction motor failures can be expensive. The costs of unplanned downtime and motor repair or replacement can be extreme, even to the point of damaging relationships with customers, including loss of business. Motor failures can also precipitate failures in other parts of a locomotive, such as the phase module drives for AC traction motors. Megger's Baker Instruments product family includes AC and DC traction motor test solutions that completely evaluate the condition of the motor to deliver the high reliability and reduced costs necessary to stay competitive.



The Baker AWA-IV is used for testing AC traction motors in locomotives in maintenance and repair depots at leading railway companies throughout the world.

AC traction motor solutions

The Baker AWA-IV static motor analyzer performs comprehensive, fully-automated testing of AC traction motors. These tests are performed in maintenance depots and repair shops with the motor in a de-energized state.



The ATF5000 accessory works with Baker static motor analyzers to quickly and accurately test traction motor armatures.

The Baker AWA-IV consistently and reliably executes each test in a repeatable way. Test results are compared to preset, user-defined test limits to eliminate guesswork or misinterpretation of results. This repeatable automation eliminates potential variations between different users or test procedures.

For larger-scale fleet maintenance, the Baker AWA-IV can be pre-programmed with a specific maintenance job process flow. This programming can include items such as job safety requirements, photographs of proper motor connections for testing, instructions for changing test environments (e.g., wetting motor feeder cables) and even specific best-practice troubleshooting for exact isolation of problem components. To ensure consistency across multiple test depots, these test configurations, job processes and troubleshooting flows can all be controlled from a central location.

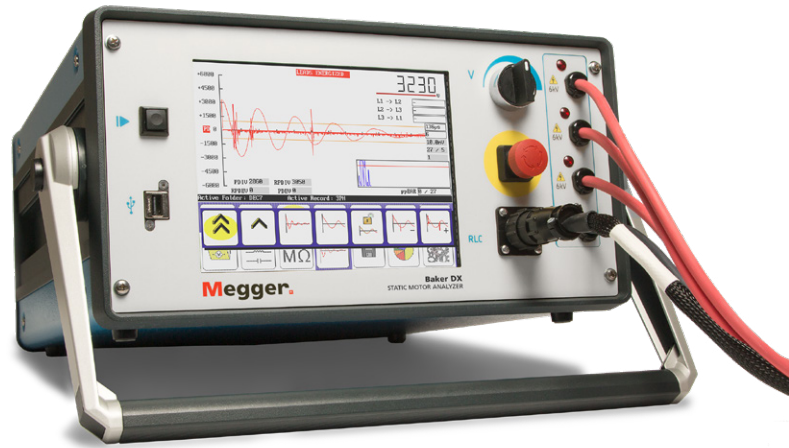
In this configuration, the Baker AWA-IV automatically updates local test programs to match the central master program. This ensures each and every test depot executes identical tests with the same parameters and process to yield continuous improvement, and consistent results. Test data is stored to the central location for analysis, and if necessary, for test and process improvements.

DC traction motor solutions

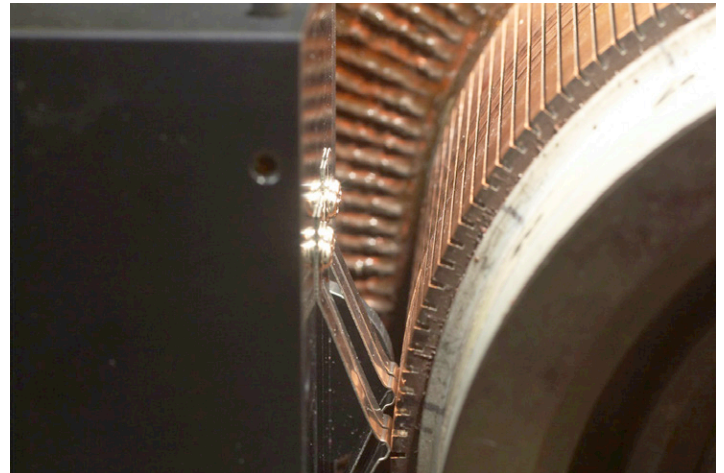
Tests on DC armatures can be error-prone due to the repetitive nature of testing several hundred commutator bars that require good electrical connections for each test. That cumbersome, error-prone process is eliminated with the Baker WinTATS Traction Armature Test System. The Baker WinTATS performs a comprehensive array of tests with an automated armature test fixture.

With the use of an innovative optical alignment system, the system fixture precisely rotates the armature to perform tests on each armature bar. Each armature bar is surge tested for optimum diagnostic information. The system compares all measured test values against user-programmable test limits to yield consistent test pass /fail results. The Baker WinTATS system can update its programs and store test results in a central location for consistent testing across all test depots and continuous test process improvements based on actual test data.

For low-volume DC armature testing, the Baker DX15A Static Motor Analyzer offers a surge mode tailored for armature testing. This mode includes conditioning the surge signal for low impedance armature bar to bar testing for superior diagnostics, automatic incrementing of bar numbers and automatic comparison to a reference surge waveform. Probing the armature is simplified with the ATF5000 armature test fixture, which holds precise test lead spacing in an ergonomic package.



The Baker DX15A static motor analyzer is a cost-effective winding tester for low volume armature testing.



The WinTATS armature test fixture automatically advances the rotor to test each commutator bar.



The Baker WinTATS traction armature test system uses an innovative proprietary fixture with a precise optical positioning system that is faster and more accurate than manual testing of armatures.



Maximizing locomotive uptime while reducing motor failures and costs is a major challenge for railway businesses. Baker traction motor test solutions help overcome these challenges. For more information on how Megger can help reduce traction motor maintenance costs, contact Megger today.

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